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

Webinar Participants:
- contractors
- suppliers
- consultants
- product/service providers
- agency personnel
CAPA MISSION:
TO ADVANCE
THE USE AND
QUALITY OF
ASPHALT
PAVEMENTS IN
COLORADO.

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

Colorado Asphalt Pavement Association

Industry Partners
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.

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


All Types of Pavements:
Castle Pines Parkway, Town of Castle Pines

Roadway Reconstruction
- Concrete Out
- Asphalt In
- Design Features
- Bid Package
- Spec. Development
- Technical Assistance

2021 – The Asphalt Market A Look Back
# 2021 Colorado Asphalt Pavement Materials Usage

**PROJECTED**

<table>
<thead>
<tr>
<th>Construction Type</th>
<th>% Market</th>
<th>Volume of Work Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>City/County</td>
<td>35%</td>
<td>estimated 3.5% increase in volume</td>
</tr>
<tr>
<td>State DOT</td>
<td>20%</td>
<td>estimated 6% decrease in volume</td>
</tr>
<tr>
<td>Commercial</td>
<td>1/3 of 35%</td>
<td>estimated 14% decrease in volume</td>
</tr>
<tr>
<td>Residential</td>
<td>2/3 of 35%</td>
<td>estimated 8% decrease in volume</td>
</tr>
<tr>
<td>Other</td>
<td>10%</td>
<td>estimated 10% decrease in volume</td>
</tr>
</tbody>
</table>

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

$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
2021 Colorado Asphalt Materials Usage

**ACTUAL**

<table>
<thead>
<tr>
<th>Construction Type</th>
<th>% Market</th>
<th>Volume of Estimated Tonnage</th>
</tr>
</thead>
<tbody>
<tr>
<td>City/County:</td>
<td>35%</td>
<td>15% decrease</td>
</tr>
<tr>
<td>State DOT:</td>
<td>25%</td>
<td>10% decrease (2.1 M to 1.9 M)</td>
</tr>
<tr>
<td>Commercial</td>
<td>1/3 of 35%</td>
<td>15% decrease</td>
</tr>
<tr>
<td>Residential:</td>
<td>2/3 of 35%</td>
<td>15% decrease</td>
</tr>
<tr>
<td>Other:</td>
<td>5%</td>
<td>0% change</td>
</tr>
<tr>
<td></td>
<td>100%</td>
<td></td>
</tr>
</tbody>
</table>

(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)
The economy continues to recover, with consumer activity driving growth

Real U.S. Gross Domestic Product
Dollars in Trillions

Real GDP is inflation-adjusted to chained 2012 levels and shown at seasonally adjusted annualized rates.
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.”
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.”

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.
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.

**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.
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.

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
## CDOT Historical Projected and Actual Data

<table>
<thead>
<tr>
<th>Year</th>
<th>Projected Tons</th>
<th>Actual Tons</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>1,188,088</td>
<td>1,153,751</td>
<td>99%</td>
</tr>
<tr>
<td>2013</td>
<td>1,264,929</td>
<td>1,248,582</td>
<td>99%</td>
</tr>
<tr>
<td>2014</td>
<td>1,290,679</td>
<td>1,370,184</td>
<td>106%</td>
</tr>
<tr>
<td>2015</td>
<td>1,154,054</td>
<td>1,343,902</td>
<td>116%</td>
</tr>
<tr>
<td>2016</td>
<td>1,318,433</td>
<td>1,673,068</td>
<td>127%</td>
</tr>
<tr>
<td>2017</td>
<td>1,009,944</td>
<td>1,036,222</td>
<td>103%</td>
</tr>
<tr>
<td>2018</td>
<td>997,927</td>
<td>1,437,500</td>
<td>144%</td>
</tr>
<tr>
<td>2019</td>
<td>1,259,920</td>
<td>1,130,102</td>
<td>90%</td>
</tr>
<tr>
<td>2020</td>
<td>978,270</td>
<td>1,342,174</td>
<td>137%</td>
</tr>
<tr>
<td>2021</td>
<td>938,056</td>
<td>**</td>
<td></td>
</tr>
<tr>
<td>2022</td>
<td>**</td>
<td>1,295,458</td>
<td></td>
</tr>
</tbody>
</table>

**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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### Projects

- **$284M Project**
  - 50,000 tons asphalt*

- **$1.7B Project**
  - 200,000 tons asphalt*

- **$325M Project**
  - 250,000 tons asphalt*

* - denotes multiyear project with 2021 asphalt quantities
**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

**CDOT – Asphalt Pavement Actual 2021**

<table>
<thead>
<tr>
<th>REG</th>
<th>2021 ST Planned Tons</th>
<th>2021 ST Actual Tons</th>
<th>Change Tons</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Denver</td>
<td>120,450</td>
<td>147,106</td>
</tr>
<tr>
<td>2</td>
<td>Pueblo</td>
<td>206,382</td>
<td>224,785</td>
</tr>
<tr>
<td>3</td>
<td>Grand Jun.</td>
<td>295,035</td>
<td>371,993</td>
</tr>
<tr>
<td>4</td>
<td>Greeley</td>
<td>135,729</td>
<td>165,043</td>
</tr>
<tr>
<td>5</td>
<td>Durango</td>
<td>226,061</td>
<td>136,036</td>
</tr>
</tbody>
</table>

**TOTAL:** 983,657 tons 1,044,963 tons (+ 61,306 tons)

**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
## CDOT – Asphalt Pavement
Projected 2022 vs. Actual 2021

<table>
<thead>
<tr>
<th>REG</th>
<th>2022 ST Planned Tons</th>
<th>2021 ST Actual Tons</th>
<th>Change Tons</th>
</tr>
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<tbody>
<tr>
<td>1</td>
<td>Denver</td>
<td>175,049</td>
<td>147,106</td>
</tr>
<tr>
<td>2</td>
<td>Pueblo</td>
<td>301,025</td>
<td>224,785</td>
</tr>
<tr>
<td>3</td>
<td>Grand Jun.</td>
<td>432,515</td>
<td>371,993</td>
</tr>
<tr>
<td>4</td>
<td>Greeley</td>
<td>140,774</td>
<td>165,043</td>
</tr>
<tr>
<td>5</td>
<td>Durango</td>
<td>337,126</td>
<td>136,036</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td><strong>1,398,859</strong></td>
<td><strong>1,044,963</strong></td>
<td><strong>(+353,896)</strong></td>
</tr>
</tbody>
</table>

### 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
- US 85 S. Santa Fe - 50,000 tons
- Central 70 - 100,000 tons
- I-25 North Express Lanes - 50,000 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)
CDOT Region 1
Maintenance Paving by Contract (ID/IQ)
Implemented in 2021, a GREAT success!
Will be continued and expanded in 2022.

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

2022 Projected Grand Total: 2,023,859 tons

** - Region 1 contracts out for Maintenance Paving.

This represents a 16% increase over 2021.
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

<table>
<thead>
<tr>
<th>Functional Class</th>
<th>All Functional Classes</th>
<th>All Functional Classes</th>
<th>All Functional Classes</th>
<th>Interstates, Other</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Rural &amp; Urban)</td>
<td>917K CM 94.1%</td>
<td>(Rural) 602K CM 96.4%</td>
<td>(Urban) 315K CM 89.8%</td>
<td></td>
<td>35K CM 79.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Urban</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Principal Arterials, Minor Arterials, Major Collectors</td>
<td>Rural</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>852K CM 95.6%</td>
<td>Urban</td>
</tr>
</tbody>
</table>

Note: “Minor Collectors” and “Local Roads” not included in this analysis because surface type for these categories not designated in FHWA HSS data.
Colorado % Bituminous (I/Frwy/Exwy)

Year

Percentage


Rural Urban Combined

63.93

CO #42 (92.14% Asphalt)

2019 - Percent Bituminous Surface - Combined Rural & Urban - All Functional Classes

Wyoming
Minnesota
Missouri
Illinois
North Dakota
Michigan
Oklahoma
Kansas

Colorado
Missouri
South Dakota
Delaware
Washington
Texas
Louisiana
Massachusetts

Iowa

59.53%
92.14%
Local Agencies are responsible for funding and maintaining 72% of the asphalt roads in Colorado.

Street Improvement Ballot Initiatives

PASSED

Littleton
Issue 3A (59/41)

Greeley
Issue 2F (80/20)

Congratulations! Local Agencies Continue to See Strong Support from Their Citizens for Infrastructure and Increasing Local Street Funding Programs.
Local Agency Roadway Condition/Funding Survey

Representing 62,000 lane miles
(92% of local agency network)

<table>
<thead>
<tr>
<th>Local Agency</th>
<th>Paved Lane Miles</th>
<th>Year</th>
<th>Annual Asphalt Program</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mill/Overlay + Preventive + Crack Seal</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$/lane mile</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PCI</td>
</tr>
<tr>
<td>Adams County</td>
<td>1484</td>
<td>2021</td>
<td>$8,800,000 $5,930 $71</td>
</tr>
<tr>
<td>Alamosa</td>
<td>118</td>
<td>2020</td>
<td>$221,564 $1,878 $60</td>
</tr>
<tr>
<td>Arapahoe County</td>
<td>3197</td>
<td>2022</td>
<td>$4,390,000 $3,668 $68</td>
</tr>
<tr>
<td>Arvada</td>
<td>1566</td>
<td>2019</td>
<td>$6,900,000 $4,351 $68</td>
</tr>
<tr>
<td>Aspen</td>
<td>72</td>
<td>2019</td>
<td>$920,000 $11,389</td>
</tr>
<tr>
<td>Aurora</td>
<td>4313</td>
<td>2022</td>
<td>$23,300,073 $5,416 $69</td>
</tr>
<tr>
<td>Basalt</td>
<td>41</td>
<td>2017</td>
<td>$258,210 $6,298 $55</td>
</tr>
<tr>
<td>Boulder County</td>
<td>1050</td>
<td>2021</td>
<td>$16,300,000 $15,524 $68</td>
</tr>
<tr>
<td>Boulder</td>
<td>628</td>
<td>2022</td>
<td>$9,850,000 $6,131 $76</td>
</tr>
<tr>
<td>Broomfield</td>
<td>750</td>
<td>2022</td>
<td>$4,600,000 $6,133 $75</td>
</tr>
<tr>
<td>Breckenridge</td>
<td>120</td>
<td>2017</td>
<td>$750,000 $6,250 $78</td>
</tr>
<tr>
<td>Canon City</td>
<td>194</td>
<td>2021</td>
<td>$400,000 $21,649 $37 $3,000,000</td>
</tr>
<tr>
<td>Castle Pines</td>
<td>82</td>
<td>2021</td>
<td>$2,685,070 $32,745 $82</td>
</tr>
<tr>
<td>Castle Rock</td>
<td>711</td>
<td>2021</td>
<td>$7,785,079 $10,951 $78</td>
</tr>
<tr>
<td>Centennial</td>
<td>979</td>
<td>2017</td>
<td>$7,700,000 $7,865 $79</td>
</tr>
<tr>
<td>Cherry Hills Village</td>
<td>90</td>
<td>2022</td>
<td>$220,000 $2,444 $86</td>
</tr>
</tbody>
</table>
2022 Local Agency Market

$347 M
Street/Road Maintenance

$334 M
Public Works Capital Projects

$681 M
Local Agency 2022 Projects

2022 Local Agency Trends

+ $19.8 M
Street/Road Maintenance

16 Agencies
(70%)

7 Agencies
(30%)

Positive growth!!
## 2022 Local Agency Trends

**23 Agencies**
2021 vs. 2022

<table>
<thead>
<tr>
<th></th>
<th>2021</th>
<th>2022</th>
<th>Δ 2022</th>
<th>Δ 2021</th>
<th>Δ 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIP*</td>
<td>$110.3</td>
<td>$104.90</td>
<td>-5%</td>
<td>6%</td>
<td>-12%</td>
</tr>
<tr>
<td>Mill &amp; Overlay</td>
<td>$75.7</td>
<td>$82.90</td>
<td>+10%</td>
<td>4%</td>
<td>6%</td>
</tr>
<tr>
<td>Maint.</td>
<td>$13.3</td>
<td>$27.60</td>
<td>+108%</td>
<td>48%</td>
<td>-12%</td>
</tr>
</tbody>
</table>

*Positive growth!!*

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### Best Practices

**Asphalt Mixes**

- (gyrations, binders, % AC)

### Balanced Mix Designs

- Expanding the use of **Green Asphalt** in Colorado

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**Pave Green**

BUILDING BETTER COMMUNITIES THROUGH SUSTAINABLE PRACTICES
OTHER

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

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### 2022 Colorado Asphalt Pavement Materials Usage PROJECTION

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

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)
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.

**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
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

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.
Recycled Asphalt Shingles - Issues
- availability
- cost
- performance
- quality control
- allowed vs. mandated
- engineered specifications
- proprietary vs. generic requirements
Asphalt pavements are designed and engineered for quality and performance. Material components need to be evaluated with respect to the cost/benefit. We cannot consider our pavements as linear landfills.

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.

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.

NIMBY – Not In My Back Yard
BANANA – Build Absolutely Nothing Anywhere Near Anything

Source: CSSGA, January 5, 2022
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).

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

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

Ways to Increase Mixture AC Content
- Lowering Gyration Levels \( N_{\text{gyr}} \)
- Lowering Design Air Voids
- Increasing Minimum VMA
- Air Voids Regression Approach
- Combination of 2 or more

Some include laboratory performance testing
- Balanced Mix Design

Why Should We Test Mixtures in the Lab?
Mixtures need to be evaluated in the lab to help ensure the required field performance can be achieved.

- Lab Test (Hamburg Wheel Tracker)
- Lab Test Results
- Expected Field Performance
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.
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

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.

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

CDOT AC COST ADJUSTMENT SPECIFICATION

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

How much does asphalt cost? What is the cost of asphalt? We need to clarify cost:

Project – Mix/Material – Liquid Asphalt
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.

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.
Marketing for Potential Employees

2022 Outlook: Technical Resources, Training & Professional Development
CAPA Marketing – Social Media Initiative
- Promoting ASPHALT
- Promoting our MEMBERS
- Promoting our INDUSTRY

Planned for February 8-9, 2022
- NEW LOCATION: National Western Complex
- 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
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.

“The frequency and severity of work zone accidents continue to increase at an alarming rate.”

CAPA Safety Council – Spring Meeting, March 18, 2022
Short Course in Asphalt Technology

Asphalt Lunch & Learns

Specifications
New Technology
Pavement design
Maintenance
Inspection
Troubleshooting Field Problems
Testing 101
Warm Mix Asphalt
Asset Management/PMS
Over 90% of all pavements are ASPHALT!!

THE ASPHALT INDUSTRY OF COLORADO
Marshall Fire Support

www.coloradogives.org

2022 ASPHALT INDUSTRY OUTLOOK
“MARKET CONDITIONS, TRENDS, AND NEW DEVELOPMENTS”
PROVIDED FOR CAPA MEMBERS & AGENCY PARTNERS

Thursday, January 6, 2022

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