

Into the Weed(s) in Colorado



**NACAA SPRING MEETING
MAY 3, 2017**

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Cannabis In Colorado



- **Medical Marijuana**

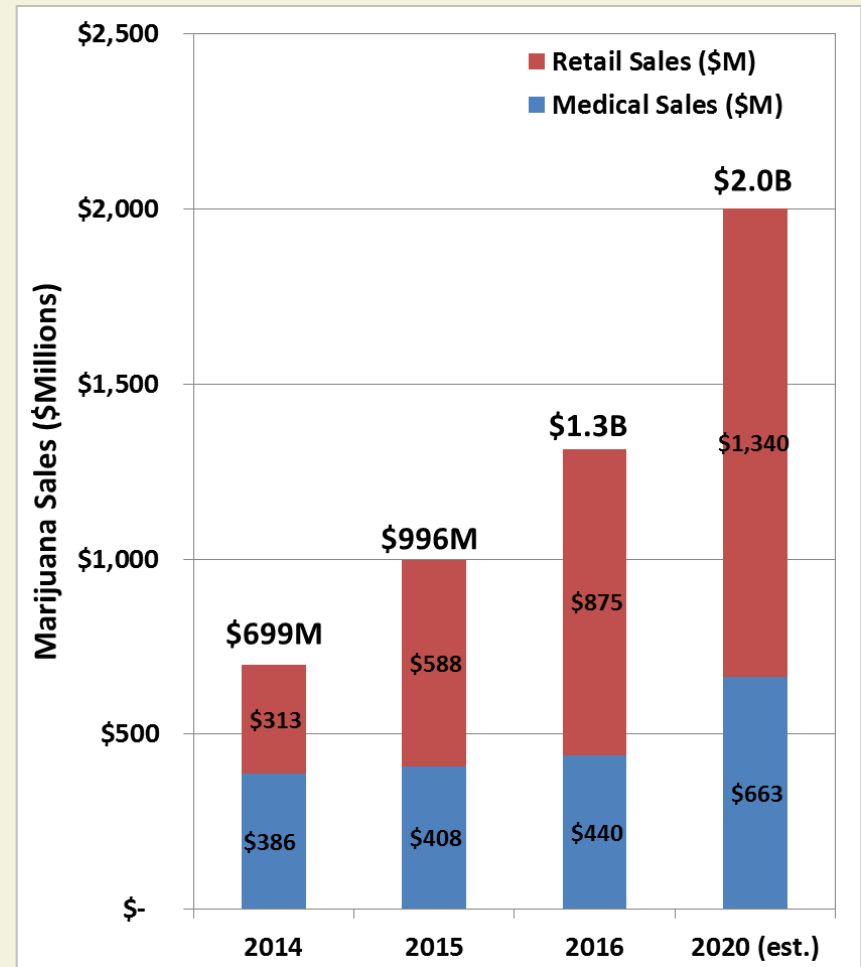
- Approved by Colorado voters in 2000 as a constitutional amendment
 - ✦ Residents may possess up to 2 oz. of marijuana with written medical approval

- **Recreational Marijuana**

- Approved by Colorado voters in 2012 as a constitutional amendment
- Legal sales began on Jan. 1, 2014
- Requirements:
 - ✦ Residents 21 and older may possess 1 oz. of marijuana
 - ✦ No consumption allowed “openly and publicly”
 - ✦ Residents may grow up to 6 plants per person for personal use – no more than 12 plants per residence
 - ✦ DUI limits – 5 nanograms/ml of blood
- Licensing required for cultivation facilities, product manufacturing, products testing, and retail stores
- “Seed to Sale” tracking implemented

A Billion Dollar Industry

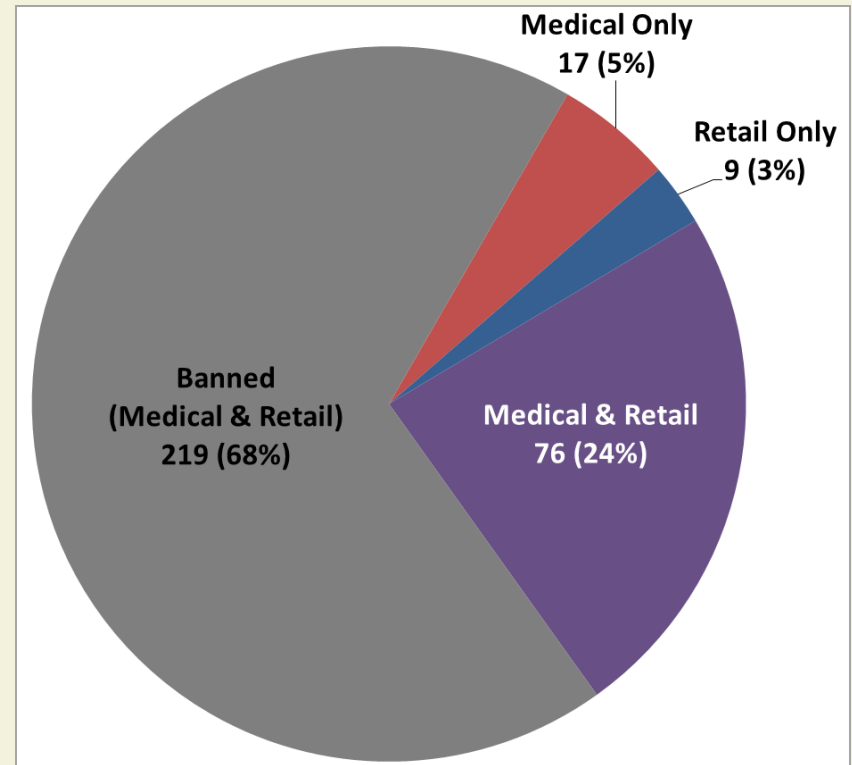
- Legal marijuana sales have almost doubled in 3 years
- Projected to keep growing
- \$2.4 billion economic impact in the state
- 12,500 direct employees
- Tourists spent nearly \$100 million on marijuana in 2016
- Nearly 700 medical and retail dispensaries
- Demand for retail space and warehouses has skyrocketed



But You Can't Buy It Everywhere



- Law allows cities and counties to decide if they will permit recreational stores
- Nearly 70% of the cities and counties in Colorado have opted out
- Denver, Aurora, Ft. Collins, Boulder, and most mountain towns allow recreational sales
- Colorado Springs, Lakewood, and Vail prohibit sales



Cannabis Is Taxed Heavily



- **State taxes**

- ✦ 2.9 % state sales tax
- ✦ 10% state marijuana sales tax
- ✦ 15% state marijuana excise tax on retailers
- ✦ Over \$150 million collected in 2015/16

- **Local taxes**

- ✦ Varies by jurisdiction
- ✦ Total retail sales tax in Denver is 21.15%

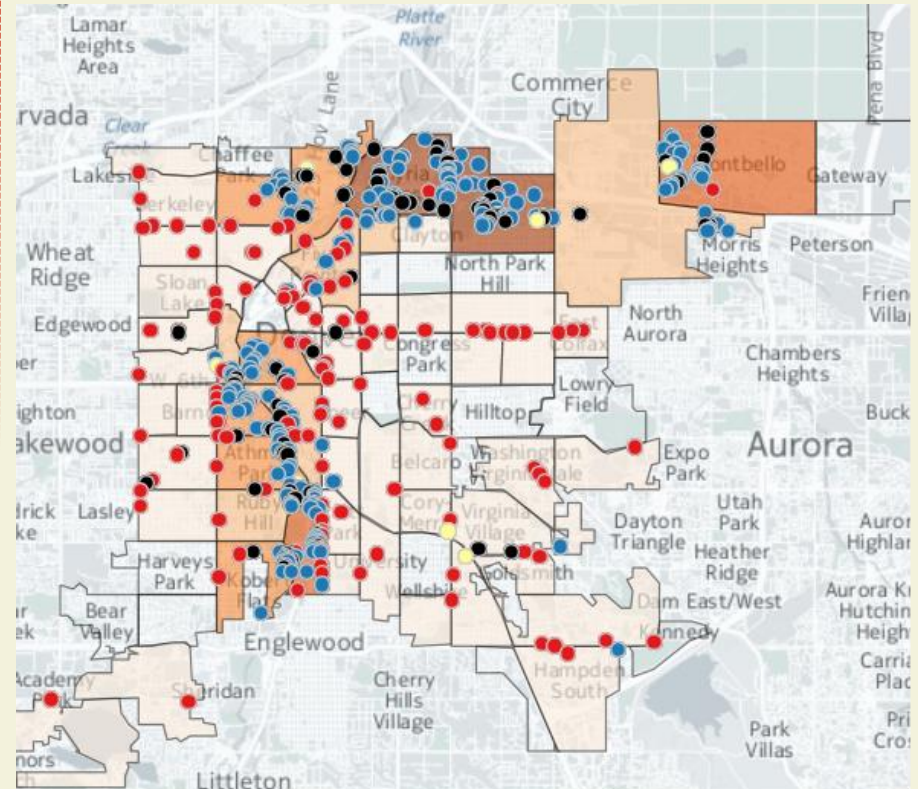
- **Tax revenue is used for a variety of purposes**

- ✦ Regulation and enforcement
- ✦ School construction (\$40 million per year)
- ✦ Education and abuse prevention
- ✦ Affordable housing



Denver -- the Epicenter of Cannabis

- Denver accounts for about 40% of statewide sales
- Denver collects over \$30 million in marijuana-related tax revenue
- Denver has nearly 500 marijuana business locations
 - ✦ 295 cultivation locations
 - ✦ 219 stores
 - ✦ 84 manufacturing locations
 - ✦ 10 testing facilities
- In 2016 Denver capped the number of marijuana businesses
 - ✦ Stores and grow facilities must submit “good neighbor” plans



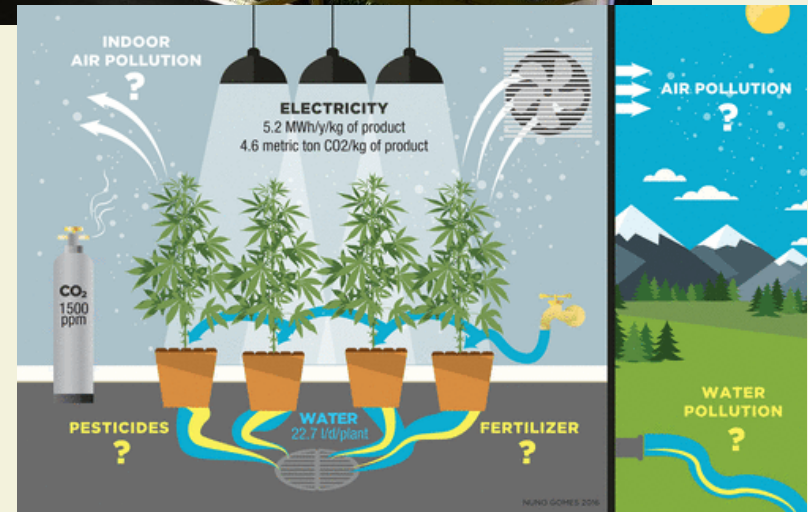
Environmental Issues with Cannabis

- **Common environmental issues**

- ✦ Odor
- ✦ Energy Use
- ✦ Water Use and Wastewater
- ✦ Pesticides
- ✦ Occupational Health Exposures
- ✦ Solid Waste
- ✦ Air Quality

- **Air quality regulations**

- ✦ No air quality regulation at state level since marijuana is considered agriculture
- ✦ Most local regulations have dealt with odor, occupational exposures and energy use



Local Efforts to Address Issues



- **City and County of Denver**

- ✦ Revised odor control ordinance to address marijuana facilities requiring odor maintenance plans
- ✦ Established a Cannabis Sustainability Workgroup to develop best maintenance practices to minimize the environmental impacts from marijuana operations

- **Boulder County**

- ✦ Concerned with energy use by cultivation facilities
- ✦ Typical grow warehouses use 6-7 times more electricity than normal commercial uses
- ✦ County established Energy Impact Offset Fund
 - **Grow facilities must offset their electricity use with renewable energy or pay a 2.16 ¢/kwh fee**
- ✦ City of Boulder requires businesses to develop neighborhood responsibility plans

Potential Impacts to Outdoor Air Quality



- Impacts on outdoor air quality, in particular ozone, are not currently well understood
- Marijuana plants emit high concentrations of highly reactive organic compounds
 - ✦ Monoterpenes are very volatile and highly reactive
- Little data are available on emission rates and pollutant concentrations from commercial grow operations
- Concern that VOC emissions may contribute to higher ozone concentrations in urban areas

Exploratory Ozone Study in Colorado



- Conducted by researchers at NCAR in Boulder and UNC-Chapel Hill
- Study consists of:
 - ✦ Ambient VOC measurements in Denver/Boulder
 - ✦ Enclosure study to determine plant emission rates
 - ✦ Ozone modeling simulations
- Study in its initial stages -- assumed emission rates and biomass need to be confirmed with actual field measurements

