

# 2020 Asphalt & Airport Pavement Meeting






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# Who is CAPA?

## Membership

- 26 Members
- 147 Assoc./Affiliates
- 80 Local Agencies

## Industry Partners



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# Colorado Airport Operator's Association Update



**Ken Lawson**  
CAOA Business Manager

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**Colorado Airport  
Operators Association**

## CAPA Update 2020

Ken Lawson, Business Manager/CAOA

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## CAOA Purpose

- *CAOA serves* the common interests of the *owners, operators* and *users of the 74 public use airports in Colorado.*
- We provide a unified voice for airport operators to State and Federal agencies and legislators, on proposed or pending legislation and regulations.



Colorado Airport  
Operators Association

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## CAOA Purpose

- We further provide an opportunity for the exchange of information between airports and promotes and encourages the public's understanding of the value of aviation and airports to communities.
- We cooperate with local governments and organizations for the betterment of aviation, to promote safety and the development of airport facilities.
- Networking Opportunities, Access to most Colorado Airports, Conferences, Events, Training



Colorado Airport  
Operators Association

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## Current Activities

- Winter Conference and Legislative Reception, Jan2021 Brown Palace
- **Spring Conference-Telluride CO, 2020 June 10,11,12, Golf, Biking, FAA updates, CDOT updates. \$199.00 Hotel room in Telluride in the summer!!!! Register NOW!**
- Training for Colorado Airports, Hard surface maintenance/sealing/painting etc., may ask training assistance from the Material/Equipment suppliers, applicators.
- Spring Conference 2021, June Grand Junction, CO
- Northern Colorado Regional Airport (FNL) Fort Collins/Loveland, Remote/Virtual Control Tower, This is a 'BIG-Deal' for CO!!!



Colorado Airport  
Operators Association

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## Legislative Issues

- State Aviation Fuel Tax, continual monitoring , do not change!!!
- Request for Modernizing the Passenger Facility Charge (PFC) increase.
- Request for Multi-Year AIP Reauthorization Bill and Increased Funding.
- Request for Remote Tower AIP Eligibility into Fed Contract Tower Pgrm.
- Air Traffic Control Privatization, Opposition
- FAA Next-Gen air traffic, noise issues
- PFAS (Poly-fluoroalkyl) AAAF fire-fighting foam contamination, FAA-mandatory/EPA NoNo ??????????



Colorado Airport  
Operators Association

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# Questions?

<http://www.coloradoairports.org>  
See me regarding CAO A Membership  
Ken Lawson, 303-947-7815, [lawsonk50@wildblue.net](mailto:lawsonk50@wildblue.net)  
[www.coloradoairports@gmail.com](http://www.coloradoairports@gmail.com)

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## CDOT Aeronautics Update

**David Ulane**  
Director

**Scott Storie / Kip McClain**  
Program Managers



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## Aeronautics Division Briefing

David Ulane, Director  
March 2020

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### Mission & Vision Statements


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**Our Mission**

The mission of the CDOT Division of Aeronautics is to support Colorado’s multi-modal transportation system by advancing a safe, efficient, and effective state-wide air and space system through collaboration, investment and advocacy.

**Our Vision**

The vision of the CDOT Division of Aeronautics is to be the leading air and space organization by enhancing the efficiency, economic benefit, and sustainability of Colorado’s air and space system through funding, innovation, education, and pioneering initiatives.



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**COLORADO**  
AIRPORT SYSTEM

FY2019 = \$33 million total revenue

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**Colorado Discretionary Aviation Grant Program**  
2020 State & Local Applications

Aspen-Pitkin County Airport										
20-ASE-01	ASE	Airfield Pavement Maintenance	\$550,000.00	Up To 90.00	\$61,112.00	10.00	\$0.00	0.00	\$611,112.00	7
Totals			\$550,000.00		\$61,112.00		\$0.00		\$611,112.00	
Astronaut Kent Rominger Airport										
20-RCV-01	RCV	Airfield Pavement Maintenance	\$150,000.00	Up To 90.00	\$16,667.00	10.00	\$0.00	0.00	\$166,667.00	8
Totals			\$150,000.00		\$16,667.00		\$0.00		\$166,667.00	
Central Colorado Regional Airport										
20-AEJ-01	AEJ	Airfield Pavement Maintenance	\$350,000.00	Up To 90.00	\$38,889.00	10.00	\$0.00	0.00	\$388,889.00	7
Totals			\$350,000.00		\$38,889.00		\$0.00		\$388,889.00	
Colorado Plains Regional Airport										
20-AKO-01	AKO	Airfield Pavement Maintenance	\$300,000.00	Up To 90.00	\$33,334.00	10.00	\$0.00	0.00	\$333,334.00	11
Totals			\$300,000.00		\$33,334.00		\$0.00		\$333,334.00	
Cortez Municipal Airport										
20-CEZ-01	CEZ	Airfield Pavement Maintenance	\$297,000.00	Up To 90.00	\$33,000.00	10.00	\$0.00	0.00	\$330,000.00	8
Totals			\$297,000.00		\$33,000.00		\$0.00		\$330,000.00	
Durango-La Plata County Airport										
20-DRO-01	DRO	South GA Apron Pavement Maintenance	\$270,000.00	Up To 90.00	\$30,000.00	10.00	\$0.00	0.00	\$300,000.00	8
Totals			\$270,000.00		\$30,000.00		\$0.00		\$300,000.00	
Erie Municipal Airport										
20-EIK-01	EIK	Airfield Pavement Maintenance	\$234,000.00	Up To 90.00	\$26,000.00	10.00	\$0.00	0.00	\$260,000.00	5
Totals			\$234,000.00		\$26,000.00		\$0.00		\$260,000.00	
Front Range Airport										
20-FTG-01	FTG	Airfield Pavement Maintenance	\$315,000.00	Up To 90.00	\$35,000.00	10.00	\$0.00	0.00	\$350,000.00	4
Totals			\$315,000.00		\$35,000.00		\$0.00		\$350,000.00	


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**Colorado Discretionary Aviation Grant Program**  
2020 State & Local Applications

Aspen-Pitkin County Airport										
20-ASE-01	ASE	Airfield Pavement Maintenance	\$550,000.00	Up To 90.00	\$61,112.00	10.00	\$0.00	0.00	\$611,112.00	7
Totals			\$550,000.00		\$61,112.00		\$0.00		\$611,112.00	
Astronaut Kent Rominger Airport										
20-RCV-01	RCV	Airfield Pavement Maintenance	\$150,000.00	Up To 90.00	\$16,667.00	10.00	\$0.00	0.00	\$166,667.00	8
Totals			\$150,000.00		\$16,667.00		\$0.00		\$166,667.00	
Central Colorado Regional Airport										
20-AEJ-01	AEJ	Airfield Pavement Maintenance	\$350,000.00	Up To 90.00	\$38,889.00	10.00	\$0.00	0.00	\$388,889.00	7
Totals			\$350,000.00		\$38,889.00		\$0.00		\$388,889.00	
Colorado Plains Regional Airport										
20-AKO-01	AKO	Airfield Pavement Maintenance	\$300,000.00	Up To 90.00	\$33,334.00	10.00	\$0.00	0.00	\$333,334.00	11
Totals			\$300,000.00		\$33,334.00		\$0.00		\$333,334.00	
Cortez Municipal Airport										
20-CEZ-01	CEZ	Airfield Pavement Maintenance	\$297,000.00	Up To 90.00	\$33,000.00	10.00	\$0.00	0.00	\$330,000.00	8
Totals			\$297,000.00		\$33,000.00		\$0.00		\$330,000.00	
Durango-La Plata County Airport										
20-DRO-01	DRO	South GA Apron Pavement Maintenance	\$270,000.00	Up To 90.00	\$30,000.00	10.00	\$0.00	0.00	\$300,000.00	8
Totals			\$270,000.00		\$30,000.00		\$0.00		\$300,000.00	
Erie Municipal Airport										
20-EIK-01	EIK	Airfield Pavement Maintenance	\$234,000.00	Up To 90.00	\$26,000.00	10.00	\$0.00	0.00	\$260,000.00	5
Totals			\$234,000.00		\$26,000.00		\$0.00		\$260,000.00	
Front Range Airport										
20-FTG-01	FTG	Airfield Pavement Maintenance	\$315,000.00	Up To 90.00	\$35,000.00	10.00	\$0.00	0.00	\$350,000.00	4
Totals			\$315,000.00		\$35,000.00		\$0.00		\$350,000.00	

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## Colorado Airport Pavement Data

Glenwood Springs Municipal Airport										
20-GWS-01	GWS	Airfield Pavement Maintenance	\$9,000.00	Up To 90.00	\$1,000.00	10.00	50.00	0.00	\$10,000.00	7
<b>Totals</b>			<b>\$9,000.00</b>		<b>\$1,000.00</b>		<b>50.00</b>		<b>\$10,000.00</b>	
Gunnison-Crested Butte Regional Airport										
20-GUC-01	GUC	Airfield Pavement Maintenance	\$550,000.00	Up To 90.00	\$61,112.00	10.00	50.00	0.00	\$611,112.00	7
<b>Totals</b>			<b>\$550,000.00</b>		<b>\$61,112.00</b>		<b>50.00</b>		<b>\$611,112.00</b>	
Haxtun Municipal										
20-17V-01	17V	Airfield Pavement Maintenance	\$33,192.00	Up To 90.00	\$3,688.00	10.00	50.00	0.00	\$36,880.00	5
<b>Totals</b>			<b>\$33,192.00</b>		<b>\$3,688.00</b>		<b>50.00</b>		<b>\$36,880.00</b>	
Montrose Regional Airport										
20-MTJ-01	MTJ	Airfield Pavement Maintenance	\$600,000.00	Up To 90.00	\$66,667.00	10.00	50.00	0.00	\$666,667.00	7
<b>Totals</b>			<b>\$600,000.00</b>		<b>\$66,667.00</b>		<b>50.00</b>		<b>\$666,667.00</b>	
North Fork Valley Airport										
20-7V2-01	7V2	Airfield Pavement Maintenance	\$90,000.00	Up To 90.00	\$10,000.00	10.00	50.00	0.00	\$100,000.00	7
<b>Totals</b>			<b>\$90,000.00</b>		<b>\$10,000.00</b>		<b>50.00</b>		<b>\$100,000.00</b>	
Pueblo Memorial Airport										
20-PUB-01	PUB	Airfield Pavement Maintenance	\$500,000.00	Up To 90.00	\$55,555.00	10.00	50.00	0.00	\$555,555.00	10
<b>Totals</b>			<b>\$500,000.00</b>		<b>\$55,555.00</b>		<b>50.00</b>		<b>\$555,555.00</b>	
Sterling Municipal Airport										
20-STK-01	STK	Airfield Pavement Maintenance	\$342,000.00	Up To 90.00	\$38,000.00	10.00	50.00	0.00	\$380,000.00	11
<b>Totals</b>			<b>\$342,000.00</b>		<b>\$38,000.00</b>		<b>50.00</b>		<b>\$380,000.00</b>	
<b>Grand Totals</b>			State Funding	Local Funding	Federal Funding	Total Funding				
			\$4,590,192	\$510,024	\$0	\$5,100,216				

www.colorado-aeronautics.org

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## Colorado Airport Pavement Data

### Programs

You are here: Home / Programs / Aeronautics

- Aeronautical Board
- Colorado Remote Tower Project
- 2018 Strategic Plan
- Programs & Procedures Manual
- Colorado Airport System
- Colorado Airport Map
- Colorado Legislative District & Airport Map
- Pavement Evaluation & Management
- Colorado Airport Sustainability Program
- Automated Weather Stations
- Discretionary Aviation Grant Program
- SIB Loan Program
- Aviation Fuel Tax
- Colorado Mountain Airport Study
- 2013 Economic Impact Study of Colorado Airports
- Aircraft Rescue Training Academy
- Internship Program
- Fly UAS Responsibly
- Resources & Links
- Colorado Aviation Events Calendar

### Colorado Division of Aeronautics




The mission of the CDOT Division of Aeronautics is to support Colorado's multi-modal transportation system by advancing a safe and effective statewide air and space system through collaboration, investment and advocacy.

AVAILABLE!  
2019 Colorado Airport Directories

Here are a few ways to get yours:

- Colorado Airports, FBOs and Flight Schools
- **BY MAIL:** Send \$3 shipping/handling to: Colorado Division of Aeronautics, c/o Airport Directory, 5126 Front Range Parkway, Windsor, CO 80137
- **DOWNLOAD** an electronic copy.



2019-2019 Colorado Aeronautical Charts

- Complete the online request form.
- Stop by our offices at the Front Range Airport Monday-Friday, 8 a.m. - 4:30 p.m.


Windsor, CO 80137  
P: 303.812.9150  
F: 303.261.4145

Office Hours:  
8:00 a.m. - 4:30 p.m.

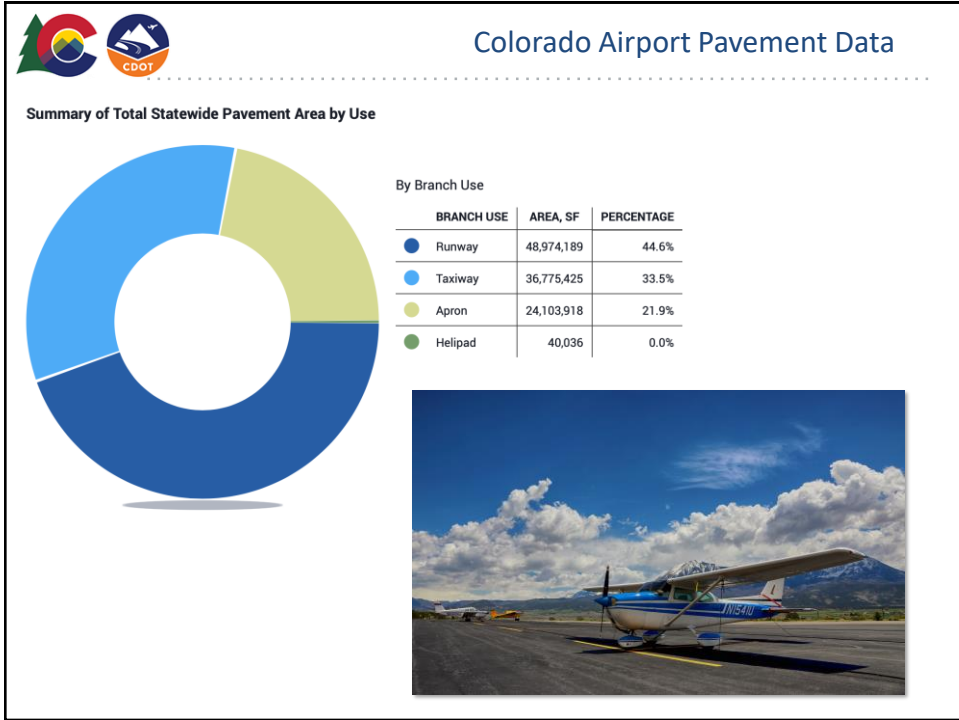
Visit the Contact Us page for individual staff contacts.

Public Meeting Notices

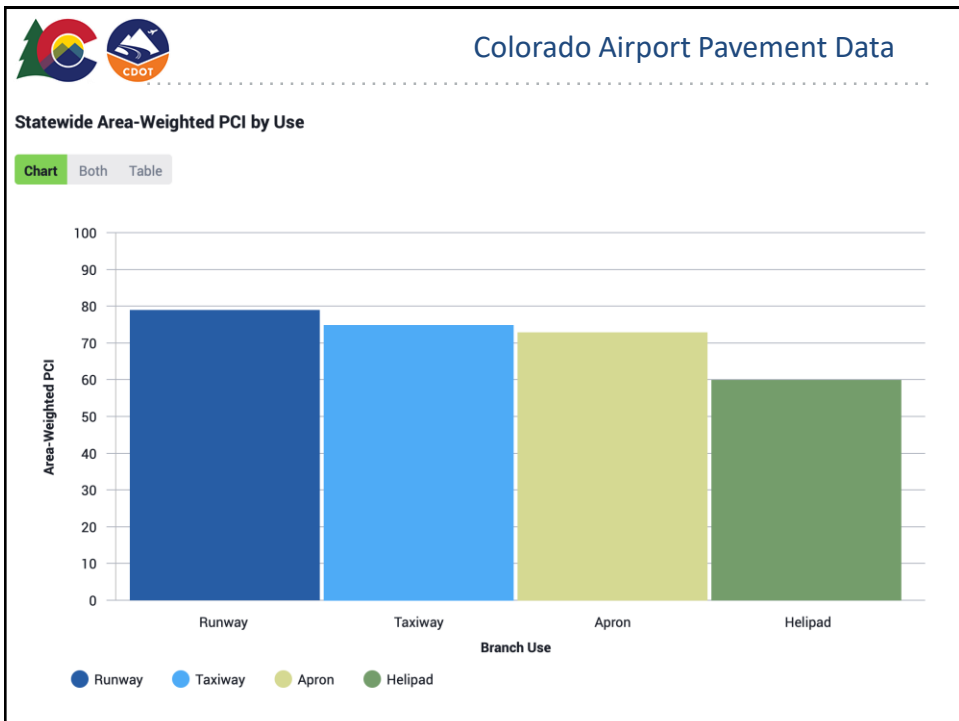
NEXT CAB MEETING:  
WHEN: Wednesday, April 17, 2019  
1:00 p.m.



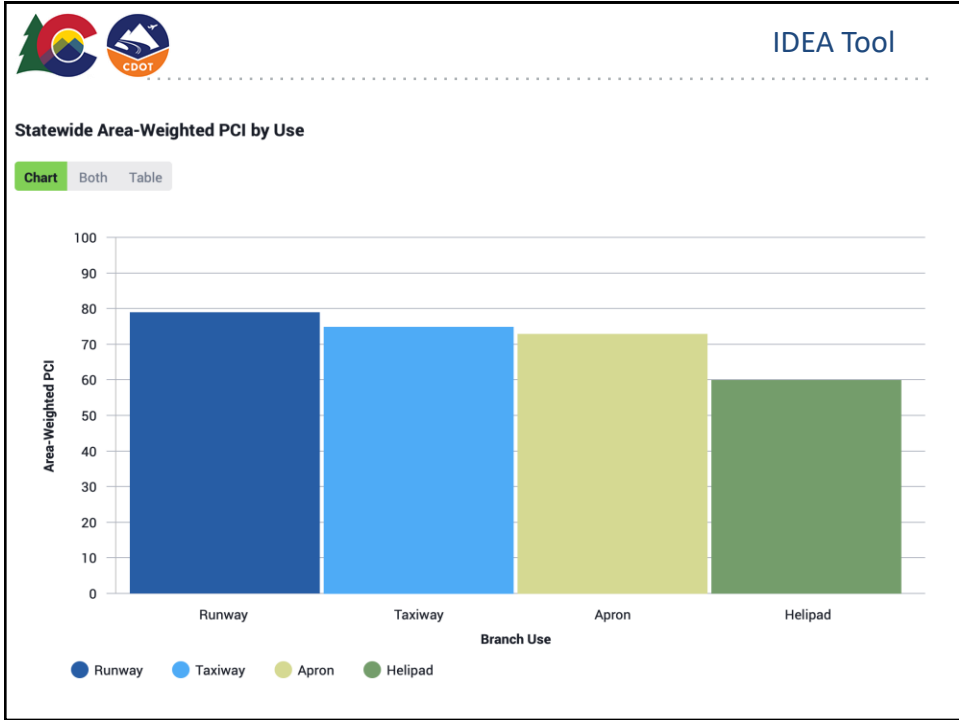
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 **@COAeroDiv**

 **Find us on Facebook**  
Colorado Aeronautics Division

 **Colorado Aeronautics Division**

 **COLORADO Remote Tower PROJECT**  
ColoradoRemoteTower.com

2017 Sharon Sabinson | 2017  
Telluride Regional Airport (TEX)

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**2020/2021 Denver ADO CO & WY  
Project Update**

 Northwest Mountain Region

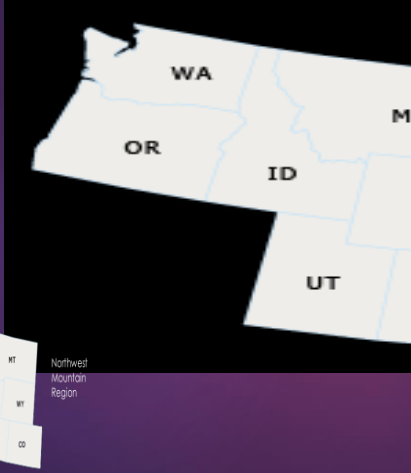


**Marc Miller**  
FAA Denver Airports District Office

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# FAA Specifications & Technical Updates



**AC 150/5370**  
Standards for Specifying Construction of Airports

**Jake Hoban, PE**  
Aviation Leader  
Garver





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## FAA Specifications and Technical Update

CAPA ASPHALT AND AIRPORTS ANNUAL MEETING

March 12, 2020

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## AC 150/5370-10H Standard Specifications for Construction of Airports

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Introduction

### Current Version Issued December 2018

- ✦ One Construction Season Completed
- ✦ Refresher on Important Elements
- ✦ Discussion is Encouraged!



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## Former General Provisions and New Technical Specifications

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Part 1 – General Contract Provisions  
Part 2 – General Construction Items

### Minor Changes / Improved Administration

- ✦ References to Engineer Resident Project Representative (RPR)
- ✦ C-100 Contractor Quality Control Plan (CQCP)
  - ✦ Defined Pay Item w/ Scheduled Partial Payments
- ✦ C-102 Temporary Air and Water Pollution, Soil Erosion, and Siltation Control
  - ✦ Formerly P-156
- ✦ C-105 Mobilization
  - ✦ Optional item for RPR Field Office



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## Part 3 – Sitework

DEMOLITION, EARTHWORK, AND SUBGRADE

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## Demolition, Earthwork, and Subgrade



### NEW – Control Strips Required for all Embankments and Subgrade

- ✦ P-101 Preparation/Removal of Existing Pavements
  - ✦ Includes removal of pipes and buried structures
- ✦ P-152 Excavation, Subgrade, and Embankment
  - ✦ Control Strip – Contractor Demonstrate Means and Methods
  - ✦ Testing Frequency Determined by Geotechnical Engineer
  - ✦ Compaction Testing on Material Larger than ¾"
- ✦ P-156 Cement Treated Subgrade
  - ✦ Modeled on P-155 Lime Treated Subgrade

✦ Comments/Experiences from Attendees?



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## Part 4 – Base Courses

BASE COURSE

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## Base Course

### NEW – Full Depth Reclamation and Control Strips

- ✦ P-207 Full Depth Reclamation
  - ✦ Allowed for pavement loads of 60,000 lbs or less
- ✦ P-208 Aggregate Base Course
  - ✦ Material Properties – Minor Revisions
  - ✦ Separation Fabric Between Base Course and Subgrade
  - ✦ Testing Lot Sizes Revised for Compaction/Thickness
- ✦ P-209 Crushed Aggregate Base Course
  - ✦ Gradation Samples Twice per Day (Increased at Engineer's Discretion)

✦ Challenges or Success with Revised Base Courses?



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## Part 6 – Flexible Pavements

### ASPHALT SPECIFICATIONS




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## Asphalt Specifications

### NEW – Mix Design Process, Gradations, Binder Grade, Density Calculation

- ✦ P-401 Asphalt Mix Pavement
  - ✦ Marshall/Gyratory Still Options – Colorado Airport Trends?
  - ✦ Mix Designs – Asphalt Pavement Analyzer (APA) or Hamburg Wheel Tracker

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## Asphalt Specifications

### † P-401 Asphalt Mix Pavement (Continued)

- † Binder – Additional Grade Bump for slow/stationary aircraft

Aircraft Gross Weight	High Temperature Adjustment to Asphalt binder Grade	
	All Pavement Types	Pavement area with slow or stationary aircraft
≤ 12,500 lbs (5670 kg)	--	1 Grade
< 100,000 lbs (45360 kg)	1 Grade	2 Grade
≥ 100,000 lbs (45360 kg)	2 Grade	3 Grade



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## Asphalt Specifications

### † P-401 Asphalt Mix Pavement (Continued)

- † Binder – Additional Grade Bump for slow/stationary aircraft
- † New Aggregate Gradation Bands

Sieve Size	Percentage by Weight Passing Sieves		
	Gradation 1	Gradation 2	Gradation 3
1 inch (25 mm)	100	--	--
3/4 inch (19 mm)	76-98	100	--
1/2 inch (12 mm)	66-86	79-99	100
3/8 inch (9 mm)	57-77	68-88	79-99
No. 4 (4.75 mm)	40-60	48-68	58-78
No. 8 (2.36 mm)	26-46	33-53	39-59
No. 16 (1.18 mm)	17-37	20-40	26-46
No. 30 (0.600 mm)	11-27	14-30	19-35
No. 50 (0.300 mm)	7-19	9-21	12-24
No. 100 (0.150 mm)	6-16	6-16	7-17
No. 200 (0.075 mm)	3-6	3-6	3-6



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## Asphalt Specifications

- ✦ P-401 Asphalt Mix Pavement (Continued)
  - ✦ Density Expressed as Percent of Theoretical Maximum Density rather than Lab-Molded
- ✦ P-403 Asphalt Mix Pavement Course
  - ✦ Increased Allowable Aircraft Weight to 30,000 lbs
- ✦ Questions for the Group:
  - ✦ How have these changes affected the paving process?
  - ✦ Are there revisions to the specification that the FAA should consider?



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## New Material and Minor Revisions

- ✦ P-608-R Rapid Cure Seal Coat
  - ✦ Ideal for Commercial Service Airports with small closure windows
  - ✦ Includes nearly twice the amount of gilsonite asphalt as P-608
- ✦ P-620 Runway and Taxiway Marking
  - ✦ Control Strip – Contractor must demonstrate surface preparation and paint application
  - ✦ Retro-Reflectance Acceptance Test

## Miscellaneous Items

Part 8 – Surface Treatments  
Part 9 – Miscellaneous



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Colorado Aviation



 Steve Hakes, PE  
Bill Epp, PE

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The image features the Benesch logo on the left, consisting of a stylized globe icon and the word "benesch" in a sans-serif font. To the right is a promotional card for the "Asphalt & Airports Annual Meeting" held on "March 12, 2020". The card has a dark background with a sunset over a runway. Logos for the Colorado Asphalt Pavement Association, Colorado Airport Operators Association, and CDOT are visible at the top. A Rocky Mountain logo is at the bottom right of the card.

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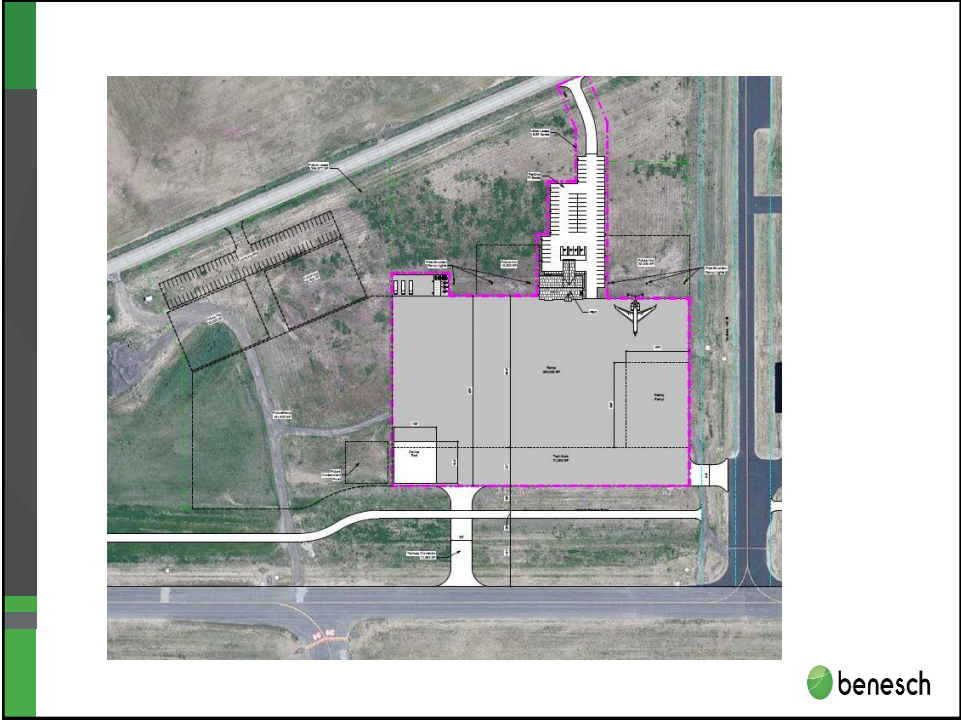
**YAMPA VALLEY REGIONAL AIRPORT**

**ROUTT COUNTY, COLORADO**

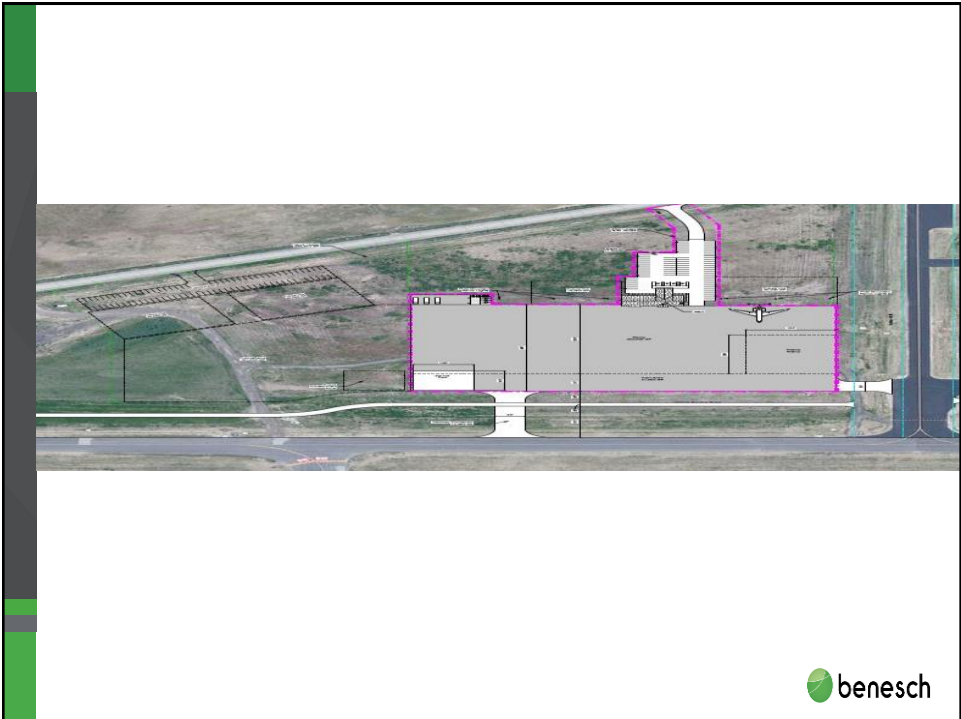
**2019**

The image shows an aerial map of the Yampa Valley Regional Airport in Routt County, Colorado. A dashed line indicates the "PROJECT LOCATION" near "COUNTY HIGHWAY 51A" and "COUNTY HIGHWAY 51B". A "CP #2" marker is also present. A "COLORADO 811" logo is overlaid on the map with the text "PRIOR TO CONSTRUCTION". A table with columns for "DATE", "ACTION", "STATUS", "STATION", "ELEVATION", "REMARKS", and "REVISION" is included in the top right of the map area. The Benesch logo is in the bottom right corner.

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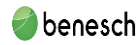
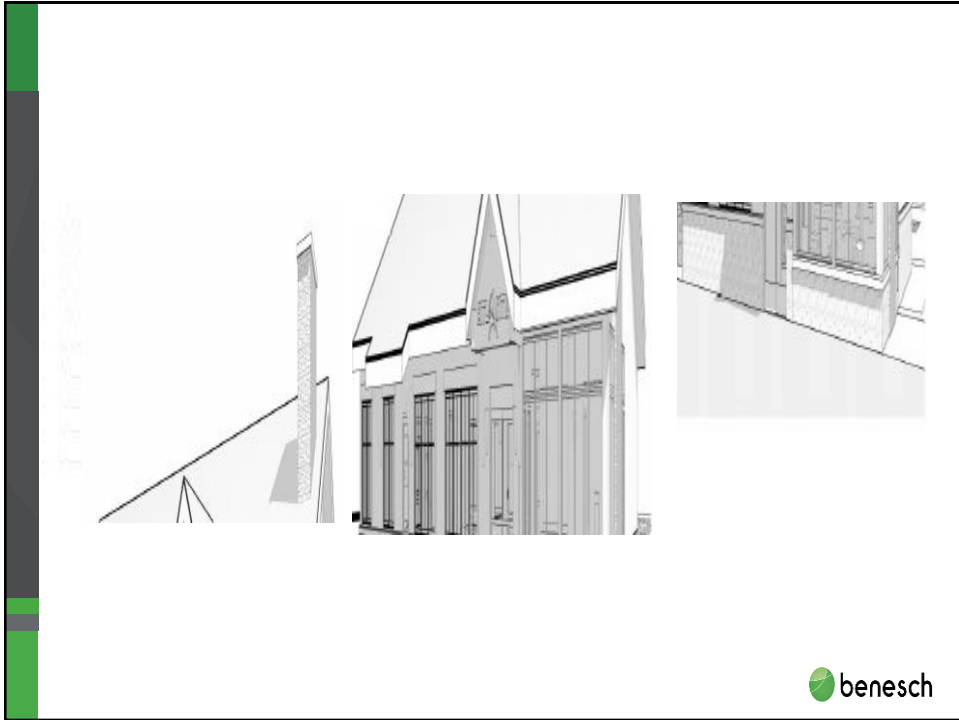


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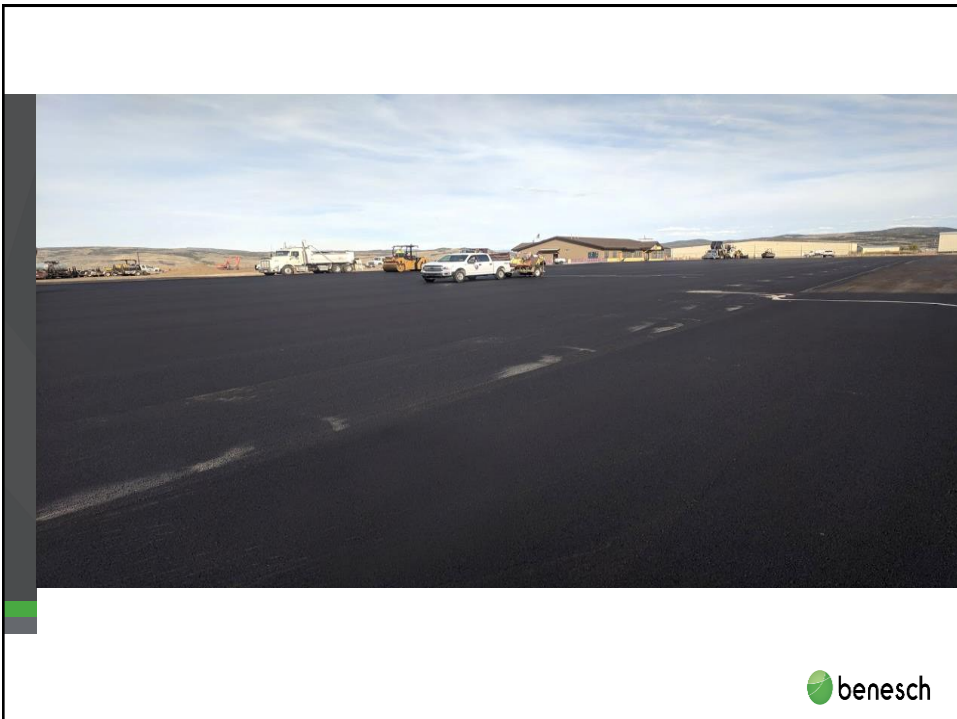
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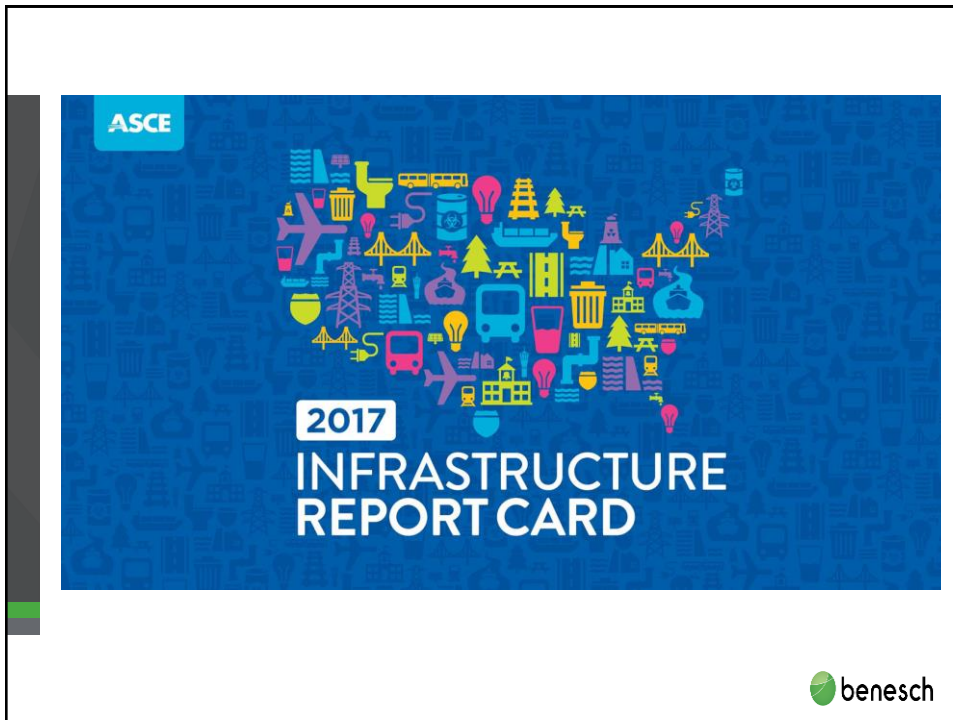
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## Grading Criteria

- Capacity
- Condition
- Funding
- Future Need
- Operation and Maintenance
- Public Safety
- Resilience
- Innovation



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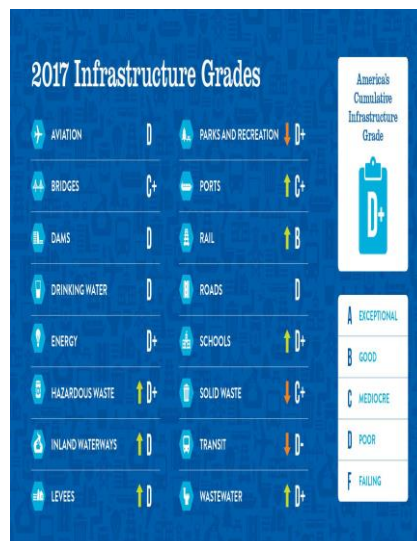
## Goal of State and the National Report Card

- Report Cards are advocacy tools.
- Report Cards are not white papers, asset management tools, or technical papers.
- They are intended for people with very little or no background in infrastructure.

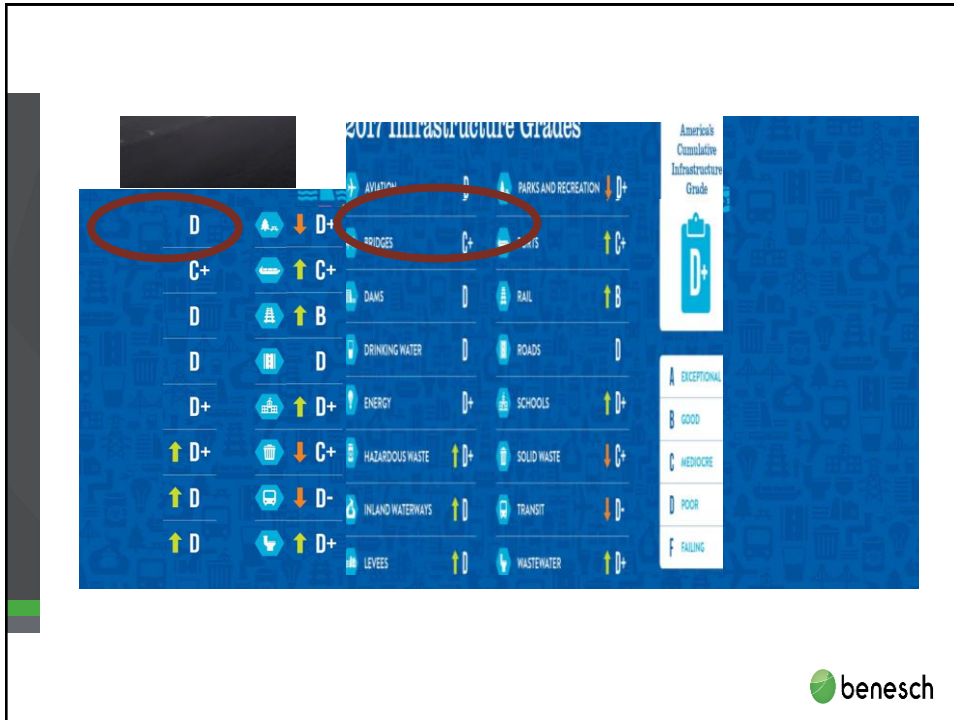
Last Colorado Report Card was released in 2010



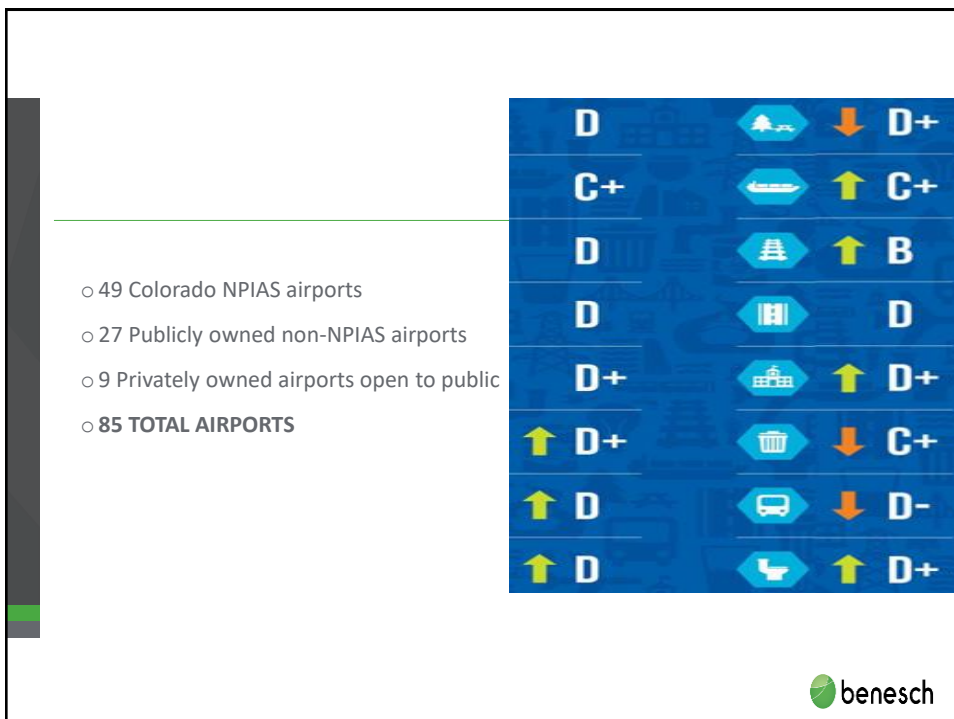
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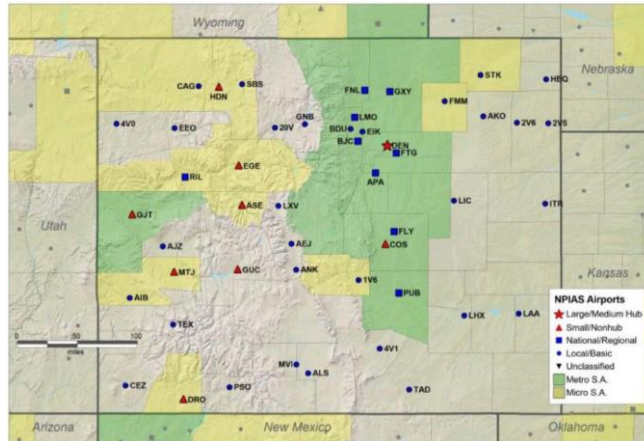


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## National Plan of Integrated Airport Systems (NPIAS)



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## CAPACITY

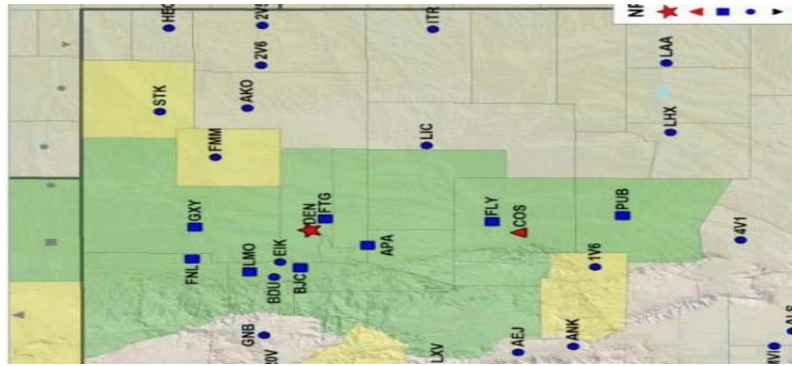
- DEN is the **5<sup>th</sup> busiest** airport
- DEN served **64.5 million** passengers
- DEN moved 580 million pounds of cargo
- 5% average increase in passenger traffic at other regional airports
- Grand Junction Regional Airport expected to see significant growth



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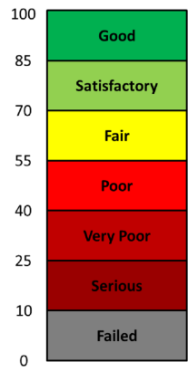


# CONDITION



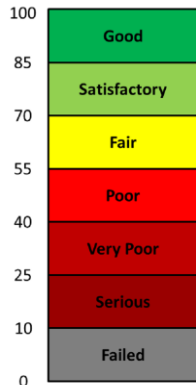
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# Pavement Condition Index (PCI)



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## PCI - PRIMARY RUNWAYS

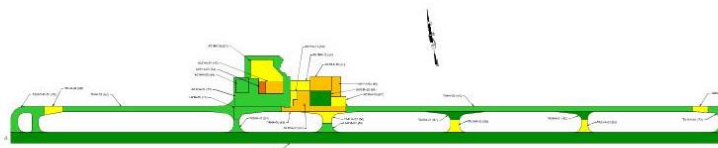


- PCI = 78 – Average at major airports
- PCI = 75 – Average at intermediate airports
- PCI = 75 – State’s goal
- PCI essentially unchanged since 2010



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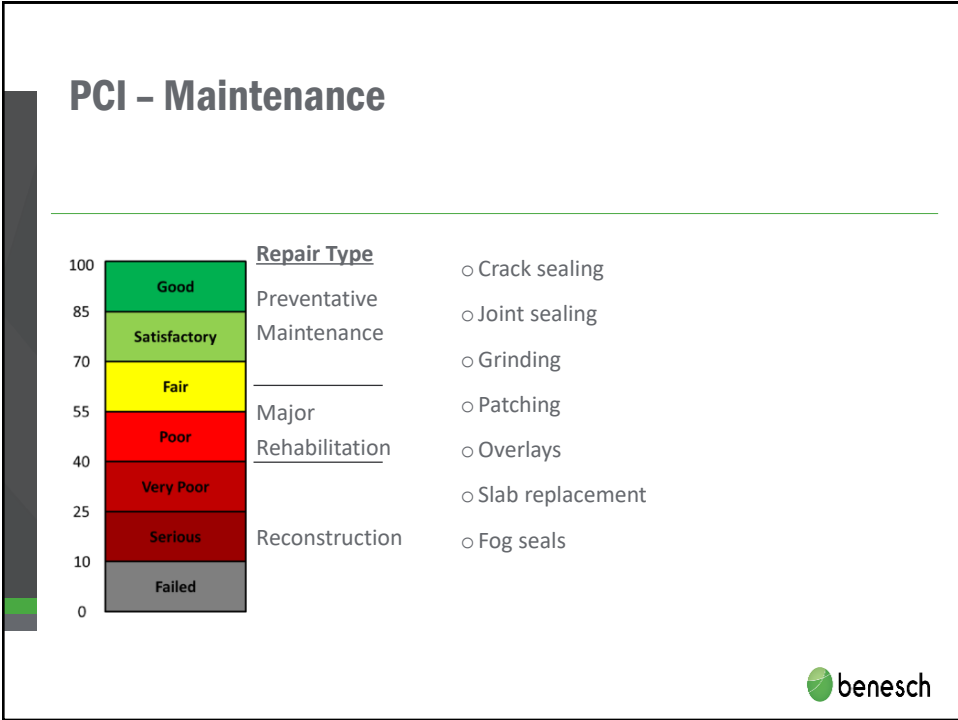
## PCI – Yampa Regional Airport - 2014



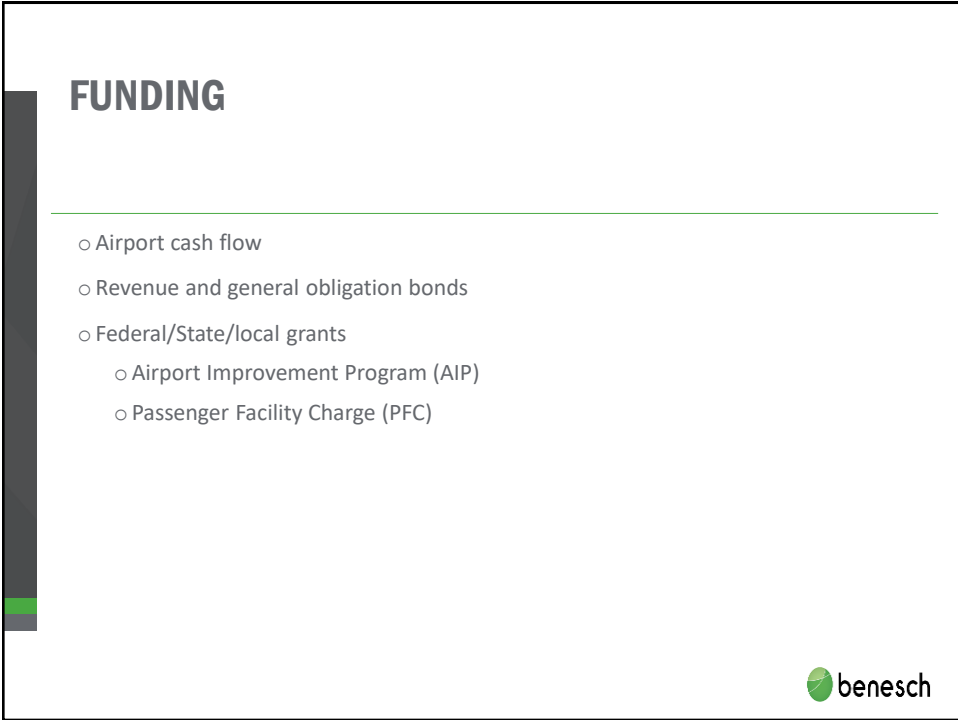
PCI Legend:	86-100	71-85	56-70	41-55	26-40	11-25	0-10
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## FUNDING – Airport Improvement Program (AIP)

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- Congressionally approved
- Provides funding for improvements at NPIAS airports
- 5 year authorization passed in 2018
- \$3.18 Billion made available for grants across the country
- Funding can be unpredictable



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## FUNDING – Passenger Facility Charge (PFC)

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- Fee for every enplaned passenger
- Federally capped at \$4.50 per passenger
- \$3.5 Billion = Projected PFC for all airports in country
  
- DEN       $\$4.50 \times 64.5 \text{ million passengers} = \underline{\$290 \text{ million}}$  in PFC



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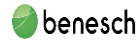
## FUNDING – State Fuel Tax

- States taxes aviation fuel
- \$26.7 million collected in 2018
- 65% dispersed back to airports
- 35% to CDOT’s Aeronautics Division
  - Divisions operations
  - Statewide initiatives
  - Colorado Discretionary Aviation Grant (CDAG)
- \$5.78 million in CDAG awarded in 2019



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## ACCESSIBILITY



68

## INNOVATION



- Satellite based navigation vs. ground-based radar
- Moves air traffic more efficiently
- DEN implemented in 2013 and upgraded in 2018
- Many rural airports have not implemented



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## SUMMARY

- Pavement condition is good
- Pavements adequately maintained
- Significant investment over past 10 years
- Preventative maintenance before full rehabilitation
- Continue strong funding



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**QUESTIONS?**

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[www.InfrastructureReportCard.org](http://www.InfrastructureReportCard.org)



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2020 Industry Outlook

**Liquid Asphalt Binder**

John Wilkins



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<b>Historical Usage Over Last 5 Years</b>		
• <b>2019</b>	<b><u>AIRPORT</u></b>	<b><u>GRADE</u></b>
	Meadow Lake	64-28
	Colorado Springs	64-28
	Durango-La Plata County	64-34
	Wray Municipal	70-28
Yampa Valley	64-28	
• <b>2018</b>	<b><u>AIRPORT</u></b>	<b><u>GRADE</u></b>
	Front Range	64-28 (small)
	Yampa Valley	70-28 (small)
	Durango-La Plata County	64-34
	GJ Walker Field	70-28
	Nucla Hopkins Field	64-28
Colorado Springs	64-28 (small)	

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• <b><u>2017</u></b>	<b><u>AIRPORT</u></b>	<b><u>GRADE</u></b>
	Centennial	64-28
	Greeley-Weld County	70-28
	Rocky Mountain	76-28
	San Luis Valley	70-28
• <b><u>2016</u></b>	<b><u>AIRPORT</u></b>	<b><u>GRADE</u></b>
	Centennial	64-28
	Rocky Mountain	76-28
	Colorado Springs	64-28
	Yuma Municipal	58-34
	Durango-La Plata County	64-34
	Montrose Regional	64-34
	Trinidad Perry Stokes	58-34

75




75

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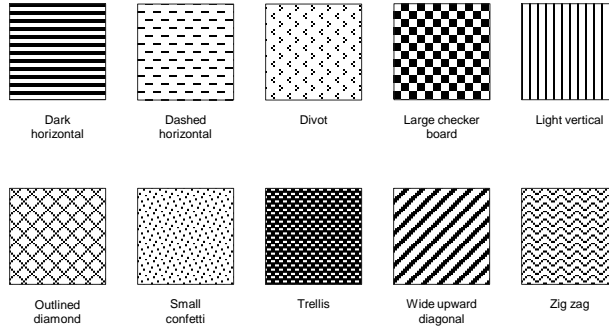
• <b><u>2015</u></b>	<b><u>AIRPORT</u></b>	<b><u>GRADE</u></b>
	Centennial	64-28
	Archuleta County	64-34
	Pueblo	64-28
	Yampa Valley	64-34

76



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### RECOMMENDED PATTERN FILLS

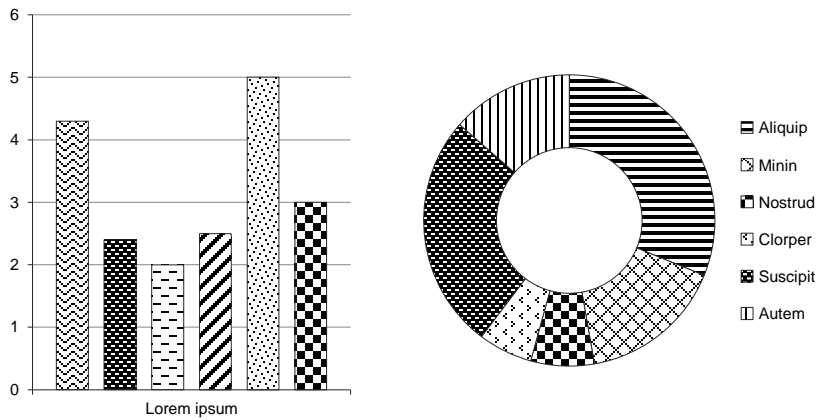


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### EXAMPLES OF CHARTS WITH PATTERN FILLS



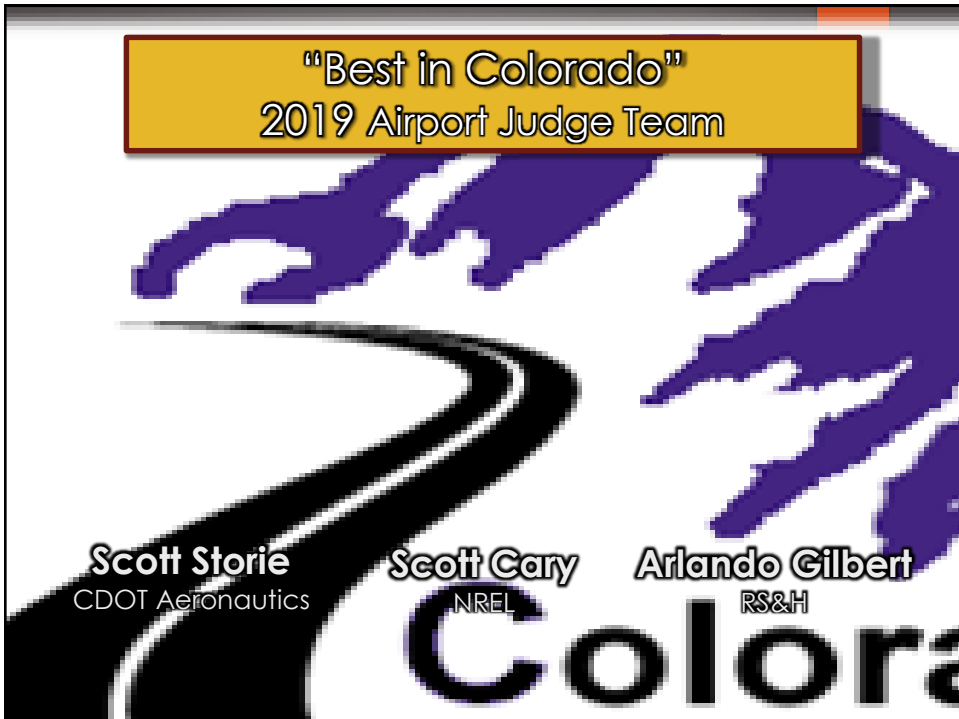
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# Meadow Lake Airport

## Case Study



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# MEADOW LAKE AIRPORT

Funding Agencies:  
CDOT  
FAA  
Meadow Lake Airport Association

Contractor: Martin Marietta  
Engineer: Jviation

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## PROJECT SCOPE

ORIGINAL BID:  
SCHEDULES I & II  
1.7M

CHANGE ORDER NO. 1:  
SCHEDULES III & IV  
0.7M

SCHEDULE I  
PHASE 1 AND 5  
PROJECT LIMITS

SCHEDULE II  
PHASE 2 AND 5  
PROJECT LIMITS

SCHEDULE III  
PHASE 1 AND 5  
PROJECT LIMITS

SCHEDULE IV  
PHASE 4  
PROJECT LIMITS

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### Existing Conditions

- ▶ MLA CONDUCTED YEARLY CRACK SEALING
- ▶ POPOUTS WERE OCCURRING
- ▶ EXISTING SURFACE DAMAGE



85

### MAKING IT TO 2019

- ▶ FOGSEAL IN 2016
- ▶ FAA ENTITLEMENT FUNDED



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## SUBGRADE

- ▶ APPROXIMATELY 30,000 CUBIC YARDS TOTAL OVEREXCAVATION (320% OVER PLAN QUANTITY)
- ▶ VARYING MATERIAL TYPES AND DEPTHS
- ▶ ADDITIONAL CORRECTIVE WORK TO AREAS ADJACENT TO PREVIOUSLY CORRECTED WORK
- ▶ NIGHTLY WEATHER IMPACTS



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## BASE COURSE

- ▶ 4" RECYCLED ASPHALT MILLINGS FROM THE EXISTING RUNWAY
- ▶ MILLINGS ALSO USED TO STABILIZE SUBGRADE



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## PAVING

- ▶ 16,390 TOTAL TONS PLACED IN 2 LIFTS
- ▶ P-403 COLORADO MODIFIED MIX WITH 20% RAP
- ▶ 16 TOTAL PAVING DAYS
- ▶ NO SMOOTHNESS DEFICIENCIES OR GRINDING
- ▶ NO FAILING MATERIAL TESTS

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**AVIATION**  
Martin Marietta

**MEADOW LAKE AIRPORT**

FEDERAL AVIATION ADMINISTRATION

COLORADO AERONAUTICS DIVISION

90



Preventive Maintenance  
in Airfield Projects



Drew Vance

Dan Stephens

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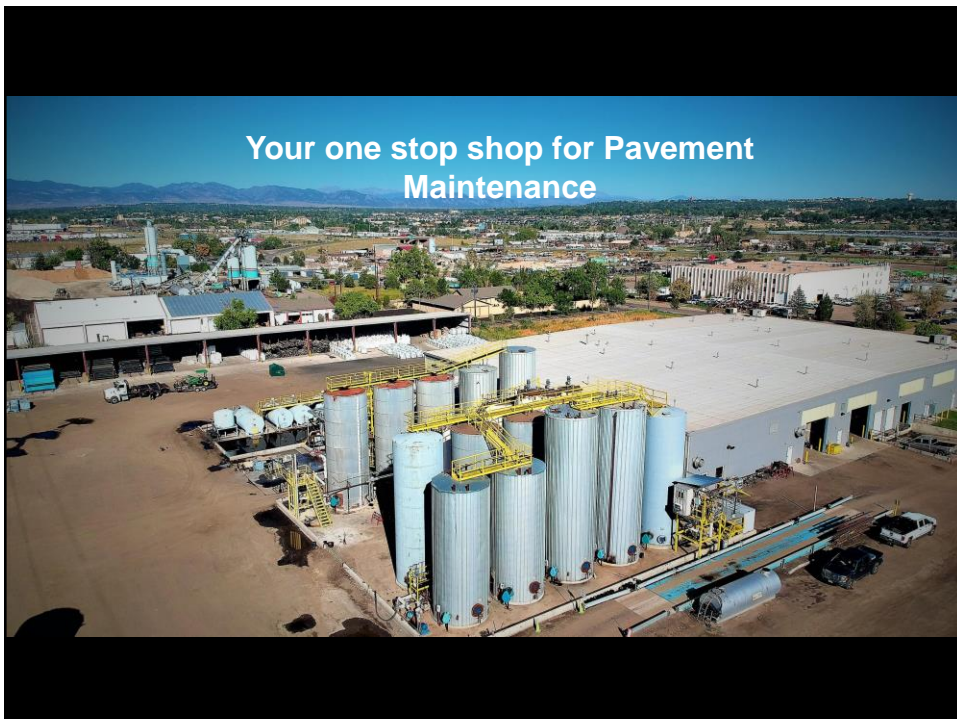
92

## ASPHALT IS IN OUR DNA

- Family owned and operated since 1923
- Serving the pavement construction and preservation industry in Denver since 1982



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## WHAT WE DO

### Liquid Asphalts:

- Asphalt Emulsions
- Polymerized Emulsions
- Rejuvenating Emulsions

### Pavement Maintenance:

- Asphalt Sealers
- Hot Pour Crack Sealants
- Mastics
- Equipment Rentals

### Geosynthetics & Pavement Interlayers:

- Paving Fabrics
- Separation & Drainage Fabrics
- Geogrids

And More!

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# WE'RE CONTRACTORS TOO

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## APPLICATIONS & INSTALLATIONS

- Slurry Seals
- Chip Seals
- Cape Seals
- MicroSurfacing
- Tack & Fog Seals
- Dust Control
- GSB-88 & Rejuvenating Seals
- Paving Fabrics
- Paving Grids
- Crack Sealing

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## FAA SPECIFICATIONS & GUIDELINES

- FAA states that all projects to be funded with Federal Grant Money through the Airport Improvement Program (AIP)/Passenger Facility Charge(PFC) must follow FAA Material & Procedural specifications.
- So how can Vance Brothers help?

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## P-626 SLURRY SEAL

- For use on General Aviation Airports serving small Airplanes
  - Small Airplanes= 12,500 lbs (5,670 kg) or less
- Slurry is a homogeneous mixture of asphalt emulsion, water, well graded fine aggregate, and mineral filler.
  - It is mixed using a pug mill which is attached to the applicator truck

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## P-608 ASPHALT SEALCOAT

- FAA calls for an Emulsified Asphalt that contains a minimum of 20% Gilsonite and a medium to fine graded sand
- FAA also allows for prescribing a polymer additive as well
- Application rate for 1:1 Dilute is 0.10-0.15 Gal/SY
- Application rate for 2:1 Dilute is 0.08-0.15 Gal/SY
  - Aggregate application of 0.20-0.50 LBS/SY

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## GSB-88

- FAA Approved for Runways, Taxiways, & Aprons
- Contains Gilsonite & Asphalt Rejuvenating Oils
- Mitigates affects of Oxidization & Raveling
- Cost Effective

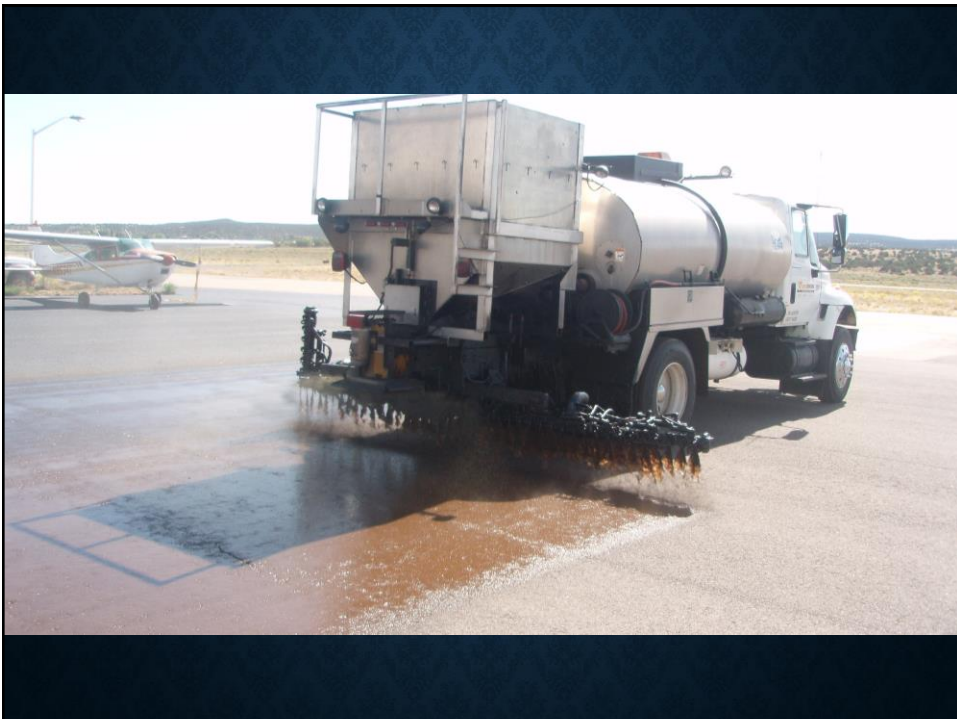


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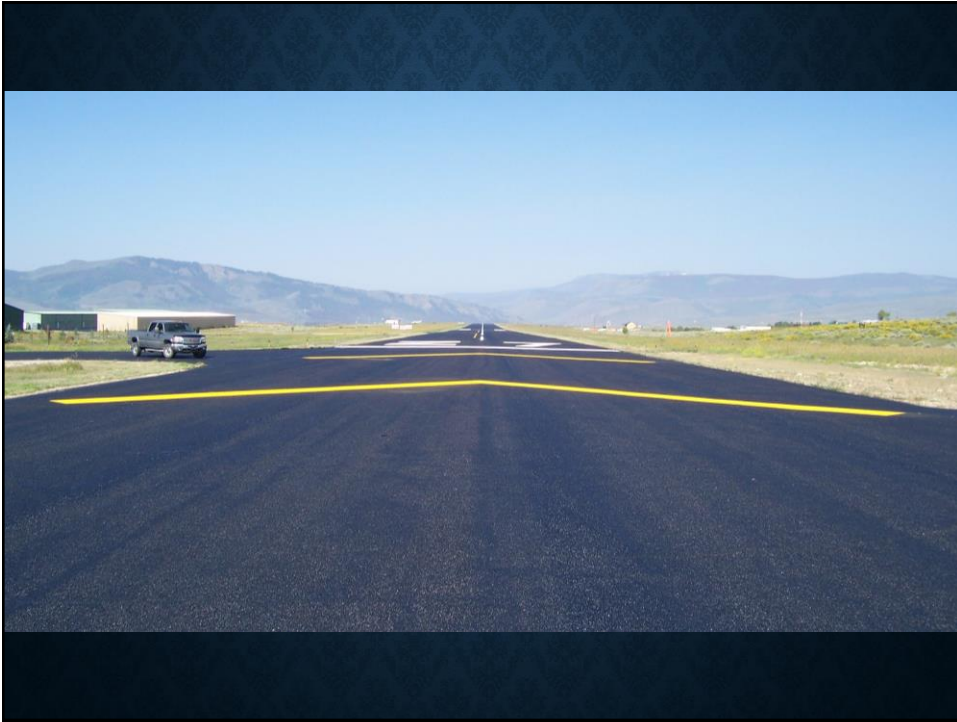


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## GSB FRICTION SEAL- COMING SOON

- Undergoing testing for FAA Compliance
- Contains Gilsonite & Asphalt Rejuvenating Oils
- Emulsion Contains a Heavy Polymer Content
- Heavier Application of Emulsion & Aggregate
  - Extended Service Life
  - High Friction Values

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# PAVEMENT INTERLAYERS & GRIDS

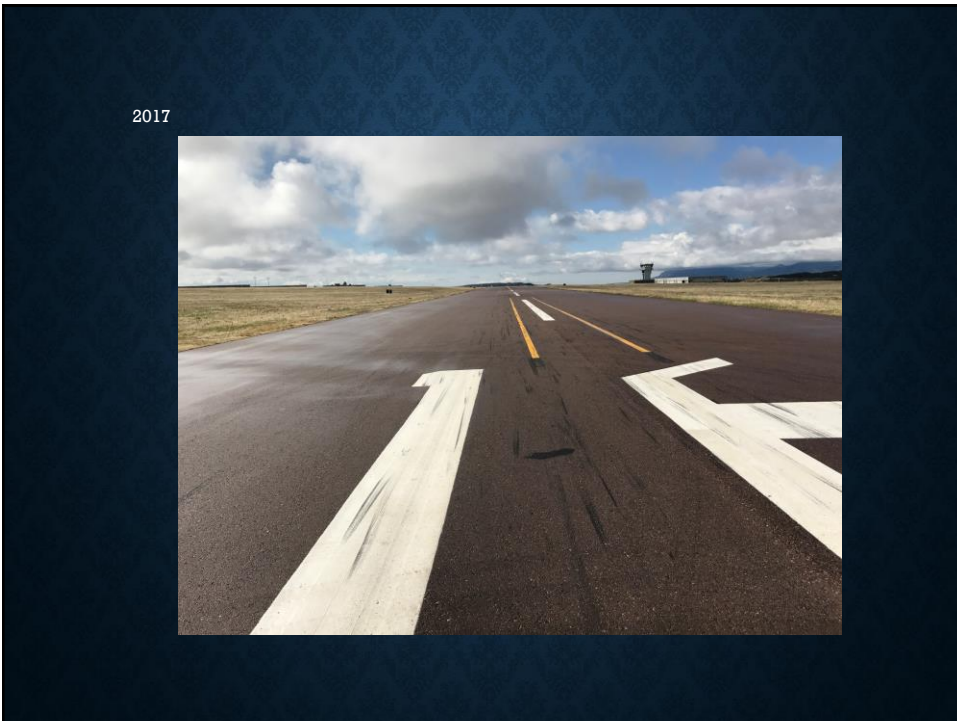
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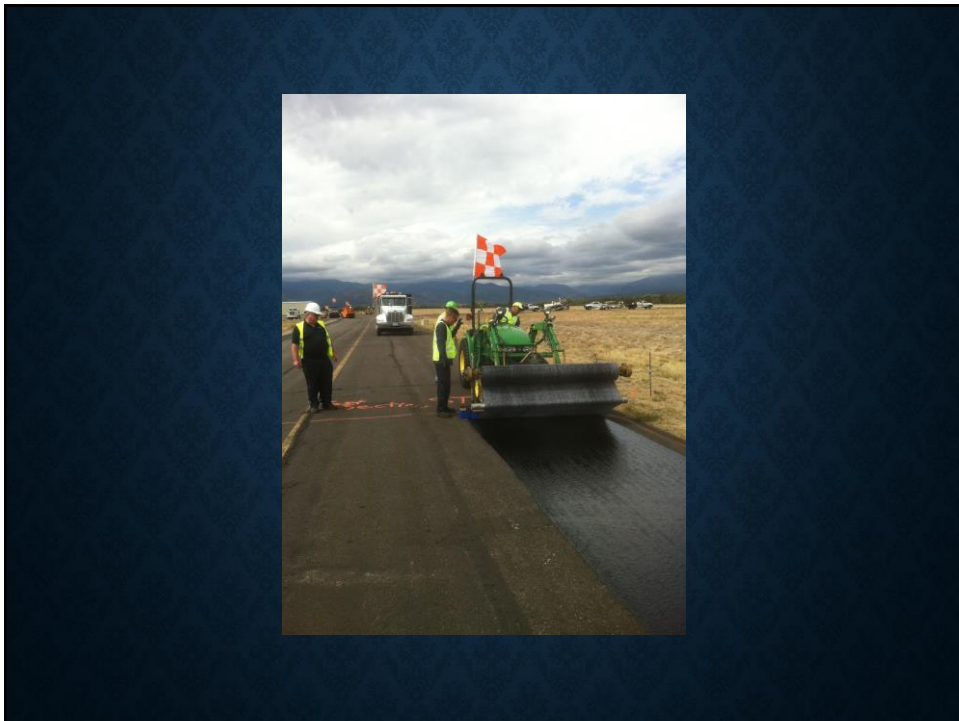
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### Vail / Eagle Airport 2004



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**ROCKY MOUNTAIN METROPOLITAN AIRPORT  
AVIATION 2016**



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**ROCKY MOUNTAIN METROPOLITAN AIRPORT  
AVIATION 2016**



Wide Crack Repair




Cold Paving Joint

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**ROCKY MOUNTAIN METROPOLITAN AIRPORT  
AVIATION 2016**



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[cmartin@vancebrothers.com](mailto:cmartin@vancebrothers.com)

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COLORADO  
000 XXX  
SUPPORT AVIATION

CAPA Supporting Aviation across Colorado  
We are a Resource for YOU!  
PDHs available

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# 2020 Asphalt & Airport Pavement Meeting



Colorado Asphalt Pavement Association  
Colorado Airport Operators Association  
Colorado Airport Operators Association  
CDOT

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