

Seeking Housing Affordability in the Denver Metro Area:
Detailing the causes and outcomes of the housing crisis to
inform local and national solutions

CU Denver MURP Research Forum

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Outline

Study Approach: Purpose, approach, and study goals

The Denver Metro case

Communicating our findings

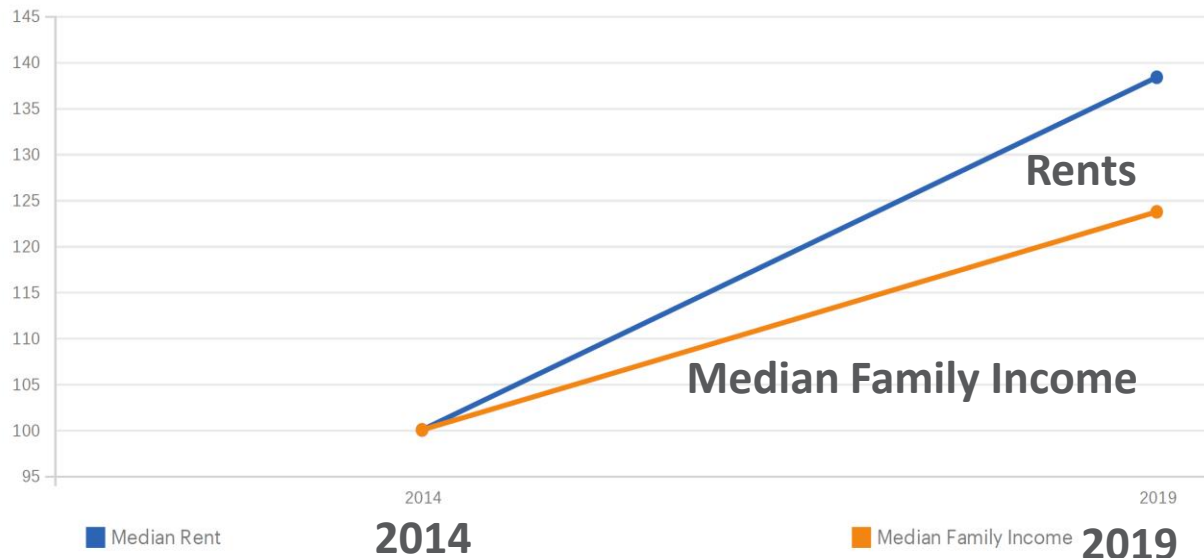
Next steps: using information to stimulate actions

The need for a regional study

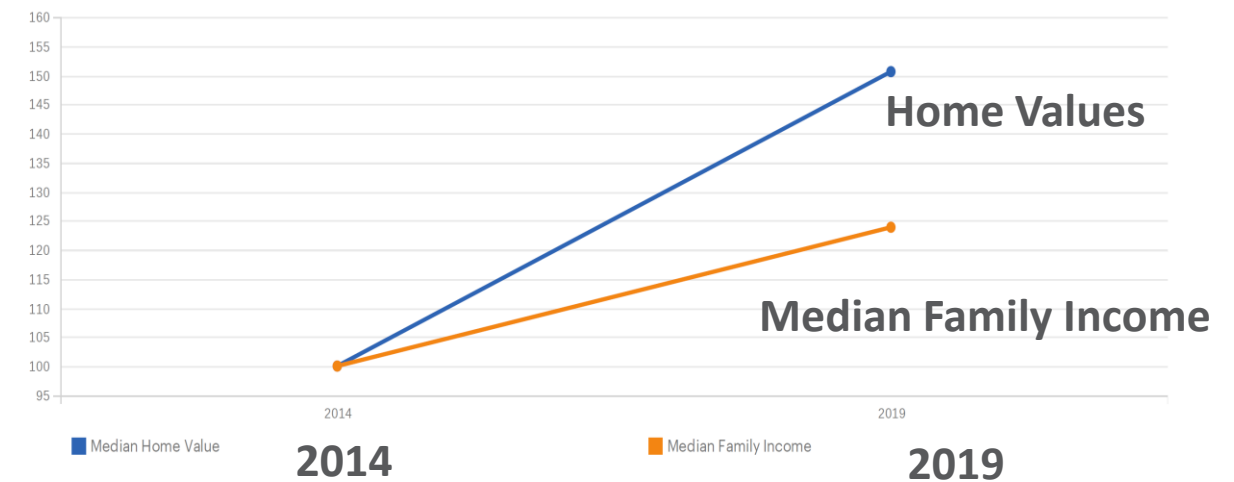


Metro Denver's Affordable Housing Situation

- ~400,000 households (30%) are extremely/housing cost burdened
- Housing Price Increases were among the top 5 in the nation
- Colorado has 250,000+ job vacancies (employers assume housing is one reason)



Median Home Value Versus Median Family Income (Indexed) 2014 to 2019



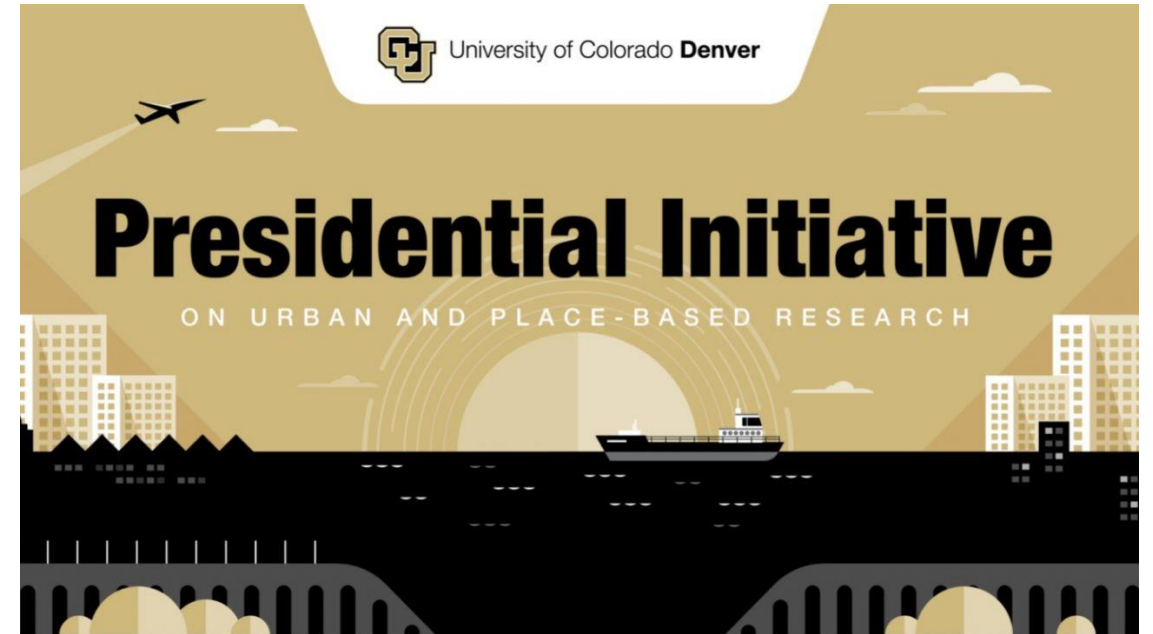
Partners & Funder

Denver Region Council of Governments
(DRCOG)

Metro Denver Homelessness Initiative
(MDHI – the HUD Continuum of Care)

ArLand Development (private economic
development and affordable housing consultant)

Advisory Group for feedback & direction



Partners' interests



The work you have already done on the topic of Affordable Housing has provided an important impetus for DRCOG to continue to work with key strategic partners...on better understanding what the needs, challenges and opportunities are on that topic in the metro region. This proposal would certainly add critical information... [and] a deeper understanding of the complexities, challenges and opportunities for the metro region in providing affordable housing.



The aim of creating a deeper understanding of the housing needs of our community is critical to addressing homelessness and housing instability throughout the region. The number one reason people experience homelessness in the metro-Denver region is a lack of attainable housing.

Research questions

- **DATA ANALYSIS RQ1:** Is it possible to **identify local and sub-regional patterns in housing developer responses to various local, economic, regulatory, and demographic conditions** through a longitudinal and in-depth analysis of the **number, type, price, and fine-grained location** of housing units throughout the region over a 15-year period (2005-2020)?
- **INTERPRETATION RQ2:** Will the detailed results from RQ1 allow for meaningful and **targeted focus groups and interviews with developers, financiers, and planners** that result in a comprehensive and nuanced understanding of why the market developed certain types of housing in specific locations at certain times?
- **RESPONSE FROM DECISION MAKERS RQ3:** In what ways might detailed local housing gap data for all jurisdictions in the region **affect collective decision making on policies or principles** regarding affordable housing by **the 58 members of DRCOG's Board of Directors**?
- **PUBLIC MESSAGING RQ4:** What experiences, characteristics, or other circumstances explain housing precarity for households experiencing homelessness, or at risk of becoming homeless? How might these **individual experiences be explained to the general public** in relation to the study's findings in order **to gain community support for more affordable housing**?

Study Strategy

Identify multiple and cumulative causes for the affordable housing shortage at fine geographies through plans, zoning codes, permits, and parcel data

Ground quantitative findings and solutions through interviews with planners, financiers, developers, elected officials, nonprofits, renters, and others

Illustrate the impacts on individuals, households, employers, communities, and environment

Craft short- and long-term solutions at multiple scales across sectors, and build a coalition to achieve regionwide commitment

Goal: Spur concrete action and commitment to address the region's significant affordable housing needs (*i.e.*, “*crisis*”)

The failures of typical “RHNA’s”

Regional Housing Needs Allocations/Assessments

- RHNA's are long reports that discuss housing demand versus housing supply, not necessarily causes for housing shortages
- People may gloss over, distrust, or dismiss the numbers
- Others assume: if we don't zone for it, they won't build it, and people won't move to our communities
- In most states, RHNA's lack “teeth”
 - Even in states with “Regional Housing Needs *Allocation*” systems, like CA, communities don't comply with the number of units allocated to their community and the compliance system is broken.
- Researchers have called them: “neoliberal alchemy” (Palm & Whitzman, 2020) and Superficial plans without action (Ramsey-Musolf, 2017)

RHNA's in a weak planning state?

Colorado, and 9 other states, allow, but do not require cities to plan.

If CO cities choose to plan, the state only requires a Recreation & Tourism element

CO is also a strong home-rule state

This would make a mandatory regional housing allocation to each jurisdiction nearly impossible to suggest, let alone enforce...unless some of the new legislation is passed.

Municipalities and counties are **authorized [not required]** to prepare comprehensive plans as a long-range **guiding** document for a community to achieve its vision and goals. The comprehensive plan (or master plan) provides the policy framework for regulatory tools like zoning, subdivision regulations, annexations, and other policies. A comprehensive plan promotes the community's vision, goals, objectives, and policies; establishes a process for orderly growth and development; addresses both current and long-term needs*; and provides for a balance between the natural and built environment. (See C.R.S. 30-28-106 and 31-23-206.) Elements addressed in a comprehensive plan **may include: *recreation and tourism* (required by state statutes), *transportation*, land use, economic development, affordable housing, environment, parks and open space, natural and cultural resources, hazards, capital improvements*, water supply and conservation, efficiency in government, sustainability, energy, and urban design.**



A RHNA in Denver Metro?

DRCOG's ability to work on housing issues

- Prohibited from working on housing from 1985 until 2014
 - (DRCOG is an MPO, i.e., a *transportation* planning agency it should not govern or study land use and housing, unless it relates to transport)
- 2014: DRCOG's 2nd attempt to win the HUD Sustainable Communities Initiative grant required plans to coordinate housing, transportation, and the environment
- April 2022: DRCOG weekend board retreat approved DRCOG to add housing to their work program (funding is uncertain)
- Special projects staff at DRCOG slowly working on affordable housing through guest speakers, work sessions, T.A., endorsement of academic research

Our Advisory Group Members

Convenings:

- 1. Summer (5 meetings due to vacations)*
- 2. Planning May 2023 in-person, with additional groups*

June 30th

1. Denver Housing Authority
2. Adams County Housing Authority, “Maiker Housing”
3. Denver Streets Partnership
4. DRCOG
5. RTD
6. City of Denver Mayor’s Office
7. Metro Mayors Caucus
8. ULI
9. Co Housing Finance Authority
10. Housing Colorado
11. Cappelli Consulting & NDC
12. City of Aurora Community Development

August 11

10-11:30a

14. ArLand Consulting
15. Heidi Grove, Boulder HHS
16. Foothills Housing Authority

1-3:30p

18. DRCOG
19. Habitat for Humanity
20. ULI
21. Salvation Army
22. Radian
23. Archway Housing Authority
26. Brighton Housing Authority
27. Co Coalition for the Homeless

August 16th

28. Enterprise Community Partners

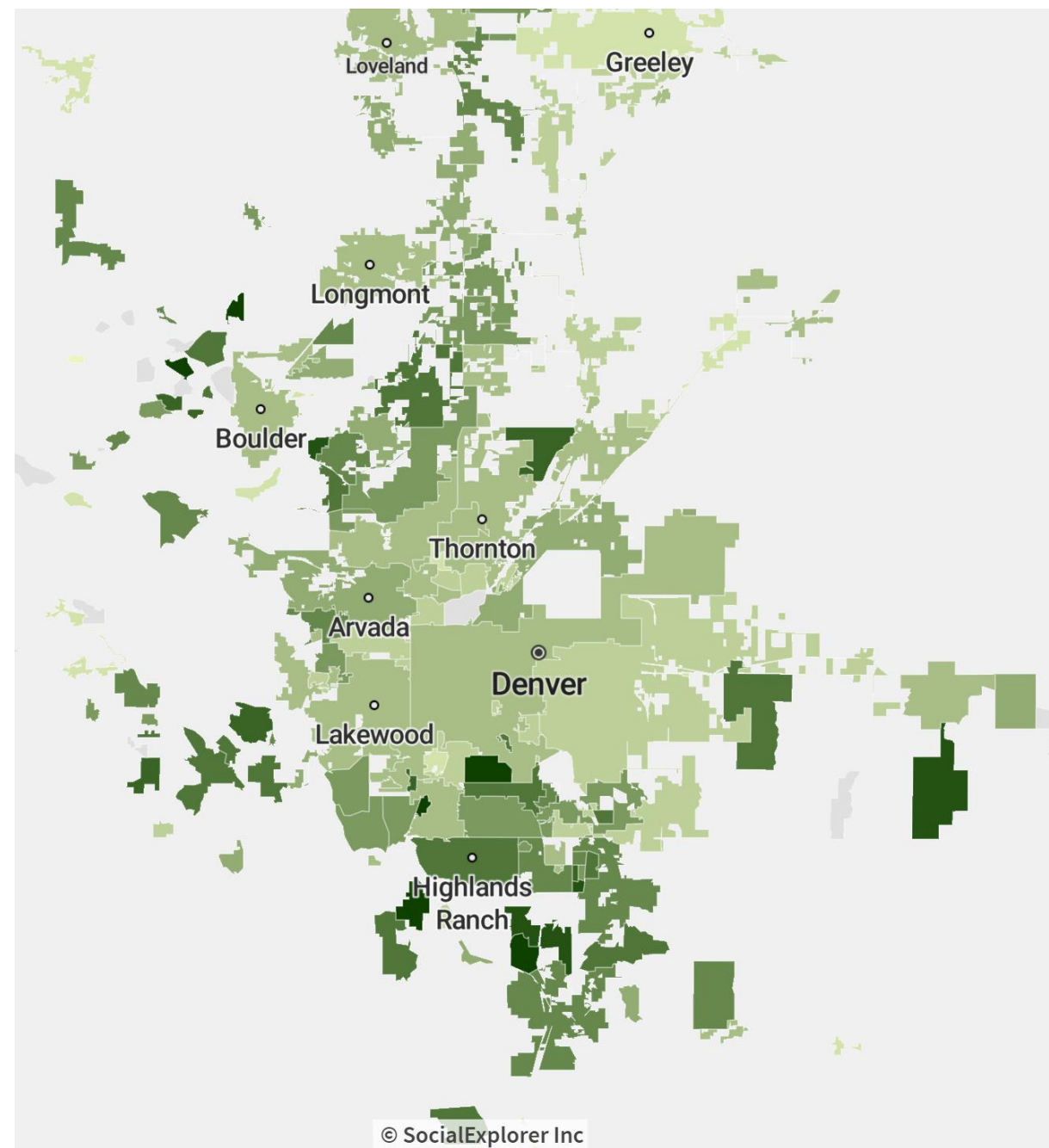
August 17th

29. Metro Denver EDC & Chamber of Commerce
30. Co Futures Center, CSU
31. UNE Colorado

Preliminary findings

The Past and Present Housing Situation

Production, mis-match, need, and the case through jobs



Household Median Income

Data Inputs

Housing : Households

Housing Units

- Number of units
- Rent or own
- Price
- Size
- Age

Households/Individuals

- Income
- Number of persons
 - Children
 - Adults
- Unhoused

Locations: zoning, tract,
municipality, county,
mobility

Parcels : Uses : Regulations

Parcel Data:

- Land & improvement values
- Uses
- Density
- Zoning
- Sales activity
- Year built
- Etc.

Jobs : Workers : Incomes

Workers' O&D

- home block
- work block

Worker income

- <\$15K
- \$15K-\$39K
- \$40K +

Number of workers with
similar Home/Work
pattern

Workers by income
summed to each city

Transport : Users

By incomes and O&D:

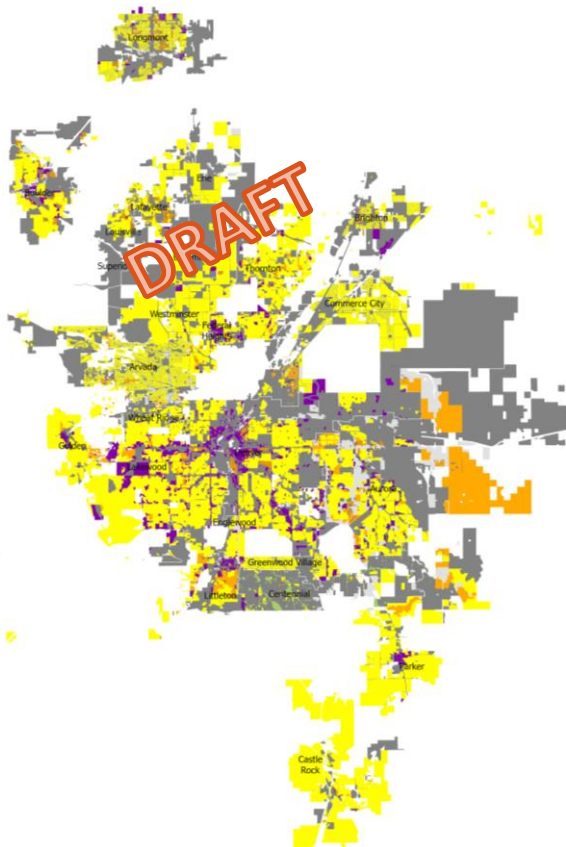
- Modes to work
- Trip distances
- Commute length

Bus & Light Rail stops
near job types

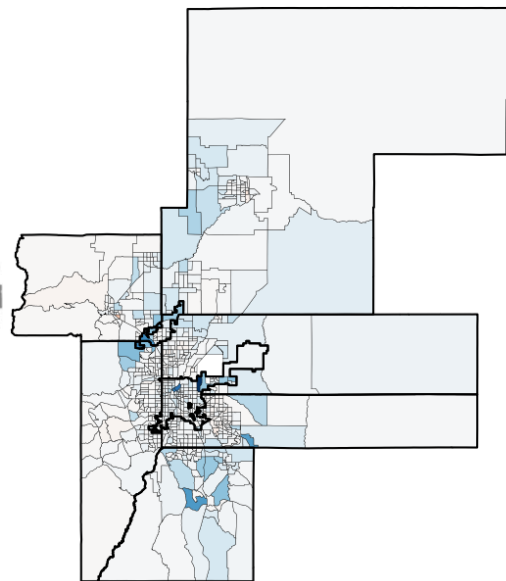
Big Picture: A Perfect Storm since 2010

Development Restrictions + Market Contraction + Pop. & Job Growth = **high costs, long commutes**

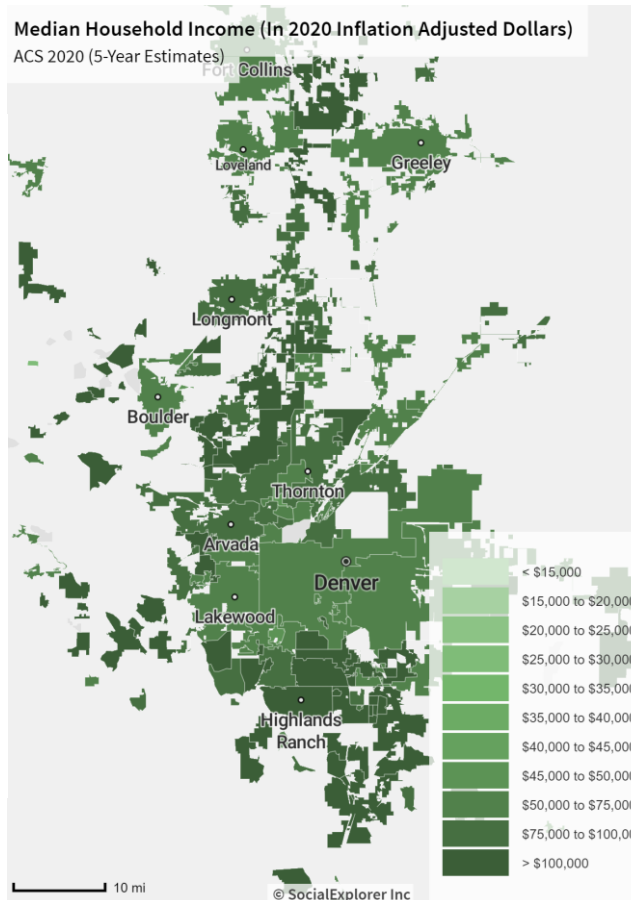
DRAFT Region's Zoning is mostly SF Residential



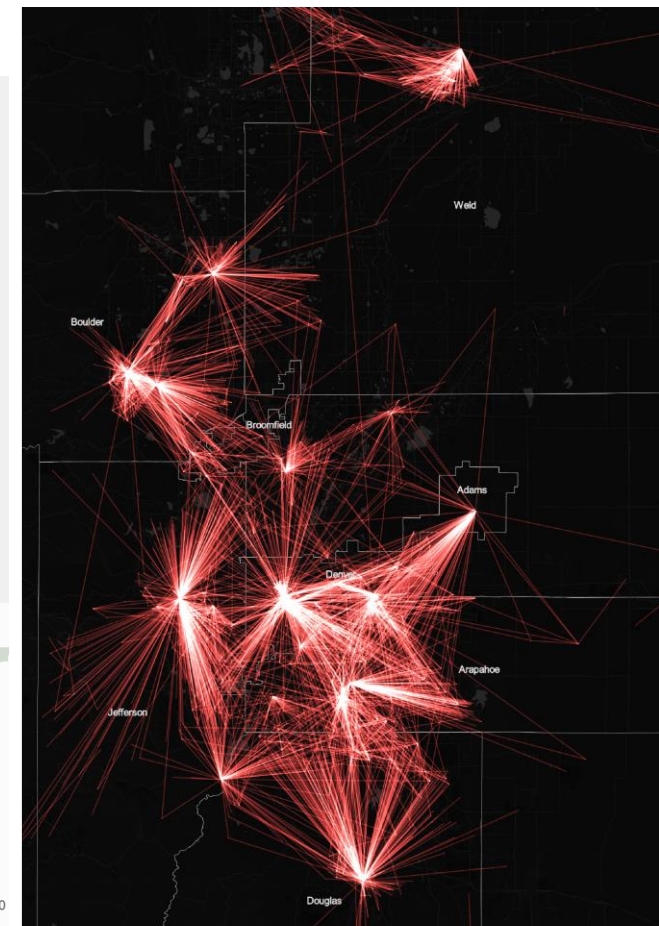
Housing Unit Production declined (2010 – 2019)



Increased Income polarization with Population Growth



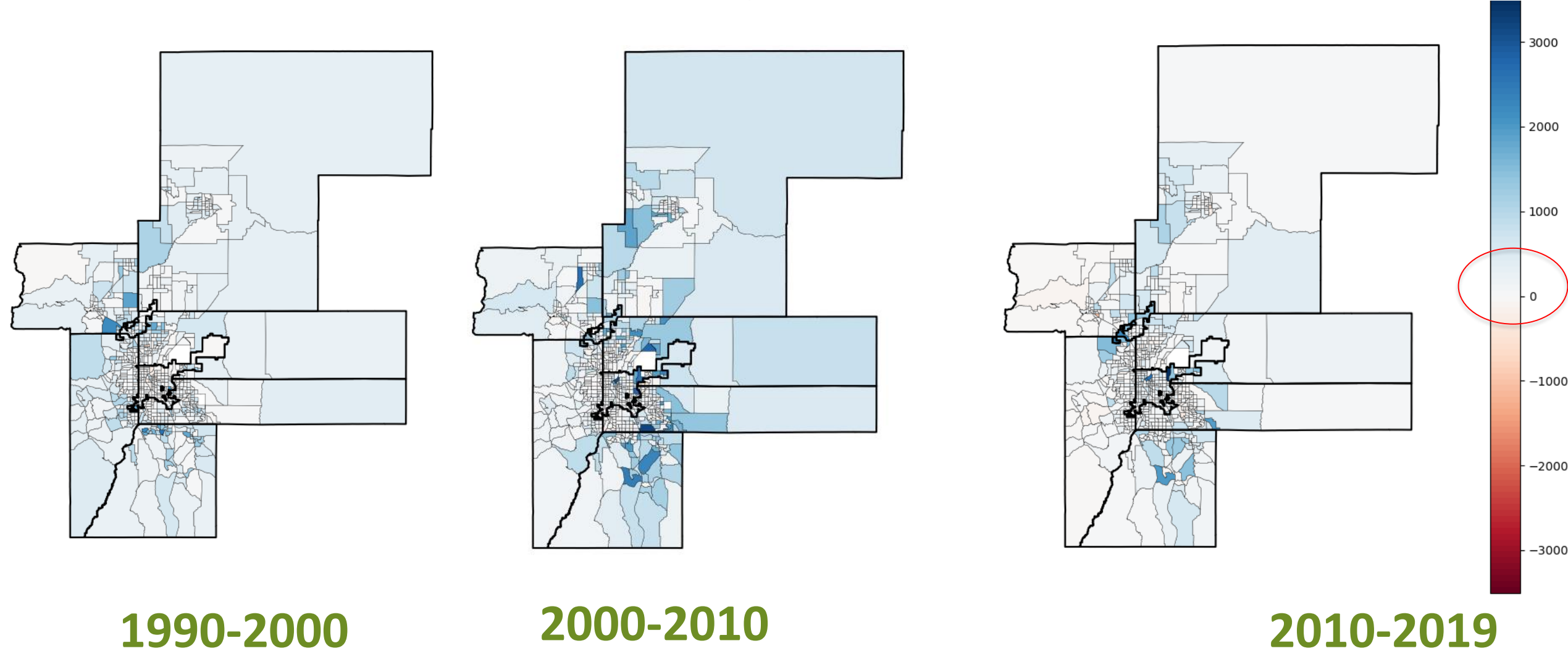
Longer Worker Commutes



Housing Data

Mismatched by size & price...and not enough

Annual Housing Production declined in most cities (from 1000-2000/year to 0 to 1000)



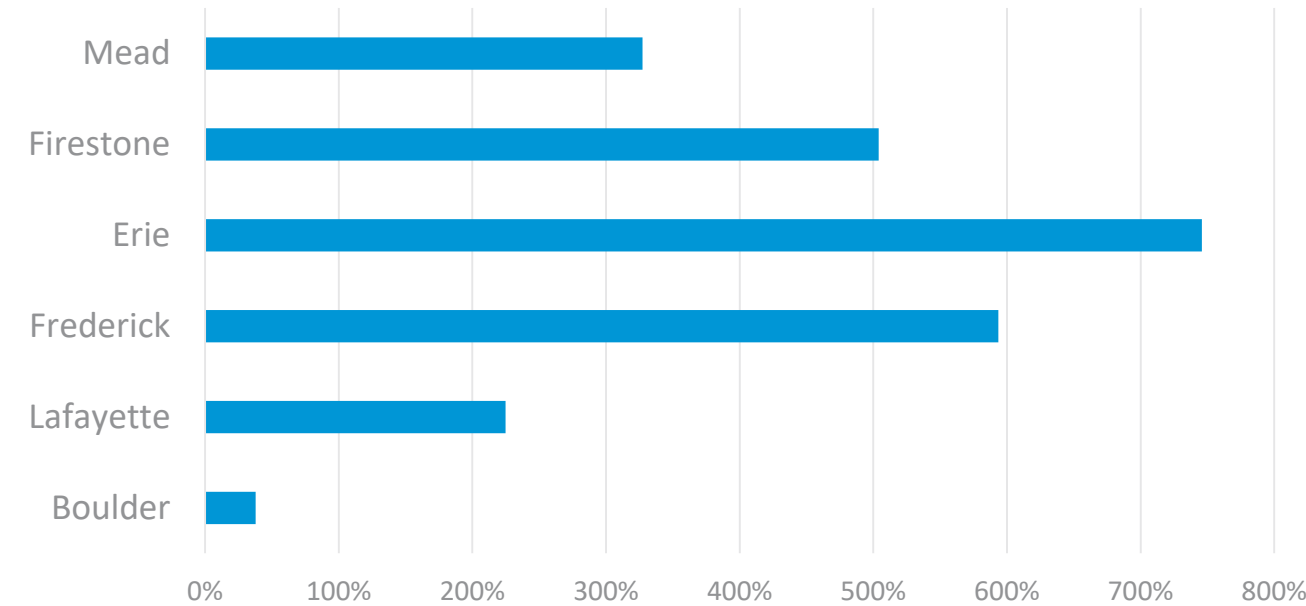
Based on historical normalized census tract data* on housing units from 1990-2019

*Markley, S.N., Holloway, S.R., Hafley, T.J. *et al.* Housing unit and urbanization estimates for the continental U.S. in consistent tract boundaries, 1940–2019. *Sci Data* 9, 82 (2022).

Housing Units 1980-2019

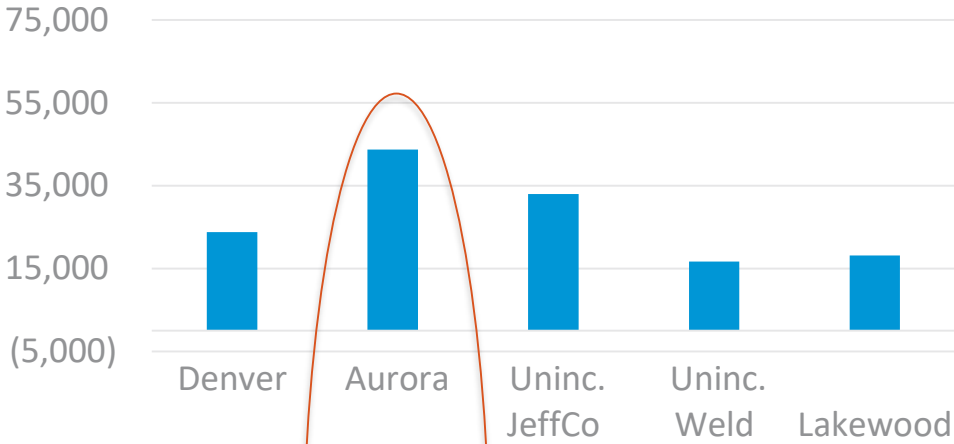
- Significant declines in certain counties and cities – growth controls, low density zoning, and other limits
- New growth in Denver and outer counties hasn't been enough

Boulder Area % Change in Housing Units 1980 - 2019

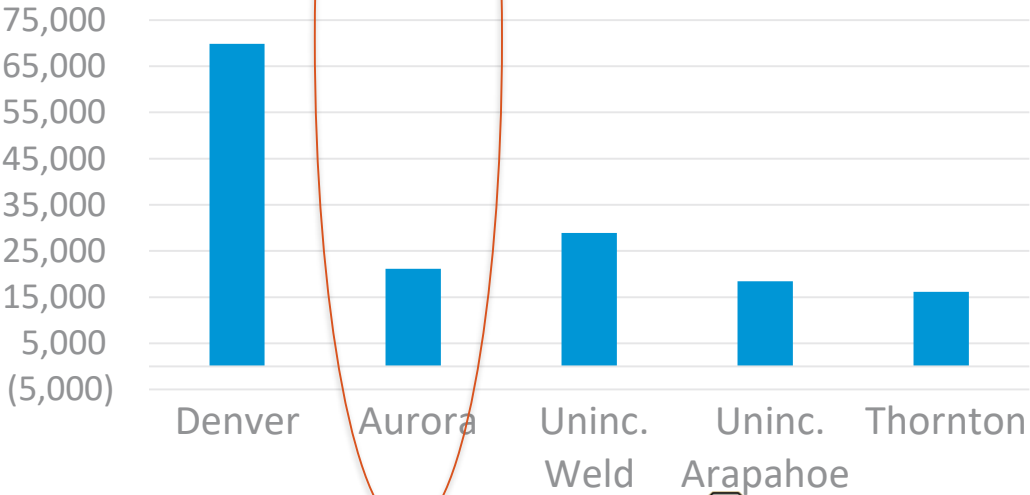


TOP FIVE JURISDICTIONS FOR HOUSING UNIT GROWTH 1980-2000 VS. 2000-2019

Metro Denver Housing Units Change 1980 - 2000

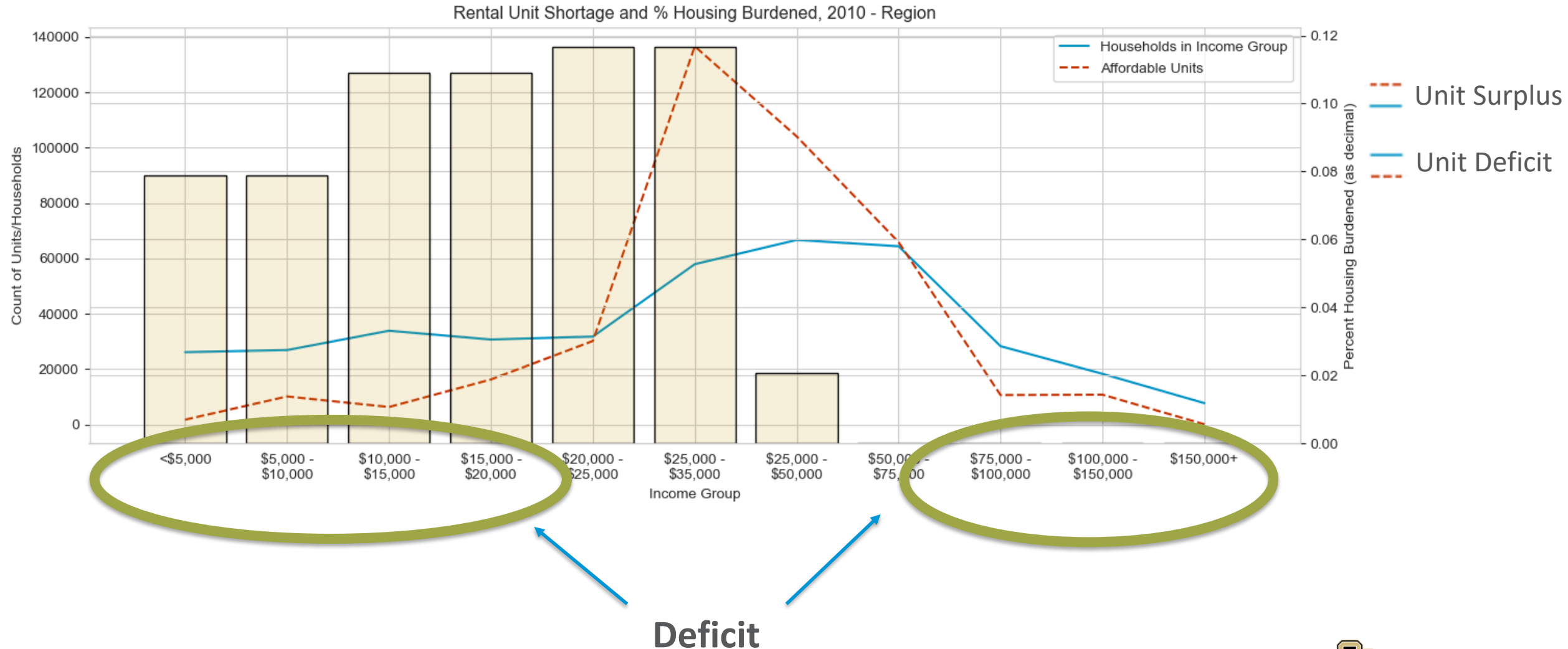


Metro Denver Housing Units Change 2000 - 2019

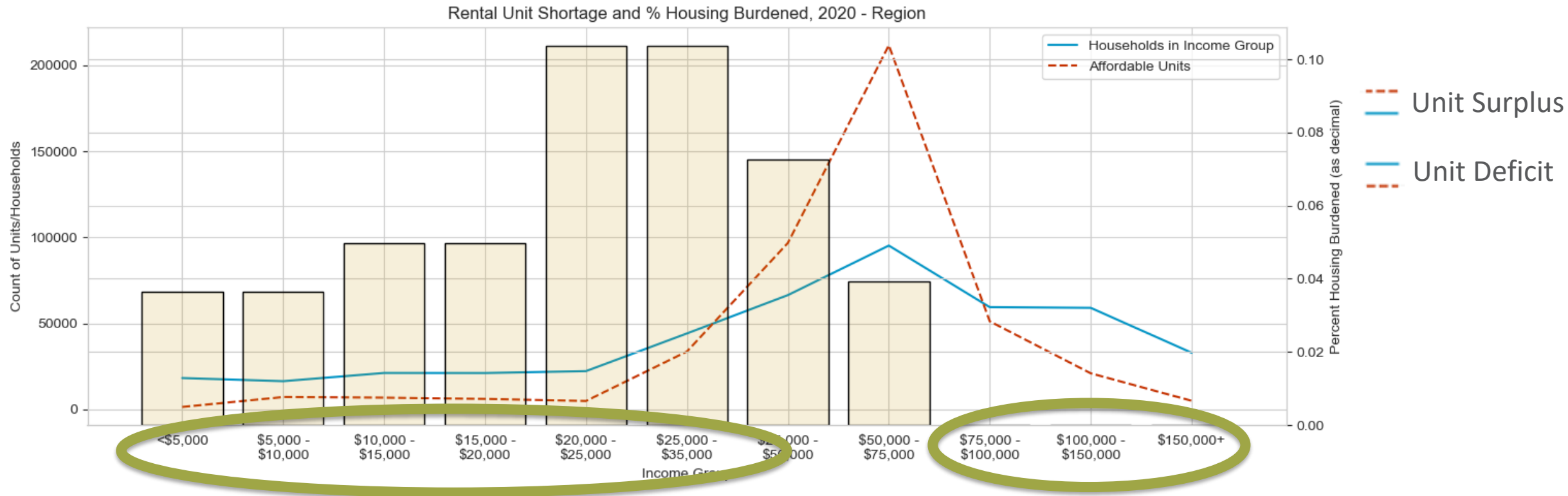


Source: Historical Census housing unit counts by tract summed to jurisdiction. Tract data from Markley, S.N., Holloway, S.R., Hafley, T.J (2022).

2010 Regional Rental Shortage by Income



2020 Regional Rental Shortage by Income

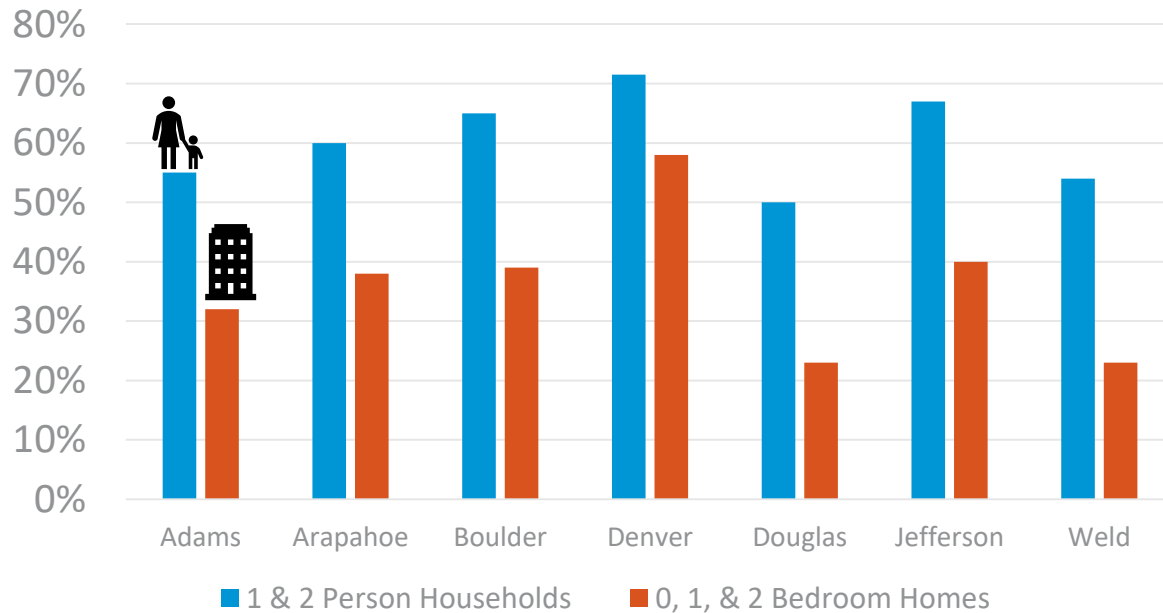


All counties follow this regional trend from 2010 to 2020

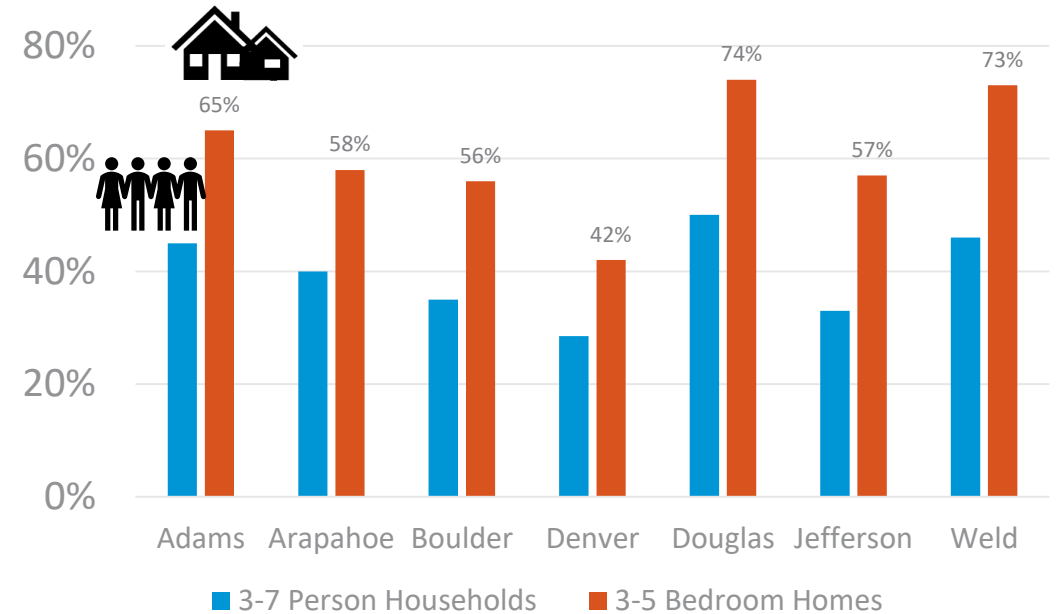
- Unit deficit at most income levels: *except* ~\$50,000-\$75,000
- % Housing Burdened concentrated around lower income levels: increased from 12% in 2010 to 36% in 2020
- Significant number of renters “renting down” and “renting up”

In addition to income mismatch: household/home size mismatch

Unmet Need for Smaller Households
(0-2 bedrooms)



Excess Supply of Large Homes
(3-5+ bedrooms)

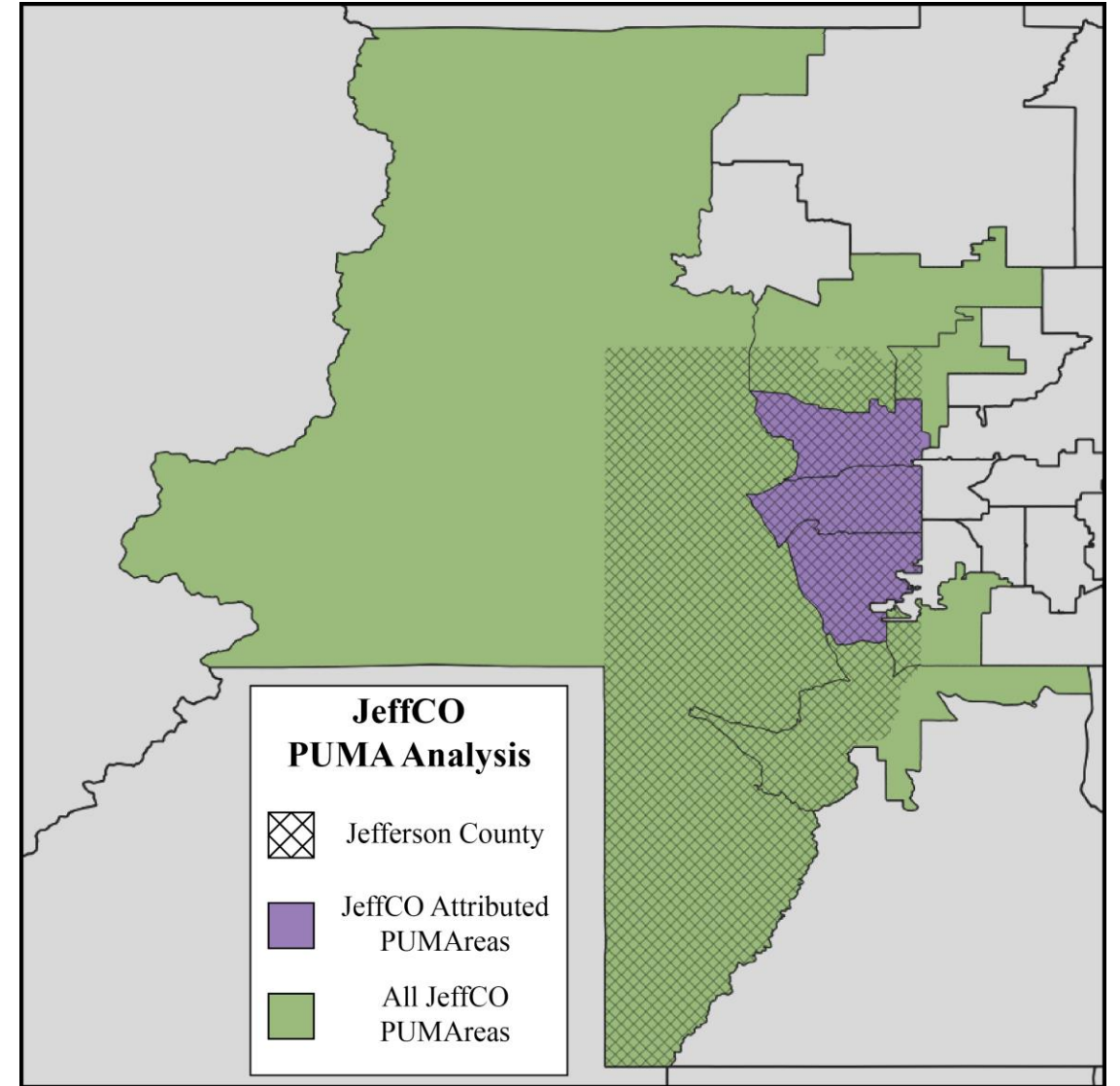


The picture is different for family households with low incomes: future analysis with protected Census data

Early PUMS Analysis

In Jefferson County:

54% of older adult households (70 y.o.+) with 1 or 2 persons live in 3, 4, and 5 BR homes

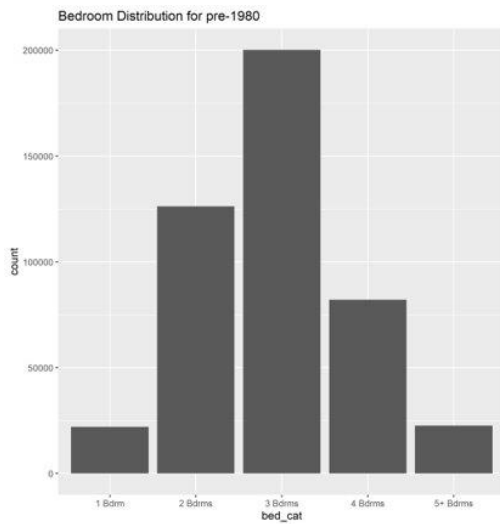


Are larger homes a relic?

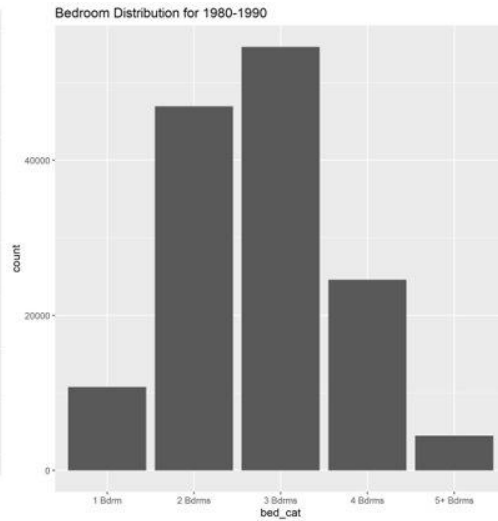
Or have developers started to build smaller homes?

No.

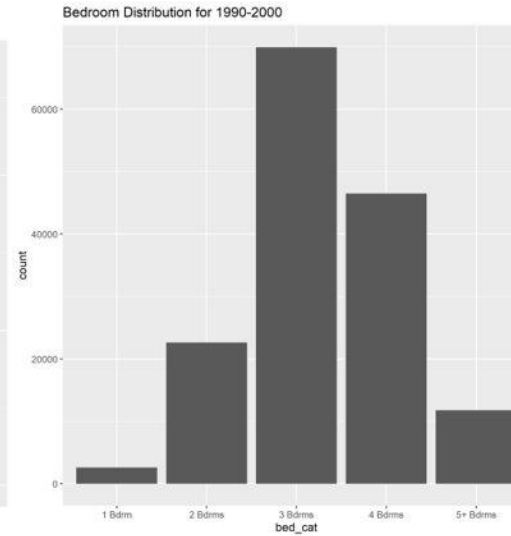
Distribution of 1, 2, 3, 4, and 5+ bedroom homes: 3, 4, and 5 bedroom homes are still dominant



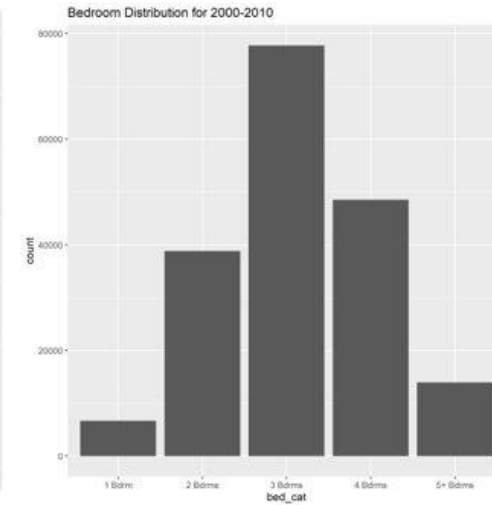
Pre 1980



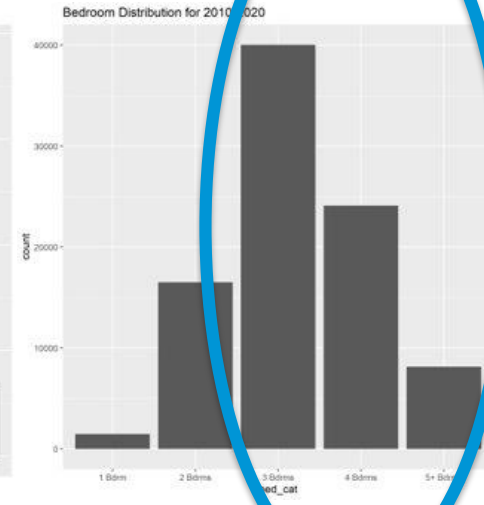
1980-1990



1990-2000



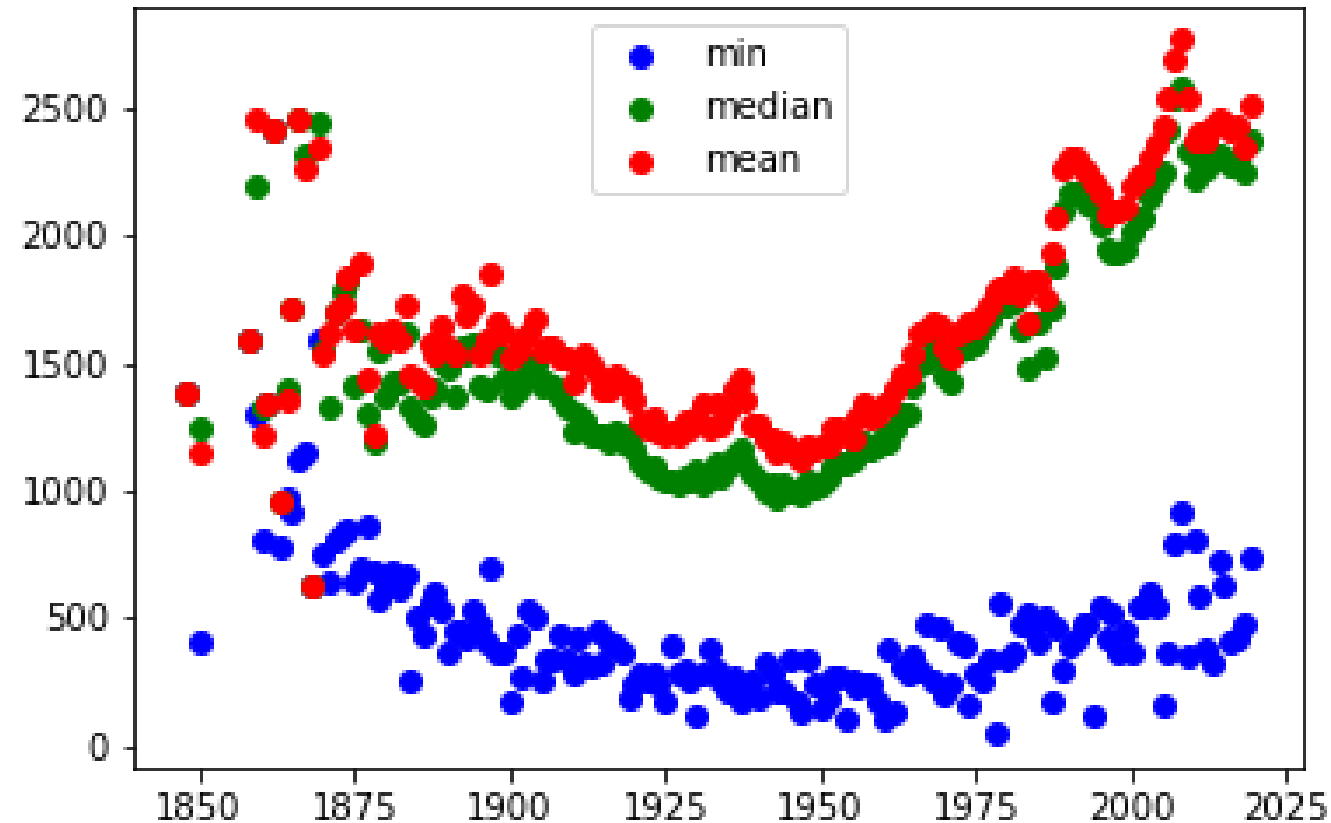
2000-2010



2010-2020

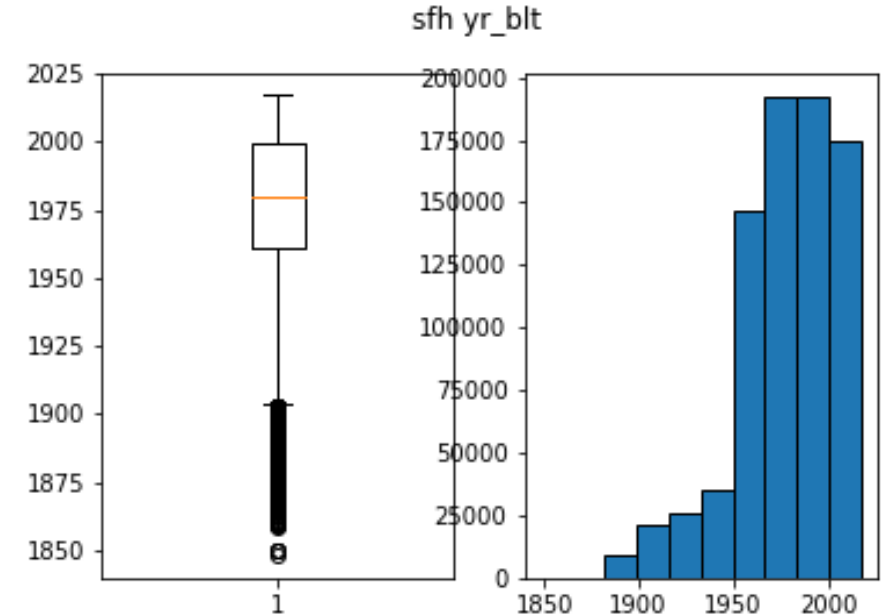
Homes have also increased in size

SF Homes: Year Built by Building Square Footage

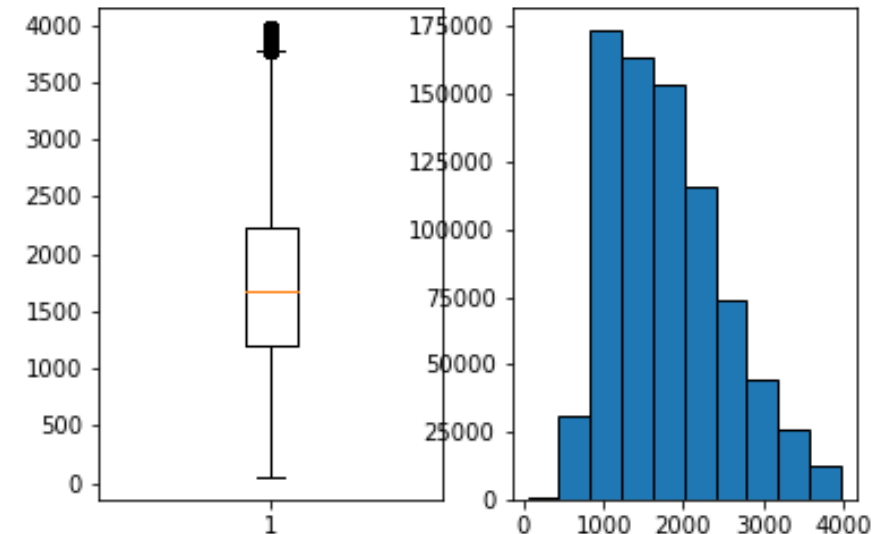


Source: Lightbox RE parcel level data, 2021, Year built field

Distribution of Homes by Year Built

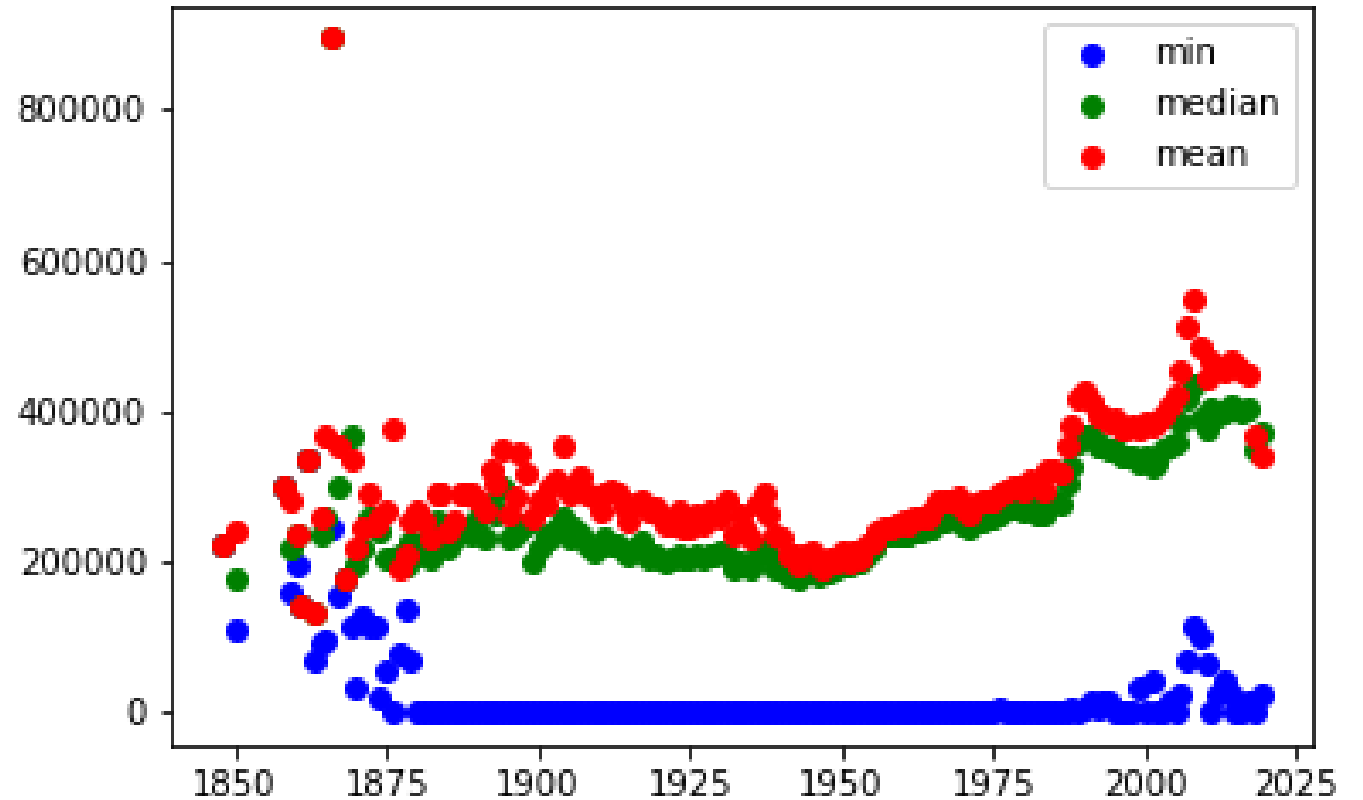
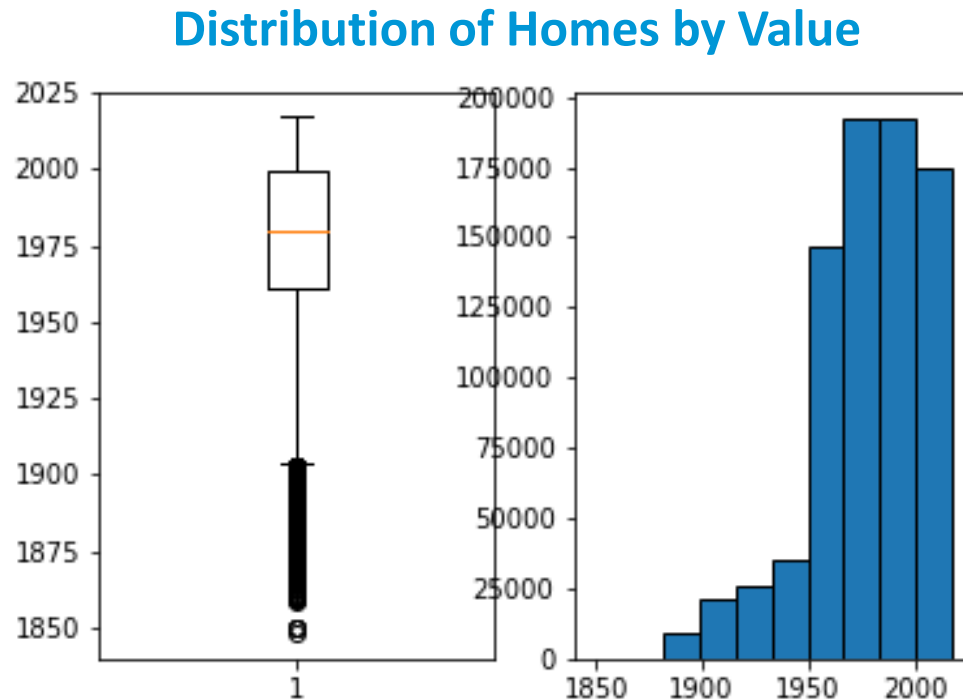


Distribution of Homes by Sq. Feet



With larger homes, come higher prices

SF Homes: Year Built by Improvement Value



Why the mismatch?

1) Developers targeting same small markets: 1) high-income households with kids | high-income singles

2) Zoning does not reflect demographics and need for the “middle” housing type

- Only 2.2% of housing permits from 2005-2020 were for the “middle” type (2-9 units)
- 2-9 unit housing structures are just 4.6% of existing housing in the region

Figure 1. The Spectrum of Housing



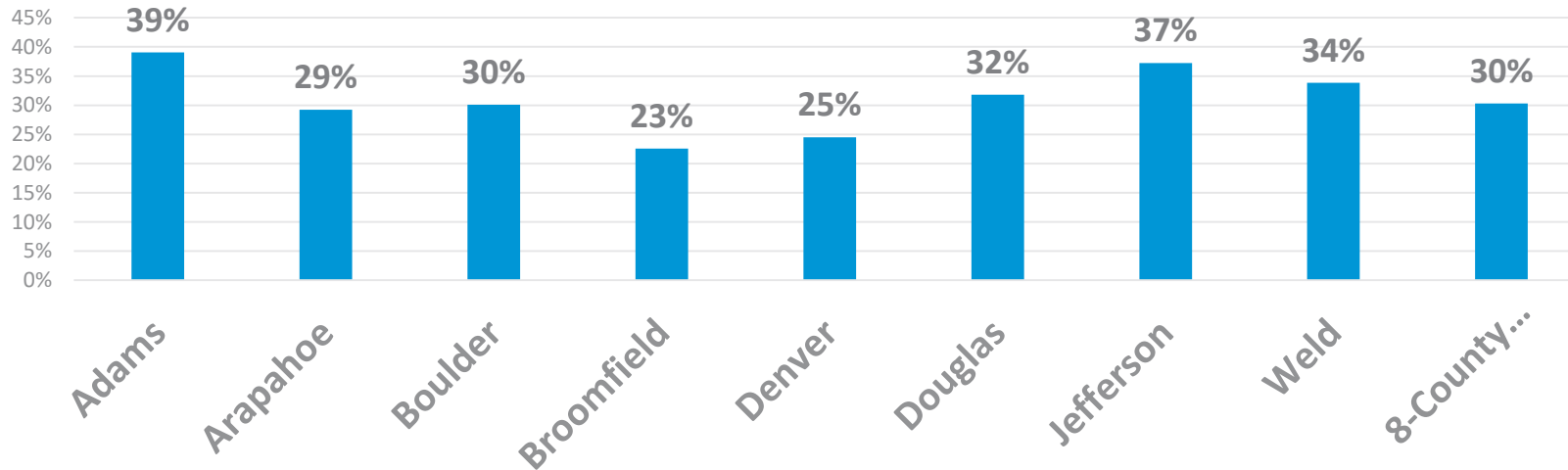
Jobs

Do jobs pay enough for housing? Can workers live near work?

Regional workers requiring affordable housing

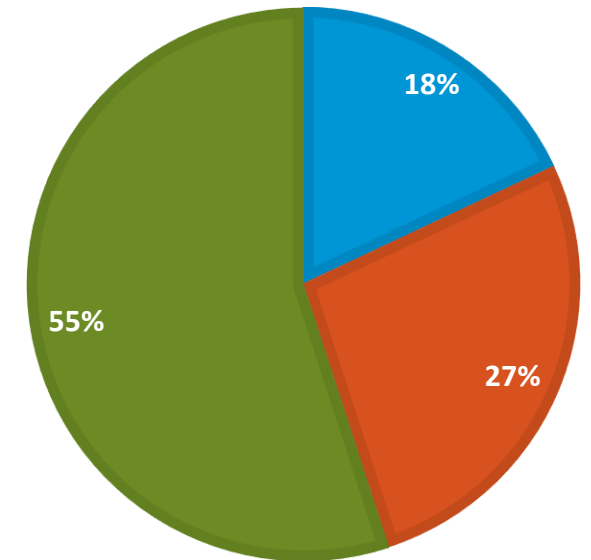
- 30% of private sector jobs (402,785) pay less than \$43,000 a year (50% AMI) (Census, QCEW)
- 45% of all (private and public) jobs pay less than \$40,000 a year (Census, LODES)

% of Jobs paying <\$43,000 (50% AMI) by County



**DISTRIBUTION OF JOBS BY LODES
INCOME CATEGORIES**

■ <\$15,000 ■ \$15k-\$39k ■ \$40K+




Economic Development vs. Affordable Housing

Region's fast growing
Financial Services Cluster:

Median wage for 41% of the
most prevalent jobs pay
<70% AMI

*Depending on household
size, at least 68,000
financial services workers
require affordable housing*

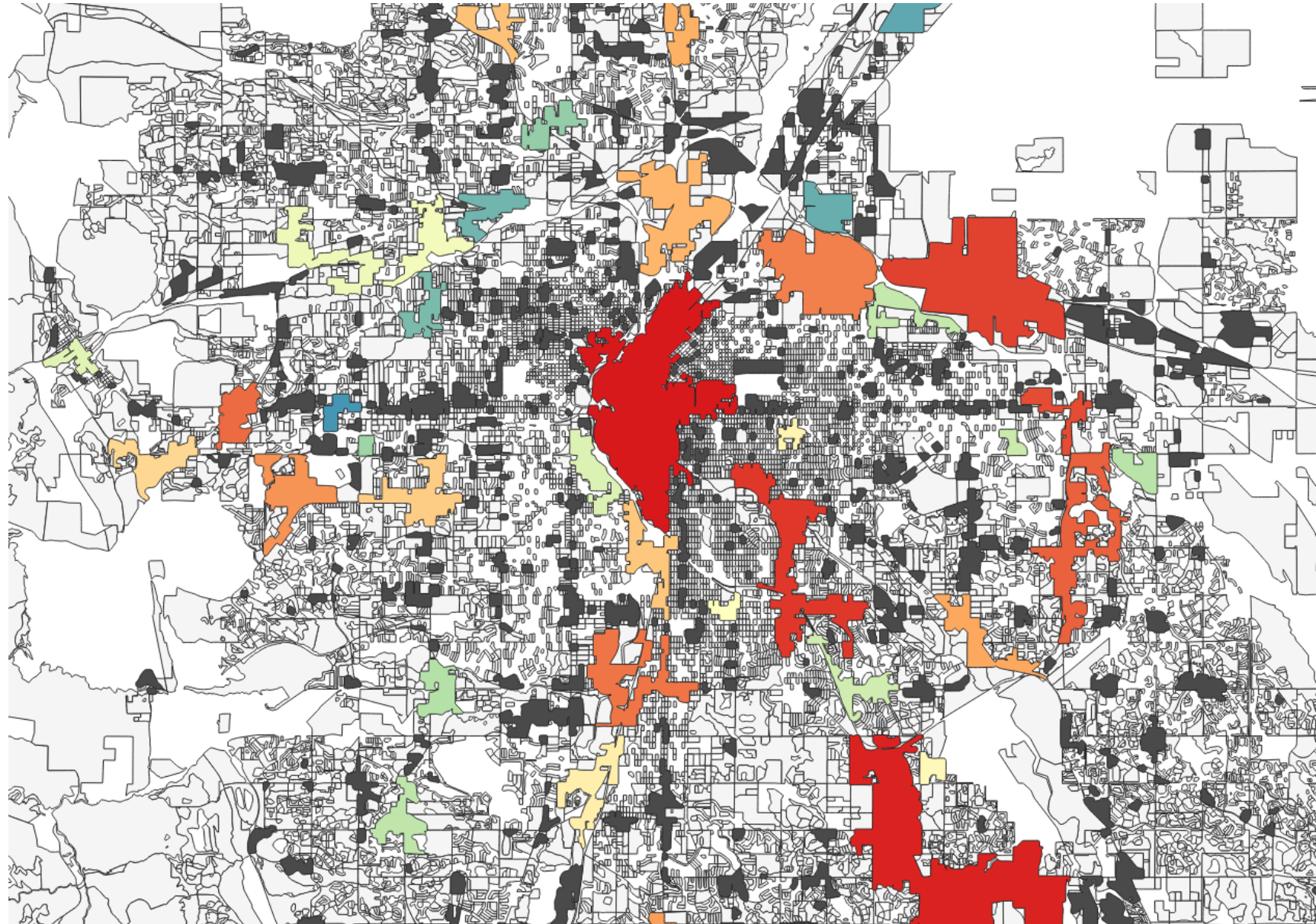
<div>  Metro Denver & Northern Colorado Financial Services Occupation & Salary Profile, 2020⁹ </div>								
10 Largest Financial Services Occupations in Metro Denver & Northern Colorado	Total Working Across All Industries (2020)	Number of Available Applicants (2020)	Number of Graduates (2019)	Median Salary	10th Percentile Salary	25th Percentile Salary	75th Percentile Salary	90th Percentile Salary
1. Insurance sales agents	12,665	917	0	\$54,730	\$26,753	\$36,793	\$80,283	\$121,697
2. Securities, commodities, & financial services sales agents	10,345	749	0	\$54,089	\$27,285	\$37,396	\$83,471	\$127,247
3. Customer service representatives	36,553	2,646	0	\$37,342	\$25,232	\$29,976	\$47,988	\$60,833
4. Personal financial advisors	5,103	369	472	\$93,699	\$43,554	\$62,595	\$151,159	\$235,478
5. Tellers	4,512	327	0	\$32,674	\$25,875	\$28,800	\$37,883	\$43,974
6. Loan officers	4,264	309	472	\$60,143	\$31,408	\$43,152	\$84,068	\$110,284
7. Claims adjusters, examiners, & investigators	4,417	320	0	\$71,197	\$43,546	\$55,650	\$88,391	\$109,647
8. Financial & investment analysts, financial risk specialists, & financial specialists, all other	7,429	538	486	\$83,180	\$50,232	\$62,910	\$115,906	\$160,983
9. Software developers & software quality assurance analysts & testers	39,511	2,860	1,671	\$108,957	\$66,127	\$84,400	\$135,987	\$163,147
10. Project management specialists & business operations specialists, all other	42,873	3,103	50	\$80,642	\$45,847	\$58,960	\$108,751	\$142,539

Source: Metro Denver EDC, Financial Services Industry Cluster Study (9-county) <https://www.metrodenver.org/regional-data/industry-cluster-studies>



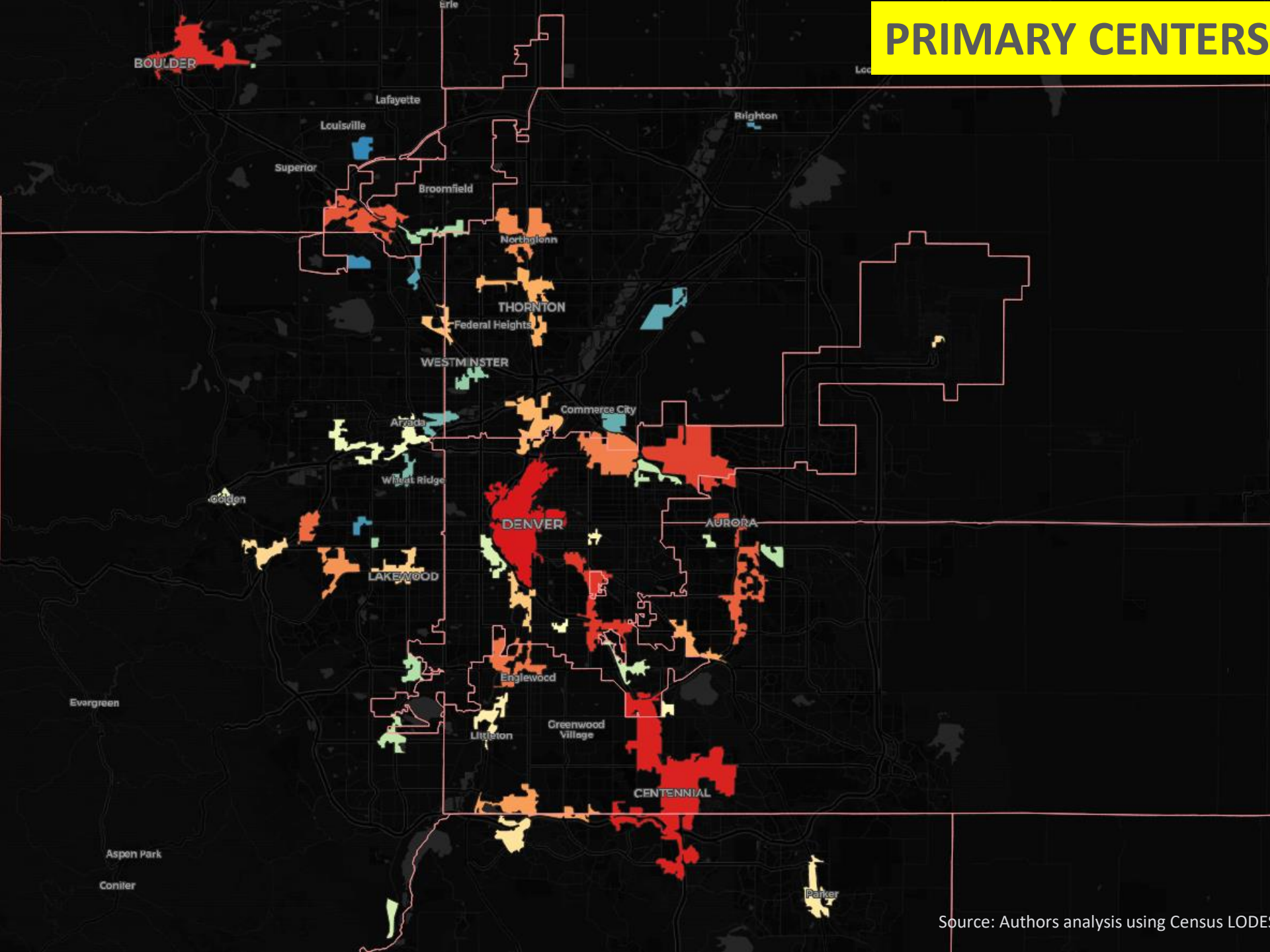
Employment Centers and Nodes

Access to housing and transportation



Source: Authors analysis using Census LODS

PRIMARY CENTERS

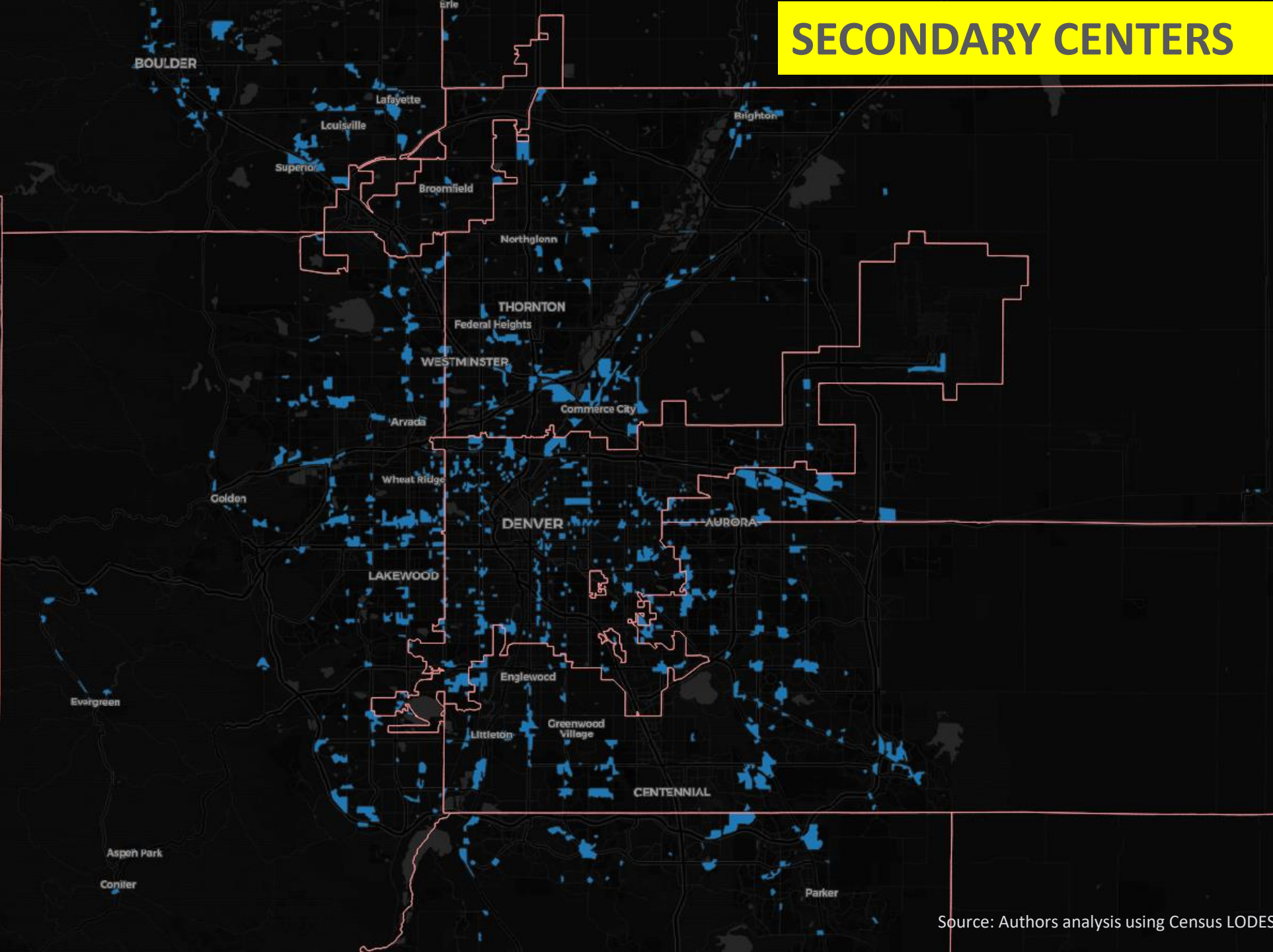


60% of Jobs
in 58
“primary
centers”

Source: Authors analysis using Census LODS

SECONDARY CENTERS

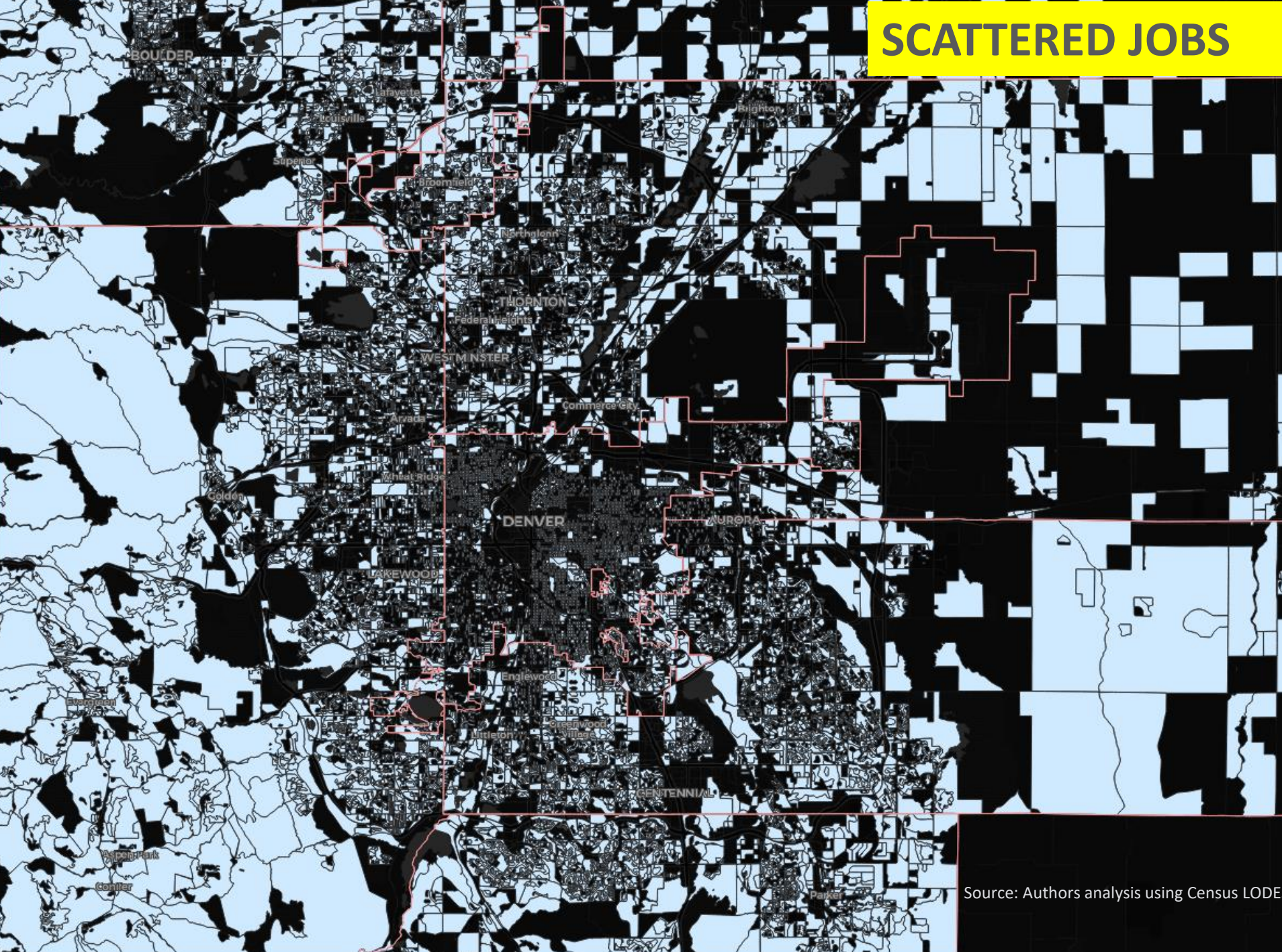
20% of Jobs
in “secondary
centers”



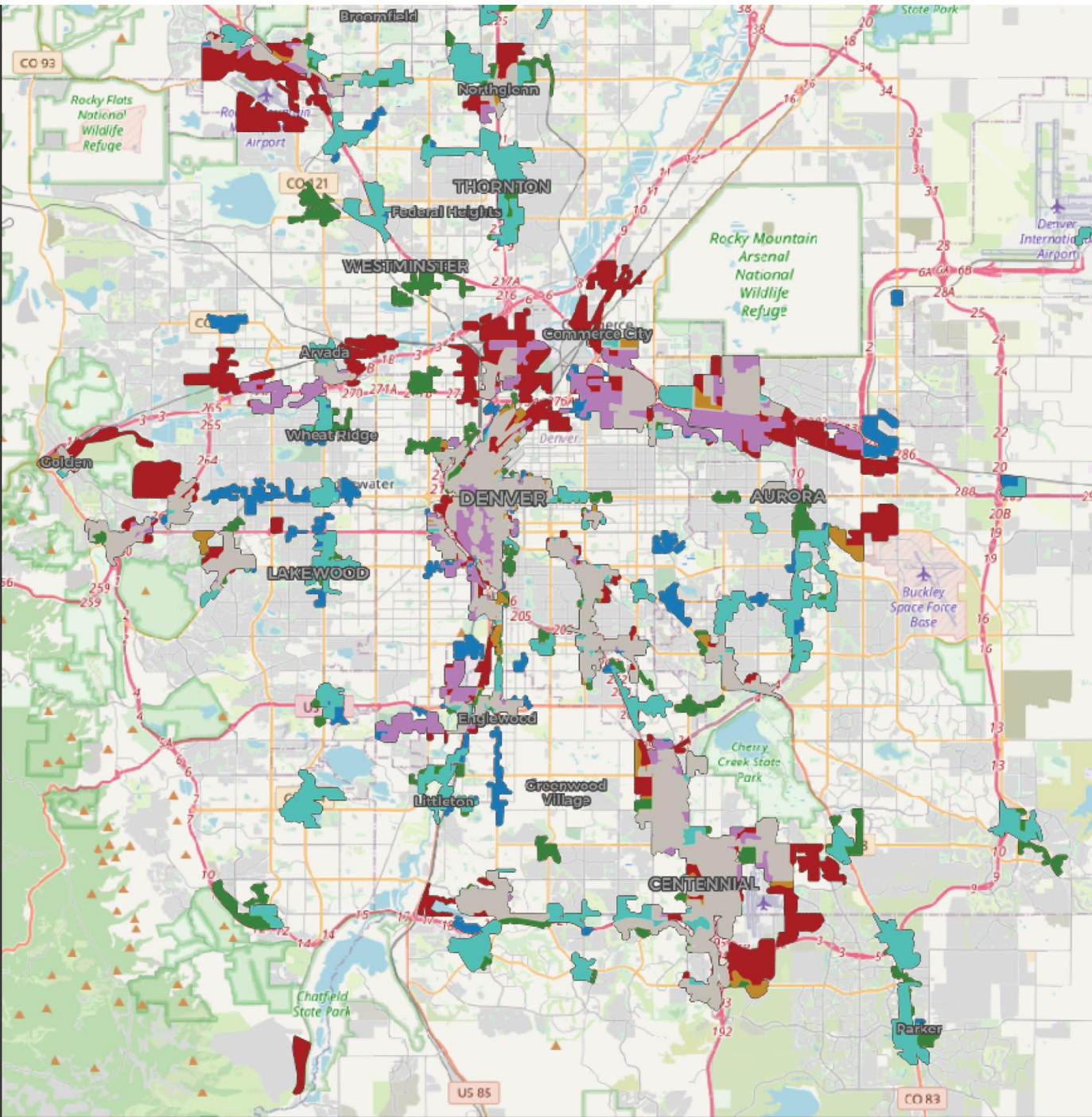
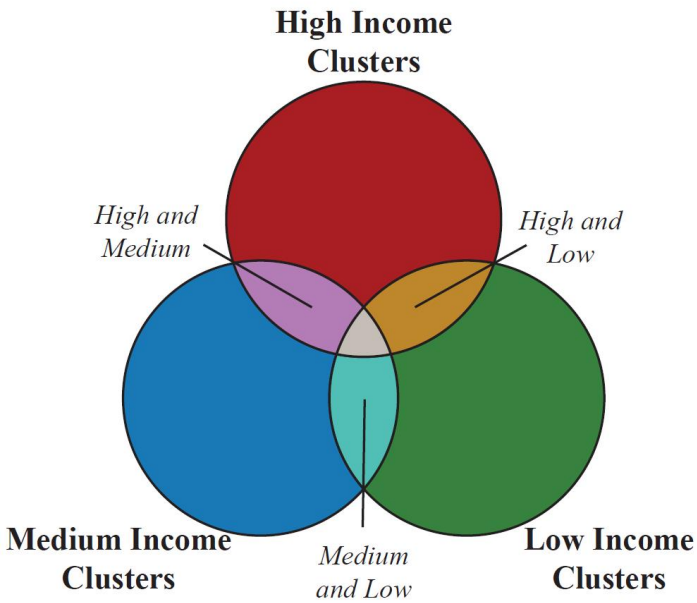
Source: Authors analysis using Census LODS

SCATTERED JOBS

20% of Jobs
are outside of
centers, e.g.
“uncentered”



Differential Distributions of
Primary Employment Clusters
for High, Medium, and Low
Income Groups



Significant*
differences in
shares of
workers by
income across
the 3 types of
centers

Lower wage
jobs are in
secondary and
uncentered
locations

Source: Authors analysis using Census LODS

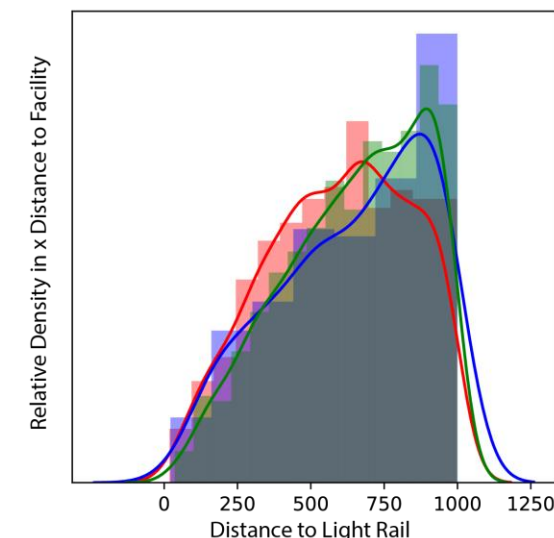
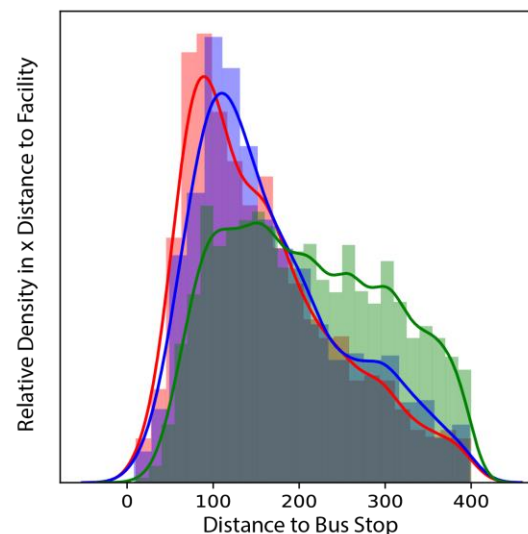
Bus and rail near centers

Primary job centers are closest to light rail

Workers in non-centered jobs (mostly lower wage) have lower access to transit

Distance to Nearest Transit Facility
by Employment Center Classification

“Walkable” Distances



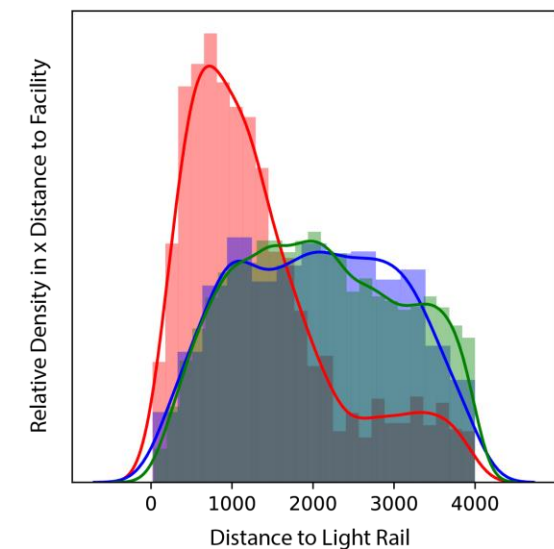
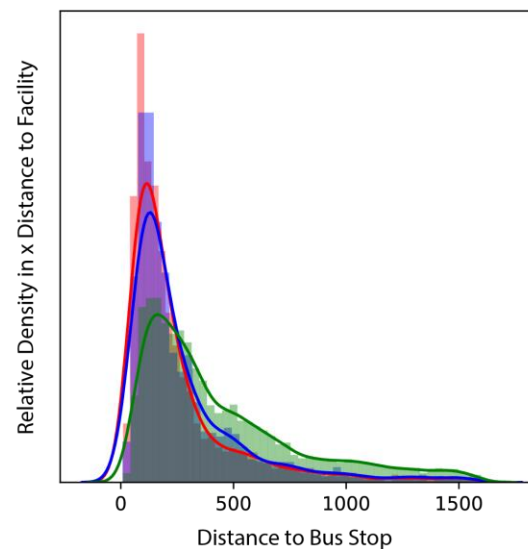
Cluster Type

Primary Cluster

Secondary Cluster

No Cluster

“Bikable” Distances

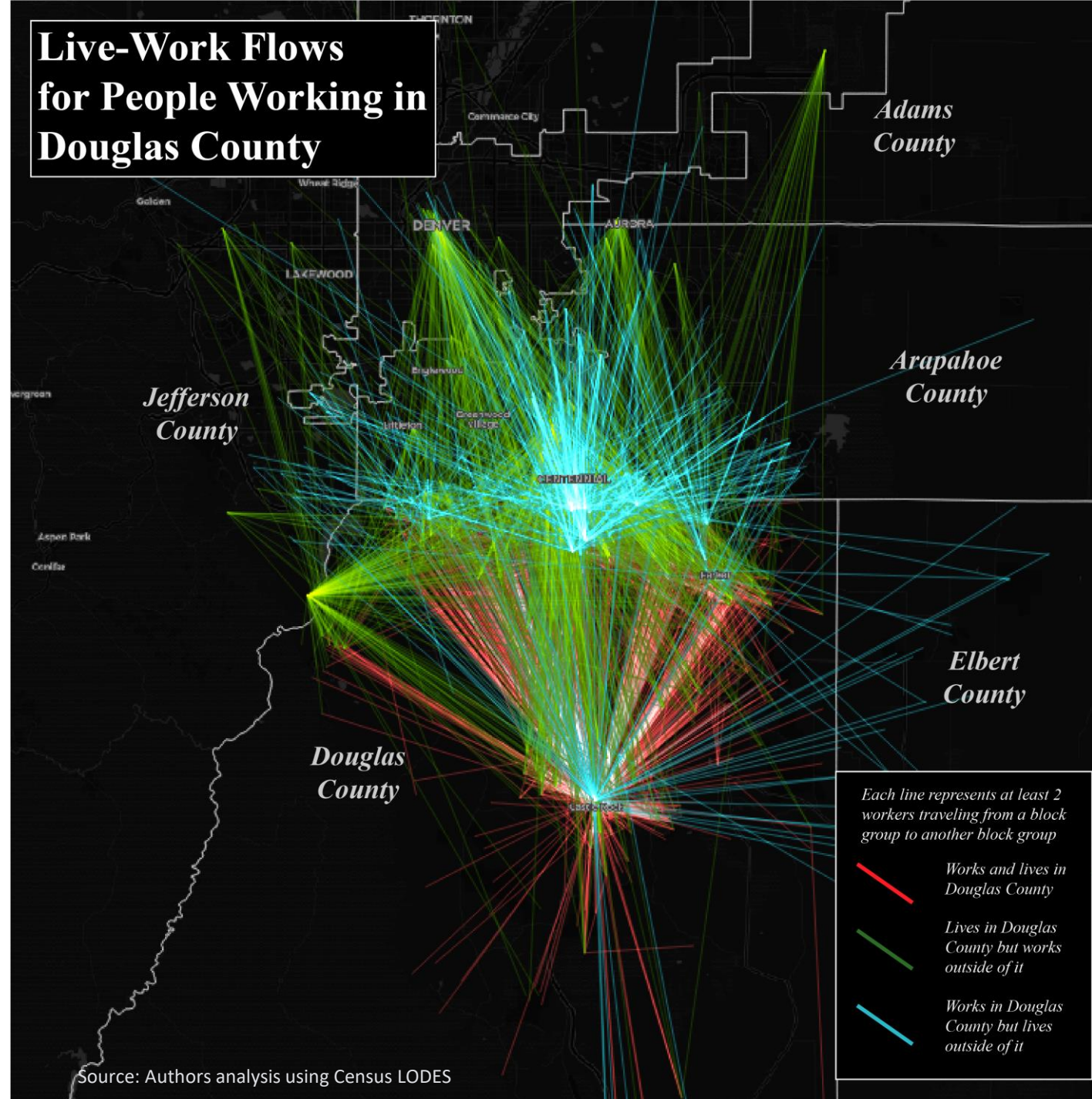


Douglas County




Future data analysis by city and county:

- Live and work
- Live, don't work
- Work, don't live

By income, and
compared to
zoning and
planning for
affordable
housing

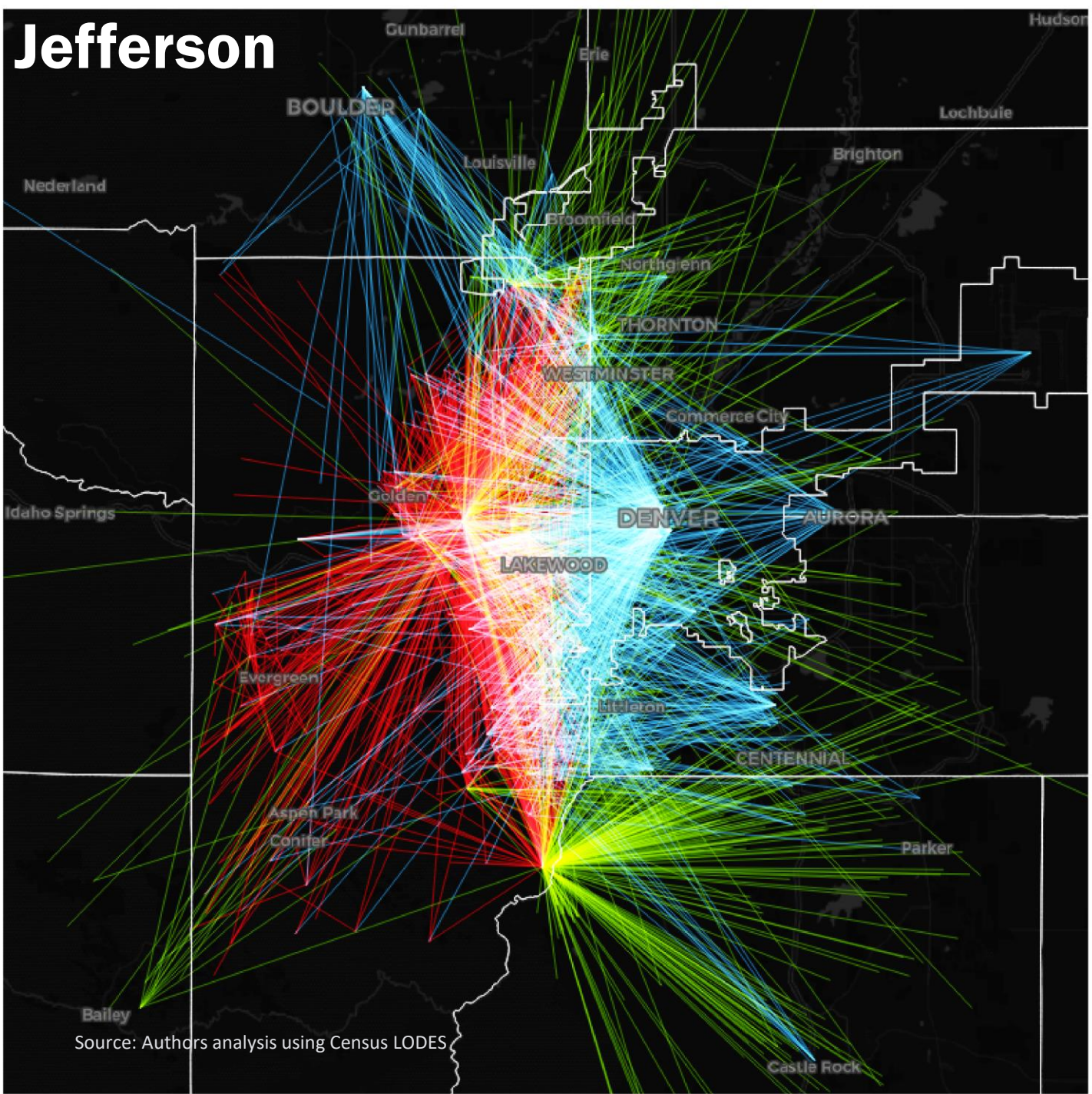


**Origin-Destination Pairs
for Commutes
Originating and/or Terminating
in Jefferson County**

-  Works and Lives in Jefferson County
-  Lives in Jefferson County but works outside of it
-  Works in Jefferson County but lives outside of it

** Each line represents at least two workers traveling from the same origin block to the same destination block.*

Jefferson

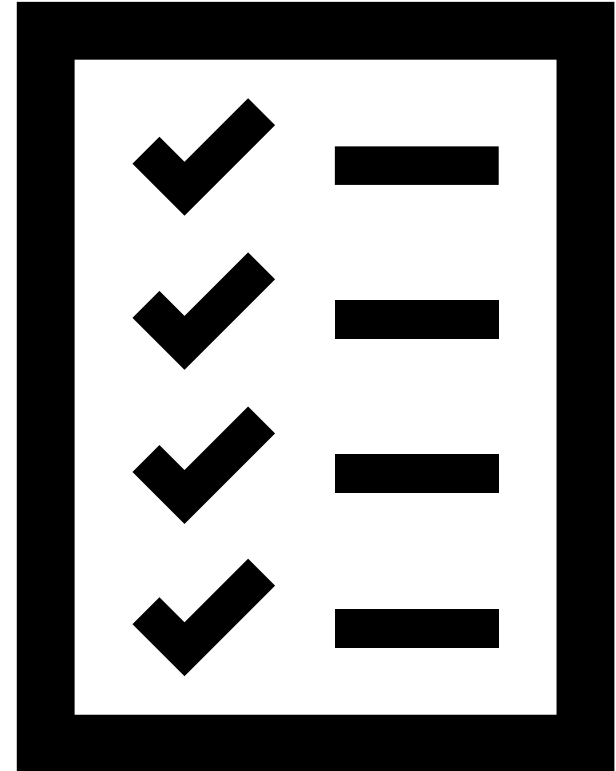


Source: Authors analysis using Census LODS

Preliminary Findings

Part II

The Why: Plans, Zoning, other Regulations & Housing Investments



Evaluation of municipal planning contexts for affordable housing?

41 largest cities: scoring Comprehensive Plans, Housing Plans, Zoning Code, and HOME/CDBG Applications and Performance Reports, etc. in 16 categories and 60 “Yes/No” questions regarding plans and actions for AH. Additional 10 questions require zoning calculations in GIS

Affordable Housing Goals

1. Is affordable housing a **well-defined goal** with a housing shortfall analysis?
2. Are affordable housing goals are **cohesive with overall plan**?
3. Do affordable housing goals **include unhoused** individuals?
4. Do affordable housing goals include people with **physical disabilities and older adults**?

Actions that Enable Affordable & Attainable Housing

5. **Applied** for available HUD funding at a reasonable scale?
6. HUD **application include accessibility retrofits** and AH for older adults
7. Zoning code **allows for affordable and compact development**, e.g., mixed use, medium-high density
8. **Multi-family units** of all scales are allowed **by right**
9. **Supportive and transitional** housing is allowed **by right**
10. **Inclusionary zoning** requires a percentage of permanently affordable units in all developments
11. **ADUs or backyard rental homes are allowed** throughout existing low and medium density neighborhoods, and programmed as affordable units?
12. Coordinates with city or county **housing authority**

Affordable Housing Outcomes

13. Number of **subsidized units**
14. Share of households with **housing burden**
15. Share of housing units in **moderate- and high-density housing**
16. **Housing Choice Voucher** holders/units

Initial scoring results: just the plans, not zoning

Low scoring cities:

- **Wealthy “villages”:** fine with their score
- **Developing rural towns:** prefer development over affordability
- **Fast growing newly incorporated suburbs** with tech jobs: starting to realize they need affordability
- **Inner-ring suburbs, high poverty,** low municipal capacity to plan “don’t need/want more affordable housing”

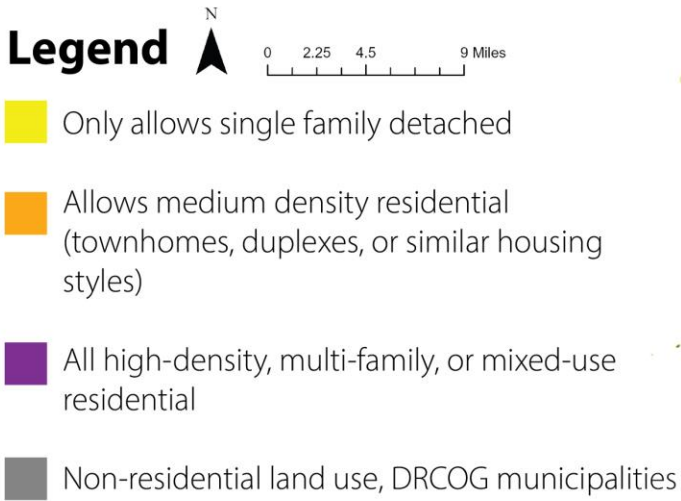
Higher scoring cities

- Inner ring suburbs recognizing growth and diversity from new immigrants, refugees, people displaced from Denver

City	Share of Workers earning <\$39K	Plan Score
Bow Mar	25%	0%
Cherry Hills Village	40%	0%
Foxfield	72%	1%
Columbine Valley	56%	16%
Deer Trail	74%	25%
Firestone	60%	29%
Greenwood Village	32%	29%
Bennett	66%	37%
Lochbuie	53%	38%
Northglenn	58%	40%
Mead	34%	41%
Centennial	38%	43%
Frederick	39%	49%
Federal Heights	73%	50%
Brighton	50%	60%
Littleton	45%	66%
Commerce City	40%	72%
Sheridan	50%	72%
Westminster	54%	75%
Thornton	64%	81%
Aurora	51%	90%

Where Do Municipally Mandated Density Requirements and Zoning Prevent More Affordable Housing?

A significant percent of housing cost comes from minimum lot size.



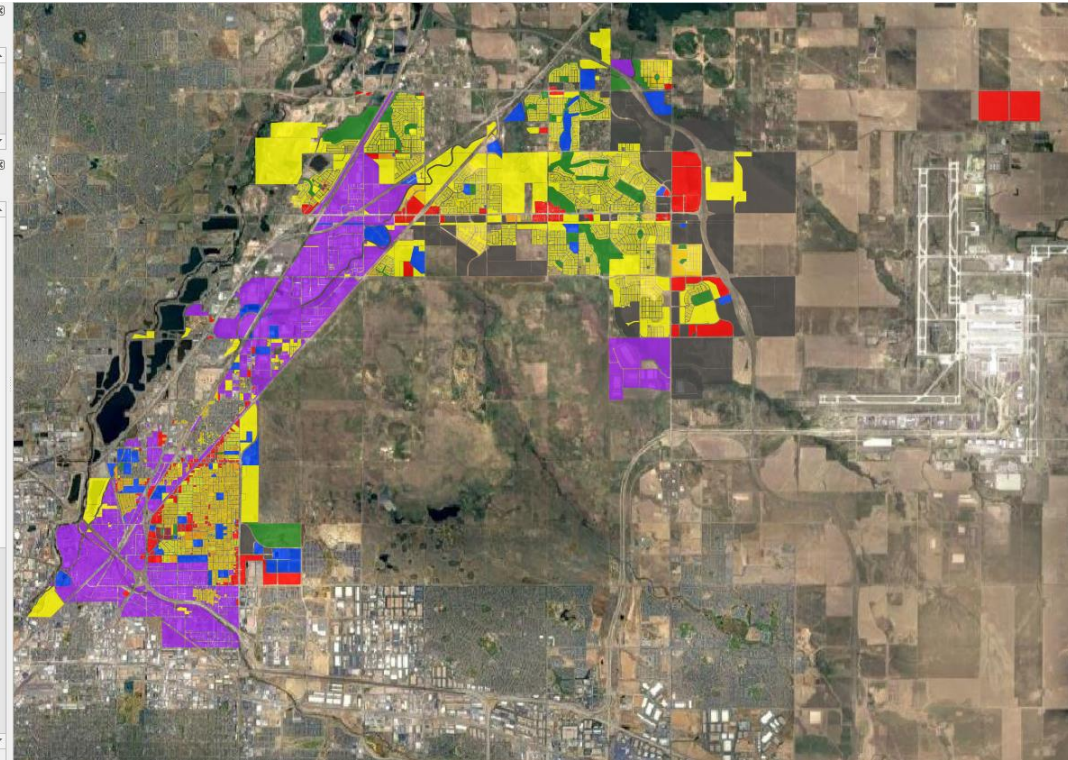
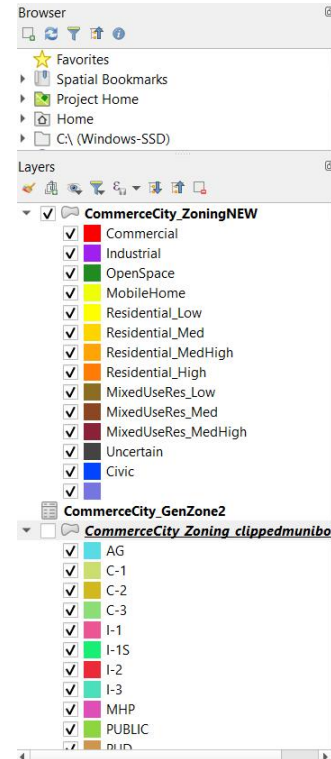
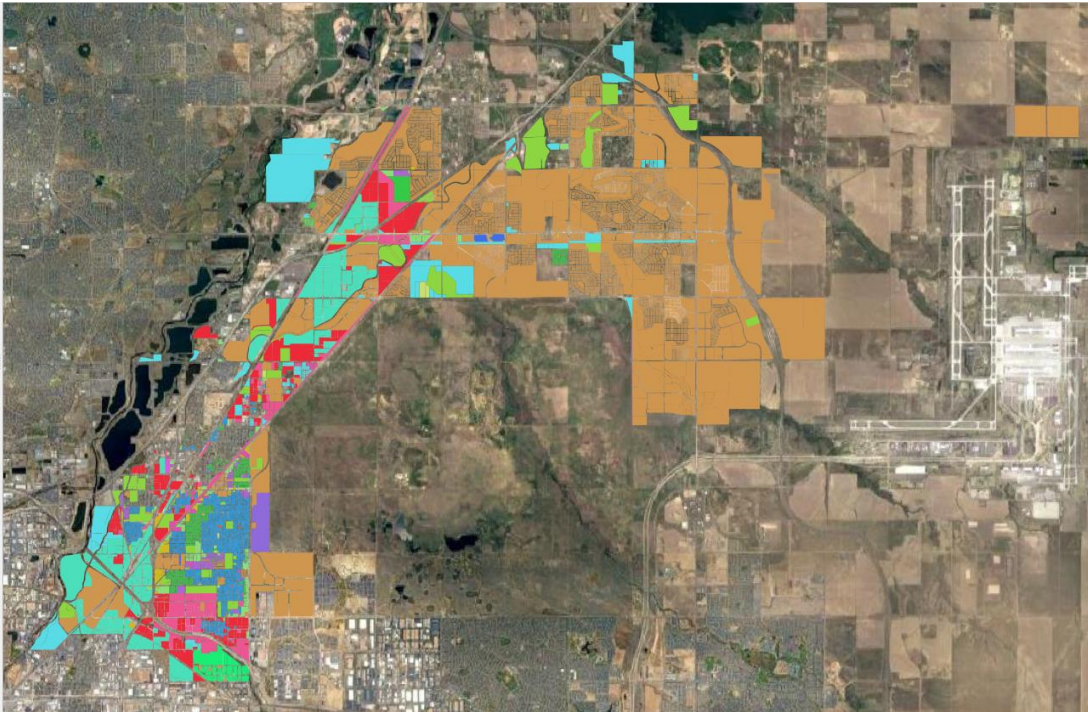
NOTE: Map is made from an initial collapse of 1000 zoning categories regionwide.

Zoning Code Calculations

Commerce City's Original Code with PUDs

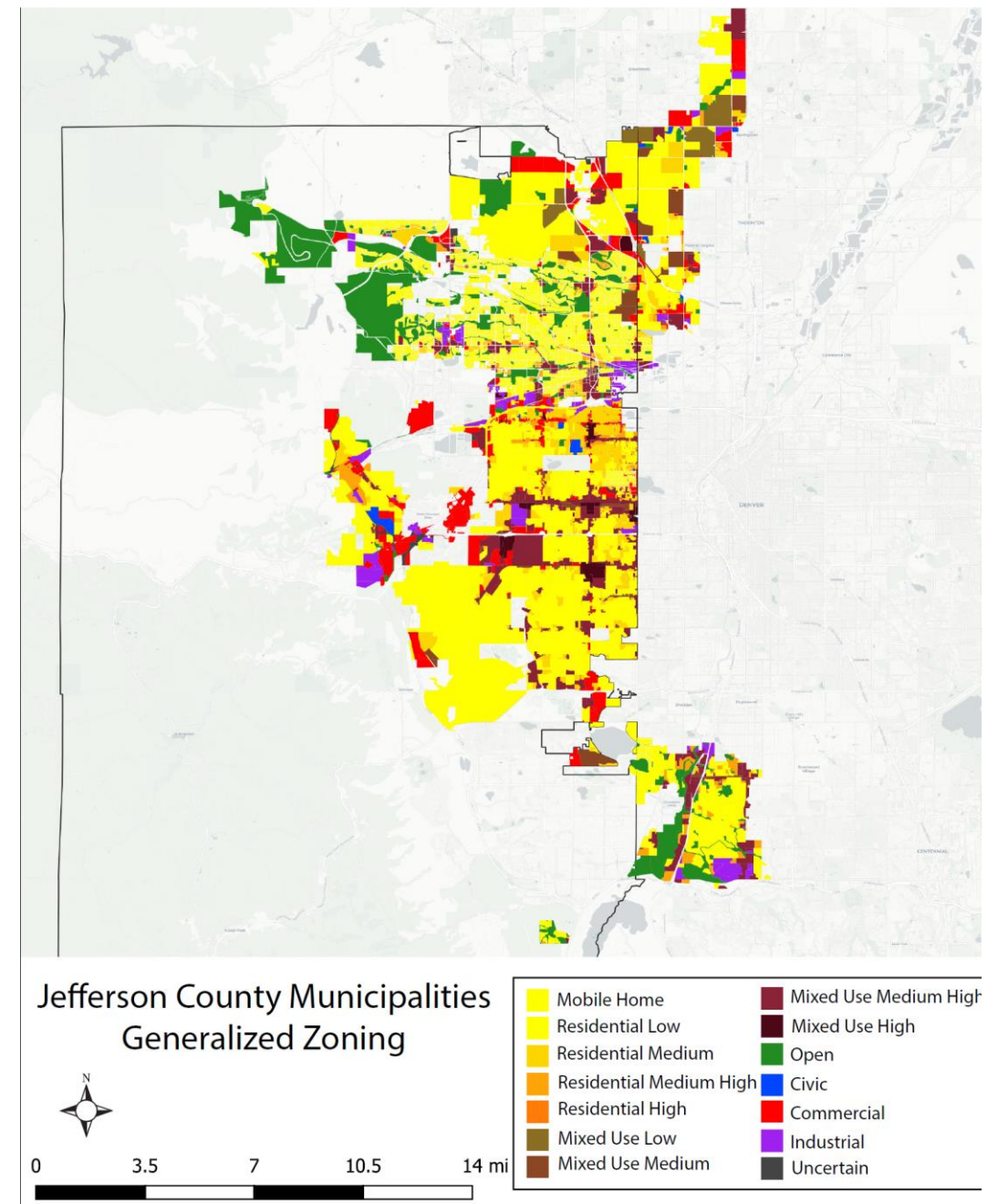


Commerce City with our Regional Collapsed Code

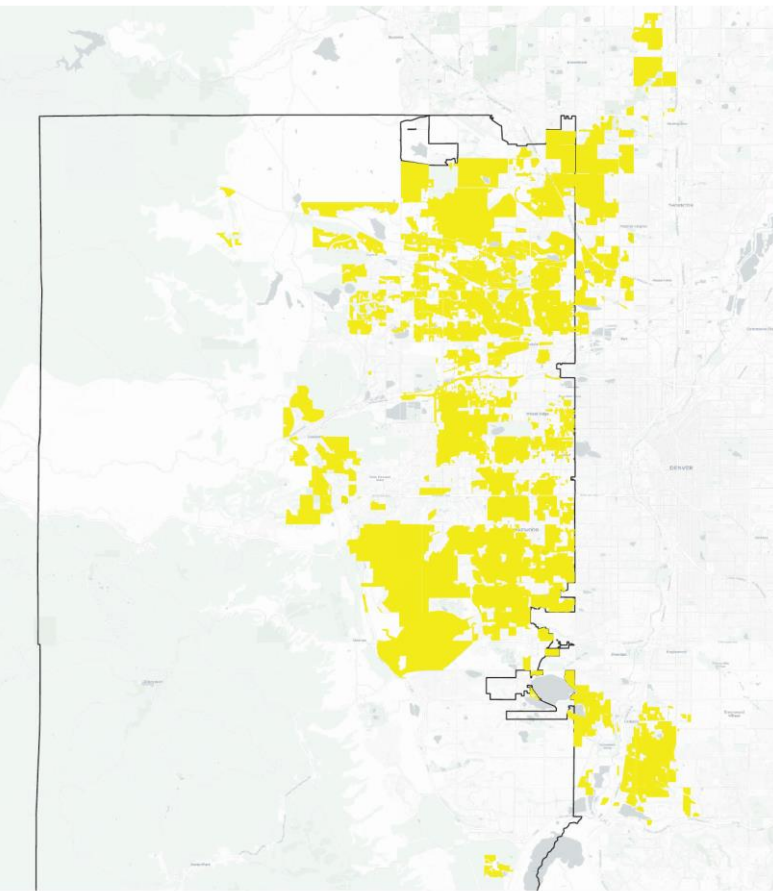


Communicating the Findings

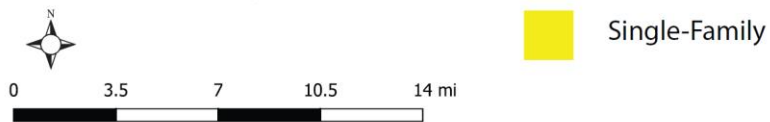
- Nov. 8th: City & County Managers on at DRCOG quarterly meeting
- Dec. 1st: Jefferson Co. Commissioners, City Managers, and Mayors
- Dec. 14th: Jefferson Co. Housing Plan Task Force
- March 8th: Jefferson Co. Plan Commission work session
- ...more to come



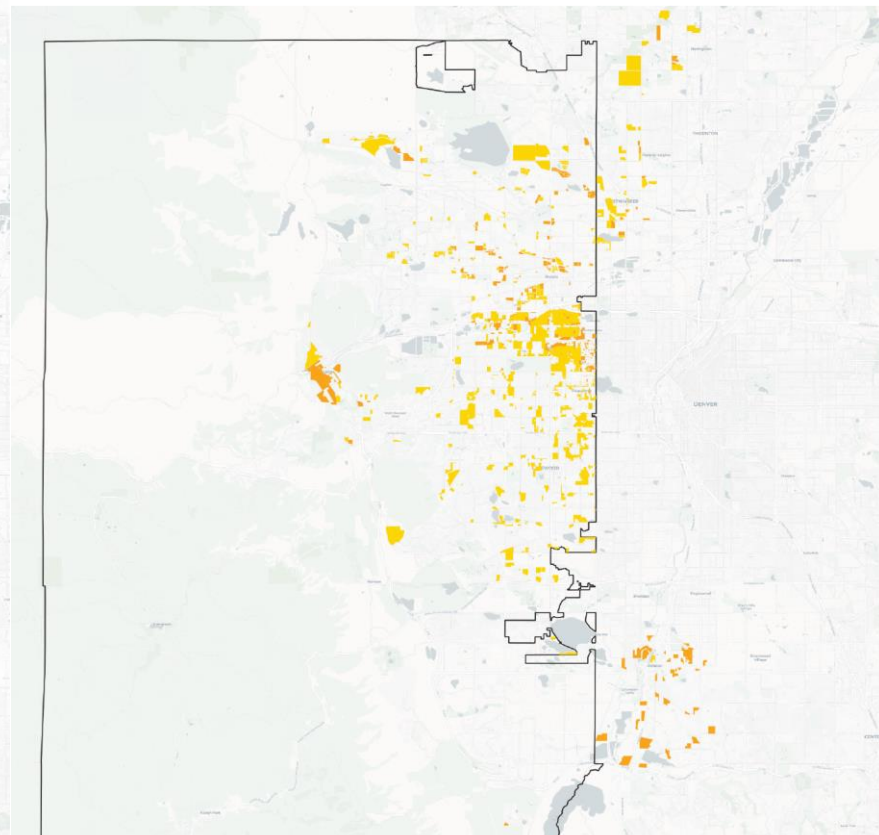
Incorporated JeffCo Residential Zoning



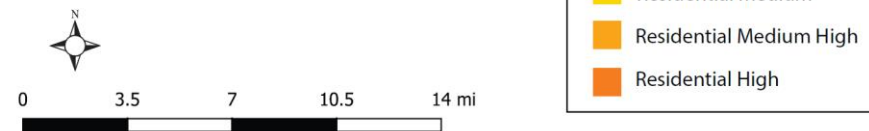
Jefferson County Municipalities
Single-Family Zoning



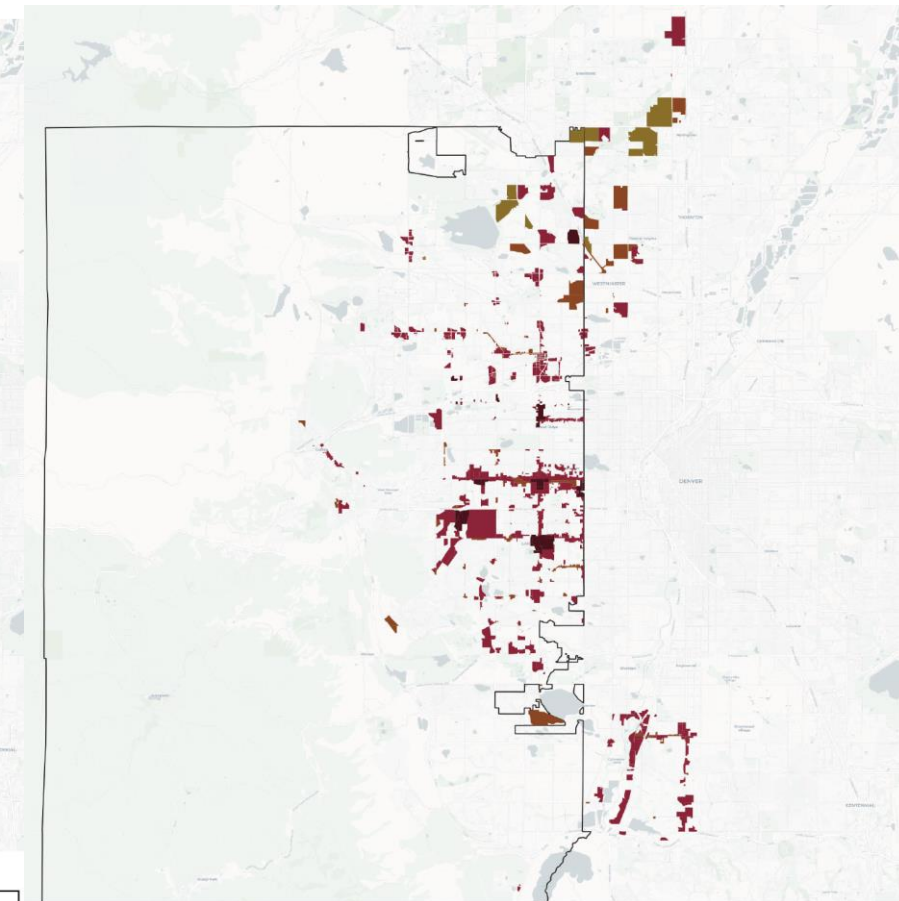
SF Residential



Jefferson County Municipalities
Medium to High Residential Zoning



**Medium & High Density
Residential**



Jefferson County Municipalities
Mixed Use Zoning



Mixed Use

Final Scores for Incorporated Jefferson Co.

City	Score
Arvada	33
Bow Mar	0
Edgewater	32
Golden	31
Lakewood	46
Littleton	38
Westminster	43
Wheatridge	31

Reasons for low scores

- Limited multi-family areas
 - Some only as conditional uses, i.e., public hearing
- No housing plan
- No economic development plan, and/or doesn't address workforce housing issues
- No by-right institutional housing, group homes and group living (transitional/supportive housing, nursing facilities, re-entry, homeless shelters, SROs, housing first)
- Little use of CDBG for affordable housing and homeless shelters

Arvada's Zoning:

Some mixed use, but it's conditional

Table 3-1-2-2: Residential Land Use by Zoning District																					
Land Use	Open Space and Residential						Mixed-Use				Olde Town							Commercial and Industrial			Reference
	OS	RA	RN	R6	R13	R24	MX-N	MX-S	MX-U	MX-T	OT-E	OT-EY	OT-GV	OT-OW	OT-RN	OT-RR	OT-W	CG	IL	IG	
Single-Family Detached		A	A	A	A	A	L	C	C				A	A	A						3-1-3-2
Duplex			L ¹	L	L	L	L	C	C						A						3-1-3-2
Townhome				L	L	L	L	C	C	C	A	A				A	A				3-1-3-2
Multiplex				A	A	A	A	C	C	C			A	A	A	A	A				-
Multifamily					A	A	A	C	C	C	A	A	A	A		A	A				-
Cottages, Micro-Homes, or Co-Housing				A	A	A	A	C	C												-
TABLE NOTES:																					
¹ Duplex units are only allowed in the RN-D subdistrict.																					

Scores vs. Need

Summary Plan Scoring Results						
Average Plan Score	Number of Cities	Avg. Total jobs	Avg. Share of jobs paying <\$39K	Avg. Share of Single Family Detached	Avg. Share of Housing Cost Burdened Households	Avg. Share of Households in Poverty
41-50	5	170,374	46%	47%	14%	12.7%
31-38	11	25,362	53%	60%	11%	8.7%
20-29	12	7,763	55%	75%	11%	6.5%
0-19	13	15,901	50%	71%	9%	5.3%

Next Steps: Getting to our Goal

Spur concrete action and commitment to address the region's significant affordable housing needs (*i.e.*, “*crisis*”)

Feedback from summer advisory group

- Focus on impacts from housing instability and unaffordability: tell the stories of impacts on schools, families, employers, etc.
- Focus on how to improve plan score, not why their score is bad

Early Solutions Analysis

Missing Middle Housing Feasibility

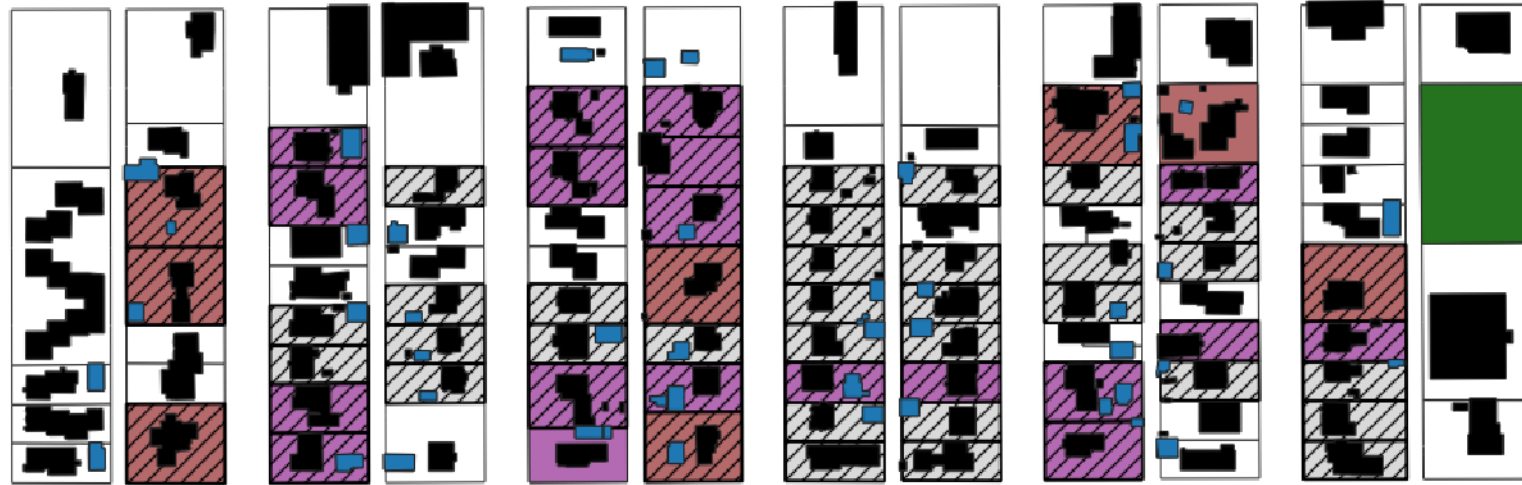
Pilot data



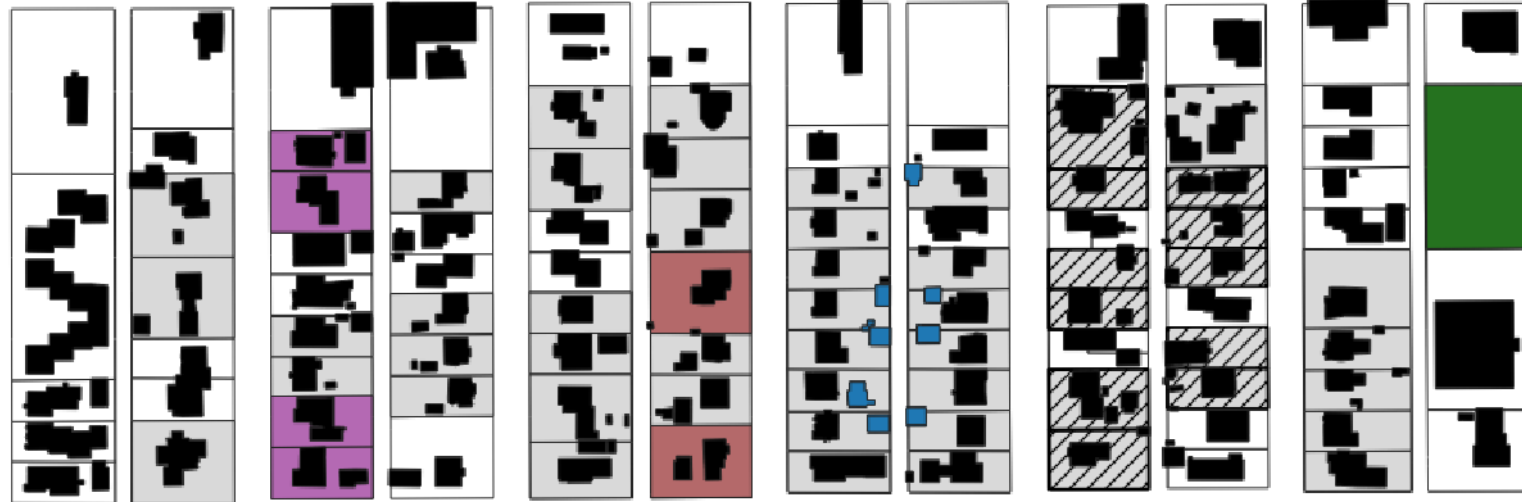
<https://www.mywdrc.org/adu-pilot-program>

Missing Middle Housing Feasibility

All Components



Individual Components



All Parcels
Existing Single Family Homes

Redevelop as Duplex

Redevelop as Courtyard Building

Convert Garage to an ADU

Add ADU to existing layout

Add Cottage Court on Vacant Land

Existing Conditions

Conversions and Redevelopment

Additions and New Development

Test case:
analysis in a
Denver
neighborhood

Future scenario
analysis based
actual zoning
and potential to
change zoning
regionwide

Next Steps

Finish the zoning map and database: We joined the National Zoning Atlas effort as the Colorado Team

Complete interactive website with zoning and plan scoring

Next Advisory Group meeting: in person and with more members, ~May 2023 with 30+ organizations

Begin Interviews

Depict consequences: tell the stories

Work toward solutions

