

What I'll cover this morning

-I'll start with a brief overview of the data that we offer, and how we prepare that data with local governments (more on that this afternoon)

-Then describe how Colorado population has changed over the years

-Then description of the 2009 numbers that we have for around the state

## Population Estimates: What we provide



- The State Demography Office (SDO) produces annual state, county, municipal, unincorporated area, and Conservation Trust Fund (CTF) special district population and household estimates (approximately 480 areas)
- Data on population, births, deaths, net migration, housing and occupancy, and residential construction is available on our website: <http://dola.colorado.gov/demog/>

We make estimates for 64 counties, 62 unincorporated areas, 241 cities, ~130 special districts, ~480 areas in total

-These estimates include information on the components of population change (births, deaths, migration), as well as housing and occupancy

-This afternoon I will go through data that we provide on the website, and how/where to access it

## Population Estimates: Uses



- The population estimates are used for a wide range of purposes, including:
  - Distribution of resources
  - Survey weighting
  - Research and planning
  - Updating of population forecasts

Population estimates are used for a wide range of purposes– including

-Distribution of resources (incl. Conservation Trust Fund)

-Survey weighting, and research and planning (this is so important, but often overlooked– almost all the social science research data uses surveys, and these all require some form of population estimates for weighting– it makes me feel good to be in this field)

-Updating of population forecasts

## Population Estimates: How we make them (briefly)



- We use a combination of methods for the household population estimates (“group quarters” population is estimated separately):
  - State and counties: Add the number of births and deaths, and an estimate of net migration, to the previous year’s estimate
  - Municipalities: Multiply the estimated number of housing units by an occupancy rate and persons per household to get a base estimate, then proportionally adjust the base estimate to the county total
  - Special Districts:
    - When housing unit data is provided, we use a method similar to that for the municipal estimates
    - In the absence of reliable housing unit data, proportional adjustments are made to update the special district population and household estimates

I’ll go over how we make the estimates very briefly, and cover them in more detail this afternoon

-We estimate the household population and the group quarters population (prisons, dorms, barracks, etc) separately

-Most of the population (~98%) lives in households

-To estimate the county population we use a components of change method

-To estimate the city population we use a housing unit method

-To estimate special district population, we use either a housing unit method or proportional adjustments

## Population Estimates: Census year



- Even though 2010 is a Census year, we still plan to create 2010 population estimates using our regular methods. It's very important to do this, so that:
  - (1) We can have a picture of what happened between 2009 and 2010, and make better estimates for annual net migration
  - (2) We can review the rate of error for the estimates, and look for potential improvements
- When the Census data comes out, we plan to adjust the 2001-2010 time series of estimates to match it, and it will be used as the starting point for the 2011-2020 population estimates

2010 is a census year, and I've gotten questions on whether we'll make population estimates for this year

-We do plan to make a set of 2010 population estimates for a couple of reasons:

- (1) We'll want to have a picture of what happened between 2009 and 2010, which requires use of the same method from one year to the next
- (2) We'll want to review the rate and pattern of error for the estimates, and see if we can make improvements in certain areas

-Based on the data that comes out for the 2010 Census, we'll adjust the 2001-2010 estimates, and we'll have a new starting point for the 2011-2020 estimates

## Population Estimates: Local update and review process



Early November	- The annual Residential Construction and Group Quarters Survey will be sent to local governments from SDO, for update by December 10
May	- Draft county, municipal and special district population and household estimates will be sent to local governments for review within 30 days
August	- Final county, municipal and special district estimates of population and households are released by SDO

We have a schedule for our estimates, and here are some important dates

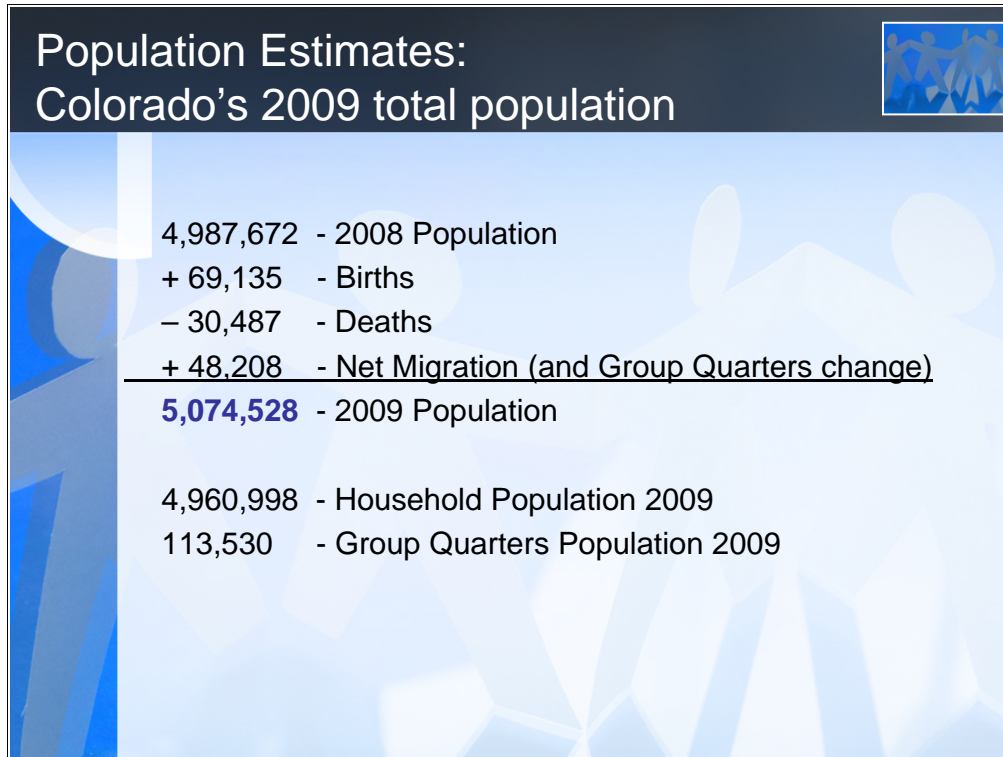
-The annual “Residential Construction and Group Quarters Survey” is sent out, in November (next week), for local governments to update and improve our data each year

-Draft Population Estimates are sent out to local governments for review in May of each year

-To challenge the draft Population Estimates, local governments must provide verifiable Housing Unit (such as building permits or certificates of occupancy) or Group Quarters data

-Please stay for this afternoon’s session to get more specific information on:

- (1) How the population and housing estimates are made
- (2) How to access population and housing estimates data
- (3) How to help us improve the population estimates for your area

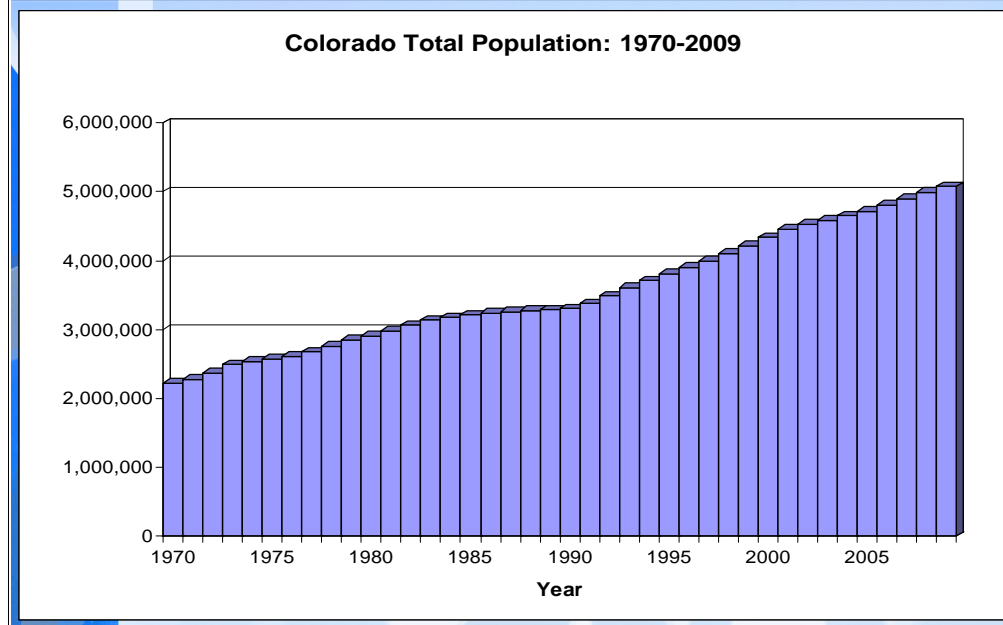


We'll now have a look at the data, and how we reached our current population estimate

-Our total population is estimated starting with that previous year's estimate, to which data on births, death and net migration are added

-Between July 2008 and July 2009 (our latest population estimates), Colorado added ~69 thousand people through births, lost ~30 thousand to deaths, and gained ~48 thousand people due to net migration (that is, migration into the state, minus migration out of the state)

## Population Estimates: Colorado's total population

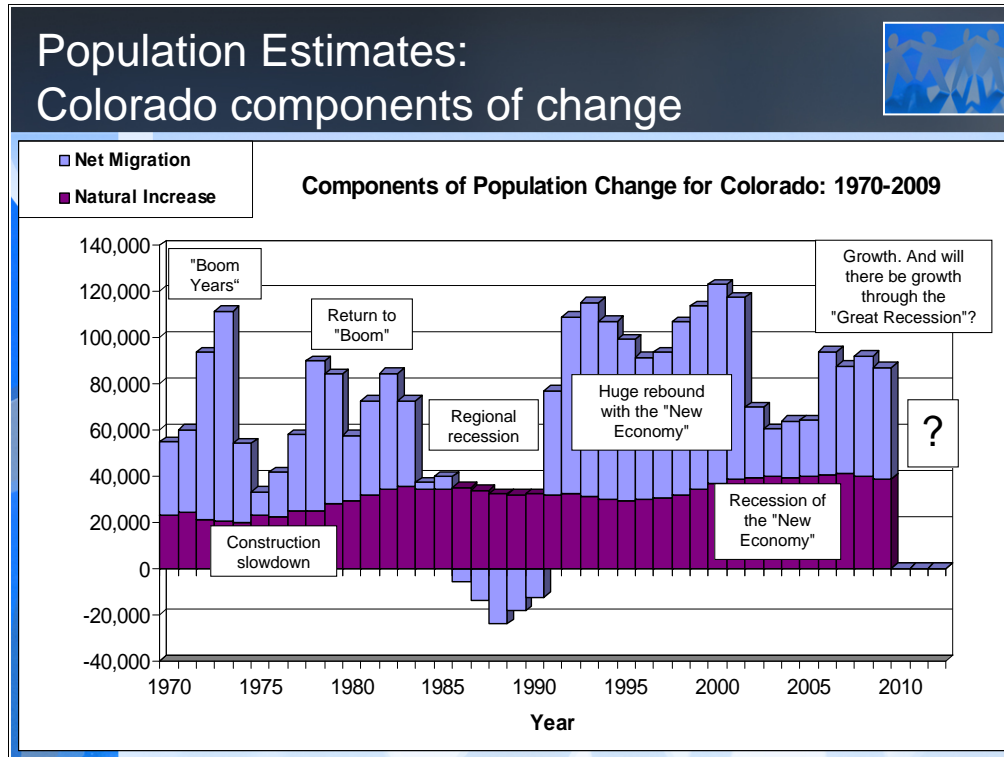


This is a graph of Colorado's total population, from 1970 to 2009

-Colorado's total population estimate has changed steadily over the years, and there's not much to remark on here, but a lot has been going on beneath the surface of these total pop numbers

-Births and deaths have varied with the age of the population, and net migration has varied with change in the regional and national economies





A graph of the “components of population change” for Colorado over the years

-Natural increase (in purple) is simply the number of births minus the number of deaths. Net-migration (in blue) is the difference between migration into and out of the state

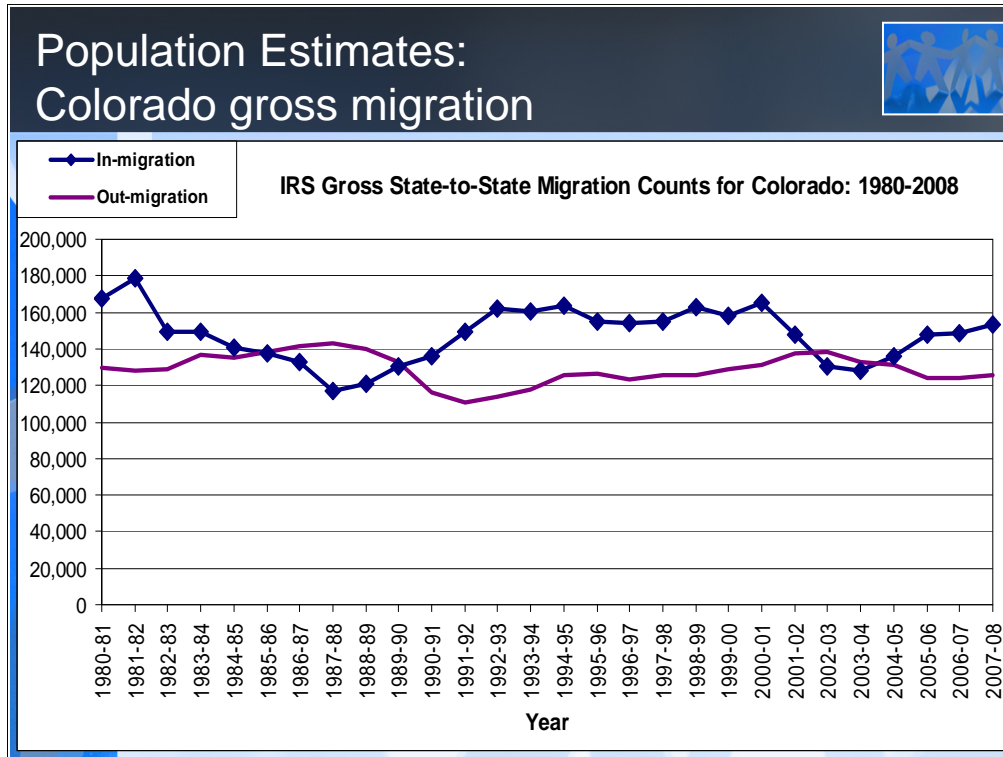
-Colorado’s has a distinct history of population change. From the 1960’s to the mid-1980’s, Colorado sustained strong growth (first due to technology, then natural resources)

-In the late 1980’s as the national economy was surging, Colorado experienced a recession (“oil bust”, but also commercial real estate, etc), and net migration losses followed

-Colorado then found itself well-suited for the new, high-tech economy that came with the 1990’s (well educated, attractive conditions)

-It’s unclear to me how this recent recession will migration to and from Colorado-- data is still coming in, and timing can make a big difference (recession timing and IRS data)– when a job is lost, it’s not clear when/if/where the worker will move

*Note: Much of this info is covered in Bill Kendall’s “Brief Economic History of Colorado” (2002)*



This is a graph of IRS gross migration counts, into and out of Colorado (accounts for about ~88% of the population)

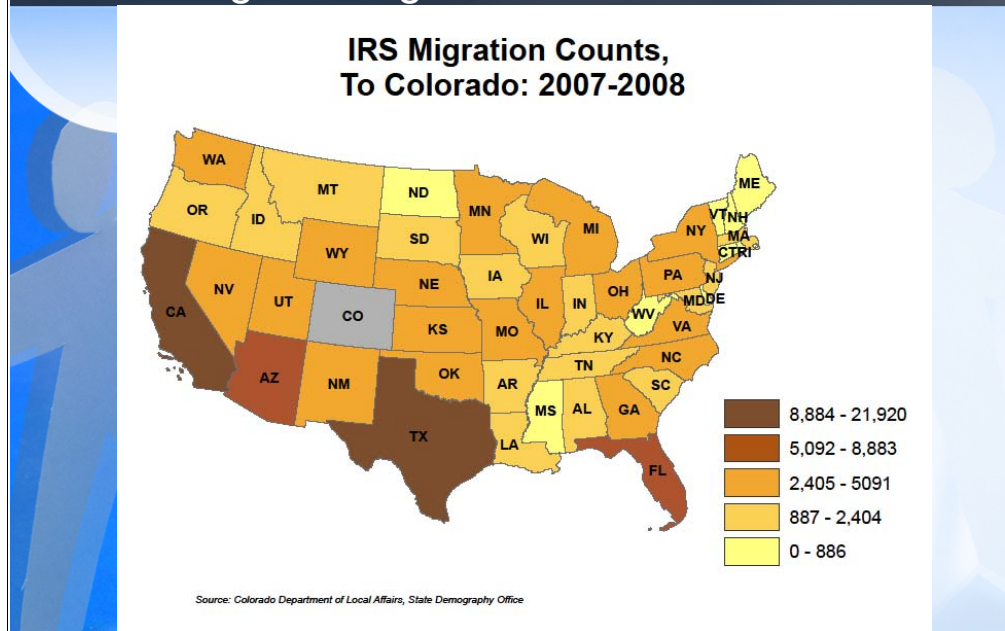
-These are just the state-to-state flows, and don't include international migration, which is typically estimated (by the Census Bureau) to net 10-15 thousand new Colorado residents each year

-Gross migration to and from Colorado appears much more stable than net migration

-When thinking about net migration and population change, it's good to remember that the net numbers are just at the surface of much larger gross numbers

-Even during periods of net-migration-loss for Colorado, well over 100 thousand people were moving to the state each year

## Population Estimates: Colorado gross migration

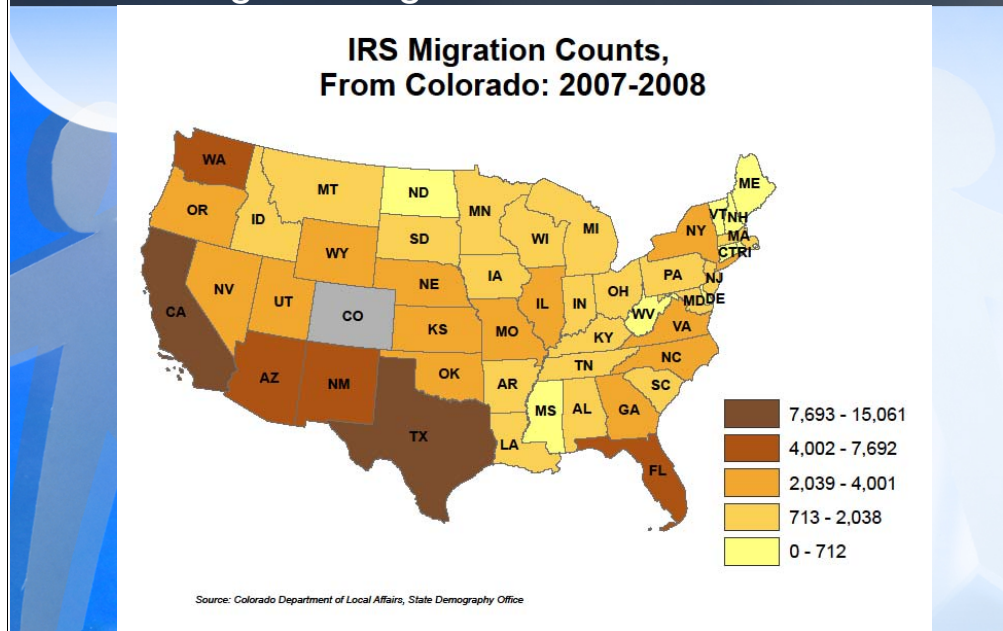


This is a map of where people move to Colorado from, based on that IRS data—this is just domestic migration

-Two factors seem to play a role in where people move to Colorado from: (1) size, and (2) distance (note Florida is far away, but it's so large that we still receive a relatively large number of folks from that state)

-If I were to make a map of this for each year back to 1980, it wouldn't change much (California and Texas have consistently been states that send a lot of people to Colorado— Maine and North Dakota, etc, have consistently sent few people here)

## Population Estimates: Colorado gross migration

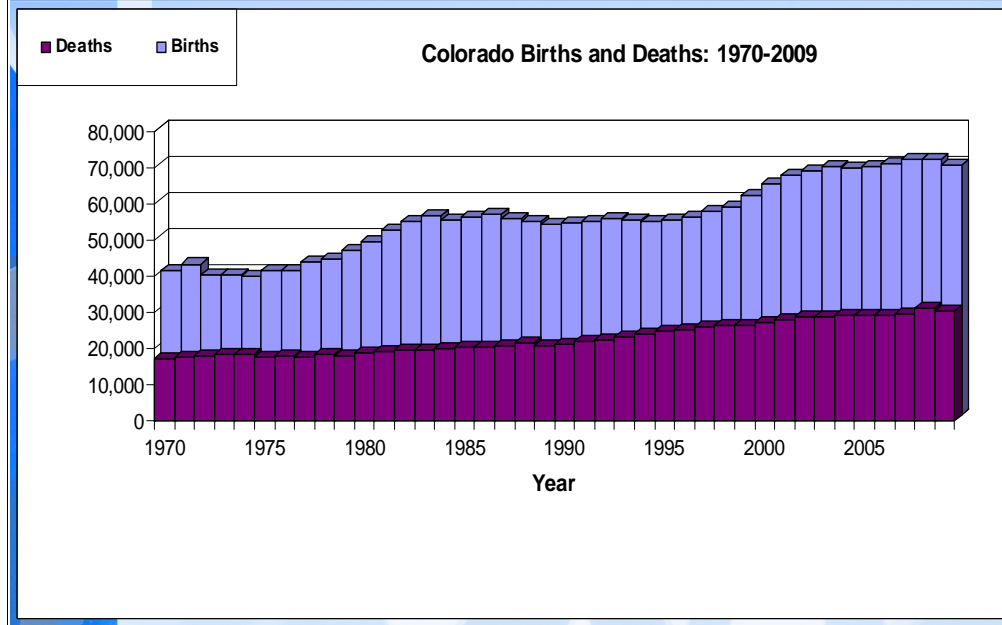


This is a map of where people from Colorado move to each year

-While Californians, Texans and Floridians, etc are moving to Colorado, Coloradan's are moving to these states too (but, of course, not quite as much)

-Again, if I were to show this same map for 1980, it wouldn't look too different—while net migration is very unstable from one year to the next, and there are big consequences for that instability, there are larger gross migration flows that remain pretty consistent over time

## Population Estimates: Colorado births and deaths



Colorado births (in blue) and deaths (in purple) have changed pretty steadily over the years

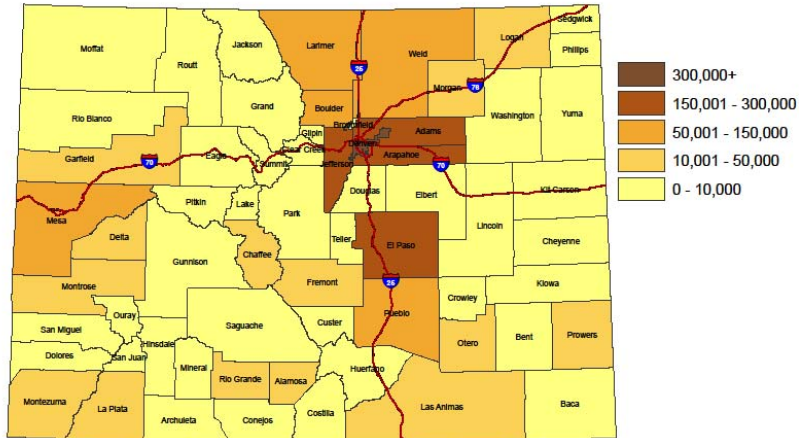
-In the latest estimate year there has been some drop in births, and it's not clear to me why this is (clear change in fertility rates?, temporary delay related to the economy?, or "random" error?), or if it will continue

-Deaths, surprisingly, also dropped this year, but with the aging of the population, it's clear that the drop is random error, and the number will increase in the future

## Population Estimates: Colorado county population



### Total Population for Colorado Counties: 1970



This map shows the population numbers by county for back in 1970-- at that time

-The dense parts of the Denver metro region extended out to Adams, Jefferson and Arapahoe (Douglas still had a small population)

-The Eastern Plains and Western Slope had relatively small population, but all counties were much smaller than Denver at that time

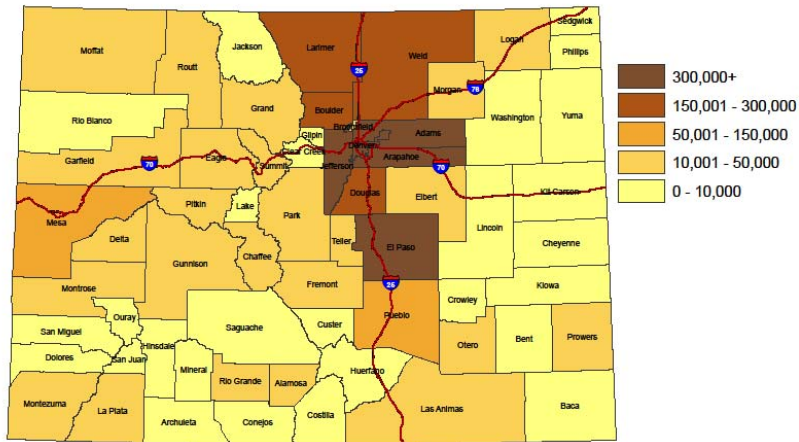
-Mesa, with Grand Junction, was (and remains) the largest county in the western part of the state

-El Paso, the second largest county in the state, had less than half the population of Denver

# Population Estimates: Colorado county population



## Total Population for Colorado Counties: 2000



Source: Colorado Department of Local Affairs, State Demography Office

This map show the 2000 population by county

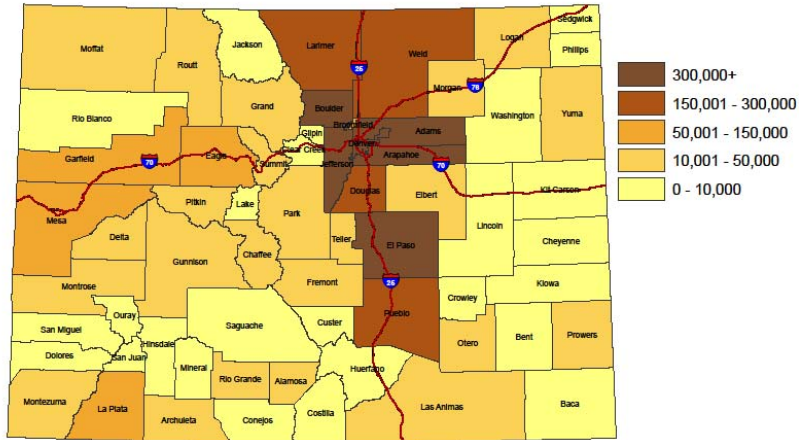
-By 2000 many counties along the Front Range/I25 and I70 had grown quite a bit relative to Denver County (Denver's of course relatively small in size, so it had high density even back in 1970)

-Some counties in the Eastern plains and San Luis Valley passed 10,000 people, but generally didn't increase very much

# Population Estimates: Colorado county population



## Total Population for Colorado Counties: 2009



Source: Colorado Department of Local Affairs, State Demography Office

This map show the 2009 population estimates by county

-From 2000 to 2009 Weld, Larimer and Douglas have grown quite a bit– They are each (esp Douglas and Larimer) close to passing the 300,000 mark

-The rural parts of the state that are away from the Front Range/I25 and the Grand Junction area still have relatively small populations

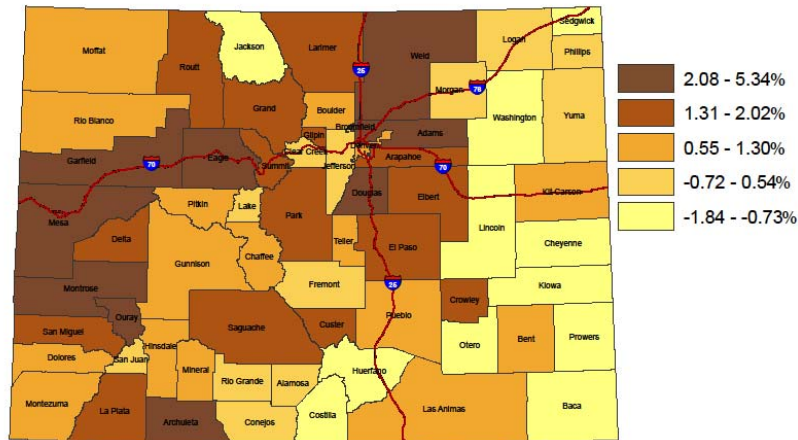
-Though Garfield and Eagle have passed the 50,000 mark, Mesa is just about to pass the 150,000 mark



# Population Estimates: Colorado county growth rate



## Average Annual Growth Rate for Colorado Counties: 2000-2009



This map shows 2000-2009 population growth Rates by county

-While the Front Range continues to grow at a fast clip (especially in the counties that are further out, such as Douglas and Weld) the western part of the state has seen strong growth this decade too

-It should be noted that those high-growth counties in the western part of the state are still much smaller than those in the Denver Metro/Front Range area--many have a very small amount of growth in numeric terms

-Several of the counties in the Eastern Plains, and a couple in the San Luis Valley/Southern CO have been slowly losing people

## Population Estimates: Largest and fastest growing counties



### Ten Largest and Fastest Growing Counties, 2009

Largest Population, 2009		Most Growth, 2008-09	
Denver	618,650	Denver	16,670
El Paso	604,925	Adams	11,907
Arapahoe	571,598	Arapahoe	10,996
Jefferson	545,848	El Paso	9,021
Adams	442,971	Douglas	6,579
Boulder	302,162	Weld	5,670
Larimer	299,284	Larimer	5,329
Douglas	291,286	Mesa	4,483
Weld	255,496	Jefferson	3,534
Pueblo	158,362	Boulder	2,794

These are our largest and fastest growing counties for 2009

-In the left column, all have population along the Front Range/I25

-In the right column, all but Mesa have population along the front range except Mesa, which of course has Grand Junction

-Denver remains the largest county in the state, and also had a lot of growth for 2008-09– it's been seeing steady growth for a few years now– a lot of this growth appears to be in the further reaches of the county

-Douglas, Adams, Arapahoe and El Paso all continued to have strong population growth relative to the rest of the state

## Population Estimates: Largest and fastest growing cities



### Ten Largest and Fastest Growing Municipalities, 2009

Largest Population, 2009		Most Growth, 2008-09	
Denver	618,650	Denver	16,670
Colorado Springs	407,733	Aurora	8,778
Aurora	326,661	Colorado Springs	6,547
Lakewood	145,990	Thornton	3,356
Fort Collins	140,087	Fort Collins	2,476
Thornton	118,953	Greeley	1,715
Westminster	108,830	Westminster	1,684
Arvada	108,539	Commerce City	1,585
Pueblo	106,895	Grand Junction	1,461
Boulder	102,210	Loveland	1,442

These are our largest and fastest growing cities for 2009

-Denver (city/county– boundaries can affect these numbers greatly) and Colorado Springs top the list for the largest population

-In the right hand column, places that had relatively high growth, and aren't already one of the 10 largest cities in the state include Thornton, Greeley, Commerce City, Grand Junction and Loveland. Grand Junction being the only one out on the Western Slope

# Thank You!



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Thank you!