

The Economic Effects of the Marijuana Industry in Colorado

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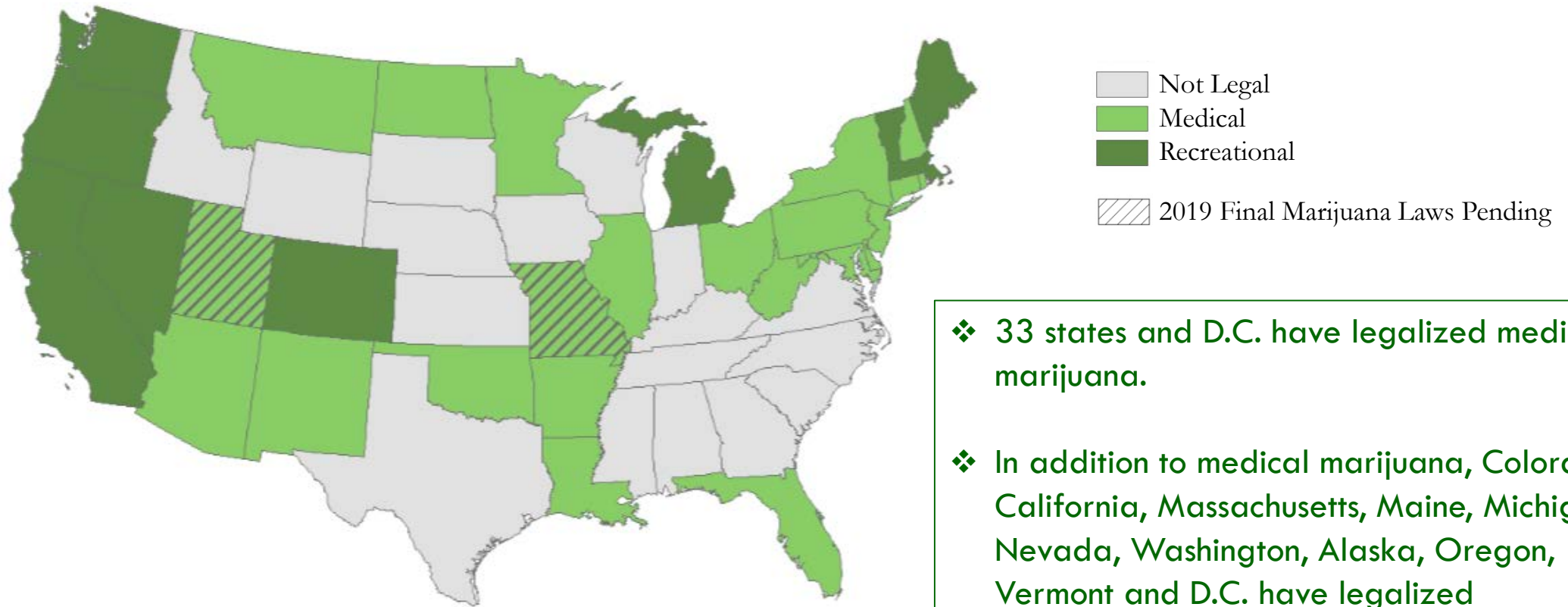
Federal Reserve Bank of Kansas City – Denver Branch

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Legalization in Colorado

- ❖ In 2000, Colorado voters passed Amendment 20 to the Colorado Constitution which allowed qualifying patients or caregivers to possess 6 plants or two ounces of marijuana for medical purposes.
- ❖ In 2012, Colorado approved Amendment 64 which legalized recreational cultivation and use of marijuana.
 - ❖ Individuals can grow up to 6 plants in their home.
 - ❖ Employers can prohibit the use of marijuana by employees.
 - ❖ Each local jurisdiction can decide whether to allow recreational marijuana stores.
 - ❖ As of December 2016, 212 jurisdictions banned both medical and recreational, 18 allowed medical only, 11 allowed recreational only and 79 allowed both recreational and medical.
- ❖ **Recreational marijuana stores opened on January 1, 2014.**
 - ❖ You must be 21 to buy, possess or use recreational marijuana.
 - ❖ Those who are 21 and over (both CO and out-of-state residents) may purchase up to 1 ounce of flower at a time.
 - ❖ It is illegal to consume marijuana in public.
 - ❖ It is illegal to drive under the influence of marijuana (> than 5 nanograms of delta 9 THC).

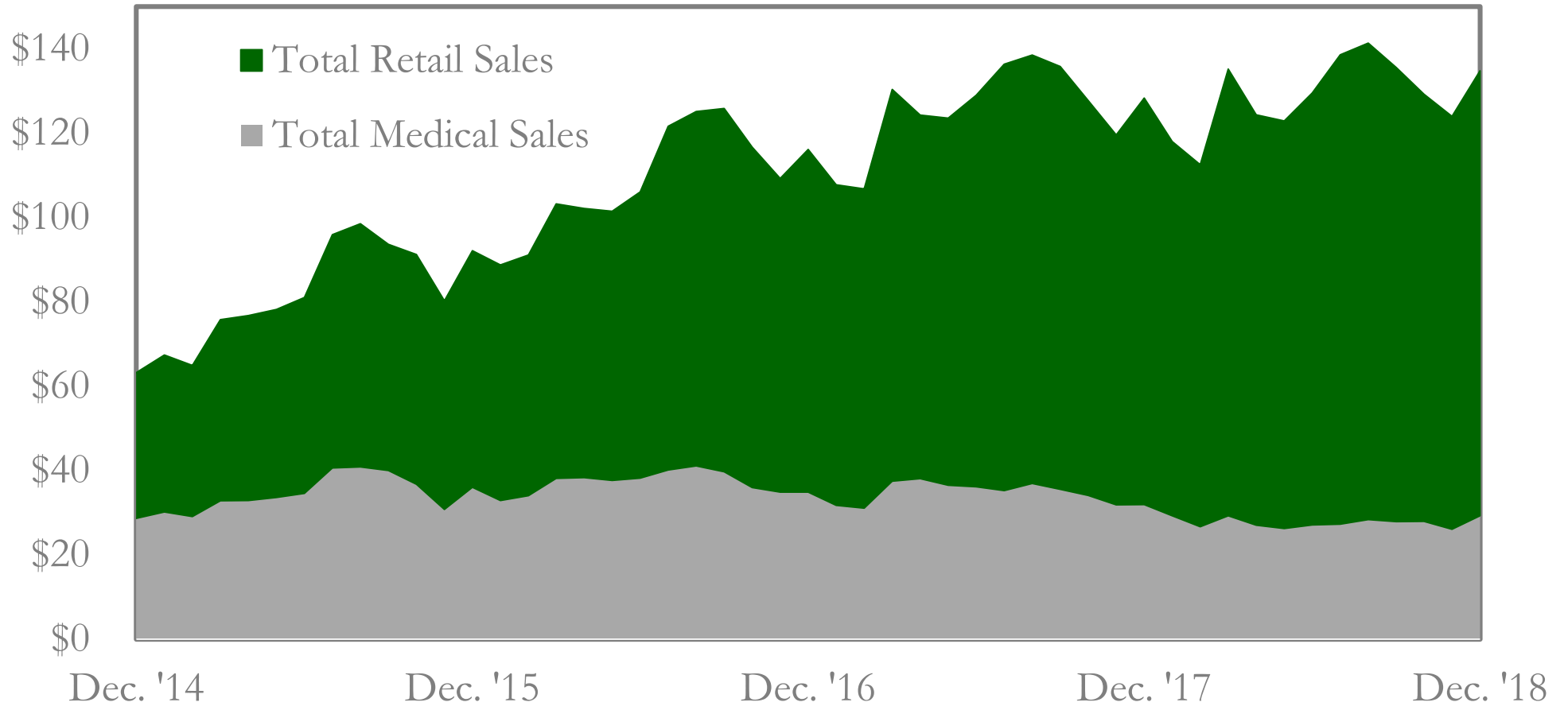
Marijuana Legalization across the U.S.



- ❖ 33 states and D.C. have legalized medical marijuana.
- ❖ In addition to medical marijuana, Colorado, California, Massachusetts, Maine, Michigan, Nevada, Washington, Alaska, Oregon, Vermont and D.C. have legalized recreational marijuana.

Monthly Marijuana Sales in Colorado

Millions



Demand for Marijuana

❖ Marijuana sales are increasing at a decreasing rate:

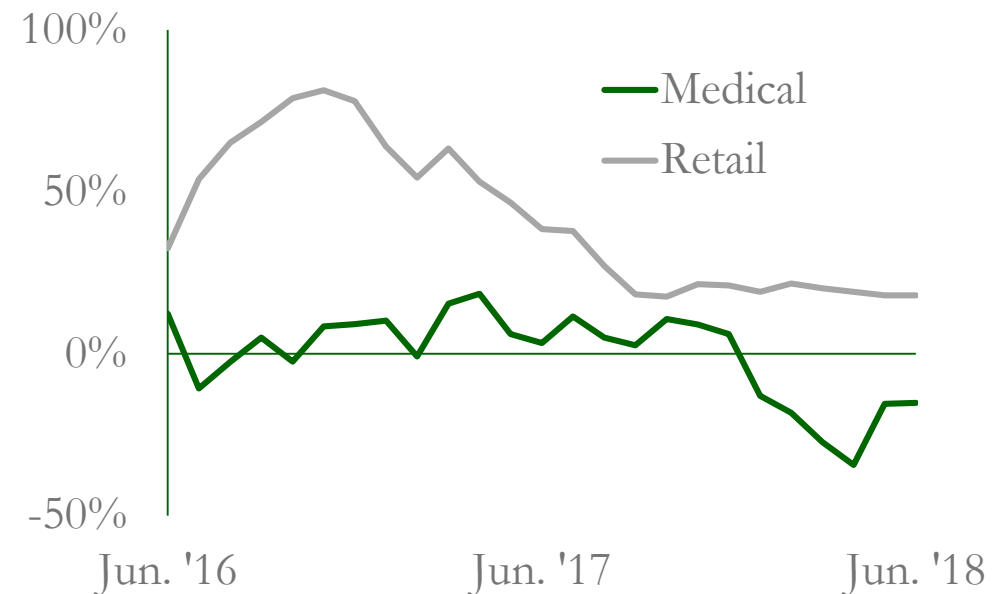
- ❖ Between 2014 and 2015, sales of marijuana flower by pounds increased by 70 percent.
- ❖ From 2016 to 2017, total sales increased just 22 percent.

❖ “Heavy-users” of marijuana

- ❖ Individuals who use marijuana 20 days or more per month are considered “heavy-users.”
- ❖ Approximately 7.6 percent of adults in Colorado were heavy-users of marijuana in 2017.
- ❖ Heavy-users are most prevalent between ages 18-34, with over 15 percent of the age group using marijuana between 20-31 days per month in 2017.
- ❖ In 2017, heavy-users accounted for 82.1 percent of total demand in the state.

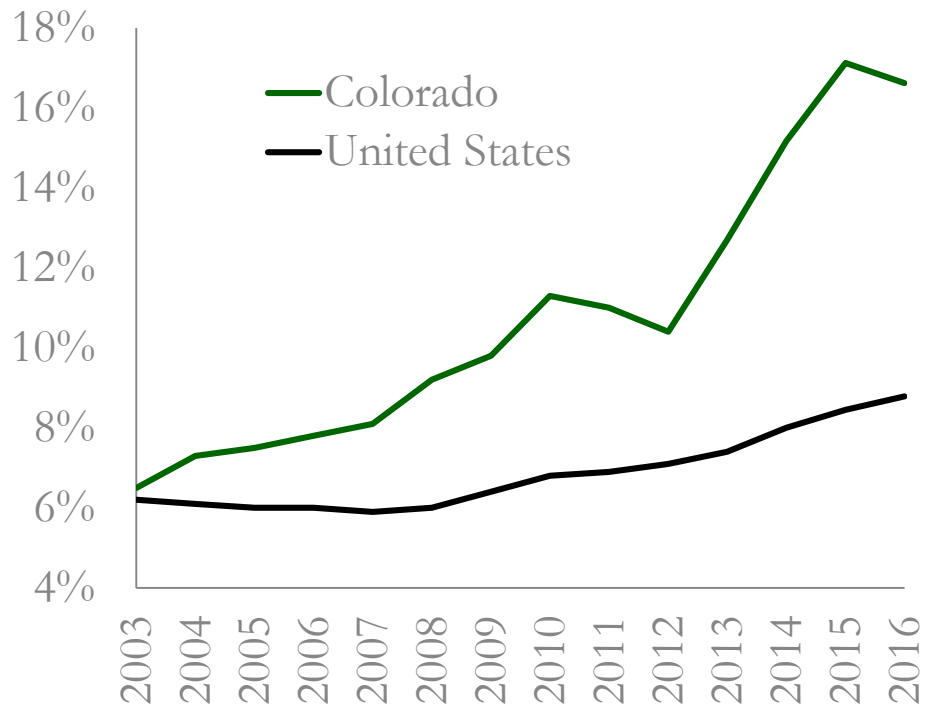
❖ Approximate demand from visitors was 9.1 percent of total demand in 2017.

Year-over-Year Sales of Marijuana Flower by Pounds

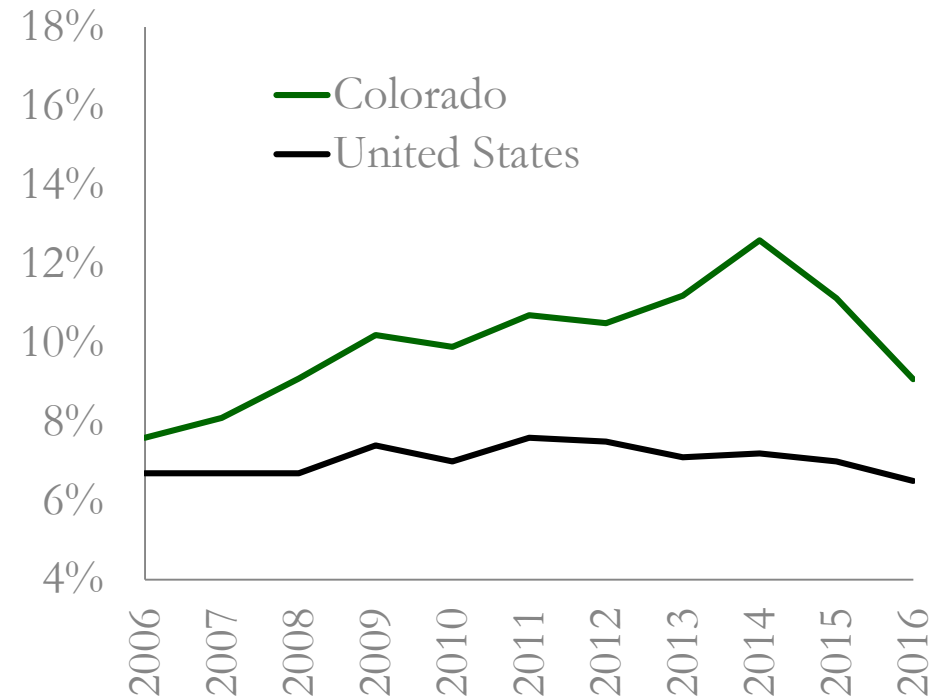


Reported marijuana usage has increased in Colorado.

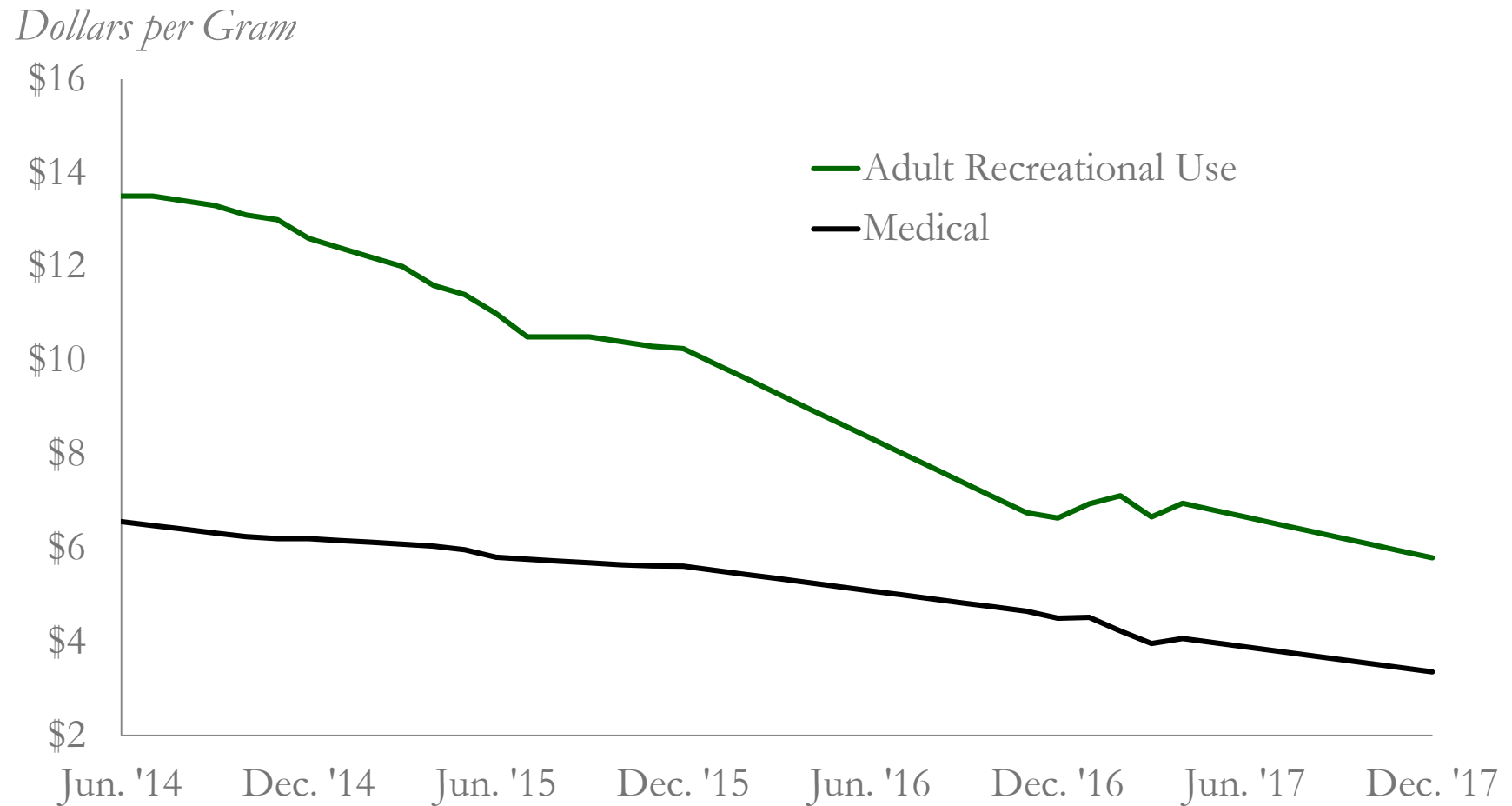
Share of Individuals Using in Past Month:
18+ Years Old



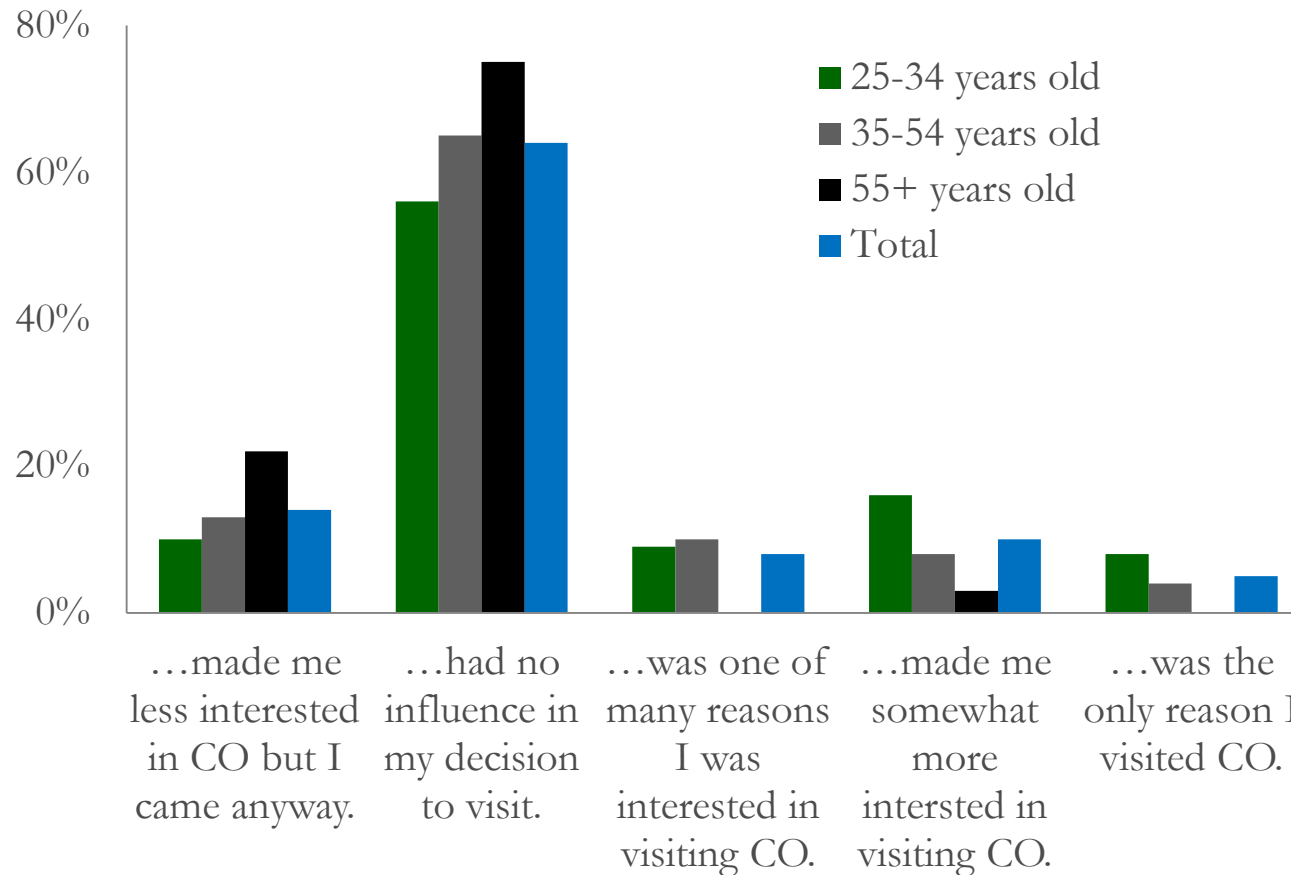
Share of Individuals Using in Past Month:
12-17 Years Old



Price of Marijuana Flower in Colorado



The Impact on Colorado Tourism



The availability of legal marijuana...

The Economic Impact in Colorado

Recreational Facilities

- ❖ 550 stores
- ❖ 724 cultivation facilities
- ❖ 285 infused product manufacturers
- ❖ 11 testing facilities

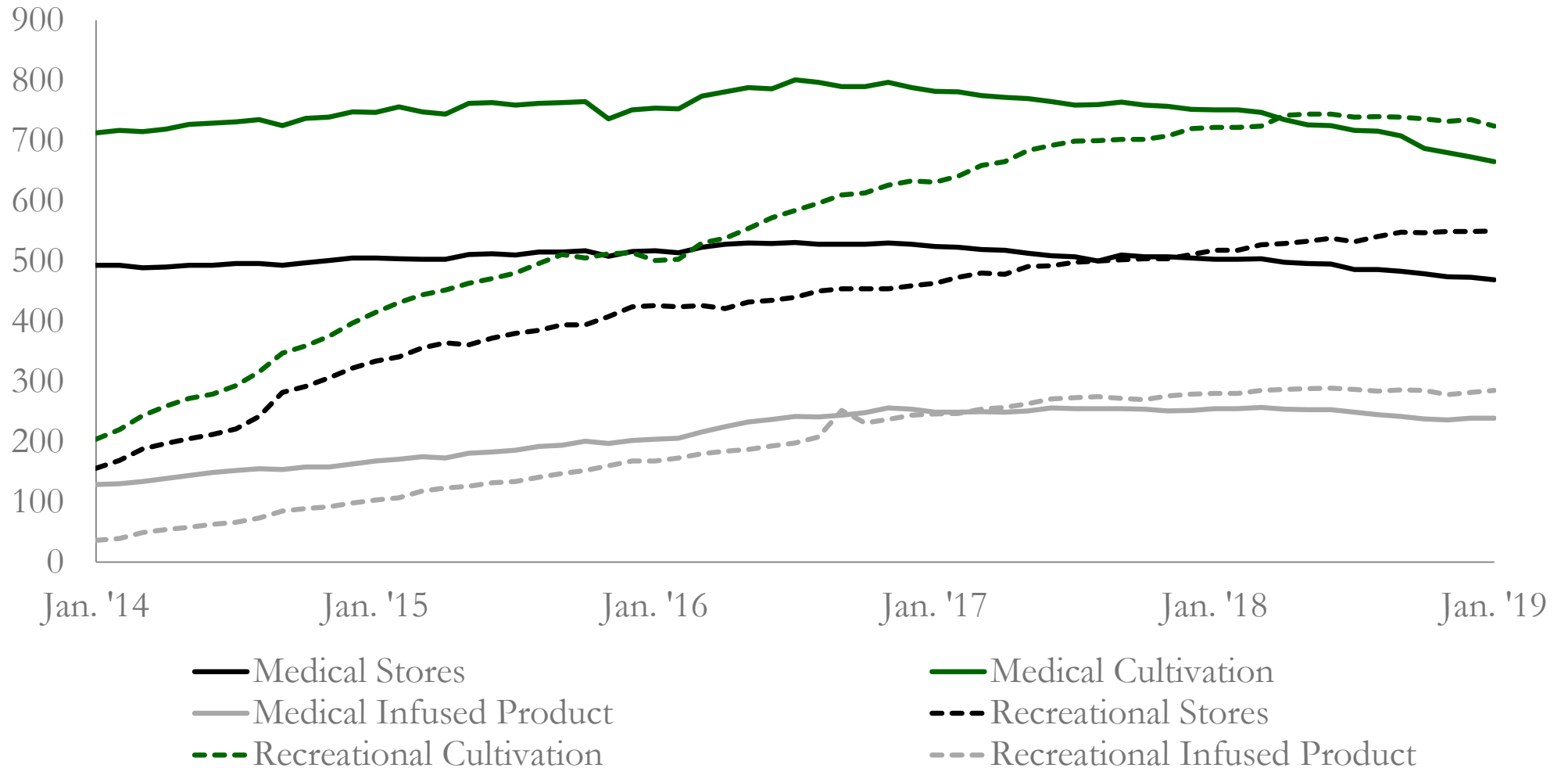
Medical Facilities

- ❖ 469 stores
- ❖ 665 cultivation facilities
- ❖ 239 infused product manufacturers
- ❖ 11 testing facilities

Employment

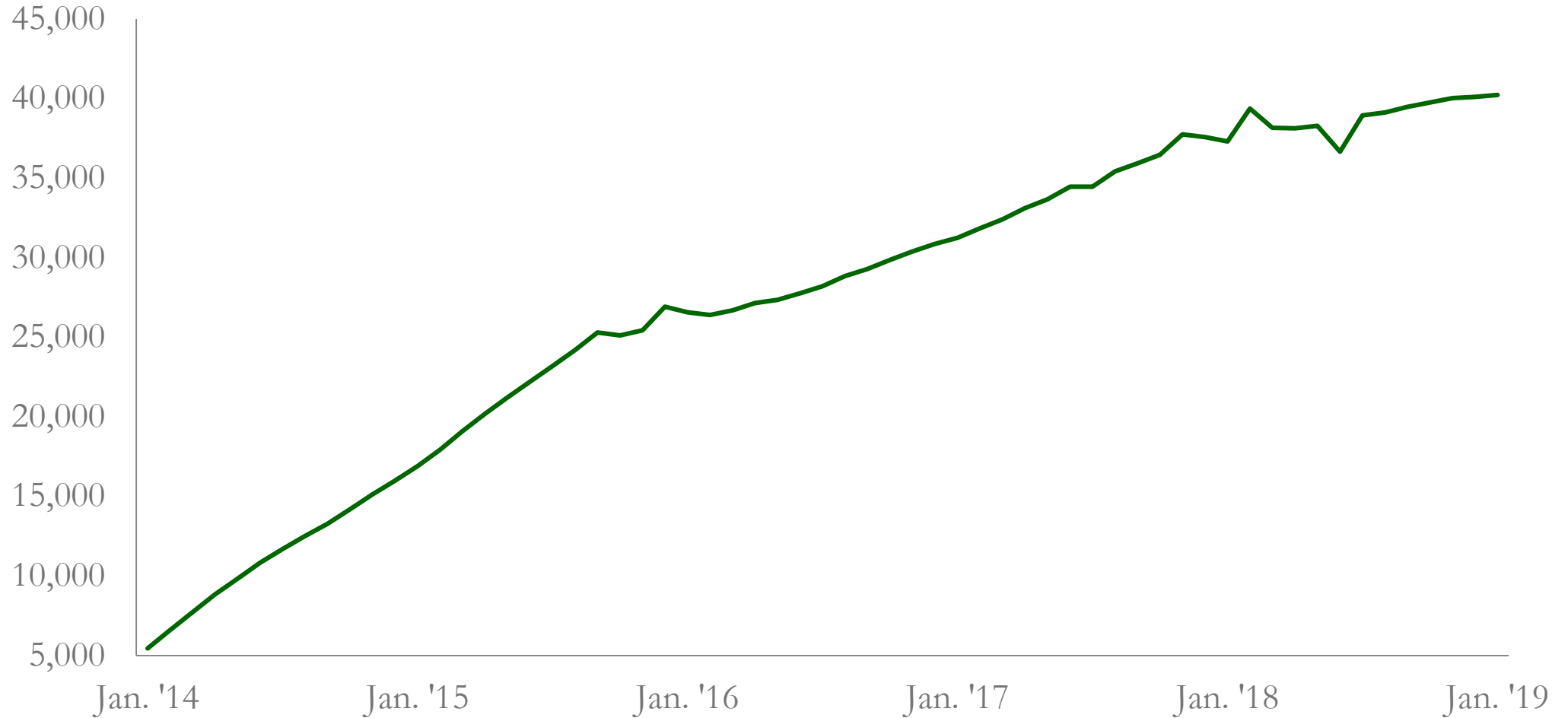
- ❖ 40,231 valid occupational licenses (January 2019)
- ❖ 18,788 direct jobs (estimated in 2019)
- ❖ Represents about 0.68% of total employment in CO

Marijuana Business Licenses



Source: Colorado Department of Revenue – Enforcement Division

Total Active Marijuana Occupational Licenses



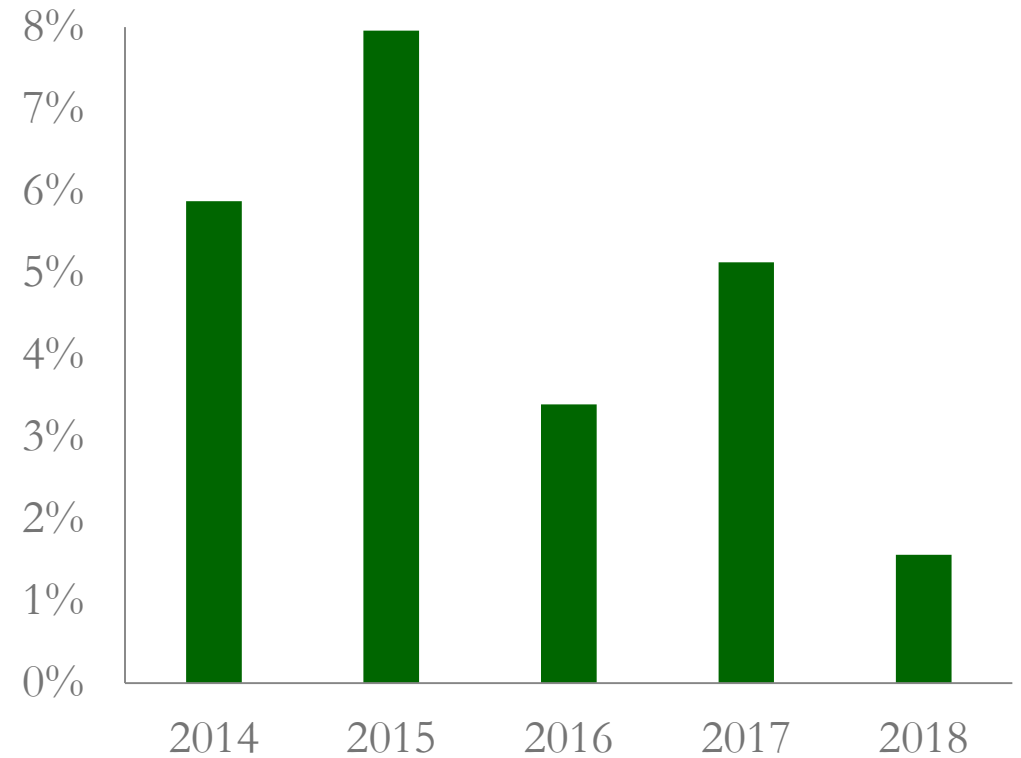
Source: Colorado Department of Revenue – Enforcement Division

Employment in the Marijuana Industry

Direct Employment in the Marijuana Industry as a Share of Total Employment



Change in Marijuana Employment as a Share of Change in Total Employment



Note: In Chart 5, 2014 represents an 11-month change from January to December. Total active marijuana occupational licenses include current total active occupational licenses multiplied by 0.467.

Sources: Colorado Marijuana Enforcement Division, Bureau of Labor Statistics and Haver Analytics

Taxation of Marijuana in Colorado

Recreational Marijuana

- ❖ 15% excise tax (first \$40 million earmarked for school construction and renovation)
- ❖ 15% special sales tax
- ❖ Local sales tax

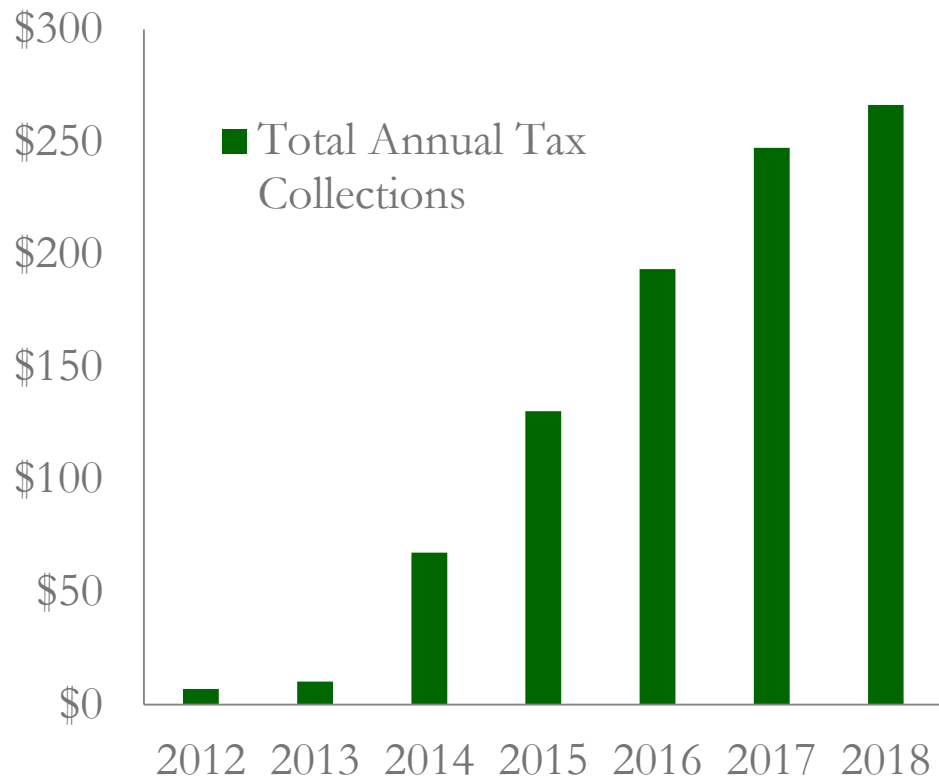
Medical Marijuana

- ❖ 2.9% state sales tax
- ❖ Local sales tax

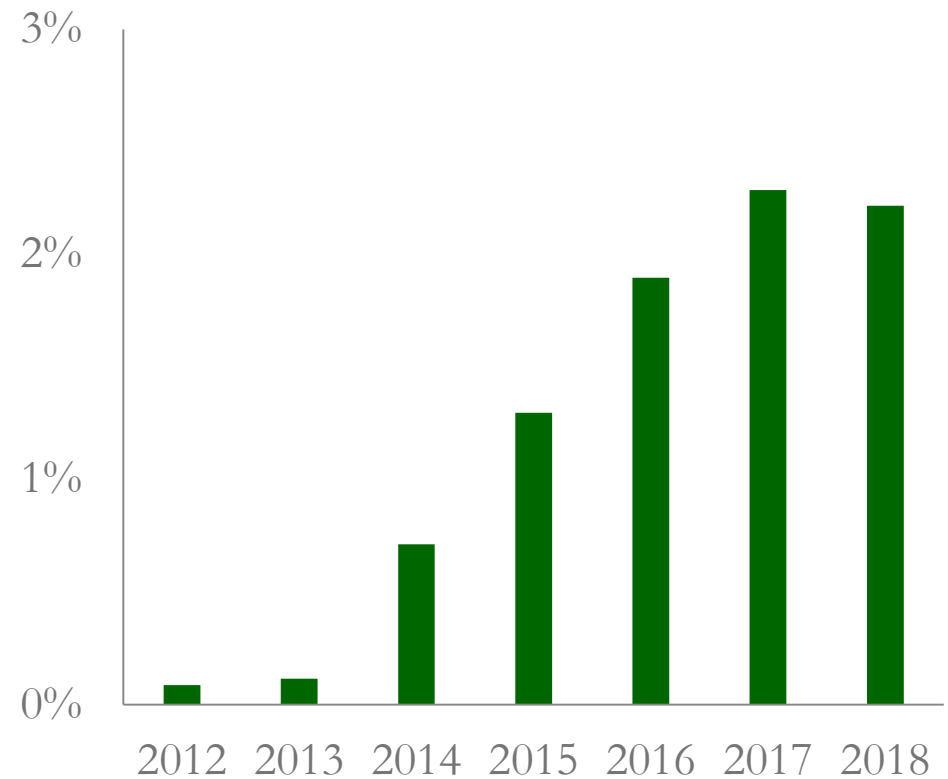
- ❖ Total tax collections = \$267 million in 2018 (about 2.2% of Colorado's general fund revenue)
- ❖ Tax collections from marijuana increased 7.7% between 2017 and 2018.
- ❖ According to county tax data, 32.2% of recreational marijuana sales occurred in Denver County, 10.0% in Arapahoe County (Aurora), 6.6% in Adams County (Brighton) and 7.4% in Boulder County.

Tax Collections

Total Marijuana Tax Collections
Millions



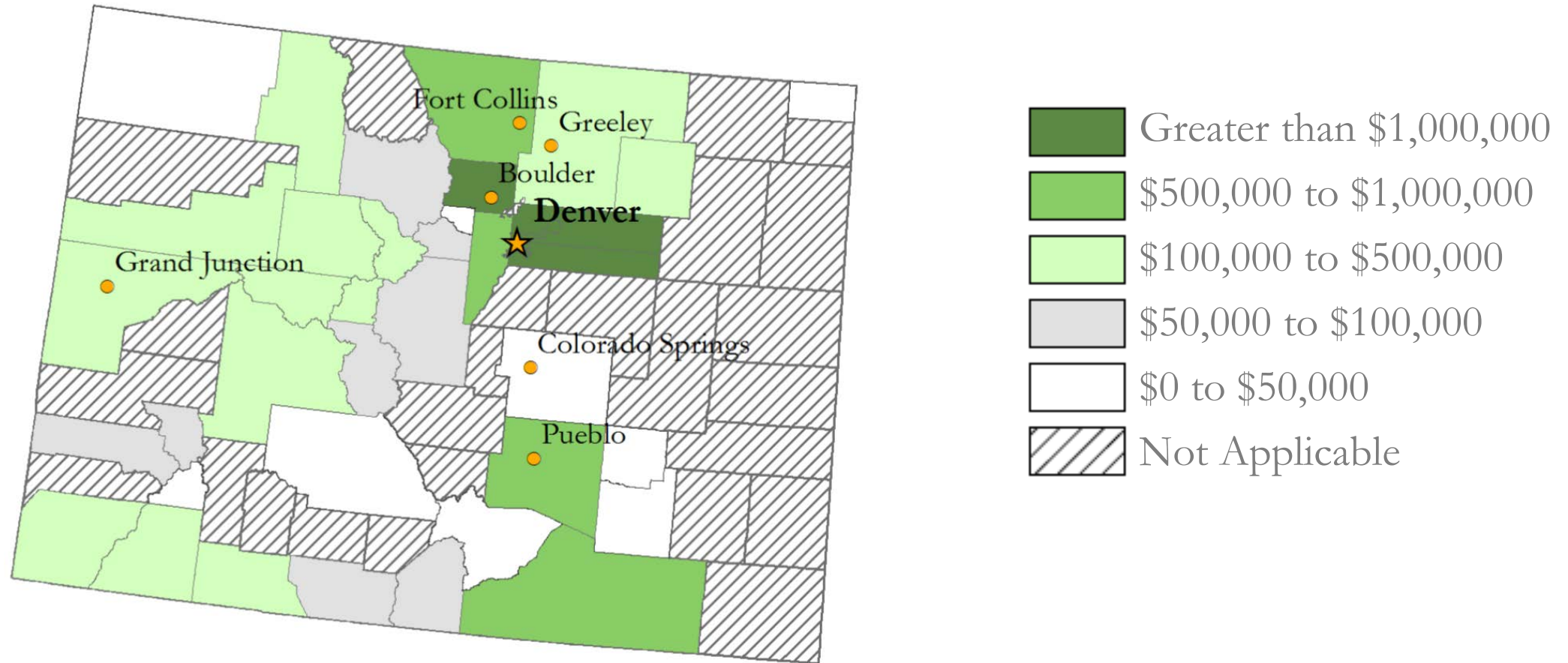
Total Marijuana Tax Collections as Percent of Total
General Fund Revenue



Note: Total monthly tax collections include state sales tax, retail marijuana sales tax, retail marijuana excise tax, and licenses and fees.

Sources: Colorado Department of Revenue & author's calculations

Local Share of Recreational Retail Marijuana Special Tax Collections in 2018



Note: Tax collections shown are the amount distributed to the county from the state.

Sources: Colorado Department of Revenue & author's calculations

The Effect on Public Safety and Health

❖ Traffic Safety

- ❖ Traffic fatalities with THC-only or THC-in-combination positive drivers rose from 55 in 2013 to 79 in 2014.
- ❖ 15% of DUI summons issued by the Colorado State Patrol in 2015 were for marijuana or marijuana in combination with alcohol or other drugs.

❖ Public Health

- ❖ Hospitalizations with possible marijuana exposure have increased from 803 per 100,000 hospitalizations (2001 – 2009) to 2,413 per 100,000 (2014 – Sept. 2015).
- ❖ The number of calls to poison control mentioning human marijuana exposure increased between 2006 and 2016.

❖ Crime

- ❖ The number of marijuana arrests decreased by 46% between 2012 and 2014, primarily tied to a decline in possession arrests.
- ❖ Crime in Denver with a clear connection to marijuana increased from 234 in 2013 to 276 in 2014, but then fell to 183 in 2017.

Conclusions

- ❖ The marijuana industry has grown rapidly in Colorado, leading to higher employment, tax revenue, tourism and usage.
- ❖ However, the economic impact from marijuana remains fairly small, contributing less than one percent to employment and about two percent to state tax revenues.
- ❖ Although data is still limited on public safety and health outcomes, many contacts are concerned about increases in usage, homelessness, hospital visits, crime, cost of enforcement, and the overall image of the state.

For more information on this topic, check out the
Rocky Mountain Economist, Q1 2018

<https://www.kansascityfed.org/en/publications/research/rme/articles/2018/rme-1q-2018>