



AGGREGATES INDUSTRY & TRANSPORTATION FUNDING

August 28, 2018

Mike Sheahan

Martin Marietta

Educational Outreach Committee Chair

Strength
in Numbers

Presentation Agenda

- CSSGA Overview
- Mine Safety Institute
- Aggregates Industry Overview
- Colorado Transportation Infrastructure



Strength
in Numbers

Colorado Stone, Sand & Gravel Association

- Representing the majority of the construction aggregate producers in Colorado – alliance with CAPA, CRMCA, CCA, ACPA → CIC
- Aligned with NSSGA regarding lobbying, environmental issues, etc.
- 4 main components:
 - Governmental Affairs
 - Land Use & Environment
 - Safety (part 46 Training program with DNR)
 - Education and Community Outreach



Mine Safety Institute

- MSHA implemented P-46 training regulations for metal/non-metal mine in 2001
- CSSGA & Division of Reclamation of Mining & Safety (DRMS) partnered prior to roll out of new regulations
- Expanded to include: Task Training, MSHA 101, Annual Refresher, NMT (Spanish)



National Influence



- National program
- Annual Training Materials Competition Award Winners (2000, 2003, 2007, 2008, 2016, 2017)



Strength
in Numbers

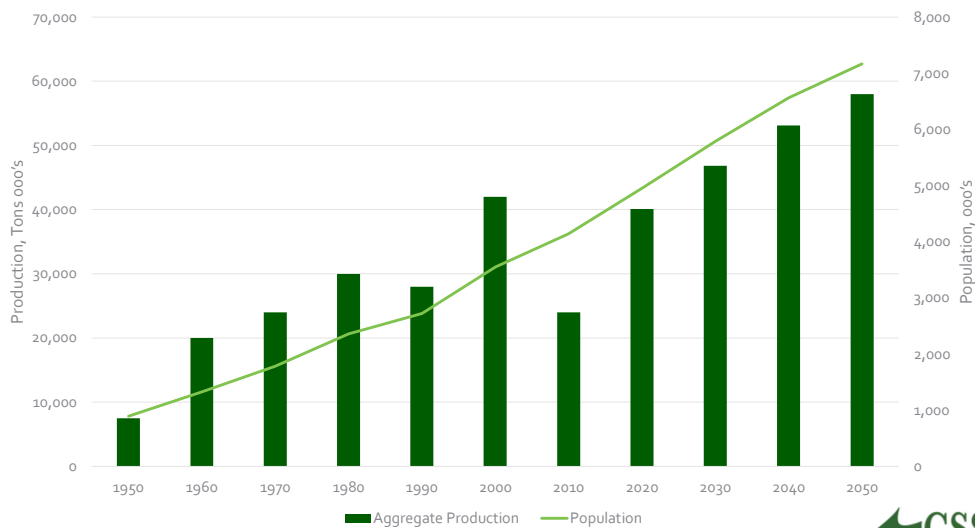
Aggregate Demand

- U.S. annual production is in excess of 2.25 billion tons.
- Consumption of aggregates:
 - 10 tons per person per year (NSSGA)
- In 2015 Colorado produced 46.7 million tons of aggregate (USGS)



Strength
in Numbers

Colorado's Front Range Aggregate Demand



Source: Colorado Demographics Population Forecasts 2000-2050, Open File Report 00-258, U.S. Geological Survey, Industry Estimates

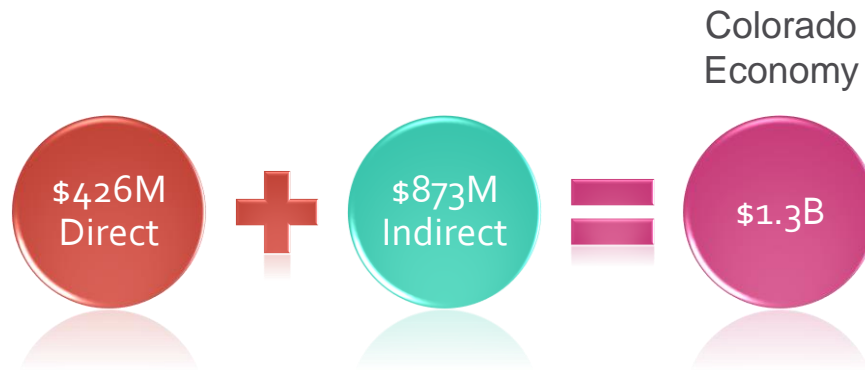


Economic Impact

- Colorado aggregate production employment (Phoenix Center)
 - Direct Employment: 1,555
 - In-Direct Employment: 3,092
- Average earning per industry job were \$75,129 in 2016. Well above national average of \$61,586 (Phoenix Center)
- Direct tax revenue (Tax Revenue)
 - \$6385 on average per employee annually
 - Direct employment contributed \$9.9 million in 2016



Aggregate Industry Contribution



Source: Phoenix Center for Advanced Legal & Economic Policy Studies: The Economic Impact of the Natural Aggregates Industry: A National, State, and County Analysis



Strength
in Numbers

Aggregate Products



Strength
in Numbers

Aggregate Utilization



Concrete

- 80% Aggregate
- Floors and walls
- Concrete pipe
- Tilt Up and Precast Structures

Asphalt

- 95% Aggregate
- Roads
- Shingles

Drainage

- French Drains
- Erosion Control
- Under Drainage, golf course, sport fields

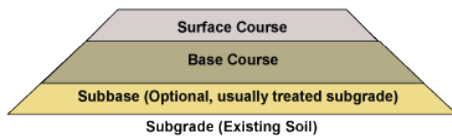
Other

- Armor Stone
- Base for foundations and roads
- Utilities
- Building stone and block

CSSGA
Colorado Stone, Sand & Gravel Association

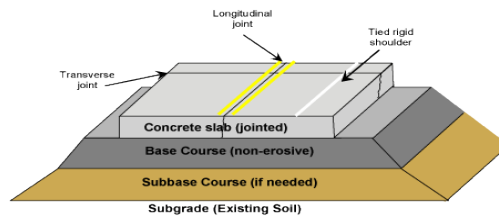
Strength
in Numbers

Roads and Highways



Typical Asphalt Road

Interstate requires 40,000 tons of aggregate per one lane mile



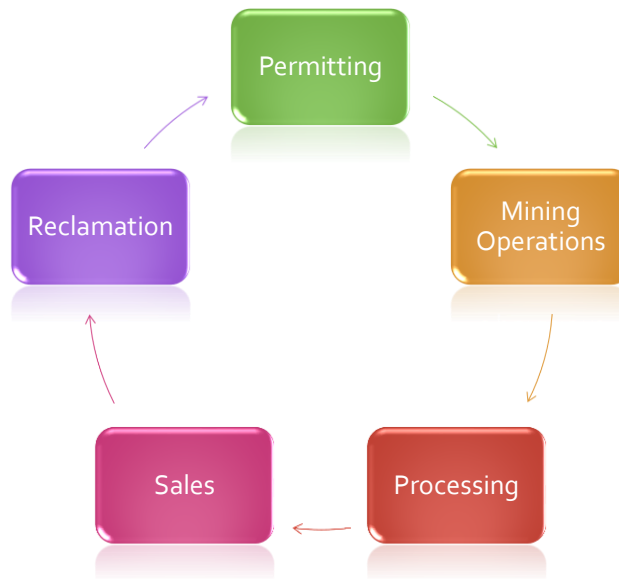
Typical Concrete Road

CSSGA
Colorado Stone, Sand & Gravel Association

Source: Wikipedia.com

Strength
in Numbers

Aggregate Production Cycle



Aggregate Production Cycle - Permitting

- Aggregate Source Identified
- Evaluation of Financial Viability
- Permitting
 - Federal: Corps of Engineer Permits, BLM Contracts, Exploration Permit, Environmental Assessments, Wildlife Assessment, Archeological Assessment
 - State: DRMS, SWSP, Air Permits, Spill Prevention, Well Permit, Water Discharge Permit, State Highway Access, Sales License, Scale Certification
 - County: Zoning, Special Use Permit
 - Municipal: Zoning, Special Use Permit

Aggregate Production Cycle – Mining

Crushed
Stone



Alluvial



Strength
in Numbers

Aggregate Production Cycle – Processing

- Dry Processing
 - Crushers
 - Screens
 - Conveyors
- Wet Processing
 - Screens
 - Log washers or coarse material washers to clean the material
 - Sand screws and or classifiers are used to produce sand
 - Recycle Water



Strength
in Numbers

Aggregate Production Cycle – Transportation

- Material delivered to end customer or market transported by truck, rail, barge, or ship.
- Freight Costs often exceed the material cost when sources are not close to the market.



Strength
in Numbers

Aggregate Production Cycle – Reclamation

- Primary Objective: “Return the land to beneficial use”
- Colorado’s Post Aggregate Mining Benefits
 - Water storage: 1.1million ac-ft. of water storage, more than the proposed Two Forks Dam project
 - Recreation
 - Wildlife habitat
 - Agriculture



Strength
in Numbers

Aggregate Production Cycle – Reclamation



CSSGA
Colorado Stone, Sand & Gravel Association

Transportation Infrastructure in Colorado



The basic equipment and structures, such as roads and bridges, that are needed for a country, region, or organization to function properly

CSSGA
Colorado Stone, Sand & Gravel Association

Transportation in Colorado



Our Challenge
Continued Growth

1991



3.3 million



27.7 billion
vehicle miles traveled

\$125.70
spent per person

2015



5.4 million



50.5 billion
vehicle miles traveled

\$68.94
spent per person

2040



7.8 million



72.3 billion
vehicle miles traveled

\$41.16
spent per person



All dollar figures adjusted for inflation

Strength
in Numbers

Colorado Statewide Transportation Plan Needs & Gap Analysis

\$1 billion annual shortfall

CDOT
REVENUES
\$21.1
BILLION



\$24.9
BILLION
GAP

2016 - 2040



TOTAL
NEEDS IDENTIFIED
BY CDOT
\$46.0
BILLION

Source: Colorado Department of Transportation, 2014



Source: CDOT

Strength
in Numbers

We Are Not Keeping Pace with Our Neighbors



DEMOGRAPHICS



84,899 sq. miles

Land Area

104,185 sq. miles

3.0 million

Current Population

5.4 million

4.5 million

2040 Projected Population

7.8 million

1.4 million

Current Employment

2.8 million

\$15.1 billion

Overall State Budget

\$27.1 billion

\$1.6 billion

Transportation Dept. Budget

\$1.7 billion

Source: CDOT



Strength
in Numbers

How Do We Compare?

PAVEMENT CONDITION



Source:
Highway
Statistics
FHWA 2016

Potholes and rough roads cause drivers as much as \$300 per year in vehicle repair bills

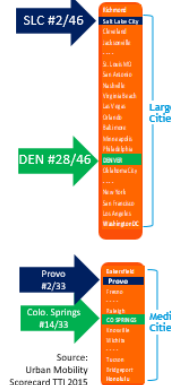
BRIDGE CONDITION



Source:
National Bridge
Inventory Data
USDOT FHWA 2016

48% of Colorado bridges need preventative maintenance and 5% are structurally deficient

SYSTEM RELIABILITY



Source:
Urban Mobility
Scorecard TTI 2015

Colorado's population has grown 53% since 1990 while lane miles on our highways have only gone up 2%

*All figures as of Feb 01, 2018

Colorado has no funds for new capacity. UT dedicates \$600 million/yr. to new capacity.

Colorado relies on 75% of construction \$\$ coming from the feds. Utah relies on less than 50% of construction \$\$ coming from the feds—with a dedicated 1¢ sales tax and two gas tax increases in the last ten years.

7



Colorado Stone, Sand & Gravel Association

Source: CDOT

Strength
in Numbers

Trillion Dollar Infrastructure Plan



- Currently no concrete plan has been set forth
- Would require bi-partisan support in a deeply divided political climate
- Impact on Colorado infrastructure funding is unclear



Gas Tax No Longer Sustainable Funding Source



40.4 cents per gallon

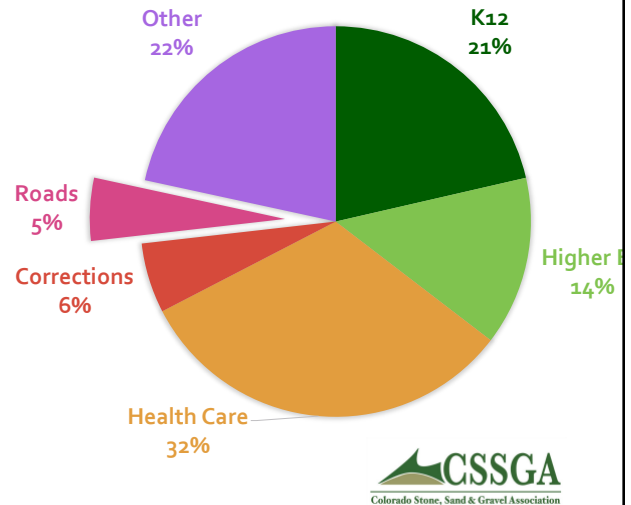
- 18.4 cents feds
- 22 cents to state
- **This can not be changed by legislature in CO**

- Federal and state gas taxes have been fixed for more than two decades
- Revenue has steadily declined as Coloradans burn less gasoline in more fuel-efficient cars
- **CDOT is taking in 30 percent less money from gas taxes now than it did in 2000**
(Source: Inside Energy)

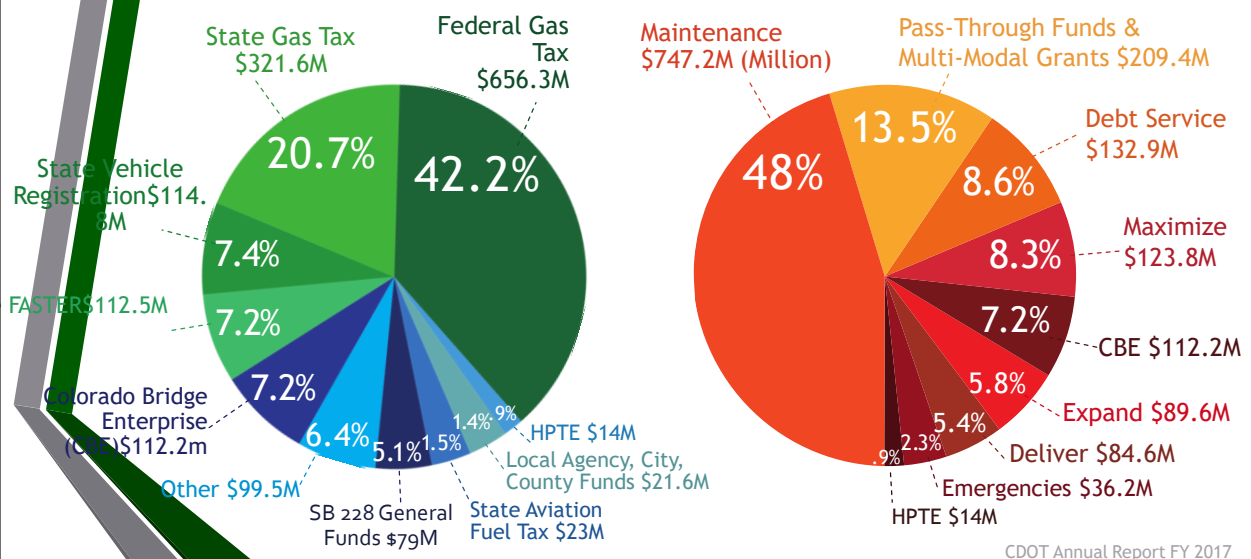


In Colorado Transportation Not A General Fund Reality

- **Transportation** just over 5 percent in FY2015-16.
- Health care represents 32 percent of the budget
- K-12 at 21.4 percent and higher education at 14 percent
- Corrections at 5.8 percent.



WHY ISN'T IT EASY? CASH CAN'T KEEP UP



REVENUE OPTIONS EXPLORED



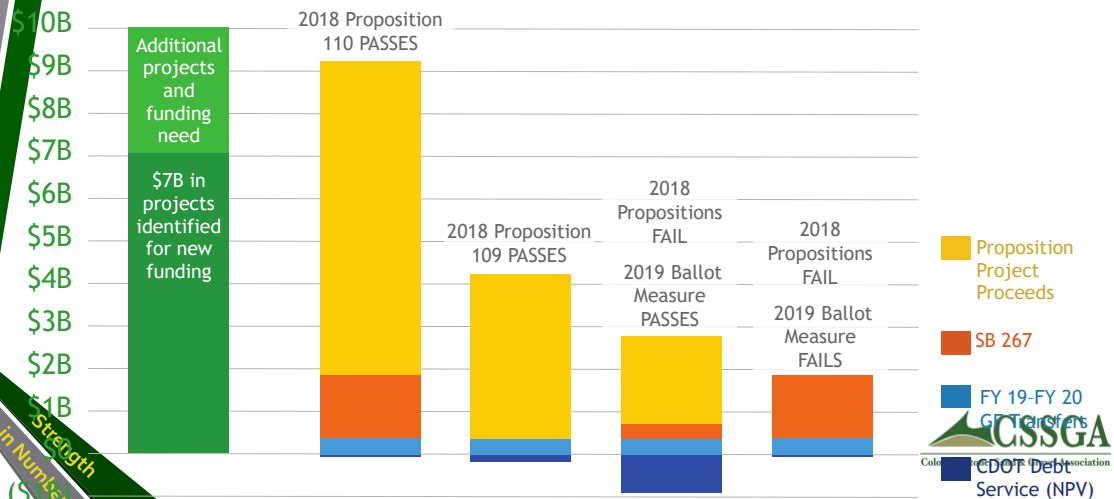
=

- ✓ Raises enough to address the problem
- ✓ A small amount that adds up
- ✓ Everyone pays the same rate, including tourists



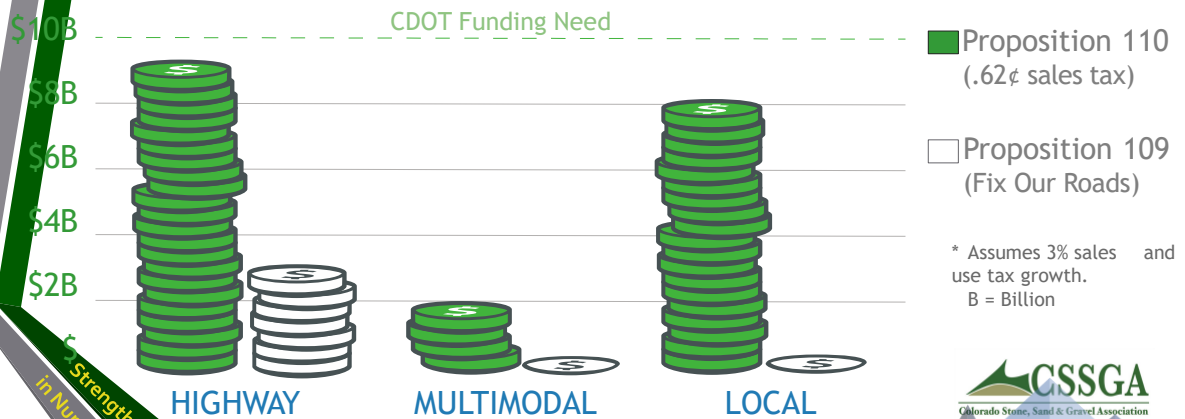
WHAT MAKES IT EASIER?

New Funding Scenarios: Highway Revenue Over 20 Years



WHAT MAKES IT EASIER?

Proposition 110: Estimated Sales & Use Tax vs.
Proposition 109: General Fund Revenue Over 20 Years*



Proposition 110

.62% Adjustment



\$767 million

First year, statewide revenue from sales tax

\$6 billion

Bond principal for state projects

20 Years

This tax will sunset after 20 years

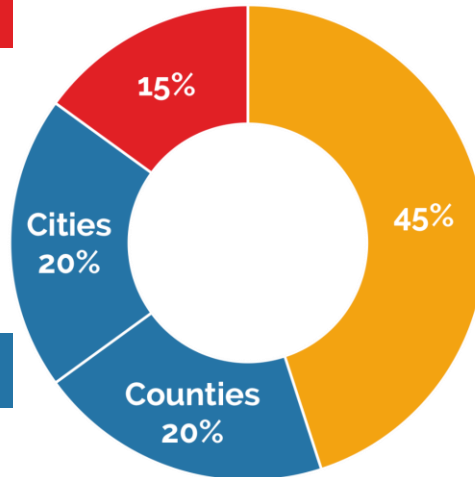
CSSGA
Colorado Stone, Sand & Gravel Association

SYSTEMWIDE IMPROVEMENTS

Multimodal Transportation
Options Fund

Local Transportation
Priorities Fund

State Highway Fund



CSSGA
Colorado Stone, Sand & Gravel Association

STATE

Improve Traffic Flow and Reduce Congestion by widening lanes, adding passing lanes, improving interchanges, and create alternative modes of transportation

Improve Safety by adding or widening shoulders, replacing bridges and building wildlife crossings

LOCAL



Fully Flexible Funds allocated to every city and county to support projects, such as:

- Street or intersection improvements
- Transit infrastructure or operating
- Sidewalks, pedestrian bridges or bike lanes

MULTIMODAL




Projects at the **State and Local Level**, including a match program for local communities.


Projects could include:

- Bustang
- Regional bike and pedestrian paths
- Dial-a-rides
- Disability services

CSSGA
Colorado Stone, Sand & Gravel Association

STATE PROJECTS

 Address CDOT's strategic priority investment program

 Bond against new revenue to immediately start critical projects

Major State Projects

SH-119 Bus Rapid Transit (BRT)

Bus Rapid Transit between Boulder and Longmont along SH-119 **Total Cost:** \$160 million

I-70 West Vail Pass Improvements

Construction of a third lane in both directions to increase safety and mobility **Total Cost:** \$225 million

Floyd Hill to Twin Tunnels Widening

Widening to three lanes westbound on I-70 from Floyd Hill to the Twin Tunnels **Total Cost:** \$480 million

I-25 North Expansion through Weld County to Fort Collins

Addition of a Express Lane in each direction, interchange reconstruction, safety improvements, intelligent traffic systems. **Total Cost:** \$353 million (ballot cost)

I-25 Colorado Springs Congestion Relief

Widening of roadway to six lanes in four sections throughout Colorado Springs. **Total Cost:** \$354 million



ADDING IT ALL UP

 **Create a reliable revenue stream to support and complete state transportation projects**

 **Prioritize rural and urban multimodal mobility**

 **Allocate funding to local communities across the state and give them the authority to make transportation decisions**



Proposition 110



LET'S GO, COLORADO

Strength
in Numbers



Questions?

Strength
in Numbers



References

- American Society of Civil Engineers. 2017 *Infrastructure Report Card*. <http://www.infrastructurereportcard.org/>
- CDOT(a). *Transportation Funding Problem*. <https://www.codot.gov/programs/environmental/wildlife/wildlife-transportation-summit/mike-vanderhoof-transportation-funding.pdf>
- CDOT(b). *The State of Transportation in Colorado*. <http://static1.squarespace.com/static/542022203445301348064410823/CDOT+Infographic+2012.pdf?token=a1vVZ3p5NxpW5rFFokFP%2FX6IUC4%3D>
- CDOT(c). *Transportation Commission of Colorado Workshops & Regular Meeting*. <https://www.codot.gov/about/transportation-commission/documents/2015-archive-of-agendas-and-supporting-documents/august-2015/august-full-packet.pdf>
- FHWA Highway Statistics. *Highway Statistics 2014*. <https://www.fhwa.dot.gov/policyinformation/statistics/2014/>
- Inside Energy. *Why Gas Taxes Won't Fix Our Infrastructure Problem*. <http://insideenergy.org/2015/03/04/why-gas-taxes-wont-fix-our-infrastructure-problem/>
- National Economic Council and the President's Council of Economic Advisers. *An Economic Analysis of Transportation Infrastructure Investment*. https://obamawhitehouse.archives.gov/sites/default/files/docs/an_economic_analysis_of_transportation_infrastructureinvestment.pdf
- NSSGA. *How will a 12 cent Increase in the Gas Tax Impact Drivers?* <http://www.nssga.org/smallchange/>
- NSSGA. *Rocks Build America*. <http://www.nssga.org/rocks-build-america/>
- Phoenix Center for Advanced Legal & Economic Policy Studies. *The Economic Impact of the Natural Aggregates Industry: A National, State, and County Analysis*. <http://www.phoenix-center.org/scorecards/AggregatesIndustry2017ScorecardFinal.pdf>
- Standards & Poor's Ratings Services. *U.S. Infrastructure Investment: A Chance to Reap More Than We Sow*. <http://images.politico.com/global/2014/05/05/sp-usinfrastructure201405.pdf>
- Tax Revenue. Based on the average yearly salary of an aggregate mining employee according to Phoenix Report (\$75,129) multiplied by Employee paid State Tax (3.2%), Employer paid Unemployment Tax (3.1%) and Employer paid Workers Comp (2.2%).
- TRIP: A National Transportation Research Group. *Colorado Transportation by the Numbers*. http://www.tripnet.org/docs/CO_Transportation_by_the_Numbers_TRIP_Report_March_2017.pdf
- U.S. Global Leadership Coalition. *Colorado Benefits of the International Affairs Budget*. <http://www.usglc.org/downloads/states/Colorado.pdf>
- USGS. *Aggregates by State and End Use*. <https://minerals.usgs.gov/minerals/pubs/commodity/aggregates/>
- U.S. Geological Survey, Industry Estimates
- Colorado Demographics Population Forecasts 2000-2050, Open File Report 00-258,
- World Economic Forum. 2014-2015 *Global Competitiveness Report*. http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2014-15.pdf