2022 ASPHALT INDUSTRY OUTLOOK

"MARKET CONDITIONS, TRENDS, AND NEW DEVELOPMENTS"

PROVIDED FOR CAPA MEMBERS & AGENCY PARTNERS

Thursday, January 6, 2022

Presented by
Tom Peterson, P.E.
Executive Director

Mike Skinner, P.E.
Director of Engineering

Colorado Asphalt Pavement Association

ASPHALT 100% RECYCLABLE

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2022 ASPHALT INDUSTRY OUTLOOK & MARKET ANALYSIS

WEBINAR OUTLINE | THE CAPA MISSION | 2021 - A LOOK BACK | 2022 - MARKET CONITIONS | INDUSTRY TRENDS

Webinar Participants:
- contractors
- suppliers
- consultants
- product/service providers
- agency personnel

NEW DEVELOPMENTS | RESOURCES AND PROFESSIONAL DEVELOPMENT

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CAPA MISSION: TO ADVANCE THE USE AND QUALITY OF **ASPHALT PAVEMENTS** IN COLORADO.

Colorado Asphalt Pavement Association

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Colorado Asphalt Pavement Association

Membership

25 Producer/Suppliers
159 Associate & Affiliates
84 Local Agencies
268 TOTAL MEMBER ORGANIZATIONS

Industry Partners

NAPA NATIONAL ASPHALT PAVEMENT ASSOCIATION
SAPA State Asphalt Pavement Associations
ASPHALT INSTITUTE
APA ASPHALT PAVEMENT ALLIANCE
National Center for Asphalt Technology NCAT
AAPT Association of Asphalt Paving Technologists
RMAUPG

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LabCAT Certified Technician
Rocky Mountain Asphalt Education Center
CDOT
U.S. Department of Transportation Federal Highway Administration
ROCKY MOUNTAIN ASPHALT CONFERENCE & EQUIPMENT SHOW
WOMEN OF ASPHALT
LEAD & INSPIRE

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Schmidt construction company
APC Southern Construction Co. A CRH COMPANY
UNITED COMPANIES
REDI-MIX
PAVING
SAND & GRAVEL
A CRH COMPANY
simon CONTRACTORS Company
Colorado Asphalt Pavement Association
KIRKLAND CONSTRUCTION
Elam CONSTRUCTION, INC.
Sinclair
BRANNAN Sand and Gravel Co.
APC Construction Co. A CRH COMPANY
KLEWIT PKS SINCE 1884
KEHN'S FORT COLLINS
FOUR CORNERS MATERIALS A CRH COMPANY
CONNELL
COULSON EXCAVATING CO. LOVELAND, COLO.
PEAK MATERIALS
Jebro Inc.
ARY CORPORATION
CASI
AGGREGATE INDUSTRIES
Martin Marietta
GRAND RIVER CONSTRUCTION CO. GLENWOOD SPRINGS, COLO.
SUNCOR ENERGY

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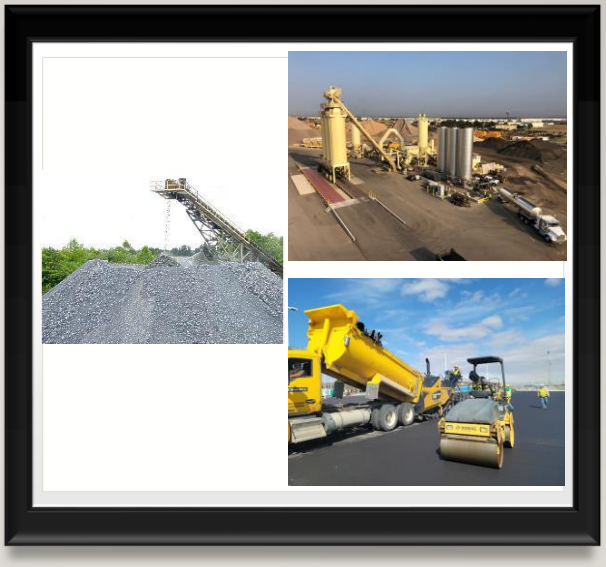
ASPHALT PAVEMENT MATERIALS (APM):

66 PRODUCTION FACILITIES
8.9 MILLION TONS

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



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All Types of Pavements:

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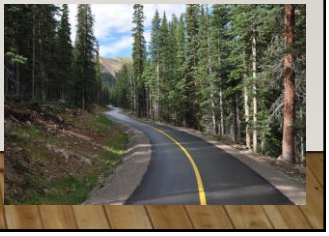
Cradle to Grave
- Design
- Construction
- Maintenance
- *Asset Management*

Complete Service
- Best Practices
- Innovations
- New Technology
- Training & Education
- Marketing & Promotion
- Spec. Development
- Technical Assistance



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Castle Pines Parkway, Town of Castle Pines

Colorado Asphalt Pavement Association

Roadway Reconstruction

- Concrete Out
- Asphalt In
- Design Features
- Bid Package

- Spec. Development
- Technical Assistance

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COLORADO RIDES ON US Asphalt.

2021 – The Asphalt Market A Look Back

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2021 Colorado Asphalt Pavement Materials Usage
PROJECTED

Construction Type	% Market	Volume of Work Change
City/County:	35%	*estimated 3.5% increase in volume*
State DOT:	20%	*estimated 6% decrease in volume*
Commercial:	1/3 of 35%	*estimated 14% decrease in volume*
Residential:	2/3 of 35%	*estimated 8% decrease in volume*
Other:	10%	*estimated 10% decrease in volume*

(12 M tons – 2008; 7.0 M tons in 2015; 7.5 M tons in 2016; 8.8 M tons in 2018; 8.7 M tons in 2019; 9.9 M tons in 2020)

2021 Asphalt Quantity Projection - 9.0 Million tons
This represents an estimated 10% drop in overall market for asphalt materials as compared to 2020.

Presented on January 8, 2021

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Colorado Asphalt Pavement - Key Market Issues 2021
#1 Asphalt Supply Disruptions
#2 Supply Chain Disruptions

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Colorado Asphalt Pavement Association

Supply Chain Logistic Issues - 2021 (7/23/2021)

Numerous supply chain logistic issues are impacting asphalt paving projects this season. Limitations on raw materials including liquid asphalt supply, availability of asphalt tanker transport, and construction trucking, are affecting projects throughout the state.

Colorado's primary producer and supplier of liquid asphalt experienced planned maintenance and other operational issues that have impacted asphalt supply. As a result, asphalt plants have been on allocations for liquid asphalt and this is expected to continue. The timing of the maintenance shutdown was in part due to COVID-19 and delayed due to supply chain interruptions.

A shortage of delivery trucks and transport tankers is compounding the problem. If liquid asphalt supply can be obtained from an alternative out of state supplier, the increased retail price per liquid ton and significant delivery delays can make other suppliers impractical altogether. One downstream impact of the supply chain problems is that many asphalt producers are ceasing external sales to paving contractors and cannot fully service internal demand.

Agencies are encouraged to have flexibility in project schedule, PG grade selection, and mix design approvals to alleviate the current situation. Each project is unique and dynamic and flexible support is important when working through these impacts.

For CDOT projects, Standard Specifications Section 108.08 Determination and Extension of Contract Time (c) Delay is applicable, and the following statement is being referenced:

" ..... delays caused by fuel shortage or delay in delivery of materials to the Contractor due to some unusual market condition caused by industry-wide strike, 108.09 1-105 national disaster, area-wide shortage, or other reasons beyond the control of the Contractor which prevent procurement of materials or fuel within the allowable contract time limits will be considered excusable delays."

CDOT Standard Specifications Section 108.08 Determination and Extension of Contract Time. (c) Delay.

(c) *Delay.* Any event, action or factor that extends the performance period of the Contract.

1. *Excusable Delay:* A delay that was beyond the Contractor's control and was not due to the Contractor's fault or negligence. The Department may grant a contract time extension for an excusable delay.
   - A. *Compensable Delay:* A delay that the Department, not the Contractor, is responsible for entitling the *Contractor* to a time extension and monetary compensation. Monetary compensation for compensable delays will be made in accordance with subsection 109.10.
   - B. *Noncompensable Delay:* An excusable delay that neither the Contractor nor the Department is responsible for that may entitle the Contractor to a contract time extension but no additional monetary compensation. Contract time allowed for the performance of the work may be extended for delays due to force majeure (i.e. acts of God, acts of the public enemy, terrorist acts, fires, floods, area wide strikes, embargoes, or unusually severe weather).
2. *Nonexcusable Delay:* A delay that was reasonably foreseeable or within the control of the Contractor for which the Department will not grant monetary compensation or a contract time extension.
3. *Concurrent Delay.* Independent delays to critical activities occurring at the same time.
   - A. The Department will not grant a time extension or additional compensation for the period of time that a non-excusable delay is concurrent with an excusable delay.
   - B. The Department may grant time but no compensation for the period of time that a non-compensable delay is concurrent with a compensable delay.

Delays in delivery of materials or fabrication scheduling resulting from late ordering, financial considerations, or other causes that could have been foreseen or prevented will be considered nonexcusable delays. However, delays caused by fuel shortage or delay in delivery of materials to the Contractor due to some unusual market condition caused by industry-wide strike,

1-104

108.09

national disaster, area-wide shortage, or other reasons beyond the control of the Contractor which prevent procurement of materials or fuel within the allowable contract time limits will be considered excusable delays.

Tom Peterson, P.E., Executive Director, Colorado Asphalt Pavement Association, tompeterson@co-asphalt.com

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Colorado Asphalt Pavement - Key Market Issues 2021

#3 Several Large (Mega) CDOT Capital Projects Nearing Completion
#4 Commercial/Residential Market Stayed Strong
#5 Extended paving season (ie. dry, warm) late into November/December

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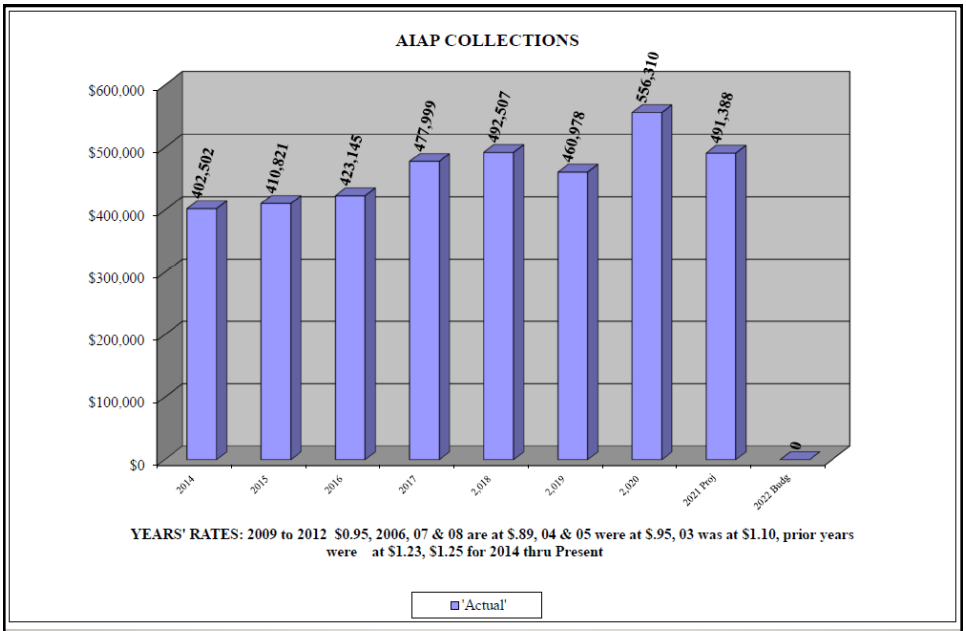

The actual 2021 market of asphalt pavement in Colorado decreased 12% as compared to 2020.

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Colorado Asphalt Market - 2021

$491,388 / $1.25 per liquid ton =
393,110 tons of AC

393,110 tons of virgin AC / 0.048 AC in ton of HMA =
8.2 M tons of HMA

8,200,000 tons + 700,000 tons =
=

8.9 M tons of HMA

- Assume 15% RAP in all mixes, 4.8% virgin AC content per ton of HMA
- Assume non-member/non reporting market total 700,000 tons

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2021 Colorado Asphalt Materials Usage ACTUAL

Construction Type	% Market	Volume of Estimated Tonnage
City/County:	35%	15*% decrease*
State DOT:	25%	10*% decrease (2.1 M to 1.9 M)*
Commercial	1/3 of 35%	*15% decrease*
Residential:	2/3 of 35%	15*% decrease*
Other:	5%	*0% change*
	100%	

(12 M tons – 2008; 7.0 M tons in 2015; 7.5 M tons in 2016; 8.8 M tons in 2018; 8.7 M tons in 2019; 9.9 M tons in 2020; 8.9 M tons in 2021)

2021 Asphalt Quantity Actual – 8.9 Million tons* (12% decrease over 2020)

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COLORADO RIDES ON US Asphalt.

2022 Outlook: Market Conditions

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FIFTY-SEVENTH ANNUAL

COLORADO BUSINESS ECONOMIC OUTLOOK 2022

Leeds School of Business
UNIVERSITY OF COLORADO BOULDER

Colorado Legislative Council Staff
December 2021 | Economic & Revenue Forecast

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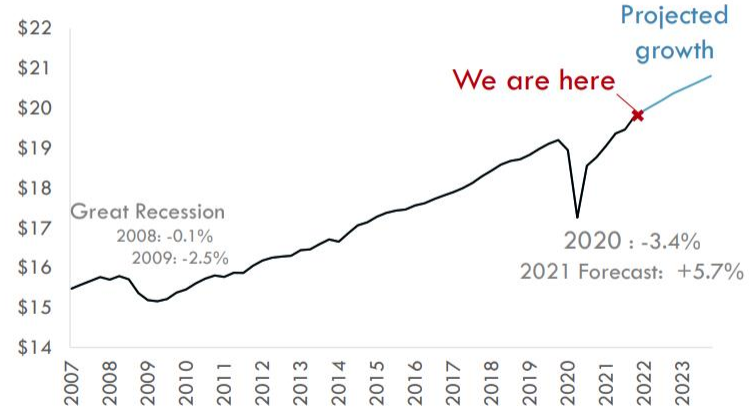
The economy continues to recover, with consumer activity driving growth

Real U.S. Gross Domestic Product
Dollars in Trillions



Source: U.S. Bureau of Economic Analysis and Legislative Council Staff December 2021 projections.
Real GDP is inflation-adjusted to chained 2012 levels and shown at seasonally adjusted annualized rates.

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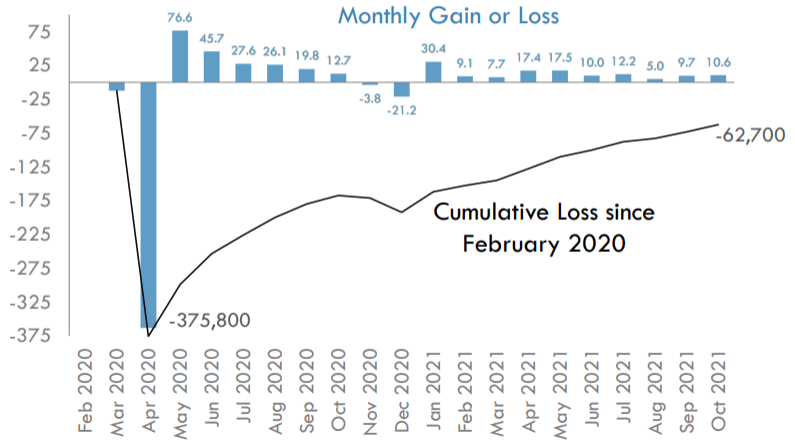
Colorado has regained 83.3 percent of jobs lost since the pandemic began

Change in Colorado Employment

Thousands of Jobs



Source: U.S. Bureau of Labor Statistics. Data are seasonally adjusted.

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COLORADO BUSINESS ECONOMIC OUTLOOK 2022

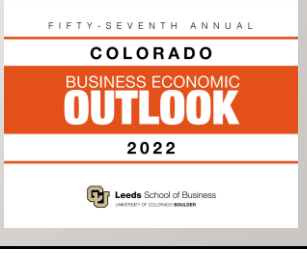
- *"Colorado's economy continues to outpace the country. 2021 saw consumer spending soar."*
- *"Employee compensation has never been higher and continues to grow."*
- *The number of jobs available exceed the number of people available to fill the positions."*
- *"The Covid-19 recession was sharp and significant, but the recovery has been very rapid and full."*

Topline Conclusion: "We expect continued job growth in 2022, but at a slower pace than in 2021. Closing out 2021, we expect 87,600 jobs added, or growth of 3.3%. In **2022**, we expect **73,900 jobs added, or growth of 2.7%**" This puts the state above the pre-Covid recession peak." "There were 1,200 new jobs in construction in 2021 and that is expected to increase by 4,000 in 2022."

CONSTRUCTION EMPLOYMENT, 2012–2022 (In Thousands)

Year	Employment	Percentage Change
2012	115.8	2.9%
2013	127.5	10.1
2014	142.2	11.5
2015	148.8	4.6
2016	155.3	4.4
2017	163.7	5.4
2018	173.2	5.8
2019	179.1	3.4
2020[a]	174.9	-2.3
2021[b]	176.2	0.7
2022[c]	180.2	2.3

[a]Revised. [b]Estimated. [c]Forecast.
Sources: Colorado Department of Labor and Employment, Bureau of Labor Statistics, and Colorado Business Economic Outlook Committee.



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COLORADO BUSINESS ECONOMIC OUTLOOK 2022

Construction:

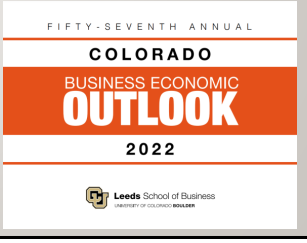
- "Demand and material shortages are expected to keep prices elevated in 2022."
- "The construction market was robust and stable in 2021 and that will continue in 2022."
- "Colorado total value of construction continues to surge. $22 B in 2021 and estimated to be $22.9 B in 2022.
- "There will be a changing emphasis with less non-residential building and more residential and infrastructure construction."
- "Growth is expected in single family home construction with multi family home construction leveling off."

RESIDENTIAL BUILDING PERMITS BY TYPE 2012–2022

Year	Single Family	Multifamily	Total Housing Units
2012	12,617	10,684	23,301
2013	15,772	11,745	27,517
2014	17,104	11,594	28,698
2015	20,025	11,846	31,871
2016	21,577	17,397	38,974
2017	24,338	16,335	40,673
2018	26,134	16,493	42,627
2019	24,756	13,877	38,633
2020[a]	26,636	13,833	40,469
2021[b]	29,000	19,200	48,200
2022[c]	30,000	18,000	48,000

[a]Revised. [b]Estimated. [c]Forecast.

Sources: U.S. Census Bureau and the Colorado Business Economic Outlook Committee.



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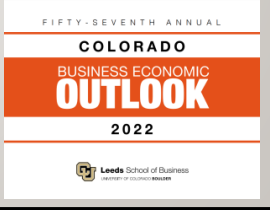
COLORADO BUSINESS ECONOMIC OUTLOOK 2022

- The **Colorado population** grew by 45,000 in 2021. This was the smallest growth total since 1990. This is expected to rebound to 61,000 in 2022. 93% of the growth will be in the Colorado Front Range. 19 rural counties saw population decreases in 2021. (Colorado State Demographer, December 2021)
- **Colorado's housing industry** was booming in 2021 and continued growth is anticipated in 2022. Demand is strong for both resale and new housing, and limited supplies are resulting in sharp price increases.
- **In 2021, homes built along the Front Range accounted for approximately 90% of Colorado's single-family permits.**
- **Nonresidential construction** (ie. commercial - remodeled offices, medical, schools, churches, retail, etc.) starts in 2021 are forecast to end the year at $4.7 billion, flat from $4.8 B in 2021. Nonresidential construction starts are expected to increase to $5 B in 2022.
- **Nonbuilding construction** (roads, bridges, drainage, water, mass transit, etc.) is projected to end 2021 at $2.8 B, virtually unchanged from 2020. Material price inflation labor shortages, and flat tax revenue into the HUTF all contributed to this stagnation. Road and bridge construction spending is forecast to increase by 10.7% in 2022 to $3.1 B. Major projects to be awarded new year by CDOT include the reconstruction and expansion of I-70 at Floyd Hill, a segment of I-25 south of Ft. Collins, and I-270 through Denver.



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The **Warehousing and Storage sector** has seen strong employment gains in recent years, with a five-year compound annual growth rate of 18.2%, bolstered by increased online shopping and the needed storage and distribution facilities to strengthen supply chain operations.

Additionally, Amazon continues to publicize the hiring of additional warehouse workers, announcing the hiring of 150,000 seasonal workers across the U.S. with attractive signing bonuses; this includes over 100 openings at the Colorado Springs warehouse and more than 200 openings at Denver locations.

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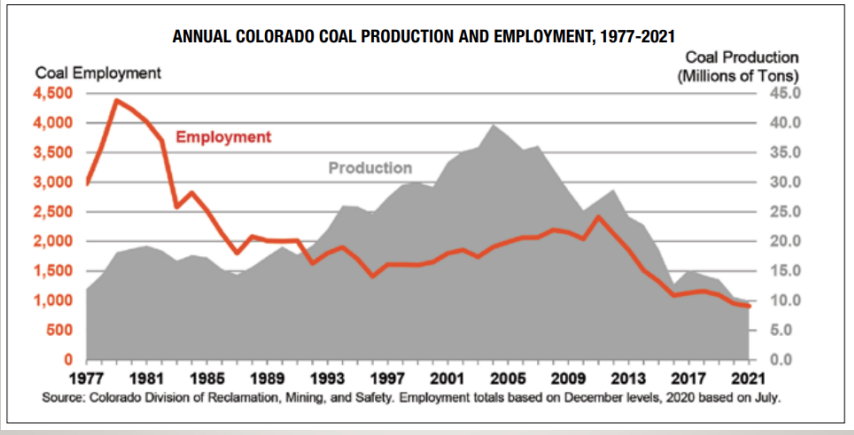
COAL



Colorado coal mines produce coal for electricity generation at power plants and cement and coking operations. Coal is produced in five Colorado counties: Routt, Moffat, Rio Blanco, Gunnison, and La Plata.

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Coal must now compete in an environment where government mandates for renewable energy could limit sales in Colorado. The value of coal sold by Colorado mines fell from $1.1 B in 2012 to $332 M in 2020. The slated, and government-mandated, closure or conversion to natural gas of nearly 1,000 megawatts (MW) of electricity generated by coal-fired plants along the Front Range will also cause significant annual production losses. New EPA regulations will also significantly curtail future production. Low natural gas prices in 2018 through 2020 added to the impact of these mandates, and other political action is leading to the closure of coal-fired power plants across the United States. 3 of the largest coal mines in Colorado have announced phased closures. (Routt, Moffat, Rio Blanco).

Moffat County Road Budget: No paving or chip work in 2021 and none planned for 2022.

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CDOT COLORADO Department of Transportation

CDOT Asphalt (HMA/APM) Quantity Totals*:
1. Surface Treatment Program (overlays, mill/fill, CIP, SMA)
2. Capital (D/B, CM/GC, major widening, etc.)
3. Maintenance Supply

** - does not include small quantity (projects with 5,000 tons or less*

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COLORADO
Department of Transportation

CDOT Historical Projected and Actual Data

Year	Projected Tons	Actual Tons	Percentage
2012	1,198,088	1,153,751	96%
2013	1,264,929	1,248,582	99%
2014	1,290,679	1,370,184	106%
2015	1,154,054	1,343,902	116%
2016	1,318,433	1,673,068	127%
2017	1,009,944	1,036,222	103%
2018	997,927	1,437,500	144%
2019	1,259,920	1,130,102	90%
2020	978,270	1,342,174	137%
2021	938,056	**	
2022 *	1,295,458		

Notes:

** Actual tons for 2021 are still being compiled.

* The Projected tons are based on Region Estimates for Construction Season 2022, and may include tonnage from other FY budgets besides FY 2022.

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EXPRESS LANES NORTH I-25

$284M Project
50,000 tons asphalt*

Central 70

$1.7B Project
200,000 tons asphalt*

I-25 South 'The Gap'
Monument to Denver South

$325M Project
250,000 tons asphalt*

* - denotes multiyear project with 2021 asphalt quantities

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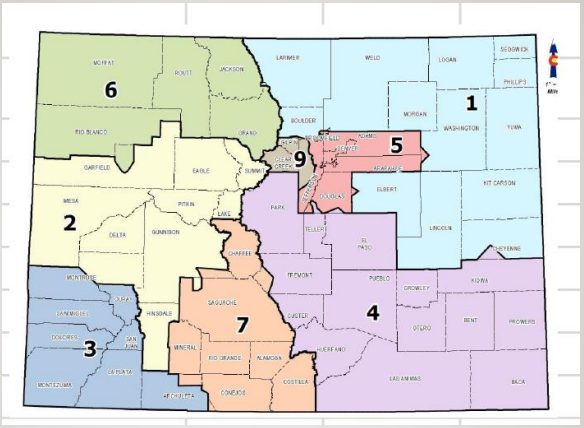
CDOT Maintenance – Asphalt Quantities Projections - 2021



2020-21 Maintenance Estimated Quantities: *{8 Maintenance Sections}*

- Nov., 2020 – July 1, 2021: 35,000 tons
- July, 2021 – Nov., 2021: 100,000 tons

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CDOT – Asphalt Pavement Actual 2021

REG		2021 ST Planned Tons	2021 ST Actual Tons	Change Tons
1	Denver	120,450	147,106	(+ 26,656)
2	Pueblo	206,382	224,785	(+ 18,403)
3	Grand Jun.	295,035	371,993	(+ 76,958)
4	Greeley	135,729	165,043	(+ 29,314)
5	Durango	226,061	136,036	(- 90,025)
TOTAL:		**983,657**	**1,044,963**	**(+ 61,306)**

Capital: (Design/Build, CM/GC, SB 267)
US 50 Pueblo Purcell I/C - 5,000 tons;
I-25 Gap – 250,000 tons; I-25 North Express Lanes – 50,000 tons;
Central 70 – 200,000 tons; I-25/Powers Blvd. – 70,000 tons,
CDOT Capital 2021: 575,000 tons

CDOT Supply @ the Plant Maintenance 2021 – 130,000 tons

CDOT Total Asphalt Pavement Materials 2021:
1,044,963 tons + 575,000 tons + 130,000 tons = 1,749,963 tons

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CDOT – Asphalt Pavement Projected 2022 vs. Actual 2021

REG		2022 ST Planned Tons	2021 ST Actual Tons	Change Tons
1	Denver	175,049	147,106	(+ 27,943)
2	Pueblo	301,025	224,785	(+ 76,240)
3	Grand Jun.	432,515	371,993	(+ 60,522)
4	Greeley	140,774	165,043	(+ 24,269)
5	Durango	337,126	136,036	(+201,090)
TOTAL:		**1,398,859**	**1,044,963**	**(+353,896)**

Capital: (Design/Build, CM/GC, SB 267):
US 50 Pueblo Purcell I/C - 70,000 tons; US 85 S. Santa Fe – 50,000 tons
I-25 Gap – 50,000 tons; I-25 North Express Lanes – 50,000 tons;
Central 70 – 100,000 tons; I-25 Fountain to Academy – 75,000 tons;
I-70 West Vail – 50,000 tons; US 550/160 I/C Durango – 50,000 tons

CDOT Capital Projects 2022: 495,000 tons

CDOT Supply @ the Plant Maintenance 2021 – 130,000 tons

CDOT Total Asphalt Pavement Materials 2021:
1,398,859 tons + 495,000 tons + 130,000 tons = 2,023,859 tons

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US 85 (South Santa Fe) Corridor Improvements

- Highlands Ranch Pkwy to 1,200' N. of County Line Rd. to Dad Clark Gulch
Project Budget: $94 M
Construction Cost: $55 M to $65 M

Widen the existing 4 thru lanes to 6 thru lanes plus auxiliary lanes.

Intersections, bridge, bike/ped underpass, trail, retaining walls, water quality structure, storm sewer, utility relocations

Originally designed by CDOT in PCCP (state highway).
Douglas County, providing 80% of funding, switched to ASPHALT to reduce construction cost and construction traffic impact.

Two-year project and planned to bid in Spring 2022.
SMA – 20,000 tons, HMA – 83,000 tons (PG 64-22, n75)

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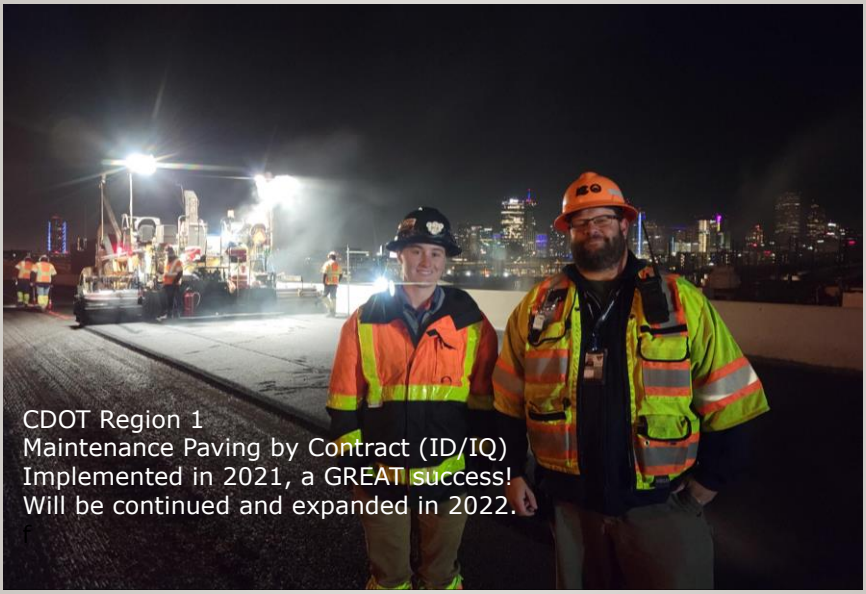

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COLORADO
Department of Transportation

CDOT Actual 2021:

32 Surface Treatment Projects	1,044,963 tons
5 D-B, CM/GC, and Other Projects	575,000 tons
CDOT Maintenance/Small Quantity projects	130,000 tons
2021 Actual Grand Total:	**1,749,963 tons**

CDOT Projected 2022:

46 Surface Treatment Projects	1,398,859 tons
8 D/B, CM/GC, and Other Projects	495,000 tons
CDOT Maintenance/Small Quantity Projects	120,000 tons

** - *Region 1 contracts out for Maintenance Paving.*

2022 Projected Grand Total: 2,023,859 tons

This represents a 16% increase over 2021.

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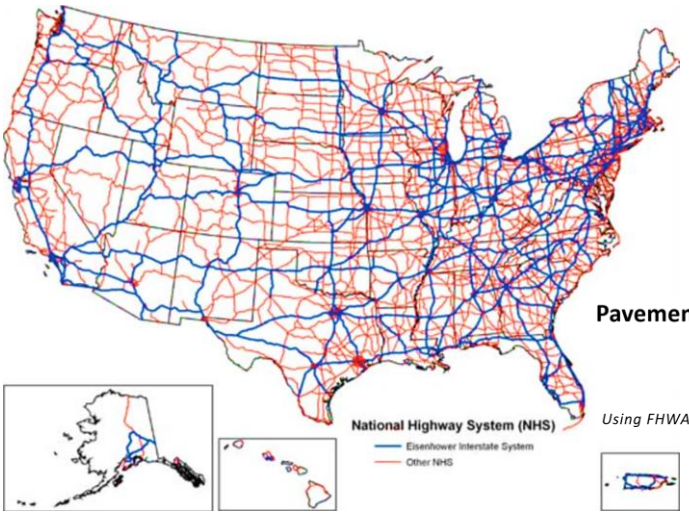

asphalt institute

Pavement Type Tracking Report For 2011 - 2019

Using FHWA's Annual Highway Statistics Report

Colorado Asphalt Pavement Association

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Functional Class
Total Centerline Miles (CM) in U.S. for 2019 as per FHWA HSS
% Asphalt Surface in U.S. for 2019 as per FHWA HSS

asphalt institute

All Functional Classes (Rural & Urban) 917K CM 94.1%	All Functional Classes (Rural) 602K CM 96.4%	All Functional Classes (Urban) 315K CM 89.8%	Interstates, Other Freeways, Expressways 65K CM 75.6%	Rural 35K CM 79.3%
				Urban 30K CM 71.2%
			Principal Arterials, Minor Arterials, Major Collectors 852K CM 95.6%	Rural 568K CM 97.5%
				Urban 284K CM 91.8%

Note: "Minor Collectors" and "Local Roads" not included in this analysis because surface type for these categories not designated in FHWA HSS data.

Colorado Asphalt Pavement Association

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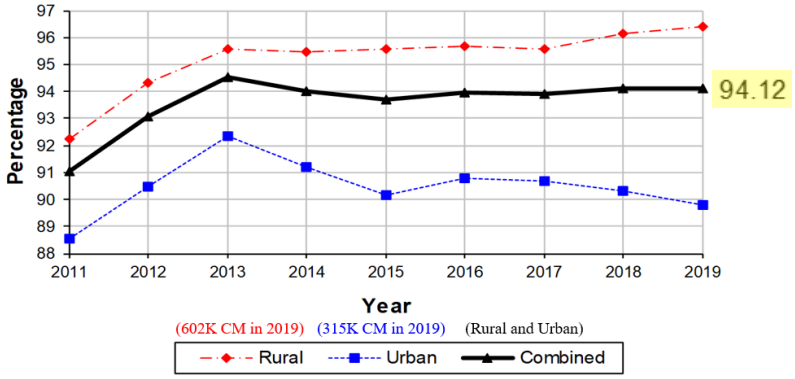
U.S. Totals % Bituminous (All Functional Classes)



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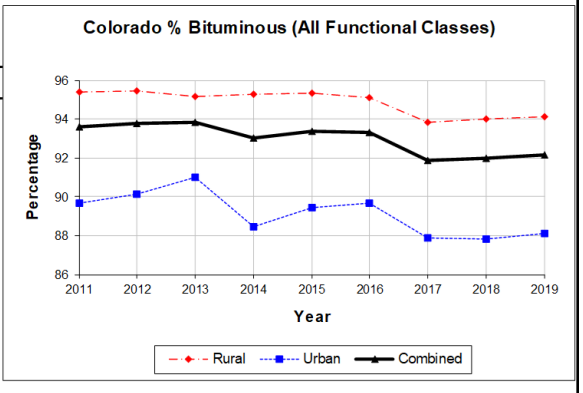
Colorado

% Bituminous (All Functional Classes)

Year	Rural	Urban	Combined
2011	95.41	89.69	93.61
2012	95.43	90.12	93.75
2013	95.18	90.99	93.85
2014	95.25	88.43	93.02
2015	95.32	89.45	93.39
2016	95.08	89.65	93.30
2017	93.84	87.85	91.87
2018	94.01	87.81	91.97
2019	94.10	88.13	92.14



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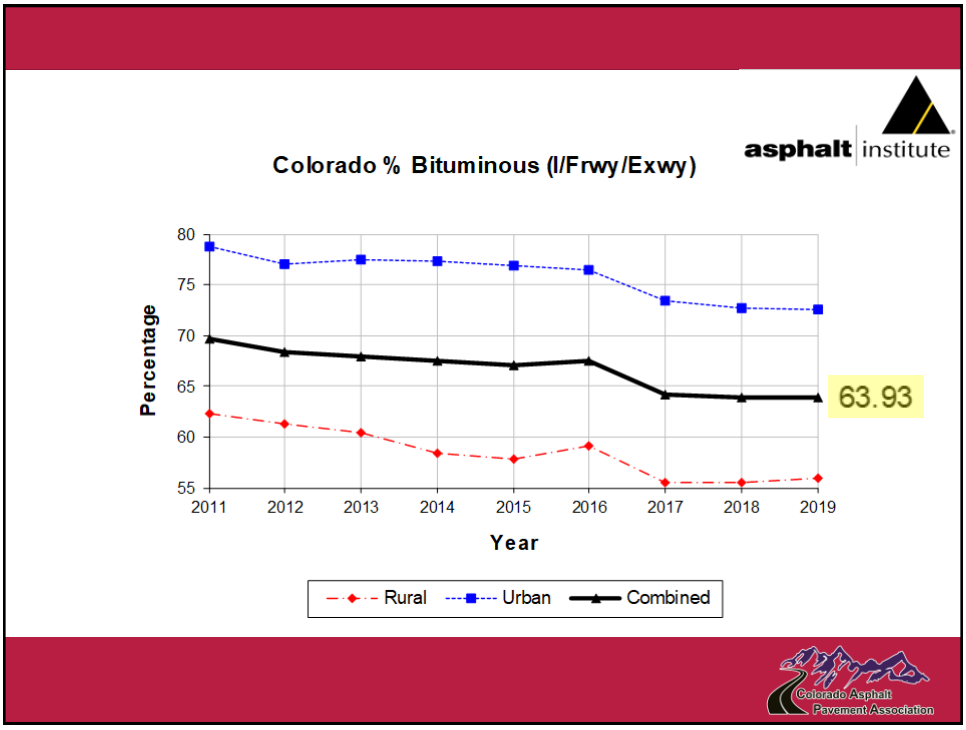
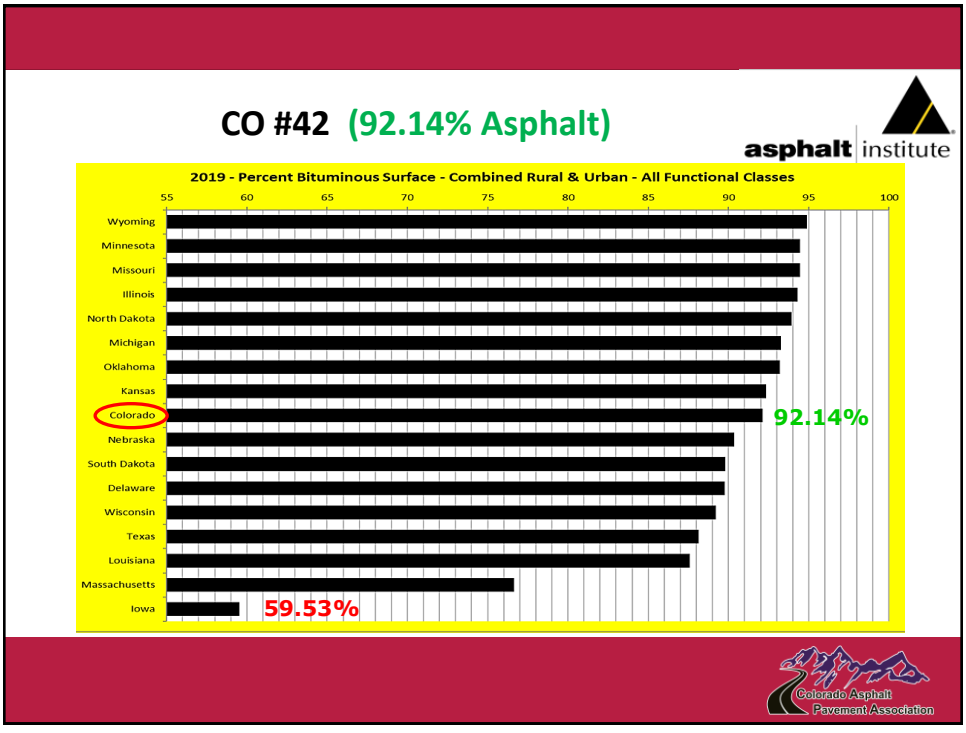
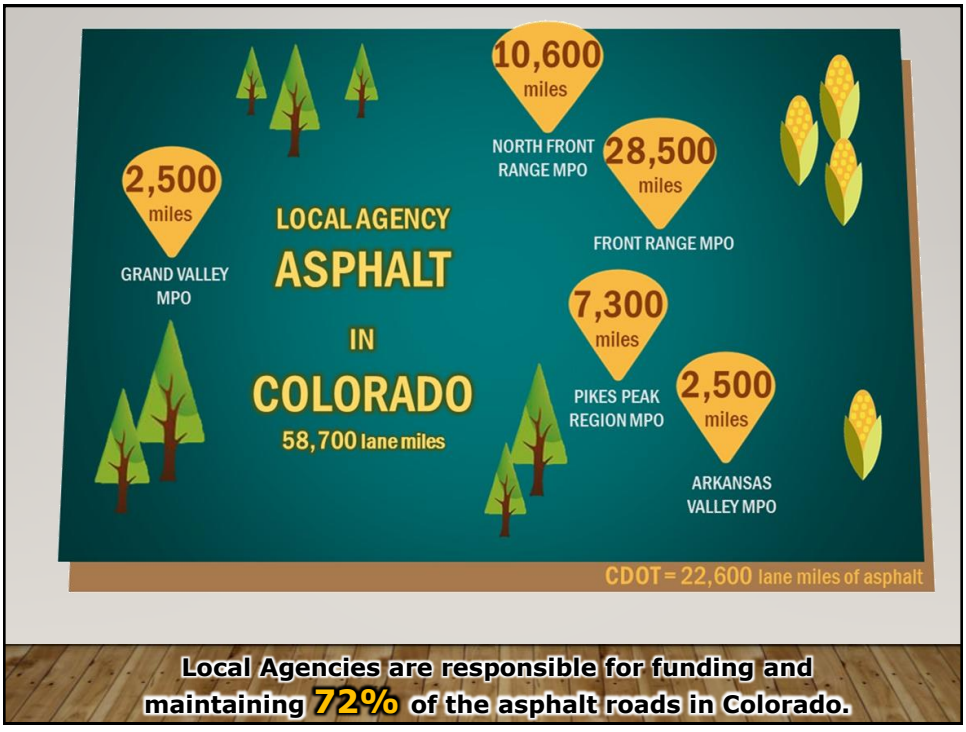

asphalt institute
Colorado % Bituminous (I/Frwy/Exwy)
Percentage
80
75
70
65
60
55
2011
2012
2013
2014
2015
2016
2017
2018
2019
Year
63.93
Rural
Urban
Combined
Colorado Asphalt Pavement Association

41


CO #42 (92.14% Asphalt)
asphalt institute
2019 - Percent Bituminous Surface - Combined Rural & Urban - All Functional Classes
55
60
65
70
75
80
85
90
95
100
Wyoming
Minnesota
Missouri
Illinois
North Dakota
Michigan
Oklahoma
Kansas
Colorado
Nebraska
South Dakota
Delaware
Wisconsin
Texas
Louisiana
Massachusetts
Iowa
92.14%
59.53%
Colorado Asphalt Pavement Association

42


10,600
miles
NORTH FRONT
RANGE MPO
28,500
miles
FRONT RANGE MPO
2,500
miles
GRAND VALLEY
MPO
LOCAL AGENCY
ASPHALT
IN
COLORADO
58,700 lane miles
7,300
miles
PIKES PEAK
REGION MPO
2,500
miles
ARKANSAS
VALLEY MPO
CDOT = 22,600 lane miles of asphalt
Local Agencies are responsible for funding and
maintaining 72% of the asphalt roads in Colorado.

43


Street Improvement
Ballot Initiatives
ELECTION
2021
PASSED
Littleton
Issue 3A (59/41)
City of
Greeley
Colorado
Issue 2F (80/20)
Congratulations! Local Agencies Continue to See
Strong Support from Their Citizens for Infrastructure
and Increasing Local Street Funding Programs.

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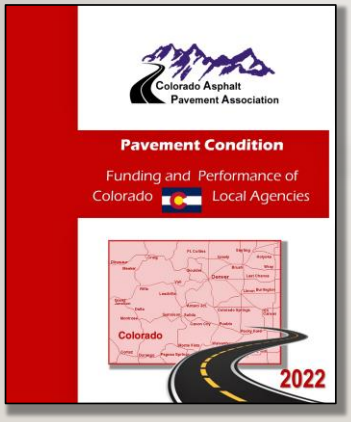
Colorado Asphalt Pavement Association

Local Agency Roadway Condition/Funding Survey



2022
96 Agencies

2015
27 Agencies

Representing 62,000 lane miles

(**92%** of local agency network)

45

Local Agency	Paved Lane Miles	Year	Annual Asphalt Program		PCI	Public Works CIP
			Mill/Overlay + Preventive + Crack Seal	$ / lane mile		
Adams County	1484	2021	$8,800,000	$5,930	71	$15,000,000
Alamosa	118	2020	$221,564	$1,878	60	$1,357,773
Arapahoe County	1197	2022	$4,390,000	$3,668	68	
Arvada	1586	2019	$6,900,000	$4,351	68	
Aspen	72	2019	$820,000	$11,389		
Aurora	4313	2022	$23,360,073	$5,416	69	$27,660,073
Basalt	41	2017	$258,210	$6,298	55	$141,891
Boulder County	1050	2021	$16,300,000	$15,524	68	$13,700,000
Boulder	628	2022	$3,850,000	$6,131	76	
Broomfield	750	2022	$4,600,000	$6,133	75	$14,000,000
Breckenridge	120	2017	$750,000	$6,250	78	
Cañon City	194	2021	$400,000	$21,649	37	$3,800,000
Castle Pines	82	2021	$2,685,070	$32,745	82	
Castle Rock	711	2021	$7,786,075	$10,951	78	$4,380,000
Centennial	979	2017	$7,700,000	$7,865	79	
Cherry Hills Village	90	2022	$220,000	$2,444	86	$250,000

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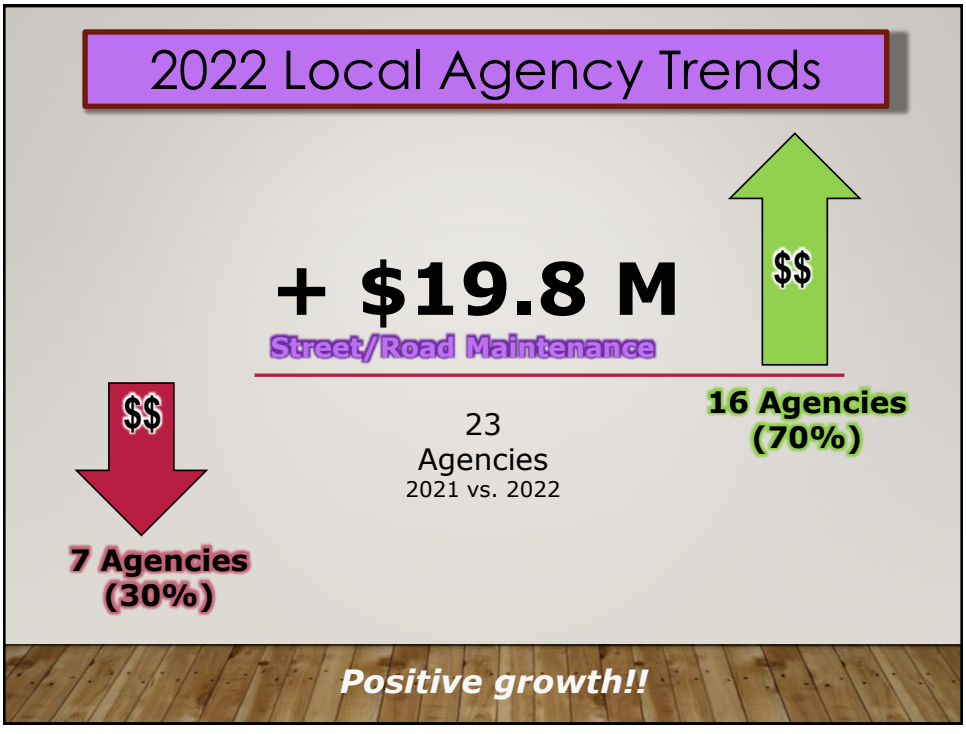
2022 Local Agency Market
$347 M
Street/Road Maintenance
$334 M
Public Works Capital Projects
$681 M
Local Agency 2022 Projects

47


2022 Local Agency Trends
+ $19.8 M
Street/Road Maintenance
$$
16 Agencies
(70%)
23
Agencies
2021 vs. 2022
$$
7 Agencies
(30%)
Positive growth!!

48

2022 Local Agency Trends

23
Agencies
2021 vs. 2022

	2021	2022	Δ 2022	Δ 2021	Δ 2020
CIP*	$110.3	$104.90	-5%		
Mill & Overlay	$75.7	$82.90	+10%	4%	6%
Maint.	$13.3	$27.60	+108%	48%	-12%

Positive growth!!

49

2022 Local Agency Trends

Best Practices Asphalt Mixes

(gyrations, binders, % AC)

pave GREEN — BUILDING BETTER COMMUNITIES THROUGH SUSTAINABLE PRACTICES

Expanding the use of Green Asphalt in Colorado

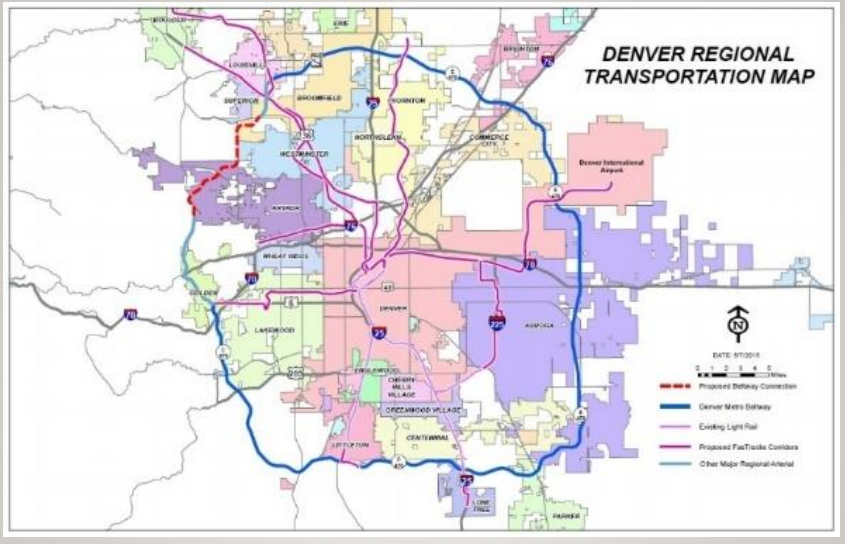
Balanced Mix Designs

50

OTHER

- Toll Road
- Airport
- Federal Lands Highway
- National Parks
- State Parks

51



E470

NW PARKWAY

JEFFERSON PARKWAY

52

E-470 Phase III Widening, I-70 to 104th Ave.
Widening to 3 lanes, 10 miles, $150 M
250,000 tons of HMA
Kiewit Infrastructure, 2022 - 2024

53

2022 Colorado Asphalt Pavement Materials Usage

PROJECTION

Construction Type	% Market	Volume of Work Change
City/County:	40%	*estimated 10% increase in volume*
State DOT:	20%	*estimated 16% increase in volume*
Commercial:	1/3 of 30%	*estimated no change in volume*
Residential:	2/3 of 30%	*estimated no change in volume*
Other:	10%	*estimated 10% increase in volume*

(12 M tons – 2008; 7.0 M tons in 2015; 7.5 M tons in 2016; 8.8 M tons in 2018; 8.7 M tons in 2019; 9.9 M tons in 2020; 8.9 M tons in 2021)

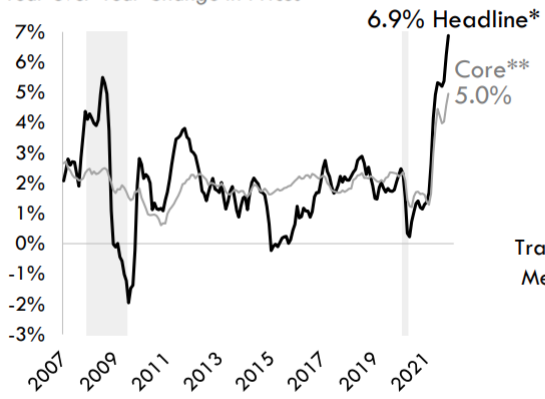
2022 Asphalt Quantity Projection - 9.4 Million tons
This represents an estimated 6% increase in overall market for asphalt materials as compared to 2021.

54

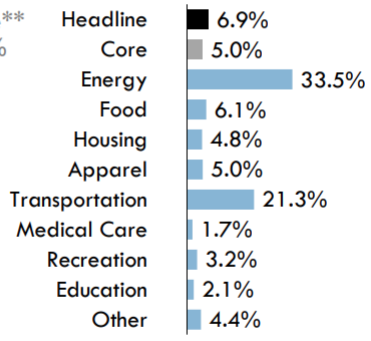
Inflationary pressure continues

U.S. City Average CPI-U Inflation

Year-over-Year Change in Prices



Selected Components, November 2021



Source: U.S. Bureau of Labor Statistics.
Inflation is calculated as the growth in urban area prices in a given period relative to the same period in the prior year.
*Headline inflation includes all products and services. **Core inflation excludes food and energy prices.

7

55

United States Economy – 2021 Data & 2022 Forecast:

National Economic Variables: (Headwinds)

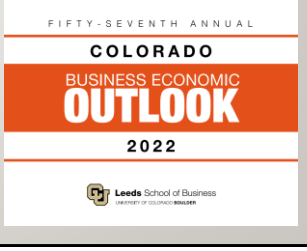
- Inflation – construction materials, wages
- Covid - Omicron Variant
- Worker Shortages
- Retirements
- Drought
- Supply Chain Problems

Global Supply Chain:

- Surging demand
- Shipping Misalignments
- Factory and port closures
- Labor shortages

National Economic Variables: (Tailwinds)

- Infrastructure Spending
- Wage Growth



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Colorado Asphalt Pavement Association

COLORADO RIDES ON US Asphalt.

2022 Outlook: Trends & New Developments

DISCLAIMER: It is understood that any number of the issues and factors presented may change with or without notice and could result in significant impacts on the accuracy of this information.

57

PUBLIC POLICY ISSUES IMPACTING COLORADO BUSINESSES & THE CONSTRUCTION INDUSTRY

- *Energy (Oil and Gas Regulations)*
- *Health Care (Prescription Drug Costs, Public Option*
- *Labor (Employee Benefits, Minimum Wages)*
- *Regulations (Consumer Protection Act)*
- *Environmental (Recycling/Plastic/Material Selection/Permits)*
- *Taxes (State Tax Reduction, Paid Family Leave)*
- *Transportation Funding (Gallagher Amendment, SB 267 Transfers)*
- *Marijuana (Booming business in Colorado)*
- *DBE/WBE (CDOT – 11.55%, FFY 19 – FFY 21; 11.89% - FY 22 – FY 24)*

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Environmental Regulations/Legislation Colorado General Assembly

House Bill HB21-1303 Global Warming Potential For Public Project Materials
This bill was approved on party lines and signed into law by Governor Polis in June, 2021. The bill was sponsored by Representative Bernett (D, Boulder) and requires CDOT to develop a data collection program and on January 1, 2025 implement a policy that sets a greenhouse gas emission standard (ie. Environmental Product Declaration) for construction materials (ie. asphalt , concrete, steel) used for state funded highway projects and building projects. The FHWA has not established standards for these type of standards and CDOT (nor any other DOT) has developed criteria to implement the requirement.

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Issues:

- Asphalt included for both vertical construction (buildings) and horizontal construction (highways)
- ALL projects – including maintenance
- Policy shall NOT be adjusted to be less stringent
- Criteria (ie. recognized databases) unknown
- Standards (ie. policy) unclear
- Requirements undefined
- Time Frame
- Costs
- Long hauls
- By-pass the engineering/specification discussion and go directly to a legislative fix
- Very little experience in EPD use for asphalt
- … increasing jobs and improving Colorado's economy

60

NEXT STEPS:

1. Await a DRAFT EPD specification from the DOT.
2. Establish an EPD Producer Group.
   - (QC Manager, Plant Operator, Estimator, Environmental Manager)
3. Promote the resources from NAPA
   - Technical Assistance
   - Eco Label Tool

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EXPANDING THE USE OF GREEN ASPHALT IN COLORADO *(IE. REDUCING ENERGY DEMAND)*

- **Streamline the use of Warm Mix Asphalt**

POSITIVE ENVIRONMENTAL ACTION: *Allow for increased use of WMA and eliminate agency requirements for two separate asphalt mix designs for the same mix when WMA is proposed.*
Currently only 15% of CDOT mix is WMA.

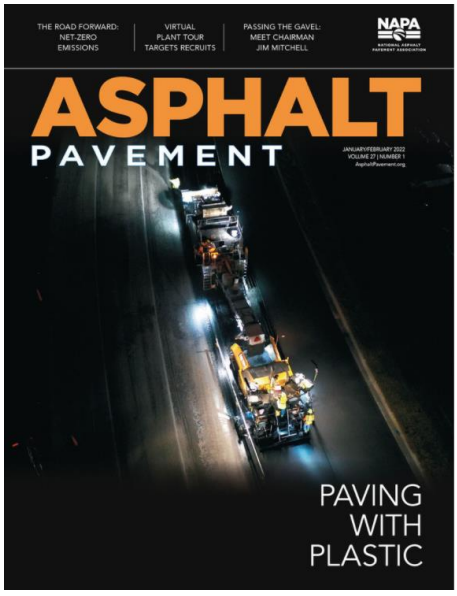
- **Expand the use of Recycled Asphalt**

POSITIVE ENVIRONMENTAL ACTION: *Allow mix design appropriate adjustments to incrementally increase the usage of RAP and implement new Balanced Mix Design Approach.*
Currently only 18% RAP on average (0% for SMA) is used.

- **Allow the use of Alternatives to Hydrated Lime**

POSITIVE ENVIRONMENTAL ACTION: *Develop Approved Product listings for liquid anti-strip and allow for either lime or liquid products in mix designs.*
Currently 1% lime is required in all mixes and no liquid anti strips are allowed.

62



NAPA
Asphalt Pavement Magazine
January/February, 2022

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Recycled Asphalt Shingles - Issues

- availability
- cost
- performance
- quality control
- allowed vs. mandated
- engineered specifications
- proprietary vs. generic requirements

64

65

Aggregates:

In 2020, Colorado produced and consumed approximately 53 million tons of aggregate (sand, gravel, crushed stone). This was approximately equal to 2019.	Forecasts for 2022 suggest similar levels of production in Colorado, as all regions of the state show continued strong construction levels.

Local zoning regulations and land-development alternatives continue to have an expanding negative impact on surface mining. These issues are expected to continue and to cause new crushed stone quarries and sand and gravel deposits to locate further away from large population centers, where the material is needed. If this were to be the case, material transportation costs to the high usage centers will increase, and the opportunity to minimize the carbon impact will be increasingly difficult.

Source: CSSGA, January 5, 2022

NIMBY – Not In My Back Yard

BANANA – Build Absolutely Nothing Anywhere Near Anything

66

BREATHING EASY WITH THE ASPHALT PRODUCTION INDUSTRY

Asphalt Pavement Material Facilities (APM Facilities)

Tetra Tech, 2020

Key Subjects: Asphalt Production, Emissions, Health Hazard, Exposures, Modern Technology, Best Management Practices, Process Changes

Summary/Conclusion *APM facilities play a vital role in the maintenance of our nation's infrastructure and strive to be good neighbors in the communities they serve.* ***The emissions from APM facilities are even lower today as process improvements are now best management practices to reduce emissions and odors and increase the use of reclaimed materials.*** *Compared to other pavement materials, asphalt pavement has a very small carbon footprint and has been recognized by the Department of Energy as a top material for sequestering carbon (5). Studies to date have found that asphalt plants do not pose a risk to public health (6, 7, 8, 9, 10, 11, 12, 13) even at locations as close as 100 feet from an APM facility (8).*

67

Balanced Mix Design:

A new mix design system that "balances" …

1. crack resistance and rut resistance
2. material properties and long-term performance
3. *increases flexibility to the contractor to meet requirements and standards*

Ways to Increase Mixture AC Content

- *Lowering Gyration Levels (N_{design})*
- *Lowering Design Air Voids*
- *Increasing Minimum VMA*
- *Air Voids Regression Approach*
- *Combination of 2 or more*
- *Some include laboratory performance testing*
  - ***Balanced Mix Design***

CAPA:
1. BMD Work Group
2. Featured topic at Conference
3. Data collection, and evaluation under development

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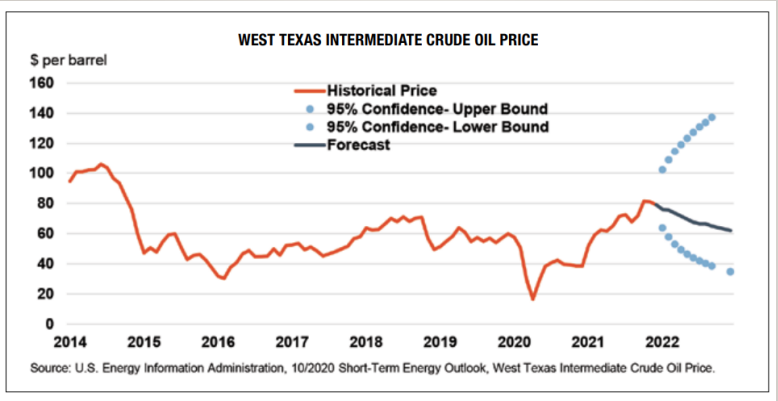
Crude Oil

*"Crude oil (and natural gas) are Colorado's two most important commodities. The 2020 close out price of crude oil was **$48.35/barrel (WTI)** and the 2021 close out price was **$69.88/barrel (WTI),** a 45% increase.*



Colorado crude oil production hit an all-time high in 2019 of nearly 193 MB. In 2020, oil output fell 10.9% to 172 MB, and is expected to decrease further to 148 MB in 2021, a decline of 13.9%. Colorado ranks fifth among states in crude oil production as of August 2021. The International Energy Agency's (IEA) October Oil Market Report forecasts global oil demand of 96.3 million barrels per day (mb/d) for 2021, an increase of 5.5 mb/d from 2020. For 2022, the IEA is forecasting another increase of 3.3 mb/d to 99.6 mb/d.

69

HOLLYFRONTIER

HollyFrontier runs last barrel of crude at Cheyenne refinery ahead of renewable reformation

HIGHLIGHTS

Cheyenne refinery shut in August for renovation

Two renewable projects underway at Artesia refinery in New Mexico

New York — HollyFrontier ran the last barrel of crude through its 48,000 b/d Cheyenne, Wyoming, refinery as it begins to repurpose the plant to produce renewable diesel, a company executive said Aug. 6.

August, 2020

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MERGERS & ACQUISITIONS

HollyFrontier to Acquire Sinclair Oil

Deal creates integrated downstream petroleum company supplying 1,600 stations, with plans to grow network

By Greg Lindenberg on Aug. 31, 2021

Photograph: Shutterstock

August, 2021

DALLAS — HollyFrontier Corp., in a transaction valued at $1.8 billion, and Holly Energy Partners LP, in a deal valued at approximately $758 million, have entered into definitive agreements under which they will **acquire Sinclair Oil Corp.** and Sinclair Transportation Co. from The Sinclair Cos.

Sinclair is a privately held, vertically integrated oil company that supplies fuel to more than 1,600 **Sinclair-branded gas stations** in 29 states. The Salt Lake City-based company **exited direct-ownership of retail outlets** in 2010.

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CDOT AC COST ADJUSTMENT SPECIFICATION

- New Specification implemented in 2020.
  - Optional (previously mandatory)
  - 10% Trigger (previously 5%)
  - Reference will be Poten & Partners/Argus (previously Western Canadian Select)

RESULT: Nearly every contractor opted out in 2020-2021.

CDOT COLORADO Department of Transportation

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2022 - LIQUID ASPHALT MARKET (COLORADO)
• Ample supply throughout Colorado
• No known disruptions affecting Colorado
• There appear to be no supply issues throughout the western states at the beginning of 2022
• With the recent rise in crude oil prices and steady to increasing demand, 2022 asphalt prices are expected to be above recent years

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How much does asphalt cost? What is the cost of asphalt? We need to clarify cost:
Project – Mix/Material – Liquid Asphalt

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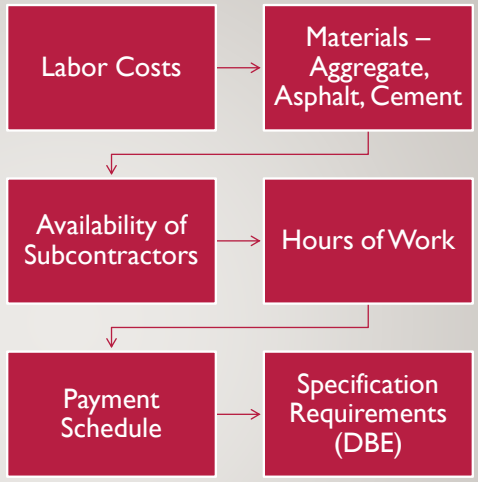
WHAT FACTORS IMPACT PROJECT COST?



IMPACTS TO COST: wages, materials, Covid compliance and worker safety, employee benefits (paid family medical leave), regulatory and enforcement fees, permitting costs of equipment and material sources.

75

How Can You Maximize Your Limited Street/Road Improvement Funds?

Get the Work Out Early! The single most effective way to maximize the limited road improvement funds is to advertise and bid projects as early as possible.

Utilize Recycled Asphalt Pavement (RAP): Increasing the amount of RAP used is considered one of the effective ways to reduce the cost of asphalt materials. Most agencies currently specify ***20% - 25% RAP*** on all lifts (including top lift).

Uniformity and Consistency in Material Requirements: Minor variations in material requirements from agency to agency can lead to increased costs without increased value. The most common asphalt material specifications in Colorado are for ***SX 50 or 75 gyrations, PG 64-22 or 58-28, 20% RAP***.

Maximize Work Hours & Project Schedule: Shorter work hours and restrictive traffic handling requirements result in lower production, longer projects, and increased costs.

Accurate Engineer's Estimate: Additional costs are incurred by both the contractor and the agency when projects must be re-bid. Understand what factors should be considered as the engineer's estimate is established.

76

Marketing for Potential Employees

77

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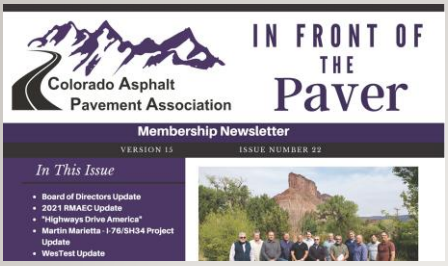

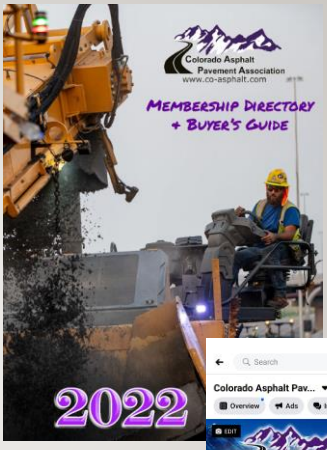

CAPA Marketing – Social Media Initiative

- Promoting ASPHALT
- Promoting our MEMBERS
- Promoting our INDUSTRY

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ROCKY MOUNTAIN ASPHALT CONFERENCE & EQUIPMENT SHOW

Plans for 2022:

- *Planned for February 8-9, 2022*
- NEW LOCATION: National Western Complex
- Focus on Construction Best Practices, Materials Engineering & Testing, Leadership, Maintenance & Rehab.
- Theme: *Paving Our Way to the Winner's Circle*
- *Keynote General Session, 24 breakout sessions, 18 Educational 101 sessions (materials, maintenance, and equipment*
- *CAPA "Best in Colorado" Asphalt Awards Program – Feb. 9*

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2022 Webinar Series:
- 14 Webinars Scheduled
- No Cost to CAPA Members, APWA, CARSE, CDOT
- All aspects of asphalt pavements
Industry Outlook; workforce development, asphalt paving programs, plants, placement and compaction, wide crack repair, inspection, maintenance, project management, pavement forensics, understanding PG binders.

81


.. The frequency and severity of work zone accidents continue to increase at an alarming rate."
CAPA Safety Council – Spring Meeting, March 18, 2022

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Colorado Asphalt Pavement Association

Date: Whenever You want it, 2022
Location: At Your Office
Subjects: Asphalt A to Z

Short Course in Asphalt Technology

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Colorado Asphalt Pavement Association

Date: Whenever You want it, 2022
Location: At Your Office
Subjects: Asphalt A to Z

Asphalt Lunch & Learns

Specifications
New Technology
Pavement design
Maintenance
Inspection
Troubleshooting Field Problems
Testing 101
Warm Mix Asphalt
Asset Management/PMS

84


Over 90% of
all pavements
are ASPHALT!!

85


THE
ASPHALT
INDUSTRY
OF
COLORADO

86

Marshall Fire Support

www.coloradogives.org

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2022 ASPHALT INDUSTRY OUTLOOK

"MARKET CONDITIONS, TRENDS, AND NEW DEVELOPMENTS"

PROVIDED FOR CAPA MEMBERS & AGENCY PARTNERS

Thursday, January 6, 2022

Presented by
Tom Peterson, P.E.; Executive Director
(303) 229-6710; tompeterson@co-asphalt.com

Mike Skinner, P.E.; Director of Engineering
(720) 588-7351; mikeskinner@co-asphalt.com

Colorado Asphalt Pavement Association

ASPHALT 100% RECYCLABLE

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