

Driving a Vibrant Economy: Housing's Role in Colorado's Economic Success



December 2014

For a better quality of life.



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Acknowledgements

Over the past 6 years, housing in general has been a popular topic of conversation among policy-makers, interest groups and the public at large. With the housing market collapse in 2008 and subsequent Great Recession, we saw undeniably the impact that housing – as its own, distinct sector – has on the overall economy. In the years since 2008, we have marveled at the rebound of the economy and the steady improvement of the housing market as well. Yet there is more to this story that doesn't always make the news headlines – and understanding the economic dynamics that shape the housing market and assigning tangible impact to those dynamics helps policy makers make informed choices about the programs and policies that promote or discourage housing development. Especially in the context of affordable housing and the current housing choices available to low-to-moderate income families, understanding the forces that drive supply and demand are critical to shaping the long term goals of our communities and ensuring we are meeting the housing needs of our entire community today and in the future.

To accomplish this comprehensive study, several partners provided both financial and in-kind contributions. Thank you to the Metro Denver Association of Home Builders and their partners at the National Association of Home Builders who provided the initial data analysis and reports. In the data collection, we are grateful to the Piton Foundation, Urban Land Conservancy, Metro Study, Colorado Housing and Finance Authority, Colorado Division of Housing and many housing agencies throughout the state for completing one of the most rigorous data collection processes to date. Other funding contributors include Mile High Connects, the Metro Denver Chamber of Commerce, the Colorado Municipal League, the Piton Foundation, the Neighborhood Development Council and the Metro Mayors Caucus. This year, we are also grateful to the Colorado Futures Center at Colorado State University and Dr. Phyllis Resnick for providing the academic review. And finally, we applaud the efforts of Dr. Elliot Eisenberg, our lead economist, who not only provided substantial assistance during the data collection period and project design phase, but also has lent his considerable expertise to and was the primary author of this final report. The result is a thought-provoking report that we anticipate will shape housing policy conversations throughout the State of Colorado.

Sara Reynolds
Housing Colorado executive director

Introduction

New home construction has always been a critical part of the overall health of the Denver metro region and the broader overall Colorado and US economy. Nothing made that more apparent than the Great Recession that began in January 2008 and the collapse of the entire housing market and many associated sectors of the economy. Fortunately, the State of Colorado and the Denver metro region have largely recovered better than the rest of the nation from the aftermath of the Great Recession. As a result, house prices in the State of Colorado are up about 7% from their pre-recession peaks. Similarly, house prices have surpassed their pre-recession highs in Boulder, Denver and Fort Collins, have largely made up the losses incurred during the recession in Colorado Springs and Greeley, and are up off their lows set in late 2011 in both Grand Junction and Pueblo. Rents in many of these areas are again rising smartly, and as a result, once again the need for new housing is quite apparent. Not surprisingly, a healthy economy goes hand in hand with a healthy housing market.

While most people very much enjoy where they live, the house that they currently rent or own, and the public amenities they enjoy, they may be quite unaware about the many economic benefits new home building brings to the larger community or state. When households choose where to live, they carefully consider the benefits they will receive, but not surprisingly, may not be aware of the many public or collective benefits that result. Similarly, when a family builds a new home, they are very focused on the benefits they will enjoy from their new house, but again may fail to appreciate the full array of economic benefits that accrue to the larger community as a result of the added employment that is created, the increased tax revenues that accrue, and the infrastructure that built.

As a result, it is not surprising that while often positively inclined towards the construction of single-family detached homes, many households and communities display less enthusiasm towards the construction of rent-subsidized units. NIMBY-ism (Not In My Backyard) can apply to many aspects of development, including housing, and communities all too often make it hard for new affordable units to be built and in some case actually prevent them from being built altogether. The question is, are these concerns warranted, or might these attitudes and behaviors actually be economically self-defeating?

This study aims to carefully look at these questions and carefully and logically quantify the myriad economic and financial benefits new home construction brings to the Denver Metropolitan region and the entire State of Colorado. Moreover, this study looks at both market-rate and rent-subsidized construction as well as the economic impact of rehabilitating existing rent-subsidized communities. The main findings are as follows. In 2013, the year of analysis of this study:

- The overall economic impact of the home building analyzed in this report was \$5.15 billion, 1.7% of the entire gross state product of Colorado.
- New home building and rehabilitation analyzed in this report created 81,375 full-time equivalent jobs, more than 2.9% of the entire Colorado labor force, and

- New home construction and rehabilitation analyzed in this report resulted in new revenues to state and local governments totaling \$1.29 billion.

It is the sincere hope of everyone involved in this project that after better understanding the benefits new home building brings both to the Denver metro region and to the State of Colorado, a more balanced and thoughtful political debate about new housing will result; a debate where the facts are well known to both sides, a debate where emotion and rancor are kept to a minimum and a debate that results in improved outcomes for all of Colorado



Miller Ranch Housing in Edwards, Colorado

Executive Summary

This report presents the results of the state and local economic impacts of most new market-rate home building in calendar year 2013 and the most recent five year average level of construction activity for new rent-subsidized and rehabilitation of rent-subsidized homes in the state of Colorado. This report also presents the local economic impacts of most new market-rate home building in 2013 and the five year average level of construction activity for new rent-subsidized and rehabilitation of rent-subsidized homes in the Denver metro region. The one-time impacts, the recurring impacts and the cumulative 10-year impacts of construction on both these geographic areas are presented below. A discussion of the data, methodology and detailed results, along with a housing needs analysis for the State of Colorado and the Denver metro region can be found in later sections.

All Colorado Construction Activity: One-Time Impacts

During the year of construction the combined state and local economic impact of building 11,861 market-rate single-family homes, 5,494 market-rate multifamily homes, 823 rent-subsidized homes, and rehabilitating 584 rent-subsidized homes, representing 75% of all single-family construction and 56% of all multifamily construction in Colorado includes:

- \$4.78 billion in state and local income
- \$1.19 billion in taxes and other revenues for all governments, and
- 70,076 full-time equivalent one-year jobs.

These totals include all state and local income and jobs for residents of Colorado. These totals also include all taxes, fees, permit costs, user charges and licensing fees for all taxing jurisdictions in Colorado. These results also represent all economic impacts of home building and rehabilitation: the economic impact that results from all residents who earn and spend income earned directly from residential construction, and those who earn and spend income that occurs indirectly when directly earned income is re-spent within the borders of the State of Colorado.

All Colorado Construction Activity: Annual Post Construction Impacts

The annually recurring economic activity that results from the building of 11,861 market-rate single-family homes, 5,494 market-rate multifamily homes, 823 rent-subsidized homes, and rehabilitating 584 rent-subsidized homes include:

- \$736.2 million in state and local income
- \$203.3 million in taxes and other revenues for all governments, and
- 11,298 full-time equivalent jobs.

Unlike the totals in the one-time impacts section above, these totals are annually recurring and result from all new and rehabilitated homes becoming occupied and the new households earning income, paying sales taxes, income taxes, property taxes and all other governmental fees, and

spending part of their income in the State of Colorado.

All Colorado Construction Activity: Cumulative 10-Year Impacts – Construction plus Annual Post Construction

While understanding the benefits of new home building and renovation activity in the year of construction is critically important, as is understanding the annually recurring benefits, to fully comprehend the magnitude of the benefits residential construction provides it is also valuable to look at the sum of the benefits over a longer period of time. To that end, the cumulative 10-year benefits are also provided. The 10-year total economic benefits that results from the building of 11,861 market-rate single-family homes, 5,494 market-rate multifamily homes, 823 rent-subsidized homes, and rehabilitating 584 rent-subsidized homes include:

- \$11.78 billion in state and local income
- \$3.12 billion in taxes and other revenues for all governments, and
- 70,076 full-time equivalent one-year jobs
- 11,298 full-time equivalent permanent jobs

All Denver Region Construction Activity: One-Time Impacts

During the year of construction the one year local economic impact of building 6,516 market-rate single-family homes, 3,943 market-rate multifamily homes, 618 rent-subsidized homes, and rehabilitating 392 rent-subsidized homes in the Denver metro region as defined by the Denver Regional Council of Governments (DRCOG) on the Denver CSA and representing 93% of all single-family construction and 56% of all multifamily construction in Denver includes:

- \$3.29 billion in local income
- \$575.8 million in taxes and other revenues for all local governments, and
- 44,433 full-time equivalent one-year jobs.

These totals include all local income and jobs for residents of the Denver metro region as defined by the Denver Regional Council of Governments (DRCOG). This definition includes Adams, Arapahoe, Boulder, Clear Creek, Douglas, Gilpin and Jefferson counties, the City and County of Denver, the City and County of Broomfield and southwest Weld County (for purposes of this reports, southwest Weld is not included). These totals also include all taxes, fees, permit costs, user charges, and licensing fees for all the above jurisdictions. These results also represent all economic impacts of home building and rehabilitation: the economic impact that results from all residents who earn and spend income earned directly from residential construction and those who earn and spend income that occurs indirectly when directly earned income is re-spent within the ten-county Denver region.

All Denver Region Construction Activity: Recurring Impacts

The annually recurring economic activity that results from the building of 6,516 market-rate single-family homes, 3,943 market-rate rental homes, 618 rent-subsidized homes, and rehabilitating 392 rent-subsidized homes include:

- \$465.7 million in local income
- \$87.6 million in taxes and other revenues for all local governments, and
- 6,433 full-time equivalent jobs

Unlike the totals in the one-time impacts section above, these totals are annually recurring and result from all new and rehabilitated homes becoming occupied and the new households earning income, paying sales taxes, income taxes, property taxes and all other governmental fees and spending part of their income in the 10-county Denver area.

All Denver Region Construction Activity: Cumulative 10-Year Impacts –Construction plus Annual Post Construction

While understanding the benefits of new home building and renovation activity in the year of construction is critically important, as is understanding the annually recurring benefits, to fully comprehend the magnitude of the benefits it is also valuable to look at the sum of the benefits over a longer period of time. To that end, the cumulative 10-year benefits are also provided. The 10-year total economic activity that results from the building of 6,516 market-rate single-family homes, 3,943 market-rate rental homes, 618 rent-subsidized rental homes, and rehabilitating 392 rent-subsidized homes in the Denver region include:

- \$7.72 billion in local income
- \$1.41 billion in taxes and other revenues for all local governments, and
- 44,433 full-time equivalent one-year jobs
- 6,433 full-time equivalent permanent jobs

Economic Impact of Housing

To fully account for all the benefits that result from new home building it is necessary to analyze the three distinct phases that new home construction creates. The first is the construction phase, the second is the induced or ripple phase, and the third is the occupancy phase. By adding up the three phases over a period of time (be it a year, or five years or ten years) one arrives at the total benefit of the activity involved, be it new construction or rehabilitation of an existing structure.

Before looking at more detailed results by project type, tenant type and geographic location, let us first delve into how the impacts of home building are modeled and highlight some of the less understood, less appreciated and often misunderstood pieces of each of the three economic phases of home building.

The Construction Phase – Direct Spending

The construction phase is the easiest phase to understand, as it is the phase in which raw land is developed and a house is built. This phase usually last about nine months from beginning to end, and is all too often thought of as the only benefit that housing confers on a geographic area. This is because it is the only phase that is clearly visible. In fact it is only the beginning of the benefits that new housing bestows on a city, county or state.

The calculation of the benefit of this phase begins by subtracting the cost of raw land from the sale price of the house to arrive at the value of construction put in place. The NAHB model (hereinafter “the model”) then converts the difference into wages and salaries for workers, commissions for salespeople and Realtors, as well as profits for business owners. The model also calculates all permit costs and fees paid by developers and builders to governments and converts that into other compensation and then into full-time equivalent jobs.

Of course, this process occurs on a regular basis as homes get built. Every few weeks employees get paid, commission checks are made out to salespeople and Realtors, checks are made out to rental firms for the use of equipment, subcontractors get paid and they pay their employees, and the process continues. Importantly, these households spend most of what they earn, and those earnings are what fuels the induced phase or the ripple phase, which comes next.

As an aside, in the State of Colorado property taxes are assessed at very different rates for different classes of property. Residential property is assessed at a rate of 7.96%, while most other property classes are assessed at a rate of 29% (excluding oil & gas valuation, which is assessed at a much higher rate), with the mill levy rate unchanged. As a result, the property tax payment on vacant land actually falls as it is reclassified to residential. Of course, the total tax payment rises as the new house is now taxed, albeit at the lower residential assessment rate.

As for rent-subsidized properties, in many cases the entire project is exempt from property taxes. In the case of non-exempt residential property that is being rehabilitated, property tax assessment

rates do not change since the property is continually classified as residential throughout the rehabilitation work.

Before proceeding, it is important to note that this model is quite conservative when estimating the magnitude of the construction phase. This is because unlike other models, it explicitly removes all economic impacts that cannot be attributed directly to the construction activity being analyzed. Unless a local good or service is explicitly needed to build a home and is produced locally, it is economically ignored. For example, if a builder buys carpet for a new home, only the commission on the carpet and the profit made on the carpet are captured by the model, with the rest leaking out of the economy. As a result of this conservative approach, the calculated economic impact of the construction phase is lessened, as is the subsequent induced or ripple phase compared with similar such models.

The Induced Phase or “Ripple” Phase

This phase, while distinctly different than the construction phase above, is fully dependent on it. That is, the induced phase only exists because most of the income earned and taxes collected in the construction phase get spent. As such, it is an economic byproduct or “knock-on” effect of the construction phase and is thus referred to as the induced phase.

This induced phase lasts precisely as long as the construction phase, generally about nine months. This is because every two weeks or every month the people working on the new home - be it directly as construction workers or indirectly as, for example, a waiter in a restaurant frequented by construction workers -- get paid, and inevitably spend the vast majority of what they earn. Moreover, and very importantly, a large percentage of that spending occurs in the community where they live, with the rest leaking out of the local economy. Money leaks out each time a local resident goes on vacation, buys something not made locally such as clothing or gasoline or else saves some of his or her paycheck. Some of the local money spent goes to taxes and that results in increased revenue and employment for the relevant governments.

Of course, the spending that is unleashed every few weeks when paychecks are deposited leads to more than one round of spending. The landscape architect that spends some of his earnings going out to eat subsequently tips the waitress who in turn uses that money to buy groceries and the cashier in-turn uses some of his earnings to buy some plants from the local nursery and so the process continues.

Because the amount spent at each turn declines due to leakage, calculating the total magnitude of the induced phase is mathematically not difficult, and not surprisingly it turns out that the induced phase is larger for the State of Colorado than for the Denver metro region. This is because the smaller the area is, the larger the leakages out of it. That is, some of the spending and taxes paid by households that leak out of the Denver metro region remain in the State of Colorado. For example, the spending that a Denver family does while on vacation in Vail would be considered a leakage for the Denver metro region but not for the State of Colorado.

What is perhaps most important about this phase, other than its substantial magnitude, is that it needs to be counted and recognized. All too frequently, the induced phase is completely glossed over because it is difficult to directly see the economic impact. Of course, the only way this phase would have no economic impact would be if those with income from the construction phase elected to spend none of it! That said, unlike the construction and occupancy phases which are generally underestimated, this one is frequently ignored.

The Occupancy Phase

While the first two phases are relatively short in duration, this phase lasts as long as the home is occupied, easily decades. This is because the occupancy phase derives its economic vitality from the recurring income earned by the occupant of the home. Once money is earned by the homeowner or renter, the vast majority of it gets spent, with much of the spending going towards local purchases of goods and services. As was the case with the induced phase, the occupancy phase creates secondary, tertiary and quaternary ripple effects as money from the new homeowners or renters goes from hand to hand to hand while slowly dissipating (due to leakages) until the cycle starts afresh when the new homeowner or renter earns another paycheck. This process goes on indefinitely and so does the economic stimulus created.

As for the new house or apartment, it may be that the newly built home is occupied by a household new to the community, and as a result directly increases the population of the community. Alternatively, it may be that an existing homeowner sells their house and moves into the newly built house, with a new-to-the community household buying the existing house being sold by the household buying the newly built home. Either way, it is fair to assume that because the new home was built, the population of the community increases by one household. As a result, all jobs created during the occupancy phase are net new permanent jobs to the community, not temporary ones that are short lived.

Not surprisingly, the amount of spending by the households that live in the newly built or newly rehabilitated homes varies quite dramatically. At one extreme there are buyers with huge incomes that purchase million dollar homes. These households spend a considerable amount of their large incomes on locally produced goods and services, and in that way substantially stimulate the local economy, and in the process create many permanent jobs in the community. For example, they may regularly frequent local coffee shops and restaurants, hire tutors for their children, attend sporting and cultural events, have live-in help and so on.

At the other end of the income spectrum are occupants of rent-subsidized homes. These households, by definition, have relatively low incomes and thus stimulate the local economy less than wealthy buyers of new homes. However, the reduction in local spending is not as large as one might expect for several reasons. First, lower-income households, despite wanting to save money, frequently are unable to do so, since all that they earn is spent on necessities such as shelter, healthcare, food and transportation, with precious little left over for savings. Second, the rent payments made by these households are more likely to remain in the local community since

the occupied rental homes are frequently owned and operated by local housing groups and authorities. By contrast, mortgage payments made by homebuyers tend to accrue to investors outside the area of interest.

One common misunderstanding about the economic importance of the occupancy phase is that sometimes it is characterized as the phase where property taxes are collected and nothing more. In this mischaracterization, this third phase is relatively small and new homes are little more than property tax paying entities. Of course, nothing could be further from the truth. Yes, property taxes may be the single largest tax payment made by a household to a government, but property taxes are not the only tax revenue generated during this phase. Sales and use taxes are collected franchise taxes are collected as are all sort of fees governments levy in an effort to cover the cost of providing public services.

Another common misconception is that each newly built home has roughly 2.5 school age children and since education costs are the single largest expense of local government, new homes are financially detrimental. However, the actual number of school age children per house is about 0.5 not 2.5. As a result, the cost of educating a household's children is about one-fifth what many think it is.

As is the case with the induced phase, the economic impact of the occupancy phase is also easily calculated and is smaller than the effects of the induced phase. Again, as with the induced phase, the economic potency of the occupancy phase is somewhat larger when looking at the economic impacts of home construction and renovation in Colorado as opposed to the Denver metro region because leakages are larger the smaller the geographic area being analyzed.

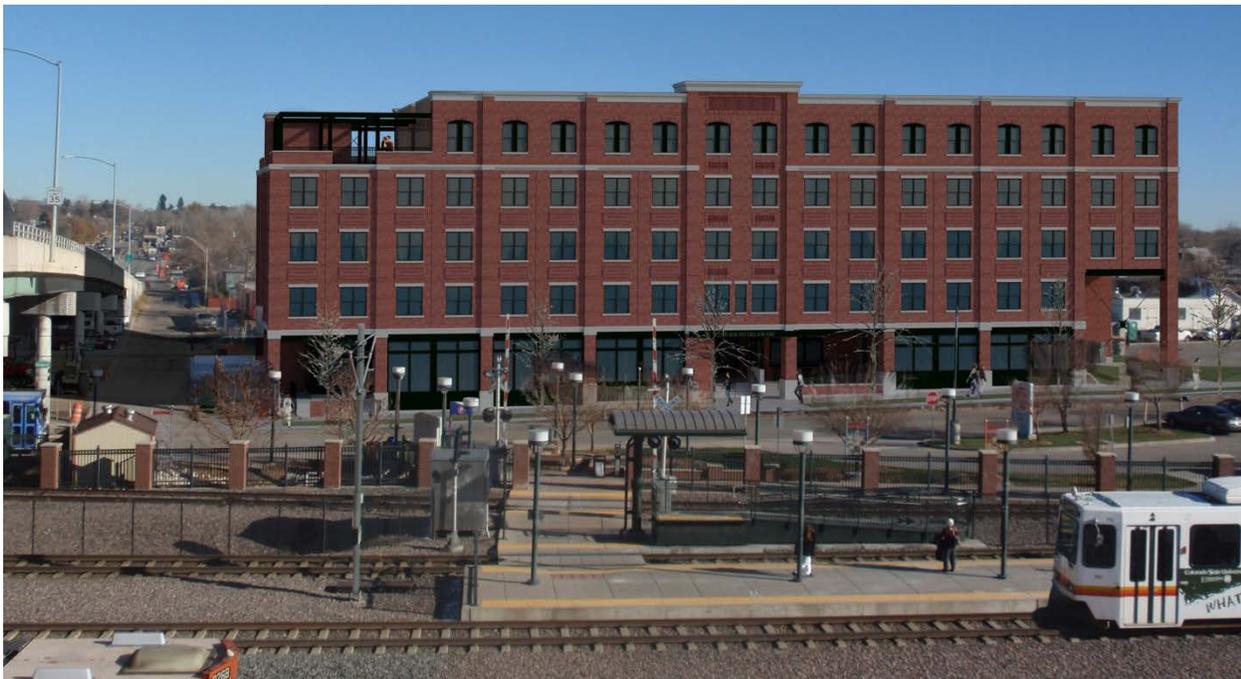
Although smaller than the induced phase, this phase lasts as long as the house is occupied. As a result, over longer periods of time, the cumulative economic impact of this phase can easily exceed the impact of the first two phases even when combined. To better understand the cumulative impact the occupancy phase has this, analysis includes a 10-year impact analysis.

Throughout this report including the appendices, the occupancy phase results assume that absent the new home being built, there would be no new revenue to the area. This is because even if the homeowner commutes to a job far away, the vast majority of the income earned by the household is spent where the household and thus the house is located, not where the job is. As such, one may think of a house as a way of keeping income earned in the community and in that way reducing leakages dramatically. This is very similar to the mindset that encourages the building of retail establishments in a community. Absent good retail options, households will necessarily drive outside the community to movies and restaurants and more generally spend their money elsewhere, harming the local economy and reducing local multipliers.

To better understand the methodological approach used and outlined above, consider the following example. Imagine a new household moving to Colorado and the householder finding employment in Greeley. Further assume that unable to find housing in Greeley the household lives in Denver. The key question is where will the vast majority of household spending occur and why? As mentioned the previous paragraph most if not all household spending will occur in

Denver as that is where the household resides and the reason is because that is where the household was able to find housing they could afford. As such, the house location is the key determinant of where virtually all household spending will occur. Separately, it should also be noted that absent employment, the household could not afford to rent or buy the home they occupy.

With a better understanding of how the model works and having highlighted some of the key assumptions of each phase, let us now look at the economic details and see precisely how stimulative different types of housing are to both the Denver metro region and the State of Colorado. Given the different types of construction analyzed and the varying quantities it should not be surprising that the results vary dramatically but in all cases the benefits are large, and when looked at over an extended period of time, exceptionally large.



Evens Station Lofts in Denver, Colorado

Data

Data for subsidized affordable housing production and rehabilitation were obtained from a variety of primary sources in an effort to achieve a full census over the 2009 - 2013 timeframe. Despite some restrictions in the provision of owner-occupied home detailed information and lack of response to some data requests from housing authorities, the resulting data set is a very good representative sample and is moreover, nearly the entire population of subsidized affordable production. The time period 2009 through 2013 was used since rent-subsidized activity varies substantially from year to year and by taking a five-year average of all such activity, it is hoped that results provided are a fair representation of average annual rent-subsidized activity.

Sources for the data include, Colorado Division of Housing, Colorado Housing and Finance Authority, inclusionary housing jurisdictions (Denver, Boulder, Aspen, and Summit County), public housing authorities within the State of Colorado, National Housing Preservation Database, “*HUD User Data: Picture of Subsidized Households*” and information from HUD Multifamily FHA insured projects. Subsidized funding programs include Community Development Block Grant, HOME Investment Partnership Program, Colorado Housing Development Grant, Neighborhood Stabilization Program, Section 8 Housing Choice Voucher Program, Private Activity Bonds, and Low Income Housing Tax Credits. Related data coordination work was executed in partnership with the Urban Land Conservancy and The Piton Foundation.

Data for all market rate housing production was provided by the Denver office of MetroStudy, and include construction activity in calendar year 2013. Since market rate activity fluctuates much less than rent-subsidized activity and is much higher, using a five year average was not considered necessary.

Other sources for the market rate data include: Colorado Department of Local Affairs, Colorado Department of Revenue, MetroStudy lot-by-lot new housing survey, assorted proprietary surveys of builders and developers and the Colorado Apartment Vacancy & Rent Survey conducted by The University of Denver.

Overview of Results

This section presents the economic impacts of a wide variety of housing types. It begins by presenting the results for market-rate single-family and multi-family construction, within the State of Colorado and then within the smaller boundaries of the Denver metro region. This section then examines new rent-subsidized construction at the statewide level and then in the Denver metro region, and concludes by highlighting the economic impact of rehabilitating existing rent-subsidized homes in the state of Colorado and the Denver metro region. Before the results are provided, this section discusses the interrelationship between a healthy economy and a healthy housing market.

The benefits of new residential construction, whether market-rate or rent-subsidized and the impacts of residential rehabilitation activity are both large and varied. The section below gives a brief overview of the general themes that are pervasive through this analysis. For more details please consult the tables below and appendices A through H located in the back of the report.

Before providing the results of this analysis in tabular form, five recurring themes run through all the new construction and rehabilitation results and are of substantial importance. First, the 10-year totals are multiples of the construction phase or the induced phase. This is because the occupancy phase, unlike the first two phases (the construction phase and the induced phase) which both last less than a year, lasts as long as the homes are occupied. As a result, over time and despite being much smaller than either the construction phase or the induced phase, it is the occupancy phase that generates a very large percentage of the 10-year totals. As a result, the occupancy phase, should also be included and carefully estimated when measuring the potential impact of new home building.

Second, the induced phase is always smaller than the construction phase but always larger than the occupancy phase. That is, the amount of income, taxes and employment generated during the induced phase are smaller than the amounts generated during the construction phase but larger than the levels generated during the occupancy phase, no matter the definition of the occupancy phase used. The point here is that despite the construction phase receiving the bulk, if not all, of the attention, the induced phase is quite large, despite being all too often casually dismissed while the occupancy phase is also much larger than generally understood.

Third, in every case of new construction, the total number of new construction jobs generated during the construction and ripple phases are less than all the new jobs created in the rest of the economy. That is, even though it is residential dwellings that are being built, more than half the new jobs created are not in construction. This is because residential construction requires so many inputs from so many other industries. As a result, when home building is doing well so is the rest of the economy.

Fourth, in all cases, the economic impacts are all substantially larger when the unit of analysis is Colorado compared to when it is the Denver metro region. This is not to suggest that the state of Colorado is economically superior or that the Denver metro region must try to somehow catch up, but rather that the bigger the geographic area being analyzed, the larger the economic multipliers because the fewer leakages there are.

While mentioned in passing earlier, multipliers and economic leakage are a critical part of this economic analysis, or any analysis where construction activity takes place, be it a hospital, football stadium or industrial park. The underlying notion is that when a dollar is injected into an economy it multiplies because it leads to more spending, which then creates more income, again and again. The multiplier effect refers to the increase in final income arising from any new injection of spending. Of course, the size of the multiplier depends on many things, including household savings rates, tax rates and the amount of goods and services imported from outside the area of study, all of which are leakages and depress the size of the multiplier. In this analysis, the two things that are significantly different between the Colorado studies and the Denver metro region studies are the amount of goods that are imported and the level of taxation.

Fifth, the number of full time equivalent construction and induced jobs per house is quite large at roughly four jobs per house for new market-rate construction activity and two jobs per house for rent-subsidized construction activity. This difference exists because market-rate homes are substantially more expensive than are rent-subsidized homes. Employment effects are roughly half to a quarter as large for rehabilitation work at roughly one job per home regardless of location compared to new construction activity. Finally, because of the conservative assumptions made in this analysis, there are no occupancy effects for rehabilitation work. This is because it was assumed that all rehabilitated homes were occupied prior to being rehabilitated.

Table A:

Table A			
6,516 New Denver Market Rate Single-Family Units			
	Local Income	Taxes & Fees	Jobs
Construction Phase	\$1,319,392,900	\$319,015,900	17,220
Induced Phase	\$764,569,000	\$85,771,300	10,950
Occupancy Phase	\$239,029,600	\$50,224,900	3,591
10-year totals	\$4,354,743,100	\$881,923,750	
Temporary Jobs	28,170		
Permanent Jobs	3,591		
Temporary Jobs/House	4.32		
Permanent Jobs/House	0.55		

Table B:

Table B			
11,861 New Colorado Market Rate Single-Family Units			
	Local Income	Taxes & Fees	Jobs
Construction Phase	\$1,994,636,600	\$614,847,600	28,110
Ripple Phase	\$1,287,355,800	\$262,158,100	20,091
Occupancy Phase	\$443,547,900	\$127,694,700	7,225
10-year totals	\$7,495,697,450	\$2,090,105,350	
Temporary Jobs	48,201		
Permanent Jobs	7,225		
Temporary Jobs/House	4.06		
Permanent Jobs/House	0.61		

Table C:

Table C			
3,943 New Denver Market Rate Multifamily Units			
	Local Income	Taxes & Fees	Jobs
Construction Phase	\$716,220,300	\$114,327,500	9,432
Induced Phase	\$379,427,200	\$44,335,800	5,390
Occupancy Phase	\$212,521,800	\$35,765,700	2,667
10-year totals	\$3,114,604,600	\$498,437,450	
Temporary Jobs	14,822		
Permanent Jobs	2,667		
Temporary Jobs/House	3.76		
Permanent Jobs/House	0.68		

Table D:

Table D			
5,494 New Colorado Market Rate Multifamily Units			
	Local Income	Taxes & Fees	Jobs
Construction Phase	\$848,467,200	\$180,474,000	12,060
Ripple Phase	\$496,818,900	\$105,015,600	7,693
Occupancy Phase	\$272,068,600	\$71,135,100	3,791
10-year totals	\$3,929,937,800	\$961,273,050	
Temporary Jobs	19,753		
Permanent Jobs	3,791		
Temporary Jobs/House	3.60		
Permanent Jobs/House	0.69		

Table E:

Table E			
618 New Denver Rent Subsidized Units			
	Local Income	Taxes & Fees	Jobs
Construction Phase	\$54,428,900	\$4,959,200	717
Induced Phase	\$26,577,500	\$3,228,300	375
Occupancy Phase	\$14,162,100	\$1,609,900	175
10-year totals	\$215,546,350	\$23,481,550	
Temporary Jobs	1,092		
Permanent Jobs	175		
Temporary Jobs/House	1.77		
Permanent Jobs/House	0.28		

Table F:

Table F			
823 New Colorado Rent Subsidized Units			
	Local Income	Taxes & Fees	Jobs
Construction Phase	\$72,629,800	\$12,183,000	1,033
Ripple Phase	\$40,482,300	\$8,727,600	624
Occupancy Phase	\$20,592,100	\$4,427,700	282
10-year totals	\$308,737,050	\$62,973,750	
Temporary Jobs	1,657		
Permanent Jobs	282		
Temporary Jobs/House	2.01		
Permanent Jobs/House	0.34		

Table G:

Table G			
392 Rehabilitated Denver Rent Subsidized Units			
	Local Income	Taxes & Fees	Jobs
Construction Phase	\$21,249,000	\$2,934,000	182
Induced Phase	\$10,888,000	\$1,231,000	167
First Year Totals	\$32,137,000	\$4,165,000	349
Temporary Jobs	349		
Temporary Jobs/House	0.89		

Table H:

Table H			
584 Rehabilitated Colorado Rent Subsidized Units			
	Local Income	Taxes & Fees	Jobs
Construction Phase	\$27,597,000	\$3,752,000	237
Ripple Phase	\$14,832,000	\$3,246,000	228
First Year Totals	\$42,429,000	\$6,998,000	465
Temporary Jobs	465		
Temporary Jobs/House	0.80		

The Housing Affordability Gap

Before determining the housing affordability gap, several caveats are in order. First, the analysis must be done for a single point in time since the affordability gap changes from month-to-month and year-to-year. Second, the gap must be determined for discrete income brackets and not for the entire population since there may in fact be no overall housing gap if there are surplus homes available for higher income bracket households while simultaneously there are shortages at lower income levels. Third, the housing affordability gap will be estimated for rental homes only and fourth, it is assumed that there is an affordability gap only if a household spends more than 30% of its income on housing. The lower the percentage of income dedicated to housing, the worse the affordability gap will be. Conversely, raising the allowable percentage of household income to be devoted to housing lowers the magnitude of any housing affordability gap.

An affordability gap can be said to exist when there exists a shortage of rental homes for a given level of household income. As a result of the shortage, affected households must spend more than 30% of their monthly income on rent. However, were a sufficient number of rental homes available with rents the households in question could afford, these households would no longer be rent burdened and the affordability would be eliminated.

Based on 2013 data, the latest year for which comprehensive rental rates and quantities for both market-rate and rent-subsidized homes, income data, and renter data are available, the housing affordability gap for the State of Colorado is 103,133 homes among households with less than \$20,000 in annual income. For the Denver-Aurora-Lakewood, CO MSA (Metropolitan Statistical Area), it is 58,677. Given that house prices and rents have increased since the data were collected and that income for the majority of these households has been largely stagnant, it is believed that the affordability gap today is slightly larger, perhaps exceeding 110,000 homes.

While that may not sound like a large number, to put it into perspective, that is an affordability gap equal to almost 16% of the existing rental housing stock in the State of Colorado. It is also a gap that, at current rates of affordable rental housing construction of 823 homes/year, will take over 100 years to eliminate, assuming no new households find themselves spending more than 30% of their income on housing. Even if all of last year's market rate multifamily production, which numbered 5,454, were devoted to affordable housing, it would still take upwards of 20 years to eliminate the existing housing affordability gap. Either way, there is no indication that the existing affordability gap will decline noticeably in the near future absent substantial intervention.

Table 1

Table 1						
Colorado 2013						
Income Level	Affordable Rent	Percent of Inc	Number of HH	Number of Units	Likelihood Ratio	Affordability Gap
Less Than \$10,000	\$250	30%	82,376	43,862	53%	38,514
\$10,000 to \$19,999	\$500	30%	100,912	36,293	36%	64,619
\$20,000 to \$34,999	\$875	30%	163,365	223,614	137%	(60,249)
\$35,000 to \$49,999	\$1,250	30%	112,805	214,263	190%	(101,458)
\$50,000 to \$74,999	\$1,875	30%	124,291	143,321	115%	(19,030)
\$75,000+	GT \$1,875	30%	127,106	49,502	39%	77,604
SUM			710,855	710,855		

Table 1 shows that in 2013 there were 710,855 renter households in the State of Colorado and that there were 710,855 rental homes in the state. On the surface this suggests there is no shortage of rental homes. However, that is why it is necessary to conduct this analysis for different income levels. The last column of Table 1 shows that among the poorest households in Colorado, those with incomes below \$10,000, there is a shortage of 38,514 homes that rent for less than \$250/month. As a result, the likelihood of a household with that income finding one of those homes is, at best, just 53%.

Table 2

Table 2						
Denver 2013						
Income Level	Affordable Rent	Percent of Inc	Number of HH	Number of Units	Likelihood Ratio	Affordability Gap
Less Than \$10,000	\$250	30%	42,121	18,925	45%	23,196
\$10,000 to \$19,999	\$500	30%	48,956	13,575	28%	35,381
\$20,000 to \$34,999	\$875	30%	82,834	112,774	136%	(29,940)
\$35,000 to \$49,999	\$1,250	30%	61,979	120,990	195%	(59,011)
\$50,000 to \$74,999	\$1,875	30%	69,516	83,566	120%	(14,050)
\$75,000+	GT \$1,875	30%	72,591	28,167	39%	44,424
SUM			377,997	377,997		

In the Denver-Aurora-Lakewood, CO MSA (Table 2), the rental gap for the same households is 23,196 homes and the likelihood that such a household will find a home that rents for \$250/month or less is just shy of 45%. Because the likelihood ratio is lower in the Denver metro region than for the state as a whole, it suggests that the rental gap among households with incomes of less than \$10,000/year is slightly more acute in the Denver region than in the State of Colorado.

The higher the likelihood ratio, the less severe the problem, and at 100%, there exists no housing gap. Any time the likelihood ratio is below 100%, there is a shortage of homes, and the lower the ratio the more severe the shortage. While the absolute affordability gap number is important (the last column), the likelihood ratio better defines the magnitude of the problem for any given income group, since it controls for both the population size as well as the number of available homes.

Among households in Colorado with annual incomes between \$10,000 and \$19,999, there is a shortage of 64,619 homes with rents between \$250 and \$500 and the probability of one of these 100,912 renter households finding an apartment such that they are not rent burdened is 36%. This makes the housing affordability gap much more acute for this income range than for the households with less than \$10,000. This is also true for the Denver metro region. In the Denver region, the affordability gap for this income level is 35,381 homes and the likelihood ratio is a mere 27.73%. This implies that at best, roughly a quarter of households in this income bracket are not rent burdened and that the shortage of homes in this price range is again slightly more severe in the Denver region than in the rest of the State.

For renter household in Colorado and in the Denver metro region with incomes between \$20,000 and \$74,999 there is a surplus of rental homes for all three income levels. In the State of Colorado, the total surplus is 180,737 while in the Denver region it is 103,001. The probability of these households finding an appropriate home is always substantially in excess of 100%.

Among the wealthiest renters - those with household incomes greater than \$75,000 - there appears to again be an acute shortage of rental homes. To be precise, there is a shortage of 77,604 homes that rent for more than \$1,875 in Colorado, and a shortage of 44,424 of such homes in the Denver metro region. The likelihood of these households not being rent burdened is just shy of 39% in Colorado and in the Denver region.

However, the problem for these households is certainly less severe. Wealthy households can choose a home that rents for less than \$1,875/month and solve their problem in that way. Of course, this slightly reduces the number of homes available for those with incomes between \$20,000 and \$74,999, but since there is no shortage of affordable homes for this group that is not a problem. Regrettably, among those with the lowest incomes “renting down” is not a viable strategy.

Methodology

In this analysis, the two critical pieces of data are the number of households within each income bracket and the number of rental homes available at various rental prices. All other results flow directly from these findings, coupled with the assumption that a household is rent burdened if it spends more than 30% of its income on housing.

The number of households within each income bracket comes directly from the 2013 American Community Survey 1-year estimates and the table showing “Household Income by Gross Rent as a Percentage of Household Income in the Past 12 Months.” The number of rental homes available at different rent payments also comes directly from the 2013 American Community Survey 1-year estimates and the table showing “Gross Rent.”

The number of homes available between specific monthly rents is then compared to the number of households who can afford that rent burden without it being greater than 30% of their income. Importantly, all homes that pay no cash rent are included in the lowest rent level, that being below \$250/month. As such they are considered part of the rental stock for households with less than \$10,000/year in annual income. Finally, this analysis assumes no vacancy rate and that the American Community Survey has correctly counted all rental homes.



Mile High Vista in Denver, Colorado

Discussion

Successful Housing Markets

To have a successful economy and labor market it is essential to have a healthy and diverse housing market. A healthy housing market includes an ample supply of new and existing houses, expensive and inexpensive homes, rental homes and owner-occupied homes. Insuring that many housing alternatives are available increases the ability of all households to find a dwelling that is suitable for their particular life situation.

Some households have been saving for years and are finally ready to buy a condominium downtown. Others are recent college graduates and very much need an affordable rental place near where they work if they are to make ends meet. Still others need the social services that come with a rent-subsidized home if they are to successfully live on their own while other families need access to supportive services in addition to rent subsidies.

Some households need to be near transit because they cannot afford a car. Some elderly need are unable to drive, and living near public transit allows them to lead dignified independent lives. Similarly some individuals have physical limitations that prevent them from living in a single-family home and they too count on being able to find a multifamily home that works for them. At the same time, other households are looking forward to retirement and to downsizing when they become empty-nesters.

Of course, many households look forward to living in the suburbs and having a backyard as that is what they enjoyed when they were young and that is what they want to give to their children. These same families also are drawn to the suburbs because of the space that comes with living in suburbia. Lastly, with more and more jobs being located in the suburbs, living outside of the city can also end up reducing commuting times.

The key is to make sure there is a sufficient supply of various types of housing. If prices are rising quickly for one type of housing it is a clear sign that there is an insufficient amount of that type of housing. If all housing prices are rising quickly, it means not enough housing of any type is being built, and as a result competition between buyers is heating up and in the process is driving up housing prices. While such a situation can occur at any time, if it is prolonged it is a sign of underlying housing supply problem.

If housing price increases outpace income growth for a prolonged period of time, the entire demographic composition of a community can change. For example, when lower income renters are gentrified out of neighborhoods experiencing rapid price appreciation, the underlying composition of the neighborhood can change. Existing homeowners in such neighborhoods may see their property tax bills rapidly rise, resulting in these families being forced to spend well over 30% or 40% of their income for housing, becoming by definition cost burdened, and ultimately having to move to less pricy locations, perhaps requiring a longer commute.

Another effect of building homes is that with very few exceptions and regardless of the price of the new homes built, their addition to the housing stock almost inevitably exerts some downward pressure on most home prices. Most buyers have limited incomes and thus face financial constraints, so lower prices are unambiguously a benefit. If the new homes are entry level homes, they should, by increasing supply, reduce the rate of appreciation of such homes and in the process make more housing stock available for newly formed households, ones that are often most vulnerable.

Even if the new homes built are very high priced, the impact is similar. When a high price home is built, it increase the supply of high priced homes which puts downward price pressure on them, and that downward pressure can filter through the entire local housing market as the wealthy no longer have to bid up the price of expensive housing or its closest substitute housing that is almost as expensive. As a result, overall affordability is enhanced, employers will find it easier to find employees and as mentioned earlier, the population of the community and state will more easily accommodate growth.

Importance of Affordable Housing

When a municipality or a state takes inventory of all its assets, parks, schools, employers, high-tech jobs, infrastructure, cultural events, recreational opportunities and sports teams are almost always mentioned. Usually institutions of higher learning are also mentioned, as are interstate highways, airports, distances to other large cities and even famous personalities. Rarely is the quality and cost of the existing housing stock mentioned. This is unfortunate. For most households, shelter is the single most expensive item in their monthly budget and the foundation from which other major life decisions are made.

As a result, the price of housing very much matters. All else equal, communities with housing options that are affordable for all or most income levels should be substantially more appealing to businesses looking to relocate and/or expand and households looking to put down roots. Ideally, households with incomes of \$55,000, the so-called middle class, should be able to find houses or apartments they can afford and so too should households with incomes of as little as \$20,000 or as much as \$100,000 and beyond.

While this is clearly borne out by the fact that Dallas and Charlotte are fast growing and, importantly, affordable, while New York and Boston are slow growing and very expensive, it is also the case that cities that were once affordable do not always remain so. Fifty years ago, Seattle was not an expensive place to live and neither was Boulder, Colorado. Today, Boulder makes Seattle look cheap and Seattle is one of the most expensive cities in the United States. For a growing municipality to remain affordable, it takes a willingness to continually build sufficient residential homes at varying prices to keep up with population growth. Again, the combination of insufficient residential construction activity (a lack of supply) along with population growth (increasing demand) will necessarily push up prices and reduce affordability.

Colorado is a popular destination and has been experiencing rapid, albeit slightly slowing, population growth. Census data shows that the State population increased from 3.3 million on 1/1/1990 to 4.3 million on 1/1/2000, an increase of one million people in ten years. Since reaching 4.3 million in 2000, it took thirteen more years for the State population to grow by

another million and reach 5.3 million on 1/1/2013. While population growth appears to be slowing, Colorado's population is still 60% larger than it was 24 years ago, a compound rate of growth of 2% per year, twice the rate of growth as the nation as a whole. Moreover, according to the Census Bureau, between July 1, 2012 and July 1, 2013, Denver was the 4th fastest growing city among the 50 most populous cities in the nation, although recent demographic forecasts by the State Demography Office suggest that that growth rates in Colorado will soon start declining.

Clearly, the Denver metro region and Colorado are popular destinations, in part because they have historically been relatively affordable places to live, attracting both firms and households. But to be able to continue to remain affordable over the next decades and thus be competitive as an employment base, the Denver region and Colorado will have to make a concerted effort to build residential homes that are affordable to households of different incomes to accommodate continued population growth.

The cost of housing becomes still more important when income trends and net worth are taken into account. Between 2001 and 2007, the national median household net worth rose from \$113,781 to \$135,400. However, by 2011 it had fallen to \$81,200 because of the toll taken by the Great Recession. Similarly, real median household income was as high as \$56,436 in 2007 but fell to \$51,939 by 2013, back to where it was in 1989.

This combination of less wealth and less income for many households means the middle-class will find it increasingly difficult to scrape together enough money for a down payment and will find it harder than ever to make their monthly payments unless they can find housing they can afford. Moreover, the need for affordable homes is unlikely to go away soon, given poor median income performance of late and given that less than half the population owns any type of publicly traded firm equity, inside or outside of a retirement portfolio and thus has failed to benefit in any meaningful way from the dramatic rise in equity prices over the last few years. Moreover, the Colorado Department of Labor and Employment estimates that over the next ten years, 70% of the new jobs created will pay less than \$36,000 per year, putting added strains on the supply of affordable housing.

Social Benefits of Housing

It is important to look beyond the large economic and financial benefits housing provides to a community and to a state. While many of the social benefits of housing are, at best, hard to quantify, they are significant and should not be ignored.

By building more housing, and in particular more affordable housing, households on the financial edge - those that live from paycheck-to-paycheck - are much less likely to wind up living in shelters or drifting from family member to family member. Instead, these households will be able to spend a greater share of their income on health care, food, education and transportation. In this way, these households, and any children in them, will have a better chance to lead healthier, more productive lives, and absent the mental exhaustion of constant financial stress.

In addition, an increased supply of affordable housing, be it new or rehabilitated, reduces overcrowding, and according to Sampson and Raudenbush provides for a more stable and safer community by strengthening social ties with neighbors. Other research by Warner and Roundtree suggests that by improving household stability, affordable housing improves student performance, and reduces dropout rates and crime. In addition, adults occupying affordable homes have been found to have lower levels of psychological distress and improved mental health.

Another benefit of affordable housing programs is that frequently the tenants receive additional supportive services. Sometimes living in rent-subsidized housing is a temporary event made necessary because of a lost job, a work accident a health crisis or the death of a family member and that can, with some help, be overcome. Supportive services can assist a family in recovering from these situations, and they may then subsequently move on to buy a home of their own, find better employment, save some money for the future and generally improve their living conditions. Supportive services are often targeted toward children and keeping them in school and at performing at grade level, increasing their long-term odds of success.

Persons without a safe and stable place to live often fall into cycles of homelessness. In addition to the emotional stress and the lack of a sense of control over their lives, there are also significant costs associated with homelessness. The most recent point-in-time study conducted in Colorado estimated that chronically homeless individuals have an average annual health care cost to the state of over \$28,000, compared to only \$6,000 for their housed peers. Similarly, recent research conducted in Denver finds that housing and providing other social services to the most intensive users of public services that are chronically homeless can be expected to dramatically reduce costs to taxpayers.

In closing, this study has not attempted to quantify any of the social benefits of housing. That said, from the cursory review above, it should be clear that the social benefits of sufficient housing are large and should be carefully considered when new housing programs are under discussion.

Why Is There A Housing Affordability Gap?

There are a number of reasons why there is insufficient rental housing for households with relatively low incomes. Often times, through local policies and priority-setting, affordable housing is only available for households with at least one working member, an elderly member, or someone who is disabled. As such a single non-working person, or a household just slightly above the AMI cut off will not qualify for rental assistance and may find themselves rent burdened.

As rents have increased, the requirement that the subsidized household come up with their portion of the rent, typically 30%, has become increasingly difficult. This is because the incomes of the tenants have, at best, been stagnant over the last decade and worse still have, in many cases, actually declined.

Cost containment efforts imposed as a result of federal government spending cuts can limit the ability of housing authorities to respond to new and tighter rental markets. As an example,

during the worst of the Washington budget cuts, some housing authorities required that 2-people share a bedroom. If that means that a brother and sister share a bedroom, that might drive some households out of rent-subsidized programs and unsurprisingly, those same households may become rent burdened.

Additionally, because Congress has managed to pass only one budget since 2009 federal agencies, including the Department of Housing and Urban Development (HUD), have had to generally survive on a steady diet of short-term budget appropriations that continually need renewal. While these short term budgets keep money flowing, they offer little in the way of certainty and thus make it difficult for housing authorities to effectively manage waiting lists and impossible for developers to make any kind of long-term capital plans.

Some landlords do not wish to work with housing authorities because they find that the paperwork involved and the added requirements to be burdensome and onerous. As a result, these landlords choose not to enter any Section 8 or tenant based programs. Thus, the number of homes available to moderately-low and lowest income households is less than what it might otherwise be the case if these landlords were to otherwise participate.

Another impediment is that higher rents have pushed some homes that were formerly in the stock of affordable housing out of it. This is because housing authorities cannot issue vouchers for more than 70% of the “payment standard” rent. Regrettably, for a number of reasons, HUD has not always been able to keep up with the rising “payment standard” and as such the definition of allowable rents lags market rents, thus reducing the supply of affordable homes.

Rising utility prices can also play a destructive role. As utility prices rise, utility allowances for renters rise, and in the case of low income tax credit (LIHTC) homes, the increase in the utility allowance can force rents down, thereby discouraging investment in LIHTC homes.

Another problem involves security deposits and application fees charged by landlords. In a tight rental market, this burden inevitably increases as prospective tenants often must provide applications and related fees to multiple properties. While often fair and reasonable, these added costs are often an insurmountable barrier for the tenant even though they have a rental assistance voucher in hand. This is because potential tenants all too often have little or no savings, and thus cannot come up with the requisite funds, thereby effectively keeping them out of the rental assistance program.

Flat to declining incomes are another reason many households are rent burdened. Over the past decade, incomes for many American households have been declining, making it that much more difficult for the household to come up with their share of the rent even with rent assistance. According to a recent study from the Harvard Joint Center for Housing Studies, real median renter costs in 2013 were about five percent higher than in 2001 while, even with modest income gains in 2013, median incomes were nearly 11 percent lower. In these cases, even if added vouchers become available absent additional sources of funds the affordability gap grows.

In addition to pushing up the rate of unemployment, the Great Recession also temporarily reduced the value of LIHTCs. This is because the value of each LIHTC is largely determined by the income tax bracket of the investors. During the 2008 financial crisis many more firms and

individuals than usual had no taxable earnings. With fewer profits to shelter, investor demand for tax credits declined and along with it so did the price of the tax credits. As a result, the number of new LIHTC homes planned generally declined. In short, whenever profits fall, LIHTC construction activity falls too. In addition, given the recent budget battles in Washington, DC, there has been considerable concern that Congress may do away with funding for the LIHTC program.

The dearth of affordable housing can also be at least partly attributed to a lack of funds dedicated solely to affordable housing. All too often, funds for one purpose get reallocated during budget negotiations, or during a budget crisis and as a result funds that may have originally been raised for affordable housing, for rent subsidies, or for assembling parcels for development get spent elsewhere. While spending on other priorities may be well intended, the fact remains affordable housing necessarily suffers as a result.

Demographics are also partly to blame. The enormous size of the Millennial Generation, like the Baby Boomer Generation, will necessarily put strains on affordable housing resources by impacting the demand for market rate housing. Their huge population will boost demand for market rate rental housing, and in the process increase market rate rents, thereby increasing the need for affordable housing.

Another demographic factor that is likely to impact the supply of affordable housing will be the need for more “supportive housing” for Boomers as they age. Recent estimates from the Colorado State Demographer show that the number of Coloradans over age 65 is projected to more than double over the 20 years. Their increasing demand for social services is likely to pull money away from affordable workforce housing as senior housing and supportive housing get increased priority.

Community resistance to affordable housing is another reason why an insufficient amount of it is built. All too often, neighborhoods organize so as to better resist efforts made by housing authorities, developers and other government entities to build affordable housing nearby. Reasons given for opposing affordable housing include misconceptions regarding its negative impact on existing house prices, increases in violence, increases in drug use, and other such excuses that are not necessarily corroborated by research.

Affordable homes are generally quite expensive to build. Total development costs per home are frequently more expensive than market rate homes, due to a complicated array of financial, legal and compliance issues. In addition, in some cases buildings with affordable homes also house social workers and other social services so as to aid the inhabitants. While beneficial, these added services increase costs, thus reducing the number of homes that can be built.

Lastly, perhaps the single most important reason why there is a dearth of rental homes for low-income households is that new residential construction market is generally unable to supply the necessary new homes due to regulations and restrictions. That is, because of restrictive (and numerous) local regulations and ordinances having to do with unit size, density, parking requirements, land costs, set back requirements and more, it is not financially possible for builders to build the necessary homes.

Affordable Housing Solutions

There are many creative ways to build affordable housing and there are many programs that provide financial resources and leverage public-private partnerships to facilitate the development of affordable housing. Ideally, going forward developers and builders should be able to build new housing that are affordable both with and without government subsidies, because different types of affordable housing are likely to require varying subsidy levels. While subsidies make the development and construction process more complicated, subsidies are usually the only way affordable units can get built given today's realities. That said, the subsidies necessarily come from tax revenues, and at present there are many demands on state and local budgets. In addition, because there are unlikely to ever be a sufficient number of affordable homes, since the demand generally far outpaces the supply, communities may need to embrace financial and non-financial strategies to ensure more affordable housing options are available so that more homes can be built.

The Overarching Approach and Philosophy

Given the overwhelming unmet need for affordable housing in Colorado, public funding through a variety of state, federal and local sources will always be a necessary component to meeting the housing needs of a community. However, there are a number of non-financial solutions that can be equally valuable in meeting future affordable housing demands. This list should be looked at as a possible set of solutions to be employed above and beyond additional public funding. Should more public monies become available, all the better.

However, a lack of government funding should not necessarily be considered an insurmountable barrier. There are ample number of things that communities and governments can do to improve affordability absent additional public investment. Moreover, it is also acknowledged that there is never a solution or package of solutions that is a "one-size fits-all" for every community. Rather, this discussion presents a range of potential tools that are available, each with pros and cons, and it is up to the local community leaders to determine the right combination of tools that will best meet their community housing goals.

- ❖ Small or experimental overlay districts with special features i.e. especially small lots
 - An excellent way to encourage risk-taking by the private sector is to zone a particular area differently than neighboring areas. In this way, the new and different codes and regulations are what creates the incentive for the developer and builder. In these cases the building codes are likely to be different than in surrounding areas and even experimental. Moreover, the overlay district may also offer tax advantages and even funding advantages. By making the overlay district relatively small, it is possible to experiment and see what happens on a small scale before deciding whether or not to expand it. This reduces risk for public officials, yet encourages new types of development that might not occur absent the special district and the benefits available within it.
- ❖ Dynamic zoning
 - At present, residential land use restrictions are usually static. Once enacted, they rarely change, unlike commercial zoning, which over long periods of time accommodates

higher land values by allowing for increased density. Dynamic zoning allows for residential zoning to change over time. A dynamic zoning rule would stipulate that every X number of years, any residential lot may be subdivided. Over long periods of time, this increases densities and does so only to the extent homeowners desire it. Since all buyers have the same rights and know when the period is until the next subdividing opportunity they may bid accordingly. In this way, residential densities may rise to accommodate higher land values.

- ❖ Deed restrictions
 - Deed restrictions, like other regulations, can have both benefits and drawbacks. The limitation with deed restrictions is if the deed restriction limits the amount of equity that the owner may retain at time of sale, households hoping to own their own home and build home equity may be at minimum slightly more reluctant to live in such dwellings
- ❖ Increased community involvement in the planning stages
 - Frequently there is opposition to affordable housing due to misperceptions, fear, concerns about decreased public safety, higher taxes, and a general feeling by local residents and even other public agencies that their needs and concerns are not being considered. Absent local support, construction of affordable housing is made, at minimum, more difficult. To better deal with this genre of problems, a well-designed and transparent planning process that includes good two-way communication with potentially affected residents is critical.
- ❖ Accessory dwelling units
 - Frequently, fully built out and nearly fully built out communities have land use restrictions that make it difficult to increase the supply of housing in general and affordable housing in particular. To that end, allowing existing home owners to rent out in-law apartments, or granny flats is a simple way to increase housing supply without public funding as long as they are up to code and compliant with all local rules and regulations (including HOA covenants).
- ❖ Permit modular, manufactured and other non-site built housing in existing communities
 - Many cities and towns disallow any sort of non-site built residential structures. However, most if not all, off-site built units are less expensive to build and can easily and efficiently accommodate small dwelling units. As a result, prohibiting these sort of structures eliminates a viable option for providing more affordable housing options. If allowed, some landowners will necessarily seize this opportunity and supply more residential units.
- ❖ Encourage Manufactured and Modular Communities
 - In many cases, existing manufactured housing communities are prevented from expanding and are in some cases owners are encouraged due to rising land values to sell to developers who will build on the very valuable and underutilized land. If the land the community is on is immensely valuable, rather than destroying the community by selling the land, perhaps a land exchange could be made part of the sale process. In this way, existing residents will have a place to move to that is relatively nearby, reducing the loss of affordable housing and possibly increasing it. Manufactured housing communities can be an outstanding source of affordable housing and should be encouraged to grow and expand

- ❖ Land Banks
 - Frequently, simply assembling a parcel of sufficient size for a multifamily development to be built is impossible. To overcome this problem, it may be necessary to create a land bank. Land banks are public entities with the authority to facilitate the resale of foreclosed properties, execute redevelopment plans, condemn vacant properties, expedite acquisition of title, assemble large parcels, sell property, etc... In this way, land banks can make development possible that otherwise would not happen.
- ❖ Incentives to develop vacant and underutilized structures
 - Vacant structures present many challenges. There can be health and safety hazards, they can hinder economic development, decrease property values and worse. Through a combination of outreach, advocacy, enforcement, and incentives within a very limited geographic area, eyesores can become assets. At core, the aim of these programs must be to offer investors incentives to build. These may include property tax abatements for early investors and occupants, density bonuses, expedited reviews, relocation of police and fire substations and demolition of existing buildings.
- ❖ Single room occupancy structures
 - With rents very high in many metro locations, one solution is to create incentives for developers and land owners to build single-room occupancy homes, or “micro-housing.” While those opposed suggest that these homes are small and may be a fire hazard, if built to code they are housing assets. By virtue of their size, the rent paid per square foot is much lower for these homes than for a standard size apartments. Moreover, they can be ideal for students, seniors, and other low-income single adults.
- ❖ Exclusionary zoning
 - Many jurisdictions currently regulate residential development through minimum lot size requirements such as one acre minimum lot sizes and façade requirements that serve no public safety purpose. While aesthetically pleasing, such requirements necessarily drive up the cost of new residential construction, and in the process reduce affordability. In such jurisdictions, building codes could be amended to allow construction of smaller, more affordable homes where vacant land is available.
- ❖ Inclusionary zoning
 - While adopted by some jurisdictions in an effort to promote affordable housing, inclusionary zoning has been found in some cases to have the opposite effect. Inclusionary zoning generally requires developers to set aside a certain percentage of new homes to be affordable. Two problems with this approach are that when times are bad, no construction occurs and thus no affordable homes are built, and in many cases the market-rate housing that is built is more expensive than would otherwise have been the case since it must effectively subsidize the mandated affordable homes, thus reducing affordability
- ❖ Transit Oriented Development
 - By locating housing near public transportation, not only can occupants save money by not having to own a car, but developers may be given permission to have fewer parking spaces per unit. This can result in large financial savings making these homes much more desirable to build. In this way the cost of owning a car can be severed from the cost of renting an apartment or owning a condo.

- ❖ Social investing by the private sector
 - Rather than relying on traditional funding mechanisms to build housing, consider social investing. In these cases, the private sector puts up the capital and in exchange is given access to a future stream of income only if certain objective and clearly measurable social targets or outcomes are met. If they are not met, no payout is made. By harnessing this approach, more capital may be attracted to affordable housing than might otherwise be the case.
- ❖ Expedited reviews for affordable projects
 - A continuing complaint of residential builders is that often it takes far too long for plans to be reviewed or examined, permits to be issued and inspections to be conducted. Delays cost money and in the process reduce affordability. The impact of frequent delays may appear small, but if they are sufficiently large and/or frequent so as to discourage construction activity that otherwise would have taken place, they reduce affordability. If plans are reviewed quickly and permits issued as expeditiously as possible, this would encourage residential construction.
- ❖ Make sure housing plans mesh with population growth and OED/EDC plans
 - Often the local Office of Economic Development or Economic Development Corporation works diligently to attract corporate investment and jobs to a community only to find an insufficient amount of housing stock available. This is one manifestation of a more general problem where not enough housing is built to accommodate easily anticipated population growth. Frequently housing is looked at on a permit-by-permit basis and not holistically. As a result, when a project is denied, there is no appreciation that those homes at that price level are still needed. A solution to this problem is to require that some percentage of existing CDBG monies be devoted solely to funding affordable housing rather than economic development.
- ❖ Brownfields development
 - Redevelopment of brownfields can increase the tax base, create new jobs, allow for the utilization of existing infrastructure and the removal of blight and allow builders access to potentially inexpensive land. The problem is legal liability. Absent protection from potentially huge clean-up costs, developers will shy away from building on such sites. One solution is Voluntary Cleanup Programs (VCP). In these programs local governments can offer tax credits, low cost financing and more flexible cleanup standards than federal and state Superfund laws. Importantly, these VCPs include liability assurances and incentives, such as promises not to sue, third-part liability relief to lenders and new land owners.
- ❖ Increased monitoring of housing providers
 - Once affordable housing is built, it is essential that housing providers play by the rules. To that end, it is essential to regularly conduct matched-pair housing audits of housing providers. Absent the possibility of being audited, it is possible that rates of discrimination against African Americans, Hispanics and applicants with babies will be higher than would otherwise be the case. While discrimination may never be eliminated, reducing it to a minimum is necessary if all are to have equal access to community resources.

None of the above mentioned solutions is a silver bullet and no one suggestion will alleviate an affordability crisis. However, when looked at in total and when a number of these solutions are

applied at once, they can make a large difference. The essential point is that to increase housing affordability, it is best to employ many techniques simultaneously. By publicizing the wide menu of options available, builders and developers will undertake risk they would otherwise not. And the larger the menu of options, the more risks will be taken as different developers and landowners attempt different solutions based on their different business models and advantages. The key is to offer many alternatives and in the process excite a large variety of builders, developers and financiers.



Village Park Apartments in Grand Junction, Colorado

Appendix

Appendix A

Single-Family Market-Rate Denver CSA Construction Activity: One-Time Impacts

During calendar year 2013, 6,516 new market-rate single-family homes were built across the Denver-Aurora, CO Combined Statistical Area (hereafter the Denver CSA). The Denver CSA is a geographic area composed of the Denver-Aurora-Lakewood, MSA, (which is composed of Adams, Arapahoe, Clear Creek, Douglas, Elbert, Gilpin, Jefferson and Park counties, the City and County of Broomfield and the City and County of Denver) the Boulder MSA (which is composed of Boulder County) and the Greeley MSA (which is composed of Weld County). While the actual number of homes built will vary from year to year, 2013 was not an abnormal year and this study presents the economic impact of building 6,516 new market-rate single-family homes in the Denver, CSA.

The one-year combined local economic impact of building 6,516 market-rate single-family homes in Denver includes:

- \$2.1 billion in local income
- \$404.1 million in taxes and other revenues for all local governments, and
- 28,171 full-time equivalent jobs, including
 - 12,258 construction jobs
 - 5,098 Wholesale and retail jobs
 - 2,272 Business and professional jobs
 - 2,178 Local government jobs, and
 - 1,467 Health, education and social service jobs

These totals include all local income and jobs for residents of the Denver CSA. These totals also include all taxes, fees, permit costs, user charges, and licensing fees for all the above jurisdictions. These results also represent the direct and the indirect impact of home building, and the resulting economic impact that results from all residents who earn income directly and indirectly from this residential construction activity and subsequently spend a portion of it within the Denver CSA.

Single-Family Market-Rate Denver CSA Construction Activity: Recurring Impacts

The annually recurring economic activity that results from the building of 6,516 market-rate single-family homes in the Denver CSA includes:

- \$239.0 million in local income
- \$50.2 million in taxes and other revenues for all local governments, and

- 3,591 full-time equivalent jobs, including
 - 967 Wholesale and retail jobs
 - 516 Health, education and social service jobs
 - 488 Eating and drinking establishment jobs
 - 305 Local government jobs, and
 - 276 Business and professional jobs

Unlike above, these totals are annually recurring and result from all new homes becoming occupied and the new households earning income, paying sales taxes, income taxes, property taxes, and all other governmental fees and spending part of their income in the Denver CSA.

While the benefits of the occupancy phase appear substantially smaller than those of the construction and induced phases, this phase lasts decades. As such, the benefits from this phase are in fact much larger than the benefits from the earlier phases if one adds up the benefits of new construction over a longer period of time. To that end, the 10-year economic impact of building 6,516 market-rate single-family homes in the Denver CSA is detailed below.

Single-Family Market-Rate Denver CSA Construction Activity: 10-Year Impacts

The 10-year total local economic activity that results from the building of 6,516 market-rate single-family homes in the Denver CSA include:

- \$4.4 billion in local income
- \$881.9 million in taxes and other revenues for all local governments
- 28,170 full-time equivalent one-year jobs, and
- 3,591 full-time equivalent permanent jobs

These totals include the one-time impacts as well as the annually recurring impacts that occur during the first ten years these houses are occupied.

The one-time, recurring and ten-year impacts are based on new market-rate single-family homes that on average cost \$427,648, are built on raw land that, on average, costs \$26,500 per home, have fees that average \$35,501 per home, and have annual property taxes that average \$3,180 per year.

Discussion

The local economic contribution made by new home construction is very large. To be precise, the sum of new household revenues and new taxes resulting from first-year one-time impacts that result from building 6,516 single-family homes is almost exactly \$2.5 billion or \$384,000 per home. Moreover, of the 28,171 full-time equivalent one-year jobs created, 12,258, or 44 percent of the jobs are in construction with the remaining 56 percent of the jobs dispersed across the rest of the local economy. This suggests that when residential construction is performing well not only does the construction industry benefit but so does the rest of the economy, so much so that more jobs are actually created in the rest of the economy than in the construction industry.

While the jobs created in the construction and ripple phases, are not permanent, that is the case with many jobs created today in this era of outsourcing, offshoring and computerization. What makes any job permanent is the opportunity to do the work involved again and again, be it teaching high school, serving hamburgers or fixing cars. As a result, all the full-time one-year equivalent jobs discussed here can easily be thought of as full-time equivalent permanent jobs if an equal number of new homes are built in future years. As such, construction jobs should not necessarily be considered so different than other jobs in our economy.

Another key finding, each new single-family home built creates 4.32 full-time equivalent one-year jobs, roughly 33 percent more than the national average of 3.24 full-time equivalent one-year jobs per house. The major reason for this is because the new market rate homes built in the Denver CSA cost \$427,648, substantially more than the national average of \$320,000. Lastly, each new home creates slightly more than half (0.55) of a full-time equivalent permanent job.

Appendix B

Single-Family Market-Rate Colorado Construction Activity: One-Time Impacts

During calendar year 2013, 11,861 market-rate single-family homes were built in Colorado. While the actual number of homes built in any given year will be higher or lower than 11,861, it is a fair representation of annual market-rate single-family construction activity throughout the state. This number includes the 6,516 market-rate single-family homes built in the Denver CSA and suggests that in 2013 market-rate single-family construction activity outside the Denver CSA totaled of 5,345 homes.

The one-year combined state and local economic impact of building 11,861 market-rate single-family homes in Colorado includes:

- \$3.3 billion in state and local income
- \$877.0 million in taxes and other revenues for all governments, and
- 48,200 full-time equivalent jobs, including
 - 20,051 Construction jobs
 - 8,505 Wholesale and retail trade jobs
 - 5,017 State and local government jobs
 - 3,952 Business and professional jobs, and
 - 2,428 Eating and drinking establishment jobs

These totals include all state and local income and jobs for residents of Colorado. These totals also include all taxes, fees, permit costs, user charges and licensing fees for all taxing jurisdictions in Colorado. These results also represent the direct and the indirect impact of home building and the resulting economic impact that results from all residents who earn income directly and indirectly from this residential construction activity and subsequently spend a portion of it within the borders of Colorado.

Single-Family Market-Rate Colorado Construction Activity: Recurring Impacts

The annually recurring state and local economic activity that results from the building of 11,861 market-rate single-family homes in Colorado includes:

- \$443.5 million in state and local income
- \$127.7 million in taxes and other revenues for all governments, and
- 7,225 full-time equivalent jobs, including
 - 1,804 Wholesale and retail trade jobs
 - 1,057 State and local government jobs
 - 922 Health, education and social service jobs
 - 912 Eating and drinking establishment jobs, and
 - 580 Business and professional jobs

These totals are annually recurring and result from all new homes becoming occupied and the new households earning income, paying sales taxes, income taxes, property taxes, water taxes and all other governmental fees and spending part of their income in Colorado.

While the benefits of the occupancy phase appear substantially smaller than those of the construction and induced phases, this phase lasts decades. As such, the benefits from this phase are in fact much larger than the benefits from the earlier phases if one adds up the benefits of new construction over a longer period of time. To that end, the 10-year economic impact of building 11,861 market-rate single-family homes in Colorado is detailed below.

Single-Family Market-Rate Colorado Construction Activity: 10-Year Impacts

The 10-year total state and local economic activity that results from the building of 11,861 market-rate single-family homes in Colorado includes:

- \$7.5 billion in state and local income
- \$2.1 billion in taxes and other revenues for all governments
- 48,201 full-time equivalent jobs one-year jobs, and
- 7,225 full-time equivalent permanent jobs

These totals include the one-time impacts as well as the annually recurring impacts that occur during the first ten years these houses are occupied.

The one-time, recurring, and ten year impacts are based on new market-rate single-family homes that, on average, cost \$359,476, are built on raw land that on average costs \$26,500 per house, have fees that average \$32,212 per house, and have annual property taxes that average \$2,427 per year.

Discussion

Comparing Appendix B to Appendix A allows one to see how much larger the economic impacts of home building are when the geographic area is widened from the Denver CSA to include the entire State of Colorado. First, many more homes are now included and second the economic multipliers are larger. As a result, the total number of temporary jobs created rises from 28,170 to 48,201 and the number of permanent jobs created from the new homes being occupied rises from 3,591 to 7,225, increases of 71% and 101% respectively.

Thinking about the effects on a per house basis, the number of temporary jobs declines from 4.32 in the Denver CSA to 4.06 in all of Colorado as the price of houses built outside the Denver CSA are slightly less expensive than those built in the CSA. However, the number of permanent jobs per house rises from 0.55 to 0.61 because the economic multipliers are slightly larger.

Much like employment increases that result when the geographic area is expanded so do revenues and taxes. In appendix A the one-time impacts include \$2.1 billion in local income and \$404.1 million in taxes and other revenues collected by local governments. With the larger geography the one-time boost to local income rises to \$3.3 billion while one-time taxes and other revenues now paid to state and local governments rises to \$877.0 million. The increases in incomes and taxes are 57% and 117% respectively. Similarly, recurring income from the occupancy phase rises from \$239.0 million/year to \$443.5 million/year while taxes paid to governments rise from \$50.2/year to \$127.7 million/year. Again, large increases of 86% and 154% respectively.

This comparison is not to suggest in any way that construction outside of the Denver CSA is better or worse than construction inside the Denver CSA. Rather, it is to highlight how important residential construction is no matter where it occurs and that employment, income and tax revenue growth follow no matter the location.

Appendix C

Multifamily Market-Rate Denver CSA Construction Activity: One-Time Impacts

During calendar year 2013, 3,943 market-rate multifamily homes were built across the Denver-Aurora, CO Combined Statistical Area (hereafter the Denver CSA). The Denver CSA is a geographic area composed of the Denver-Aurora-Lakewood, MSA, (which is composed of Adams, Arapahoe, Clear Creek, Douglas, Elbert, Gilpin, Jefferson and Park counties, the City and County of Broomfield and the City and County of Denver) the Boulder, MSA (which is composed of Boulder County) and the Greeley, MSA (which is composed of Weld County). While the actual number of homes built will vary from year to year, 2013 was not an abnormal year and this study presents the economic impact of building 3,943 market-rate multifamily homes in the Denver, CSA.

The one-year combined local economic impact of building 3,943 market-rate multifamily homes in the Denver CSA includes:

- \$1.1 billion in local income
- \$158.7 million in taxes and other revenues for all local governments, and
- 14,823 full-time equivalent jobs, including
 - 6,740 Construction jobs
 - 2,722 Wholesale and retail trade jobs
 - 1,180 Business and professional jobs
 - 842 Local government jobs, and
 - 771 Health, education and social service jobs

These totals include all local income and jobs for residents of the Denver region as defined by the Denver CSA. These totals also include all taxes, fees, permit costs, user charges, and licensing fees for all the above jurisdictions. These results also represent the direct and the indirect impact of home building, and the resulting economic impact that results from all residents who earn income directly and indirectly from this residential construction activity and subsequently spend a portion of it within the Denver CSA.

Multifamily Market-Rate Denver CSA Construction Activity: Recurring Impacts

The annually recurring local economic activity that results from the building of 3,943 market-rate multifamily homes in the Denver CSA includes:

- \$212.5 million in local income
- \$35.8 million in taxes and other revenues for all local governments, and
- 2,667 full-time equivalent jobs, including
 - 761 Wholesale and retail trade jobs
 - 428 Eating and drinking establishment jobs
 - 340 Health, education and social service jobs
 - 216 Business and professional jobs, and
 - 215 Local government jobs

Unlike above, these totals are annually recurring and result from all new homes becoming occupied and the new households earning income, paying sales taxes, income taxes, property taxes, and all other governmental fees and spending part of their income in the Denver CSA.

While the benefits of the occupancy phase appear substantially smaller than those of the construction and induced phases, this phase lasts decades. As such, the benefits from this phase are in fact much larger than the benefits from the earlier phases if ones adds up the benefits of new construction over a longer period of time. To that end, the 10-year economic impact of building 3,943 market-rate multifamily homes in the Denver CSA is detailed below.

Multifamily Market-Rate Denver CSA Construction Activity: 10-Year Impacts

The 10-year total local economic activity that results from the building of 3,943 market-rate multifamily homes in the Denver CSA includes:

- \$3.1 billion in local income
- \$498.4 million in taxes and other revenues for all local governments, and
- 14,822 full-time equivalent one-year jobs
- 2,667 full-time equivalent permanent jobs

These totals include the one-time impacts as well as the annually recurring impacts that occur during the first ten years these houses are occupied. Note that these totals are substantially in excess of the one-time impacts or the recurring impacts and illustrate how important the cumulative significance of the occupancy effect is.

The one-time, recurring and annual impacts are based on new market-rate multifamily homes that on average cost \$380,873, are built on raw land that on average costs \$12,000 per home, have fees that average \$17,000 per home and have annual property taxes that average \$2,506 per year.

Discussion

What is perhaps most concerning about multifamily construction in the Denver CSA is that of the 3,943 homes built in 2013 only 200 were condos, barely five percent. While the percentage of multifamily homes that are condos or rentals necessarily varies over times based on interest rates, demographics, the business cycle and other factors, the skew of the current distribution is highly unusual. Many experts in the housing industry in Colorado believe this is the result of the legal climate surrounding construction defect law.

What is of concern is that the lack of condominium construction necessarily prevents some households from living in the Denver, CSA who wish to own their home but do not want to live in a single-family detached home. This is a loss for the community as these households must elect to either remain where they are, or purchase an existing condo and in the process raise condo prices due to the insufficient supply. Over time this insufficient supply reduces overall housing affordability.

Overall housing affordability is also reduced because as condo prices rise due to the lack of construction, rental home prices will rise especially among rental homes that are near substitutes for condominiums. And as higher price rentals rise, those increases filter down to lower priced rentals as competition between households drives rents higher.

It is also quite possible that due to the undersupply of condominiums, some of the rental homes that are built are more expensive than might otherwise be the case as the newly built rental homes attempt to fill some of the unmet condominium supply. To the extent this is occurring and to the extent it reduces the supply of lower priced new rental homes that would otherwise

have been built, affordability may well be adversely affected.

Appendix D

Multifamily Market-Rate Colorado Construction Activity: One-Time Impacts

During calendar year 2013, 5,494 market-rate multifamily homes were built in Colorado. While the actual number of homes built in any given year will be higher or lower than 5,494, it is a fair representation of annual market-rate multifamily construction activity throughout the state. This number includes the 3,943 market-rate multifamily homes built in the Denver CSA and suggests that in 2013 market-rate multifamily construction activity outside the Denver CSA consisted of 1,551 homes.

The one year combined state and local economic impact of building 5,494 market-rate multifamily homes in Colorado include:

- \$1.3 billion in state and local income
- \$285.5 million in taxes and other revenues for all governments, and
- 19,753 full-time equivalent jobs, including
 - 8,630 Construction jobs
 - 3,548 Wholesale and retail trade jobs
 - 1,610 State and local government jobs
 - 1,199 Business and professional jobs
 - 977 Health, education and social service jobs

These totals include all state and local income and jobs for residents of Colorado. These totals also include all taxes, fees, permit costs, user charges, and licensing fees for all taxing jurisdictions in Colorado. These results also represent the direct and the indirect impact of multifamily construction and the resulting economic impact that results from all residents who earn income directly and indirectly from this construction activity and subsequently spend a portion of it within the borders of the State of Colorado.

Multifamily Market-Rate Colorado Construction Activity: Recurring Impacts

The annually recurring state and local economic activity that results from the building of 5,494 market-rate multifamily homes in Colorado includes:

- \$272.1 million in state and local income
- \$71.1 million in taxes and other revenues for all governments, and
- 3,791 full-time equivalent jobs, including
 - 993 Wholesale and retail trade jobs
 - 556 Eating and drinking establishment jobs
 - 548 State and local government jobs
 - 432 Health, education and social service jobs

- 318 Business and professional jobs

These totals are annually recurring and result from all new homes becoming occupied and the new households earning income, paying sales taxes, income taxes, property taxes, water taxes, and all other governmental fees and spending part of their income in Colorado.

While the benefits of the occupancy phase appear substantially smaller than those of the construction and induced phases, this phase lasts decades. As such, the benefits from this phase are in fact much larger than the benefits from the earlier phases if ones adds up the benefits of new construction over a longer period of time. To that end, the 10-year economic impact of building 5,494 market-rate multifamily homes in Colorado is detailed below.

Multifamily Market-Rate Colorado Construction Activity: 10-Year Impacts

The 10-year total state and local economic activity that results from the building of 5,494 market-rate multifamily homes, in Colorado includes:

- \$3.9 billion in state and local income
- \$961.3 million in taxes and other revenues for all governments, and
- 19,753 full-time equivalent jobs one-year jobs
- 3,791 full-time equivalent permanent jobs

These totals include the one-time impacts as well as the annually recurring impacts that occur during the first ten years these houses are occupied.

The one-time, recurring and ten-year impacts are based on new market-rate multifamily homes that on average cost \$323,135, are built on raw land that on average costs \$10,000 per home, have fees that average \$15,000 per home, and have annual property taxes that average \$2,090 per home.

Discussion

Looked at over a decade, the economic impact of multifamily building like single-family building is large. The sum of all new income to households and all new tax revenues to governments totals almost \$4.9 billion. Given the magnitude of these results, from strictly a financial perspective, the impact of home building on Colorado should be carefully considered before new ordinances or permitting requirements are imposed.

It is interesting to note that the economic impacts of building market-rate multifamily homes across Colorado are quite similar to the economic impacts of building market-rate single-family homes in Colorado as the average price of new market-rate rental homes is \$323,125, while the cost of the average single-family house is \$359,476, a difference of slightly more than 10 percent. As a result, the number of temporary jobs per multifamily home is 3.60 while it is 4.06 for single-family homes and the number of permanent, or occupancy effect, jobs per multifamily home is 0.69 while it is a very similar 0.61 per single-family home.

Separately, the lack of condominium construction described in Appendix C is also a problem, (albeit possibly less severe) outside the Denver CSA. Of the 5,494 market-rate multifamily homes built in Colorado last year slightly less than 500 were condominiums. Subtracting out the homes built in the Denver, CSA leaves 1,551 homes of which 294 were condominiums, a rate of 19 percent compared to five percent in the Denver, CSA and much more in line with the national average.

Appendix E

Multifamily Rent-subsidized Denver CSA Construction Activity: One-Time Impacts

During the five years ending December 31, 2013, 3,091 rent-subsidized multifamily homes were built in Adams, Arapahoe, Boulder, Denver, Douglas and Jefferson counties, equal to an average annual level of production of 618 homes, the number of homes analyzed in this study. While the actual number of homes will be higher or lower in any given year, this study aims to capture the general level of rent-subsidized construction activity in any given year.

Despite no rent-subsidized construction activity in Broomfield, Clear Creek, Elbert, Gilpin, Park or Weld counties, the results below include economic benefits enjoyed by all counties in the Denver CSA. This is because persons who live in one county may well work in another. As such, the benefits of construction activity spillover from one county to another.

The one-time local economic impact of building 618 rent-subsidized multifamily homes in the Denver CSA include:

- \$81.0 million in local income
- \$8.2 million in taxes and other revenues for all local governments, and
- 1,091 full-time equivalent jobs, including
 - 511 Construction jobs
 - 204 Wholesale and retail trade jobs
 - 86 Business and professional service jobs
 - 57 Health, education and social service jobs
 - 56 Eating and drinking establishment jobs

These totals include all local income and jobs for residents of the Denver CSA. These totals also include all taxes, fees, permit costs, user charges, and licensing fees for all the above jurisdictions. These results also represent the direct and the indirect impact of home building, and the resulting economic impact that results from all residents who earn income directly and indirectly from this residential construction activity and subsequently spend a portion of it within the Denver CSA.

Multifamily Rent-subsidized Denver CSA Construction Activity: Recurring Impacts

The annually recurring local economic activity that results from the building of 618 rent-subsidized multifamily homes in the Denver CSA include:

- \$14.2 million in local income
- \$1.6 million in taxes and other revenues for all local governments, and
- 175 full-time equivalent jobs, including
 - 52 Wholesale and retail sales jobs
 - 29 Eating and drinking establishment jobs
 - 23 Health, education and social services jobs
 - 14 Business and professional service jobs
 - 10 Local government jobs
 - 10 Real estate jobs

Unlike above, these totals are annually recurring and result from all new homes becoming occupied and the new households earning income, paying sales taxes, income taxes, property taxes, and all other governmental fees and spending part of their income in the Denver CSA.

While the benefits of the occupancy phase appear substantially smaller than those of the construction and induced phases, this phase lasts decades. As such, the benefits from this phase are in fact much larger than the benefits from the earlier phases if one adds up the benefits of new construction over a longer period of time. To that end, the 10-year economic impact of building 618 rent-subsidized multifamily homes in the Denver CSA is detailed below.

Multifamily Rent-subsidized Denver CSA Construction Activity: 10-Year Impacts

The total 10-year local economic activity that results from the building of 618 rent-subsidized multifamily homes in the Denver CSA includes:

- \$215.5 million in local income
- \$23.5 million in taxes and other revenues for all local governments, and
- 1,091 full-time equivalent one-year jobs
- 175 full-time equivalent permanent jobs

These totals include the one-time impacts as well as the annually recurring impacts that occur during the first ten years these homes are occupied

The one-time, recurring and annual impacts are based on new rent-subsidized multifamily homes that on average cost \$195,446, are built on raw land that on average costs \$16,484 per home, have fees that average \$2,210 per home, and have annual property taxes that average \$54 per year.

Discussion

Of the 1,091 full-time equivalent one-year jobs created during the construction and induced phases, only 511, or slightly less than half of the new jobs created are in construction, with a substantial number of new jobs also in wholesale and retail trade and in business and professional services. These three industries account for slightly more than 73 percent of all the jobs created in these phases. The high percentage of jobs in these three industries is not surprising as they are most critical to residential home construction.

During the occupancy phase the new jobs created are broadly dispersed throughout the economy. This is as expected because the permanent jobs created in this phase are jobs that are created to provide locally-produced services to the new households. As a result they are broadly reflective of how these households spend their income. Compared to their market rate counterparts, households in subsidized homes tend to spend a greater percentage of their remaining income directly in the local economy as less income is spent on, for example, travel and imported goods.

It is important to note that more than half of the jobs created during the construction and induced phases are not in construction. This means that while construction activity necessarily creates many construction jobs, more than half the jobs created are outside the construction industry. Something else to note is that each new rent-subsidized home built in the Denver CSA creates 1.77 full-time equivalent one-year jobs and 0.28 permanent occupancy phase jobs. Note that the number of permanent occupancy phase jobs would be meaningfully higher were it not for the fact that the vast majority of rent-subsidized properties pay no property taxes as they are typically owned by non-profit groups or government agencies.

Appendix F

Multifamily Rent-subsidized Colorado Construction Activity: One-Time Impacts

During the five years ending December 31, 2013, 4,117 rent-subsidized multifamily homes were built in Colorado; an average of 823 rent-subsidized multifamily homes per year. While the actual number of homes built in any given year will be higher or lower than 823, it is a fair representation of annual rent-subsidized construction throughout the state. This number includes the 618 rent-subsidized homes built in the Denver CSA and suggests that annual rent-subsidized construction activity outside the Denver CSA averages 205 homes.

The one year combined state and local economic impact of building 823 rent-subsidized multifamily homes in Colorado include:

- \$113.1 million in local income
- \$20.9 million in taxes and other revenues for all local governments, and
- 1,657 full-time equivalent jobs, including

- 740 Construction jobs
- 301 Wholesale and retail trade jobs
- 133 Business and professional service jobs
- 84 Eating and drinking establishment jobs
- 82 Health, education and social service jobs

These totals include all state and local income and jobs for residents of Colorado. These totals also include all taxes, fees, permit costs, user charges, and licensing fees for all taxing jurisdictions in Colorado. These results also represent the direct and the indirect impact of multifamily construction and the resulting economic impact that results from all residents who earn income directly and indirectly from this residential construction activity and subsequently spend a portion of it within the borders of Colorado.

Multifamily Rent-subsidized Colorado Construction Activity: Recurring Impacts

The annually recurring state and local economic activity that results from the building of 823 rent-subsidized multifamily homes in Colorado include:

- \$20.6 million in local income
- \$4.4 million in taxes and other revenues for all local governments, and
- 282 full-time equivalent jobs, including
 - 76 Wholesale and retail sales jobs
 - 43 Eating and drinking establishment jobs
 - 36 State and local government jobs
 - 33 Health, education and social services jobs
 - 23 Business and professional Services jobs

Unlike the one-time impacts above, these totals are annually recurring and result from all new homes becoming occupied and the new households earning income, paying sales taxes, income taxes, property taxes, and all other governmental fees and spending part of their income in Colorado.

While the benefits of the occupancy phase appear substantially smaller than those of the construction and induced phases, this phase lasts decades. As such, the benefits from this phase are in fact much larger than the benefits from the earlier phases if one adds up the benefits of new construction over a longer period of time. To that end, the 10-year economic impact of building 823 rent-subsidized multifamily homes in Colorado is detailed below.

Multifamily Rent-subsidized Colorado Construction Activity: 10-Year Impacts

The total 10-year state and local economic activity that results from the building of 823 rent-subsidized multifamily homes in Colorado include:

- \$308.7 million in local income
- \$63.0 million in taxes and other revenues for all local governments, and
- 1,657 full-time equivalent one-year jobs

- 282 full-time equivalent permanent jobs

These totals include the one-time impacts as well as the annually recurring impacts that occur during the first ten years these homes are occupied.

The one-time, recurring and annual impacts are based on new rent-subsidized multifamily homes that, on average, cost \$193,054, are built on raw land that on average costs \$13,658 per home, have fees that average \$2,752 per home, and have annual property taxes that average \$62/year.

Discussion

Because the number of homes and the geographic area is larger than in Appendix E, the number of full-time equivalent one-year jobs created during the construction and induced phases now totals 1,657. Of these jobs 740, or slightly less than half, are again in construction, with a substantial number of new jobs also in wholesale and retail trade and in business and professional services. These three industries now account for slightly more than 70 percent of all the jobs created in these phases. The high percentage of jobs in these three industries is not surprising as they are most critical to residential home construction.

During the third phase, the occupancy phase, the new jobs created are broadly dispersed throughout the economy. This is as expected because the permanent jobs created in this phase are jobs that provide locally-produced services to the new households and are thus broadly reflective of how these households spend their income. Also, as was mentioned earlier, compared to their market rate counterparts, households in subsidized homes tend to spend a greater percentage of their remaining income directly in the local economy

It is important to note that more than half of the jobs created during the construction and induced phases are not in construction. This means that while construction activity necessarily creates many construction jobs, more than half the jobs created are outside the construction industry and this is the case regardless of the geography. Something else to note is that each new rent-subsidized home built in Colorado creates 2.01 full-time equivalent one-year jobs and 0.34 permanent occupancy phase jobs, 14 percent and 21 percent higher than the totals reported in Appendix E. Lastly, it bears repeating that the number of permanent occupancy phase jobs would be higher were it not for the fact that the vast majority of rent-subsidized properties pay no property taxes as they are typically owned by non-profit groups or government agencies.

Appendix G

Multifamily Rent-subsidized Denver CSA Rehabilitation Construction Activity: One-Time Impacts

During the five years ending December 31, 2013, 1,960 rent-subsidized multifamily homes were rehabilitated in Adams, Arapahoe, Boulder, Denver and Jefferson counties. That is equal to an average annual level of production of 392 homes, the number of homes analyzed in this study.

While the actual number of homes built will be higher or lower in any given year, this study aims to capture the general level of rent-subsidized rehabilitation activity in any given year.

Despite no rehabilitation activity in Broomfield, Clear Creek, Douglas, Elbert, Gilpin, Park or Weld counties the results below include economic benefits enjoyed by all counties in the Denver CSA. This is because persons who live in one county may well work in another. As such, the benefits of construction activity spillover from one county to another.

The one year local economic impact of rehabilitating building 392 rent-subsidized multifamily homes in the Denver CSA include:

- \$32.1 million in local income
- \$4.2 million in taxes and other revenues for all local governments, and
- 349 full-time equivalent jobs, including
 - 102 Construction jobs
 - 87 Wholesale and retail jobs
 - 35 Business and professional jobs
 - 24 Health, education and social service jobs
 - 23 Eating and drinking establishment jobs
 - 23 Local government jobs

These totals include all local income and jobs for residents of the Denver CSA. These totals also include all taxes, fees, permit costs, user charges and licensing fees for all the above jurisdictions. These results also represent the direct and the indirect impact of home building, and the resulting economic impact that results from all residents who earn income directly and indirectly from this residential construction activity and subsequently spend a portion of it within the Denver CSA.

The one-time impacts are based on an average rehabilitation cost of \$114,586 per home.

Discussion

Rehabilitating homes that were vacant prior to being rehabilitated generates a new stream of recurring local incomes and taxes. However, as these homes were all conservatively assumed to be occupied prior to the rehabilitation work, there are no newly recurring impacts nor are there any 10-year impacts. Rather, there exists only the one-time impacts listed above that result from the rehabilitation work.

Given that the work here involves rehabilitation, it should not be surprising that of the 349 full-time equivalent one-year jobs created during the construction and induced phases, only 102 jobs, or almost 30 percent, are in construction, compared to close to 45% for new construction activity. This is because the nature of residential rehabilitation work is quite different than residential new construction. Separately, each new rent-subsidized home that is rehabilitated in the Denver CSA creates 0.89 of a full-time equivalent one-year job. This suggests that while the number of jobs per home created is less because rehabilitation work is less costly than new construction activity, the economic impacts are more strongly felt outside the construction sector as more of the jobs are there.

Appendix H

Multifamily Rent-subsidized Colorado Rehabilitation Construction Activity: One-Time Impacts

During the five years ending December 31, 2013, an average of 584 rent-subsidized multifamily homes were rehabilitated in Colorado. While the actual number of homes rehabilitated in any given year will be higher or lower than 584, it is a fair representation of annual rent-subsidized rehabilitation activity conducted throughout the state. This number includes the 392 rent-subsidized homes that were rehabilitated in the Denver CSA and suggests that annual rent-subsidized rehabilitation activity outside the Denver CSA averages 192 homes.

The one-year combined state and local economic impact of rehabilitating building 584 rent-subsidized multifamily homes in Colorado include:

- \$42.4 million in local income
- \$7.0 million in taxes and other revenues for all local governments, and
- 465 full-time equivalent jobs, including
 - 133 Construction jobs
 - 114 Wholesale and retail jobs
 - 47 Business and professional jobs
 - 38 State and local government jobs
 - 31 Eating and drinking establishment jobs
 - 31 Health, education and social service jobs

These totals include all state and local income and jobs for residents of Colorado. These totals also include all taxes, fees, permit costs, user charges, and licensing fees for all taxing jurisdictions in Colorado. These results also represent the direct and the indirect impact of home building and the resulting economic impact that results from all residents who earn income directly and indirectly from this residential construction activity and subsequently spend a portion of it within the borders of Colorado.

The one-time impacts are based on an average rehabilitation cost of \$99,865 per home.

Discussion

As mentioned in the previous section, rehabilitating homes that were vacant before being rehabilitated generates new streams of recurring local incomes and taxes. However, as the homes in question were all assumed to be occupied prior to the rehabilitation work, there are no recurring impacts nor are there any 10-year impacts beyond the impacts listed above.

As was the case in the immediately preceding section, the construction activity analyzed here is also rehabilitation work with the difference being the unit of analysis is now Colorado, not Denver. As a result, it should not be surprising that of the 465 full-time equivalent one-year jobs created during the construction and induced phases, only 133 jobs, or almost 29 percent, are in construction, compared to close to 45% for new construction activity. Separately, each rent-subsidized home that is rehabilitated in Colorado creates 0.80 of a full-time equivalent one-year

job. These results again suggests that while the number of jobs per home created is less because rehabilitation work is less expensive than new construction activity, the economic impacts are more strongly felt outside the construction sector due to the nature of the work.

The Colorado Futures Center at Colorado State University (CFC) was engaged by Housing Colorado to provide a Colorado context to and ensure methodological integrity in the National Association of Homebuilders (NAHB) study assessing the economic impact of housing on the Colorado and Denver regional economies. Specifically, our role was to ensure the integrity of the data, methodology, and economic assumptions employed in the NAHB models. It was beyond the scope of our contract to participate in the interpretations or policy recommendations that flowed from the model findings or to produce any model runs independent of those from NAHB.

The NAHB model is a proprietary model developed to assess the economic impact of housing on the state and regional economy. We have reviewed the basic model structure and find it to be consistent with multiplier analysis, the standard approach to assessing economic impact. We further recognize that model outputs are only as good as the input data used to populate the model. To ensure data integrity with respect to the statewide housing inventory, the most important data input to the model, Housing Colorado relied on the expertise of Jennifer Newcomer at The Piton Foundation. We believe this partnership with Piton resulted in input data that accurately reflected the changes to housing stock in the model's study period. Finally, we agree with the economic and tax policy assumptions employed in the Colorado model and are generally comfortable with the overall methodological approach employed by NAHB.

There is however one aspect of the methodological approach on which we take a different position than the one taken in the NAHB model. The NAHB model separates the economic impact of housing into the construction, induced, and occupancy stages. While we concur that all three phases result in economic impact, we take a more muted view of the occupancy stage than that taken in the model. While the NAHB model attributes all household spending in the occupancy stage as the basis for the economic impact of housing, we believe the impact of the occupancy stage results only from those expenditures that are directly related to maintaining a dwelling unit. So, while both the NAHB model and our methodology would consider expenditures such as those on household furnishings and related services to be contributing to economic activity in the occupancy stage, our approach would not consider other household spending such as those on restaurant meals, clothing, and other day to day expenses to be a direct result of housing. As a result, we consider the economic impacts reported in the NAHB for the occupancy phase to be an upper bound on the magnitude of the on-going economic impact of housing. While we concur with the important conclusion that housing does continue to confer a positive economic impact once the unit is occupied, our measures of that impact would be more muted than the ones reported in the NAHB analysis.

The NAHB study also extended its analysis by addressing the important economic impacts of affordable housing as a subset of all housing activity. We consider this a particular strength of the NAHB analysis as the specific economic impacts of affordable housing, both permanently affordable and market rate affordable, are too often overlooked in studies such as this. To complement the particular focus on affordable housing, we partnered with Jennifer Newcomer at The Piton Foundation to produce a supplemental study assessing the stresses to local government finance that result from lack of affordable housing. For this analysis, we focused specifically on the case of Adams County, and we explored the issue from both from an expenditure and revenue perspectives. We consider this supplemental study of local government fiscal impacts an important component of our upcoming initiative to extend the CFC's analysis to focus more specifically on local government, and hope to have the opportunity in the future to test the Adams County findings in the state's other counties.

The Colorado Futures Center is very pleased to have partnered with Housing Colorado and The Piton Foundation on both the primary NAHB analysis and the supplemental study. We hope you find both studies to contribute to furthering the conversation about this important industry in Colorado.

Supplemental Case Study

Editor's note:

The attached supplemental report was completed under a separate and independent agreement between the Colorado Futures Center at Colorado State University and the Piton Foundation. Recognizing the complementary nature of the this supplemental report, the project partners are releasing this supplemental report in conjunction with the primary report as it lends additional context and depth to the policy discussion surrounding housing in Colorado. It is our intent that the additional research and data provided in this supplement will inform future and ongoing discussions related to housing and affordability in the state.

The project partners thank the Colorado Futures Center and the Piton Foundation, especially the work of Jennifer Newcomer, for this supplemental report.

Housing Affordability's Impact on Local Government Finance: An Adams County Case Study

Executive Summary

This study explores one of the societal impacts of the decline in housing affordability; the fiscal impact to local governments that are home to the increasing numbers of housing-challenged households. While it was beyond the scope of this study to explore every county in Colorado, it was decided to conduct a pilot of one county, Adams County. While the results of this study can only be considered illustrative, it can be inferred that other counties in the state face similar pressures.

The major trends discovered in Adams County are:

- There is a structural imbalance in county fund reserves to provide the required match for basic human services. This is a situation that cannot be sustained forever.
- Historically, counties have served as the vehicle for pass-through funding and administering human services. Recent demand has prompted spending on human services at the county and municipal levels.
- Municipalities have been exposed to increasing pressure to enter the human services funding game by outsourcing those services to community-based organizations via philanthropic grant making with general funds.
- Related, some municipalities have decided to forego revenues in the form of development incentives in an attempt to mitigate the affordability issue on the front end by encouraging developments for lower-income households.
- There is approximately \$170 million in crowded out spending, translating to \$6 million in lost revenue impact to municipalities. Households that are cost-burdened have a dampening economic effect on sales tax revenues, the major source of general funds revenues for municipalities.

These findings ultimately require further investigation to better understand the dynamic across different counties in the state. In the end, this study intends to deepen the conversation around finding solutions for overall affordability of housing across the state.

Acknowledgements

The authors would like to express their sincere thanks to those individuals who offered their time to discuss the premise of this project. Their insight and experience provided the substance for the financial expenditure section. Without their participation, this study would not have been possible. Their names, representative local government or organization, and interview questions are listed in Appendix A.

Why This Study Now?

The Denver region's housing market garnered media attention in 2013 and 2014 around its recovery from the recession. This has brought national investors into the market, particularly for multi-family development acquisitions. This investor attention is due in part to the region's historically low vacancy rates and rising rents, as reported by the Metro Apartment Association. Many apartment units have been built in the past year, and many are still under construction. However, all of these units brought to the market are unlikely to have a significant impact on vacancy rate and rents because new households continue to enter the region at a faster pace. In short, Denver is experiencing a perfect storm for real estate values because the region is an attractive place for people to live, is experiencing relatively robust job growth, and is lagging in new housing unit production.

All of this bodes well for those who had previously invested in real estate, but once a wider view is exposed, another perspective emerges. Some national media outlets have described the phenomenon a "dual economy." In this dual economy, a significant number of households are experiencing a very different set of challenges due to rising housing costs pushing them into cost-burdened status, meaning they are spending more than 30% of their incomes on housing. And, affordability in housing is emerging as an issue across all income segments. Affordability does not always have to reference subsidized housing because, increasingly, middle-income households are housing cost burdened.

Housing cost-burdened: Any household that spends more than 30% of its income on housing.

As increasing numbers of households at every income level struggle with housing affordability, there are impacts that reach beyond those specific to the households. This study explores one of the societal impacts of the decline in housing affordability; the fiscal impact to the local governments that are home to the increasing numbers of housing-challenged households. Specifically, are local governments in suburban communities prepared to continue dealing with an increasingly housing-challenged population? Can these local governments successfully provide human services infrastructures that have previously only existed in the urban core, and historically only been provided at a county level? Are local governments aware that in addition to the public expenditure pressures presented by housing-challenged households, that public revenues too are adversely impacted as these same households reduce other consumption in order to meet their housing needs? This study explores these questions in the context of Adams County, Colorado, a suburban county just outside Denver.

Adams County: A Profile

Adams County is located in the Denver Metropolitan northeast region, bordering Arapahoe, Broomfield, Denver and Jefferson Counties to the west and south. See Appendix B for a map.

Adams County was selected to serve as a case study for this inquiry based on a few considerations:

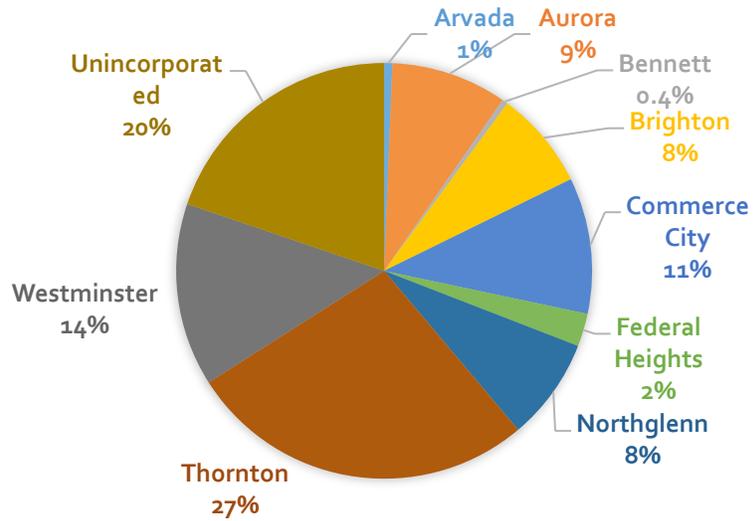
- It has multiple municipalities to allow for diverse perspectives on what is happening at the local government level to address the needs of cost-burdened households.
- According to the 2011-2013 American Community Survey, Adams County had approximately 16% of the Denver region's population and families, yet approximately 20% of families living in poverty. The only other county where this imbalance occurs is in Denver.
- According to the Denver Regional Council of Governments, Adams County will have a population of approximately 840,000 in 2035, i.e. the largest of any county in the region.

- Much has been mentioned anecdotally about Adams County holding a higher relative share of affordable housing stock, when considering market rate affordable housing, in the region.

County Population Picture

Adams County is a suburban county in the Denver region. There are nine municipalities located in the county, among which six¹ straddle into neighboring counties. They include:

Adams County Municipalities, Population Share 2013



Source: Colorado State Demography Office, Draft 2013 Estimates

Adams County, and the region as a whole, has experienced continued population growth since the Great Recession ended in 2009. As shown in Table 1, the number of new households that entered Adams County between 2010 and 2013 outpaced new housing production by a factor of 3.5. Adams County also experienced the largest share of the region’s increase in suburban poverty since 2000, of over 28,000 people.²

Table 1: Adams County Growth since the Great Recession

	2010	2013	Growth
Total Population	441,603	468,686	27,083
Total Households	153,764	163,189	9,425
Housing Units	163,136	165,775	2,639

Source: Census 2010: US Census Bureau, Colorado State Demography Office, Draft 2013 Estimates

Colorado and the Denver region will continue to be an attractive place for people to locate, and this is evident in the 2035 forecasted numbers. Due to various reasons, the primary one being available land area, Adams County is anticipated to become the most populous county in the Denver region by 2035, as seen in Table 2. The City and County of Denver, in fact, will be the third largest county, behind Arapahoe County.

¹ Arvada, Aurora, Bennett, Brighton, Northglenn and Westminster are partially within Adams County.

² Based on Brookings Institution definition of suburbanization of poverty.

Table 2: Denver Region Forecast

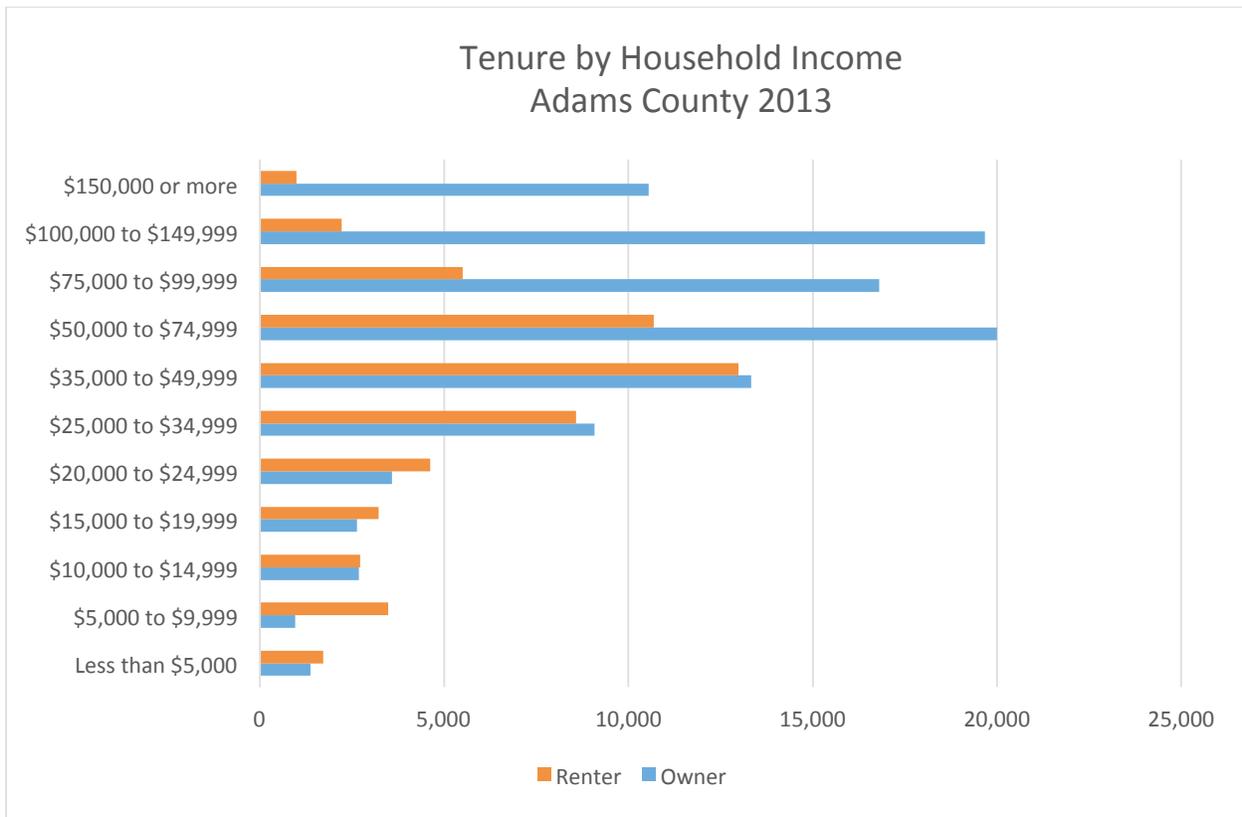
	2000	2010	2010 Share	2035	Growth 2010-2035	2035 Share
Adams	351,735	441,601	15.8%	839,470	90.1%	20.0%
Arapahoe	490,722	572,003	20.4%	833,097	45.6%	19.9%
Boulder	276,255	294,990	10.5%	388,835	31.8%	9.3%
Broomfield	38,544	55,889	2.0%	100,916	80.6%	2.4%
Denver	556,738	601,466	21.5%	777,160	29.2%	18.5%
Douglas	180,510	285,614	10.2%	533,133	86.7%	12.7%
Jefferson	526,718	534,744	19.1%	720,088	34.7%	17.2%
Region	2,421,222	2,797,896		4,192,699		

Source: Census 2010: US Census Bureau, Denver Regional Council of Governments C2 2010 Forecast

What is the household distribution across income and tenure?

According to the chart below, when looking at Adams County households earning above \$50,000, there are 3.5 times more homeowners than renters. However, when looking at households earning less than \$50,000, the number of homeowners versus renters is almost equal. Some of this parity can be attributed to the type of housing stock that is available throughout the county, particularly manufactured-owned homes that have much lower valuation.

Figure 1: Owner vs. Renter Households



Source: American Community Survey 2013 (1-year): US Census Bureau

Looking closer at the makeup of the households, Table 3 presents the income distribution according to the area median family income (AMFI), as determined by the U.S. Department of Housing and Urban Development (HUD). This analysis accounts for the number of persons in the family.³ Almost a quarter of Adams County’s households earn less than 50% of the AMFI, while one third earn over 120% of the AMFI.

Table 3: Adams County Area Median Family Income Distribution

2013 AMFI: \$77,800	Share of Households
Below 30%	11.0%
31 - 50%	13.5%
51 - 80%	20.8%
81 - 100%	12.3%
101 - 120%	9.2%
Over 120%	33.1%

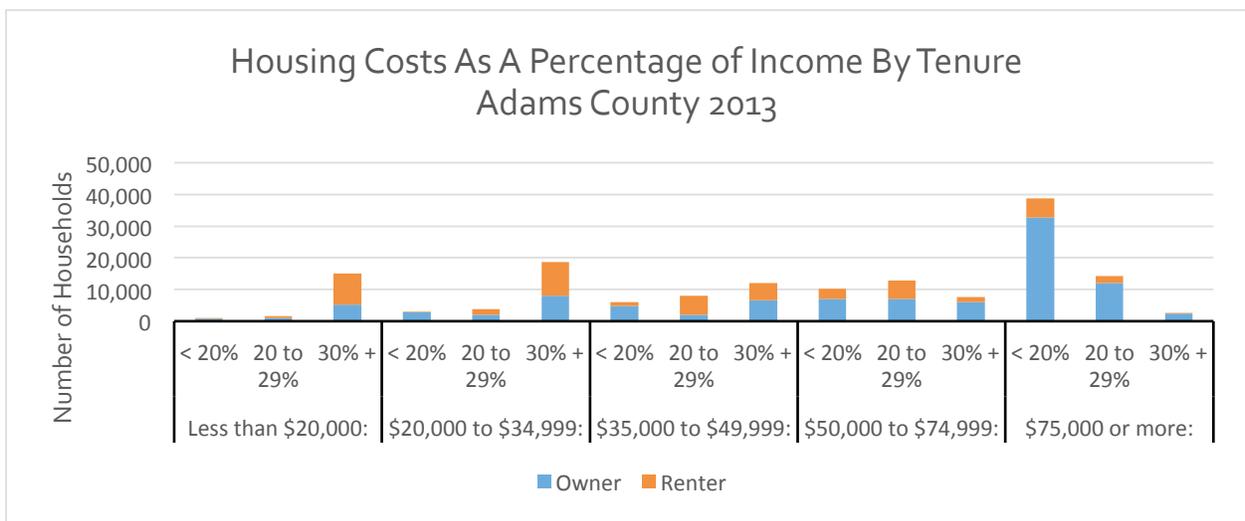
Source: American Community Survey 2013 (1-year): US Census Bureau

³ To obtain this information, data was tabulated from the American Community Survey (ACS) 2013 1-year sample of the Public Use Microdata Sample (PUMS). Data from PUMS is only available at the Public Use Microdata Area (PUMA), and do not nest within county boundaries. The three PUMAs selected for this analysis account for approximately 90% of the households in Adams County. A map noting the coverage area can be found in Appendix D.

The cost burdened picture, and has it changed much?

In 2013, almost 80% of households earning less than \$35,000 spent more than 30% of their incomes on housing costs, as seen in Figure 2 below. This equates to approximately 34,000 households that could qualify for income-restricted housing residing in market rate units and subject to the market pressures on pricing. Looking back to 2009, there were essentially the same number of households earning less than \$35,000, but the cost burdened share was approximately 75%. This is a signal that lower income households are having a more challenging time affording housing now than at the end of the Great Recession. The results seen here are consistent with the results of recent local and national reports indicating the lack of affordability across the Denver metro market.

Figure 2: Adams County Household Housing Costs



Source: American Community Survey 2013 (1-year): US Census Bureau

Housing Profile: Affordability is a Relative Problem

Considering the context of the number of lower-income households that are cost burdened, as described in the previous section, the general assumption is that there is not enough affordable housing. In order to understand the root need across the households based on where they are currently located, an analysis was conducted to identify which household types, across income levels, were paying for housing. The results indicate that there is a significant mismatch between incomes and housing costs across households, causing displacement of lower-income households, rather than overall lack of affordability.

The Gap

Presenting figures on the gap in housing can be accomplished a few different ways. Many of the media reports on affordability reference the current market prices in rents and listing prices relative to incomes. Figure 3 provides a snapshot of the owner-occupied unit values for the same year this analysis was performed. A market value approach is informative for households looking to make a move. This analysis looked at what households are paying based on their current location. It accounts for

households that locked into payments years ago and now reflect a very affordable payment as a result of an increase in income.

An obvious gap exists, at over 6,300 units, for renters earning below 30% of the AMFI, as seen in Table 4. This is the most challenging type of housing to build from financing standpoint, requiring the largest public subsidies. What is interesting is that there is a surplus in owner-based units for households earning below 30% of the AMFI. This is a function of the number of manufactured units in the county. It should be noted that this analysis does not account for a quality measure of the housing stock, which could call to question the manufactured housing contribution.

Combining the household income and housing expenditure data exposed a surprising detail that the overall mismatch numbers do not immediately reveal when considering the cost burdened figures. Table 4 depicts a surplus in units for households earning between 51 – 80% of AMFI and a deficit for households earning over 120% of AMFI, for both renters and owners. On the surface it appears there is adequate affordable housing stock for households earning between 51 – 80% of AMFI. The problem rests in the fact that there is an overall mismatch, which causes displacement of lower-income households by higher-income ones, who occupying less expensive units. In many cases this situation causes further housing stress on cost-burdened households.

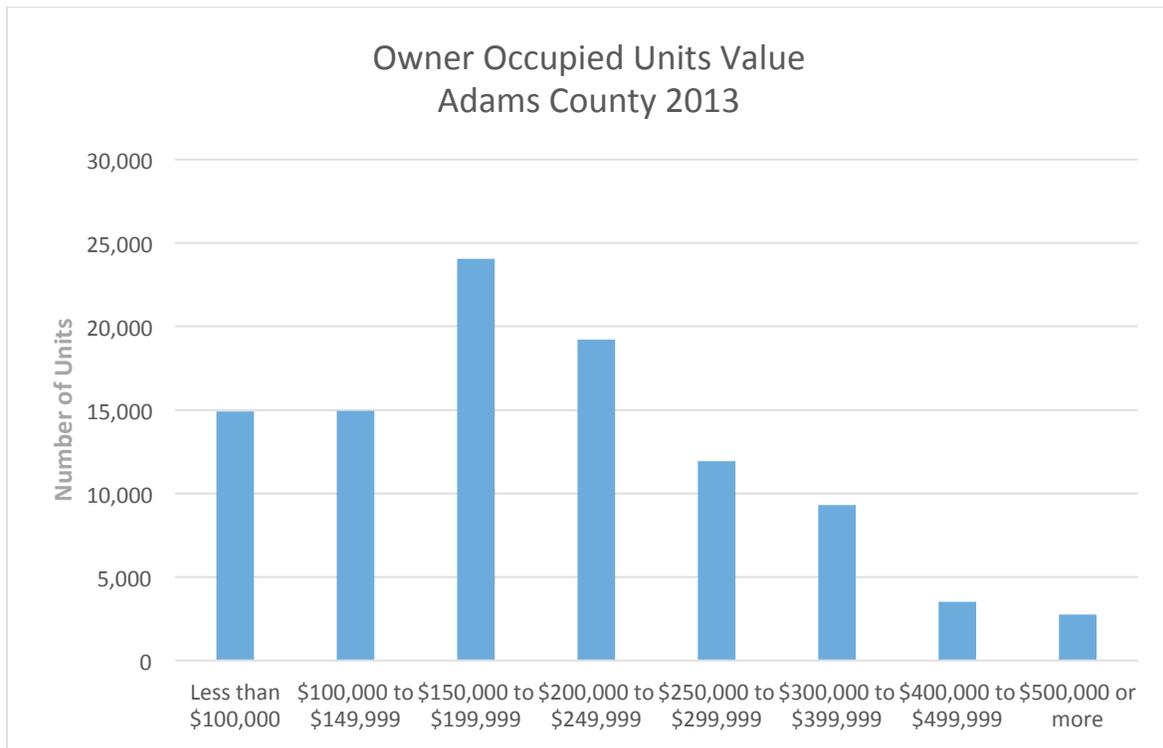
Table 4: Adams County Rental & Owner Gap by Area Median Family Income: \$77,800

<i>Renters</i>	<i>Units: Surplus <Deficit></i>
<i>Below 30%</i>	<6,360>
<i>31 - 50%</i>	412
<i>51 - 80%</i>	12,918
<i>81 - 100%</i>	<562>
<i>101 - 120%</i>	<1,166>
<i>Over 120%</i>	<5,102>

<i>Owners</i>	<i>Units: Surplus <Deficit></i>
<i>Below 30%</i>	8,851
<i>31 - 50%</i>	472
<i>51 - 80%</i>	10,012
<i>81 - 100%</i>	7,058
<i>101 - 120%</i>	3,458
<i>Over 120%</i>	<29,221>

Source: American Community Survey 2013 (1-year): US Census Bureau

Figure 3: Adams County Housing Value of Owner Occupied Units



Source: American Community Survey 2013 (1-year): US Census Bureau

The Subsidized Picture

The total number of subsidized housing units in Adams County in 2014 is approximately 12,600⁴. This represents just over 6% of the entire housing stock in the county, providing only a portion of low-income households with an affordable place to live that is not subject to the market pressures of increasing rents when vacancy rates drop. Approximately 160 subsidized units (only 5% of the 7-county region’s production) were built in Adams County since 2009. See Appendix C for a map of the distribution of the subsidized properties.

Income eligibility for subsidized programs is based on the Denver-Aurora-Broomfield, CO MSA Area Median Family Income (AMFI), and adjusted by family size. In 2013 the AMFI for Adams County was \$77,800. The distribution of the income limits by number of persons are as follows:

Table 5: US Department of Housing and Urban Development Income Limits 2013

Area Median Family Income (AMFI) \$77,800	1 Person	2 Person	3 Person	4 Person	5 Person	6 Person	7 Person	8 Person
30% of AMFI	\$16,350	\$18,700	\$21,050	\$23,350	\$25,250	\$27,100	\$29,000	\$30,850
50% of AMFI	\$27,250	\$31,150	\$35,050	\$38,900	\$42,050	\$45,150	\$48,250	\$51,350
80% of AMFI	\$43,600	\$49,800	\$56,050	\$62,250	\$67,250	\$72,250	\$77,200	\$82,200

Source: Adams County HUD Income Limits 2013 [<http://www.huduser.org/portal/datasets/il/il2014/2014summary.odn>]

⁴ The subsidized inventory was compiled by the analyst from sources, including Colorado Housing and Finance Authority (CHFA), National Housing Preservation Database (NHPD), HUD FHA Multifamily insured mortgages, HUD Picture of Subsidized Households, Colorado Division of Housing (CDOH), Adams County Housing Authority, Brighton Housing Authority and Commerce City Housing Authority.

Local Government Finance Impacts

As the data from Adams County suggest, communities across Colorado are home to increasing numbers of households that are housing cost constrained. While many studies address the direct effect of housing cost strain on the specific household, few look deeply into the broader economic and budgetary effects that result from housing cost pressures. In this study, we sought to better understand one of these effects; specifically, what are the fiscal effects of housing cost-constrained households on the local governments in which these households live?

Through a combined approach of first person interviews with officials from the local governments in Adams County and an analytic review of revenue and spending data, we profiled some of the lesser acknowledged impacts on local government. The sections below outline both the expenditure and revenue stresses that housing-constrained households are beginning to place on local government budgets. Given the limitations of a single county analysis, the following sections should be taken as illustrative rather than as a definitive description of universal impacts across all local governments. However, the findings from this analysis clearly demonstrate that the lack of affordable housing options is having true effects that extend beyond those to the specific households.

The Expenditure Side

The County Perspective: A View from Adams County

As outlined in the Code of Colorado Regulations, Adams County operates Human Services programs as funded through the state. Program offerings designed specifically to support low-income families include:

- Aid to the Needy Disabled (AND)
- Burial Assistance
- Child Care Assistance Program
- CHOICES/Advancement Plus Program
- Food Assistance Program
- Head Start
- Low Income Energy Assistance Program (LEAP)
- Medicaid and Medical Assistance
- Old Age Pension (OAP)
- Supplemental Security Income/Colorado Supplement (SSI/CS)
- Temporary Assistance to Needy Families (TANF)

As increasing numbers of households become financially strained by the cost of housing, the county programs listed above also begin to experience pressure. And, in many cases, although these services are supported with state and federal dollars, they also require county financial support. As the demand for programs increases, so does the demand on county budgets. Much of the impact identified by Adams County officials, and summarized below, deals with how housing cost stress ultimately affects county expenditures and service provision.

Connection to Services Instituted by Ordinance/City Council Based on Resident Need

Among all of the low-income based programs, TANF funds provide the most direct housing cost-burden relief by allowing recipients to use the funds for emergency services, house, and utility

payments. Some of these federal programs do impact the general fund in that there is a match requirement, specifically for TANF (15-17%), Child Welfare (20%), CORE (Mental Health Services for Children) (20%), and County Administration (20%). In recent years, the number of participating households has increased, further increasing the absolute match the county must expend from its general fund. For instance, Supplemental Nutrition Assistance Program (SNAP) allocations have almost tripled from 2008 (\$33m) to 2013 (\$90m). Half of the health and welfare expenditure line item in Adams County's budget is from SNAP. As seen in Table 6, Adams County had a per capita change from 2008 - 2013 in SNAP allocations.

Table 6: Change in SNAP Allocations

<i>2008-2013 Per Capita Change</i>	
<i>Adams County</i>	<i>2.43</i>

Source: Analyst calculations of County Comprehensive Financial Reports (CAFR) and Colorado State Demography Office Population Estimates

Understanding Service Cost Structure

Federal programs' match requirements call attention to the impact the increase in participation is having on the County's general fund. Because the required social services fund is funded through a portion of the property tax mill levy, it relies on a balance of property values to

A structural imbalance exists with county fund reserves that provide the required match for basic human services. Increased participation in human services programs coupled with lagging property valuation renders an unsustainable fiscal situation for the county.

entitlement program participants. For example, in 2008 in Adams County, the fund had a surplus of about \$20m, and now, in 2014, the fund will end the year with \$7.2m in reserves. State dollars to help fund the administrative costs over the years have fallen short. The result, and ultimate impact to residents, is longer wait times for people to obtain support because the county cannot add more staff. The residents who need the assistance the most cannot necessarily take advantage of applying online if they don't have internet access at home. Medicaid is the other expenditure item that is anticipated to continue to increase the budget, and, as a result of its match requirement, will be in a \$3-4m deficit.

How does property tax revenue's very slow growth fit into the equation?

The challenge on the mill levy side is revenues are only up 0.2% on property tax, and, in previous years, revenues were negative. "The mill levy for Human Services remains at 2.353 and has been so since 2005."⁵ When looking across the last decade, Adams County property tax revenues have only averaged about a 3% increase. From the County's perspective, it has to continue figuring out how to be more efficient. Even if the SNAP and Medicaid participation rates stay constant, the fund reserve will continue to decrease as a result of lagging property valuation, and continue to require transfers from the general fund.

Identifiable Housing Expenditures

Adams County has budgeted \$130,000 for 2015 from its general fund to the Adams County Housing Authority (ACHA) for foreclosure prevention services, an increase from approximately \$65,000 the prior year. This allocation has helped ACHA close the gap in needed funds for the program. According to ACHA, it anticipates an increase in foreclosure activities in the coming year due to renewed efforts by

⁵ Adams County 2014 Consolidated Annual Financial Report.

banks to clear their balance sheets. Table 7 outlines the attendance at ACHA-offered workshops, as of November 2014.

Table 7: Adams County Housing Authority Workshop Attendance

	<i>2014 YTD</i>
<i>Rent & Utility</i>	610
<i>Foreclosure</i>	172
<i>First Time Homebuyer Education</i>	370

Source: Adams County Housing Authority

According to ACHA, the agency has seen not only an increased number of residents in need of assistance but a wider demographic, particularly those who have not previously accessed the county's services. In respect to people seeking assistance from the county human services, ACHA has observed an increase in the number of people coming to the county building where ACHA offices are located. ACHA tracks the number of inquiries for service as identified in the Table 8 below.

Table 8: Adams County Housing Authority Phone Calls/Walk-in Traffic

	<i>2014 YTD</i>
<i>Section 8 Participant/Landlord</i>	10,089
<i>Section 8 Wants to Apply/ Are We Open</i>	5,753
<i>Previous Lottery App. Questions</i>	376
<i>Subsidy Information Request</i>	864
<i>Actual client of Housing Counseling</i>	1,904
<i>Deposit Assistance</i>	128
<i>Rent Assistance</i>	1,791
<i>Utility Assistance</i>	347
<i>Mortgage Assistance</i>	107
<i>HA Apartment Complaints</i>	129
<i>Resources for Legal Issues</i>	206
<i>Resources for Home Repairs</i>	34
<i>Emergency Housing</i>	796
<i>Housing for Disabled</i>	289
<i>Housing for Seniors</i>	333
<i>Housing for Felons</i>	64
<i>Housing for Pregnant Women</i>	10
<i>Misc.</i>	2,520

Source: Adams County Housing Authority

In terms of housing assistance, ACHA operates a lottery for the rental voucher system. The lottery is a time when ACHA is "open for business" to receive new residents. In 2013, ACHA distributed more than 5,000 applications, of which it only helped 120-150 of the applicant households, primarily because of households leaving the county. ACHA then keeps a few hundred of the applications throughout the year to pull from when a voucher becomes available. There is about a 40% success rate from the waitlist

reserve, which is more than adequate to ensure any available vouchers get used. What this does mean is about 60% of the reserve applicants either cannot be contacted with the available information, or they end up not being eligible, alluding to the fact that the low-income population seeking affordable housing is constantly moving because their situations are so volatile.

Rent vouchers are limited, and housing authorities work closely together to refer applicants to other counties or municipalities that might have availability. Vouchers are the unique housing support program that stays with the qualifying household. When a household receives a voucher, the only geographical requirement is the recipient must stay in the original issuer jurisdiction for the first year. After that year, they can move. If a move occurs, two things can happen with the voucher tracking based on HUD's portability process. One is the receiving jurisdiction can administer the voucher on the behalf of the originating jurisdiction, allowing the voucher count to remain with the originating jurisdiction. The other way the voucher can be treated is through a swap of slots between jurisdictions, which is what ACHA has been experiencing lately. This type of exchange, however, doesn't necessarily get to the issue of helping Adams County residents.

Adams County Housing Authority Coordinating Wrapped Human Services: But Funding is Unsustainable
A couple of years ago on a site at the intersection of 71st & Federal by Terrace Gardens, Adams County Housing Authority offered some of its community partners some temporary satellite space during redevelopment planning. Today the collection of organizations have become self-organized, yet they are getting some incredible results with connecting low-income residents to resources. Much of the success is attributed to the more personal experience these organizations provide to people seeking assistance or additional resources, compared to the main human services lobby at the County offices. Currently, ACHA is subsidizing the effort, but it is not a financially-sustainable model. The irony is that this is probably the prototype model for all counties, but lack of sustainable funding, coupled with increased demand, may render it a necessity.

The Municipal Perspective: A View from Aurora, Thornton, Westminster, Northglenn, Brighton and Commerce City

Municipalities that are located wholly or partially within Adams County vary in structure in terms of the level of services they provide to residents. Some provide a full suite of services, including water-based utilities, while others that are smaller only provide a few core services, such as safety and community development. Even with varying levels of service, some similarities appear across municipalities with respect to what is being done to provide additional support with general funds to residents who are struggling financially. While the amounts are not major line items in the overall municipal budgets, they do exist and represent an awareness of need in the community.

There are also varying levels of perspective on the urgency of the situation for residents. One example that has shed light on the severity of need in one municipality is the recent increase in 911 calls asking for assistance with accessing basic health care. Comparatively, another municipality observed its peak of need about three to four years ago because of the foreclosure crisis, but, generally speaking, the municipality has always had high need. A summary of the general fund-supported programs offered by Adams County municipalities that support low-income households follows in Table 9.

Table 9: Municipal Expenditure Summary

Local Government	Philanthropic Fund	Utility Bill Relief	Other Supports
Aurora	No	Adjusted rate & Referral	Recreation discount, Homeless programs
Brighton	Yes	Good Neighbor Fund	NA
Commerce City	Yes	Referral	Senior Center Resources Assistant
Federal Heights	NA	NA	NA
Northglenn	Yes	No	Provide space for after school snack program
Thornton	Yes	Yes	Senior Center lunch program, Cold Weather Care program
Westminster	Yes	Yes	Youth recreation scholarship program

Source: Analyst's summary of interviews with municipalities

Municipalities Taking On A Philanthropic Roll

A number of the municipalities in Adams County have chosen to dedicate a portion of their general funds to providing support to nonprofit organizations that assist residents in a human service capacity. In short, they are functioning in a philanthropic capacity by providing grants. According to municipal staff, nonprofits that have received a portion of these funds have been able to leverage the monies by factors of two or three from other sources. This leverage has extended the nonprofits' ability to serve residents in need. A few of the "Community Funds" (they are all named something similar) formally existed prior to the Great Recession, while the others started in response to the escalating need in the respective communities. In fact, some city councils have continued to increase the amount allocated to these funds as recognition that the need is not anticipated to diminish for a segment of the population anytime soon. When data were available in 2014 the amounts requested by nonprofits doubled that of the awards.

Move from Ad Hoc to Wrapped Services Models

Almost every municipality acknowledged the importance of partnering with community organizations, though some don't necessarily have a long history of partnerships with many of the community organizations they now work with. Efforts to partner with community organizations vary from the basic level of ad hoc referrals, to providing space to operate programs, to actively coordinating services provided at one location. It was noted that many low-income residents appear to be unaware of the various resources available to them. It is difficult enough for families in need to figure out how to access supportive programs, and even more so when complementary services are not connected through a coherent system. The result of so many program referrals being provided ad hoc is that it is more challenging for a municipality and the community organizations to understand and respond to the actual need in the community. The wrapped services efforts were acknowledged to be the most effective in terms of helping residents connect to multiple resources in one place, but these efforts were the least prevalent.

Direct Support Through Utility Bill Relief

Another commonality of financial hardship reduction efforts identified across the municipalities are utility bill rebate programs. This was only present in the larger municipalities that operate such a utility.

All of the programs are income qualified and capped at a maximum yearly benefit. Westminster and Thornton's programs were implemented in response to the Great Recession's impact on residents. After six cycles of the program, Thornton has continued to see the number of households taking advantage of the benefit increasing, while Westminster has seen its numbers vary. It is impossible to say at this point why there is an almost divergent participation in neighboring municipalities.

In response to the sensitivity that utility expenses have on low-income household budgets, Aurora inquired about the affordability of its water rates in 2013. The result of the inquiry was the creation of a tiered cost structure based on utilization, employing the assumption that more expensive single family properties tend to use more water, while smaller and multifamily properties tend to use less.

Brighton has a senior water rate, but is getting ready to remove it, because it felt the program was not equitable. As its replacement, Brighton is setting up a new program called the "good neighbor fund" to pool donations from residents opting to add money to their own utility bill payment. Details remain to be determined on how the monies collected will be distributed, but qualified low-income families will be the recipients.

Other Support Solutions

The aging baby boom generation is a well-known demographic shift underway in the Denver region. Households preparing to retire will largely be facing fixed incomes, and many will be forced to deal with all the vulnerabilities that come with it. Municipalities have acknowledged the need to support their senior population through a variety of ways. Commerce City's City Council recently approved the addition of a part-time position at its Senior Center. This position, a resources assistant, works exclusively with seniors to help them find resources of any kind. Outside of seasonal fluctuations, the highest reported need is for housing that is affordable on an income consisting primarily of Social Security. Even with a newly dedicated resource for seniors, the need remains high to support seniors with age-related lifestyle changes, such as downsizing a household, health challenges, housing modifications to age in place, etc.

Thornton operates a lunch program at its senior center aimed at ensuring low-income seniors can eat a nutritious meal at an affordable price. This program has been in place since the 1980s, and it's an example that Thornton City Council is committed to funding the program without the expectation to recover the costs, because it recognizes its benefits from a social needs perspective.

Thornton also has a rebate program for low-income senior residents. It refunds sales tax paid on groceries, property tax, and a certain amount if seniors rent. The refund has been in place for a number of years, but the terms of its requirements have not been modified recently to adjust for current conditions.

Other examples of programs or efforts that primarily benefit low-income households range from recreation center operations subsidies to youth recreation scholarships, and providing space for community organizations to offer after-school snacks to children. Finally, the cold weather care program (operated from the end of October – April) is a housing the homeless program that uses area churches as emergency shelters in an effort to reduce the number of people staying in their cars because shelters are at capacity. Because churches had not been allowed to serve as shelters, Thornton changed its land use code to allow this program to operate. Program participants can also utilize the city's community center for its facilities (showers, etc.). According to Thornton, the program has

observed a reduction of Thornton residents served, but, interestingly, an increase in people whose last permanent address was out-of-state.

Identifiable Housing Expenditures

Few municipalities allocate general funds directly to housing-related programs outside of any match requirement. But there are a few that should be highlighted.

Aurora allocates general funds to specific homeless programs, established through ordinance. The longest-standing allocation is from the traffic ticket revenue-based Nexus Program. Nexus funds four programs, including Aurora's emergency shelters. The revenue for the program has remained stable over the years, allocating approximately \$650,000. Additionally, the proposed 2015 budget has a line item to obligate \$235,000 in general funds for service improvement at the Comitis emergency shelter. It is being presented as a cost-effective expenditure, and proposed to be ongoing for future budgets. The other identifiable direct funding Aurora provides around housing is for the Aurora @ Home pilot program aimed at housing displaced or homeless families. The funding allocated for 2015 is approximately \$67,000. The program is only able to serve a very small number of families (15-25) who are challenged and require intensive support services.

When a household that either rents or owns is cost burdened, Thornton reports that the biggest visible community impact is the lack of maintenance of the exterior of the property. To ensure that a neighborhood maintains its external appearance, Thornton administers an abatement program that addresses the amount of code violations a property has been issued due to lack of external maintenance (e.g. overgrown weeds, parked inoperable cars, etc.). As those violations accrue so does the cost to mitigate the situation. The abatement program eventually brings violators to a blight hearing, heard by an associate judge. If the ruling determines the violator is unable to rectify the problem, the city will contract for the needed services (e.g. towing, landscapers, removal of junk). The program initially observed an increase at the height of the foreclosure crisis, but has also seen a constant flow of violations due to fixed-income older residents who have become physically unable to maintain their property. The city will only address the exterior of the properties, since owners can leverage entitlement funds to make improvements on deferred maintenance for the interior. In 2014 the program allocated around \$54,000 compared to the peak in 2009, where it allocated \$60,000.

It is also worth noting the type of programs municipalities choose to administer through Community Development Block Grant (CDBG) funds. Additionally, each municipality has been creative with limited resources and has opted to operate housing support programs with Community Development Block Grant (CDBG) funds.

Aurora allocates general funds to match HUD HOME funds distributed through the Community Development Services department. This allocation has remained fairly constant, around \$200,000 per annum.

Northglenn uses its CDBG funds allocated for the Help for Homes program to provide repair and accessibility improvement services to income-qualified households. The city council decided to make use of those funds that way because it saw the need in the community.

Westminster uses a portion of its CDBG funds to help fund emergency repair services. The city council redirected more to it in 2014 at \$90,000 versus years past (80% from previous year), because it saw a

general increasing trend in this area of need. The decision was also made because money ran out from the state, and city council approved an adjustment in the policy determining who qualifies.

The Revenue Side

As described above, local governments increasingly are called upon to provide more services to households that are housing cost-burdened. This is placing additional expenditure pressures on local government budgets. But the budgetary effects are not limited to the expenditure side. Cost-constrained households are also indirectly affecting local budgets by reducing their consumption of other goods in order to afford housing. For the state’s local governments, many of which are highly dependent on the sales taxes generated from household consumption, this reduction in all other household consumption has an adverse revenue effect on local government budgets as well. The section below uses national and local data to estimate the magnitude of the revenue effect on the totality of local governments in Adams County.

Share of Housing-Stressed Households Slightly Greater in Adams County than in US Overall

Table 10: Summary of Cost-Burdened Households Earning Less than \$50,000

<i>Cost-Burdened Households Earning Less than \$20,000</i>	15,160
<i>Cost-Burdened Households Earning Between \$20,000 and \$49,999</i>	30,690
<i>Cost-Burdened Households Earning Less than \$50,000</i>	45,850
<i>Share of Cost-Burdened Households Earning Less than \$50,000</i>	29.13%

Source: American Community Survey 2013 (1-year): US Census Bureau

According to the 2013 American Community Survey (1 year survey), there were just under 157,392 households in Adams County. Of those, 29.13%, or 45,850 of them, were low-to-moderate income (earning less than \$50,000/year) and spent more than 30% of their household income on housing (the standard for affordability). Almost three in ten low-and-moderate income households in the county were housing cost-burdened, according to the latest data available. If households at all incomes are included, that share rises to just over three and a half in ten to 35.53%, a slightly higher share in Adams County than for the US overall. According to The Joint Center for Housing Studies at Harvard University (cited at <http://www.cbsnews.com/news/millions-of-u-s-families-cant-afford-their-homes/>) by the end of 2012, 35.3% of families were spending more than 30% of their income on housing.

And Some of Those Housing-Stressed Households Forced to Dedicate up to 25% of Their Income to Covering Housing Costs Above the 30% Affordability Standard

Table 11: Additional Annual Household Spending on Housing Required by Income

<i>For an Average Household Earning Less than \$20,000</i>	\$5,927
<i>For an Average Household Earning Between \$20,000 and \$49,999</i>	\$2,160

Source: Analyst calculation from 2012/2013 Consumer Expenditure Survey data

Combining data from the 2013 American Community Survey and the 2012/13 Consumer Expenditure Survey (national sample), we know that on average households earning less than \$20,000/year are

spending just over \$8,900/year on housing. For households in the \$20,000 - \$49,999/year cohort, average annual housing expenditures are \$13,110. While we do not know the distribution of households in those cohorts nor the distribution of housing costs within those households, we can estimate at the midpoint. Doing so, we determine that households in the under \$20,000 income category, at 30% of midpoint, should spend no more than \$3,000/year on housing to stay within the affordability standard. For households in the next income cohort (\$20,000 - \$49,999), the affordability standard at the midpoint is \$10,500/year. Comparing those thresholds with the reported spending in the Consumer Expenditure Survey, we determine that the lowest income households dedicate, on average, an additional \$5,927 annually to housing. For households in the next cohort up, that additional amount is just over \$2,100/year. In the lowest income households, a full 25% of income must be dedicated to supplementing housing costs above the 30% affordability standard.

Additional Housing Spending Crowds Out Other Household Spending

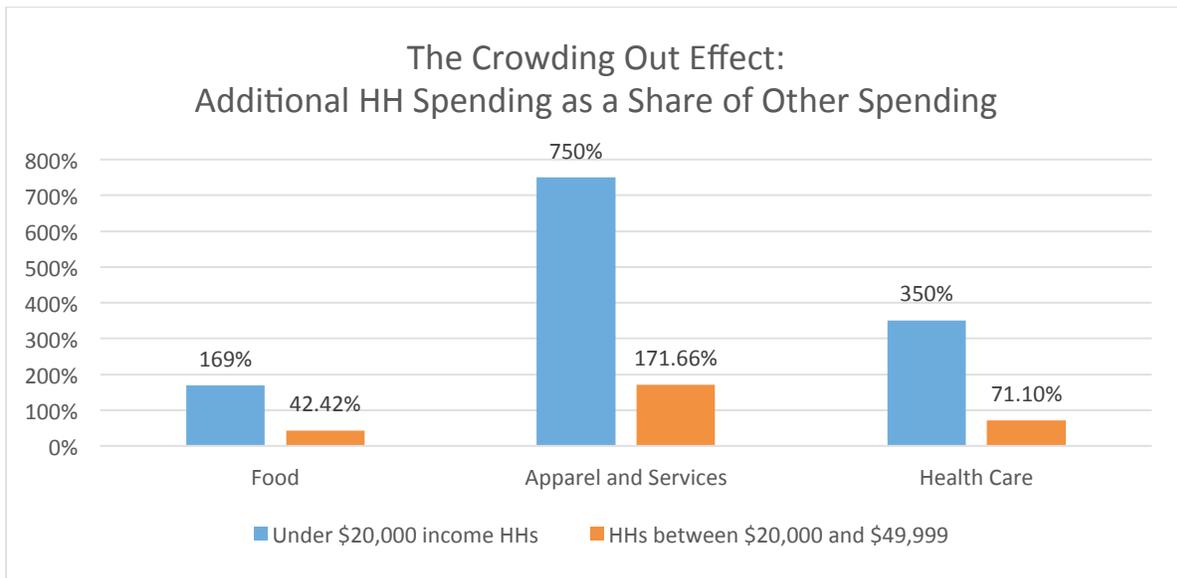
Table 12: Additional Monthly Household Spending on Housing Required by Income

<i>For an Average Household Earning Less than \$20,000</i>	<i>\$493.88</i>
<i>For an Average Household Earning Between \$20,000 and \$49,999</i>	<i>\$217.47</i>

Source: Analyst calculation from 2012/2013 Consumer Expenditure Survey data

In 2013, almost 44% of all Adams County households earned less than \$50,000/year. Of those, just under two thirds are spending more than the 30% affordability standard for housing. In these households, the additional share of income dedicated to supporting household spending must be crowding out other household spending. While data do not allow us to determine exactly which categories of household spending are crowded out, we do have data that provide an illustrative example of the magnitude of the potential crowding out of major categories of household spending. On average, housing-stressed households earning less than \$20,000 per year are spending an additional \$5,927 annually (over the 30% threshold) to support housing expenses. For households in the \$20,000 to \$49,000 income cohort, that additional spending falls to \$2,160. Regardless of the amount, each of these households is supplementing its housing expenditures with funds that otherwise would be available for basic needs such as health care, food, and apparel and services. For example, at the extreme, households earning under \$20,000/year are supplementing their housing costs with an amount that represents 7.5 times what the average household in that age cohort spends annually on apparel and other services. The graph below shows, for this and other categories of spending, the magnitude of the crowding out caused by additional housing expenditures.

Figure 4: Additional Household Spending on Housing as a Share of Other Spending



Source: Analyst calculation from 2013 American Community Survey and 2012/2013 Consumer Expenditure Survey data

And that Crowded-Out Spending Would Have Resulted in Spending on the Tax Base and thus in Additional Tax Revenues

Table 13: Additional Tax Revenue Summary

<i>Total 2013 Adams County Crowded-Out Household Spending</i>	<i>\$169.9 million</i>
<i>Illustration: Foregone Municipal Sales Tax Revenue if all Crowded-Out Spending were Spent on Taxable Goods (at an Average Sales Tax Rate of 3.5%)</i>	<i>\$5.95 million</i>

Source: Analyst calculation from 2013 American Community Survey and 2012/2013 Consumer Expenditure Survey data

From the perspective of local government finance, this crowding out matters. Each additional dollar a household spends to support its housing needs represents a potential reduction of the local sales tax base. While we do not know for sure that each “crowded-out” dollar would have otherwise been spent on a taxable item, we can use the data we have to estimate the magnitude of the sales tax leakage that would occur if each “crowded-out” dollar were spent on a taxable item.

Spending Impact: Households that are housing cost-burdened spend **\$170 million** dollars less, causing almost **\$6 million** in foregone municipal sales tax revenues for Adams County.

In 2013, low-and-moderate income households in Adams County dedicated an additional \$170 million to housing above the 30% affordability standard. If that additional household spending was otherwise spent on taxable goods, at an average sales tax rate of 3.5%, the direct impact on local government coffers would have been just under \$6 million in additional revenue. Including the multiplier effects of the additional spending further increases the potential fiscal and economic impact of freeing up that crowded-out spending.

What efforts are attempting to address the gap?

In the wake of the great recession local governments have recognized that economic recovery alone will not address the gap in affordability of the housing stock. As a result efforts are underway to bring new housing into the community through direct expenditures as well as foregone revenues. The following are some highlights from various municipalities in Adams County.

The Commerce City Housing Authority recently purchased some parcels to investigate future options of senior affordable product. The city is also entering into the planning stages for another sizable redevelopment project that would include some affordable housing.

Aurora has been able to assemble project capital costs through tax credits and grants to build a new supportive housing project on a property close to the Fitzsimons Life Science District. Even with capital costs identified, the subsidized operation costs are still unknown, so the property can accommodate households earning less than 30% of AMI. Additionally, Aurora had two recent affordable housing projects where fees were waived, amounting to approximately \$300,000 each, in an effort to move the projects forward.

Brighton looks at housing developments with an eye towards affordability. It is a high priority for the city to have affordable living options. It recognizes the role that local regulations play in achieving a vibrant community, as well as possible unintended consequences that could raise housing prices to unaffordable levels. Recently, Brighton saw a trend in housing development where there were not enough units being built at affordable price points. Development staff then worked with the mayor to build an "attainable housing matrix." This matrix set specific incentives throughout the development process across various income levels. In short, it saves developers real dollars, and time, which also translates into dollars. Brighton has followed through with implementing the incentives by working with housing developers from the beginning of the project, and foregoing the development fees. One notable example is Hughes Station, Brighton's first affordable apartment development. It benefitted from the monies saved on the front end of the process, making the project a reality. The matrix has been leveraged on a few additional projects, amounting to approximately \$2 million worth of offsets. Brighton had previously explored other affordable housing policies, such as an inclusionary housing ordinance (IHO), but it didn't feel it had the same effect. The goal is to incorporate the matrix concept into all types of projects with for-profit developers. Essentially the question is, "how can Brighton look at the market like the Home Builders Association (HBA) does when considering housing teachers, firefighters, and other essential roles for a vibrant community?"

Another element Brighton is focused on is sustainable development, and how it relates to reducing total cost burden on households. The goal is to have efficient housing units with very low utility payments, so people can move into a new home and afford the operation costs. Again, Brighton set incentives on the energy/operation savings side of the development process. It took almost three years to get the incentives approved by city council, and has resulted in big upfront dollars (\$2 million) in incentives that are a direct impact to homeowners.

Closing Thoughts and Further Questions

While the results of this study can only be considered illustrative, it can be inferred that other counties in the state face similar pressures.

The major trends discovered in Adams County are:

- There is a structural imbalance in county fund reserves to provide the required match for basic human services. This is a situation that cannot be sustained forever.
- Historically, counties have served as the vehicle for funding and administering human services. Recent demand has prompted spending on human services at the county and municipal levels.
- Municipalities have been exposed to increasing pressure to enter the human services funding game by outsourcing those services to community-based organizations via philanthropic grant making with general funds.
- Related, some municipalities have decided to forego revenues in the form of development incentives in an attempt to mitigate the affordability issue on the front end by encouraging developments for lower-income households.
- There is approximately \$170 million in crowded out spending, translating to \$6 million in lost revenue impact to municipalities. Households that are cost-burdened have a dampening economic effect on sales tax revenues, the major source of general funds revenues for municipalities.

These findings represent the beginning rather than the end of investigations into the myriad of effects that lack of housing affordability is placing on the state and local economy and fiscal position. Our selection of Adams County as a starting point was with the intention of highlighting issues that should be further studied for their consistency across the state. We firmly believe that Adams County is not alone in the pressures it is feeling, but only further study can confirm our belief. But in the interim, this study, by highlighting the issues in a one county case study, will hopefully deepen awareness of the lesser known effects of the lack of housing affordability and as a result deepen the conversation around finding solutions for overall affordability of housing across the state.

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Appendix A

<i>Local Government</i>	<i>Name</i>	<i>Title</i>
<i>Adams County</i>	Richard Lemke	Director of Finance
<i>Adams County Housing Authority</i>	Donald May, Peter LiFari	Executive Director, Deputy Director
<i>Aurora</i>	Jason Batchelor, Signy Mikita	Director of Finance, Community Development Planner
<i>Brighton</i>	Marv Falconburg	Assistant City Manager for Development
<i>Commerce City,</i>	Roger Tinklenburg, Chris Cramer, Steve Timms,	Administrative Services Officer, Director of Community Development, Planning Manager,
<i>Commerce City Housing Authority</i>	Priscilla Mancosky	Housing Accountant
<i>Northglenn</i>	Jason Loveland	Director of Finance
<i>Thornton</i>	Maria Ostrom, Nichole Jeffers	Finance Director, Neighborhood Services Manager
<i>Westminster</i>	Barbara Opie	Assistant City Manager

Local Government Interview Questions:

Overarching:

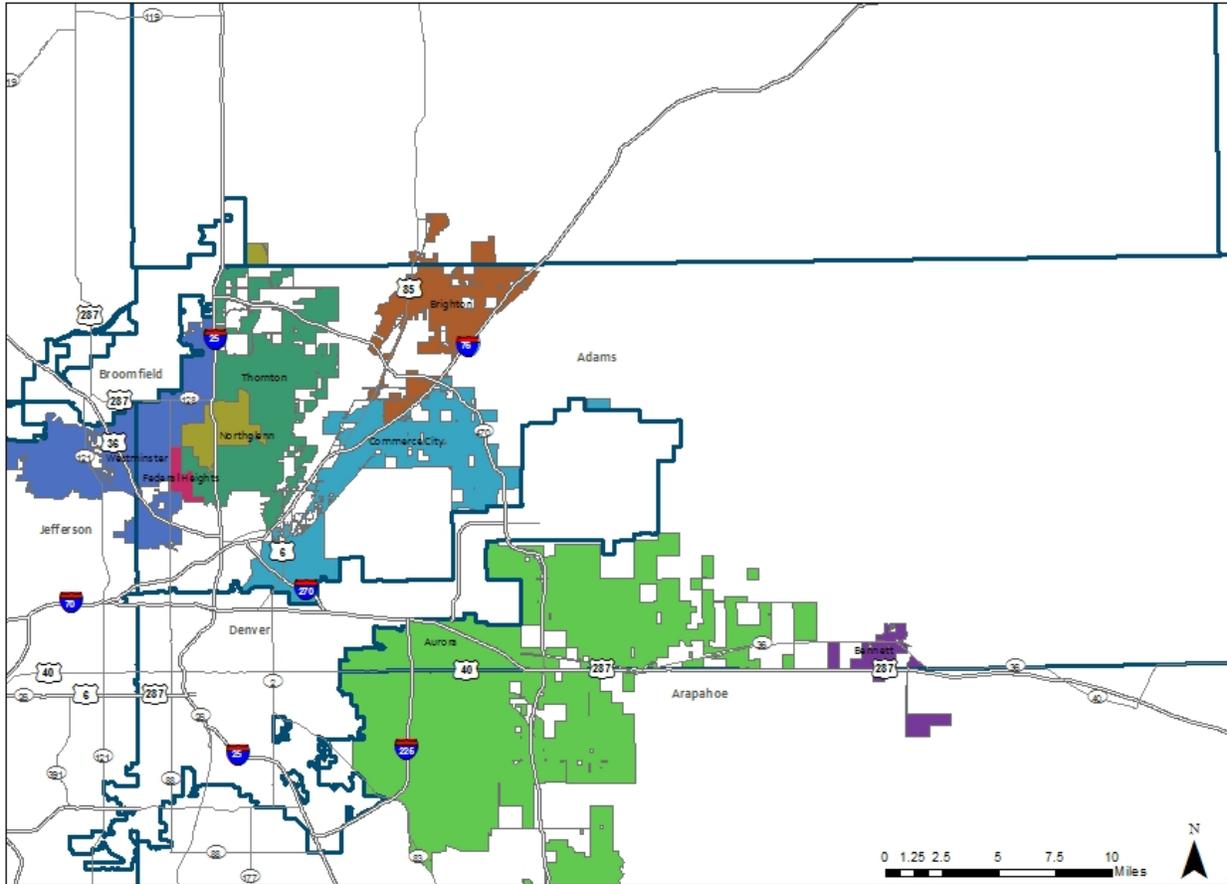
What are the municipal (and county) services that are not entitlement programs that income-qualified households are already taking advantage of?

Need to gain a broader understanding of the following:

- Where does an inventory of these programs exist? If so, what are they and can they be line item extracted from an expenditure perspective? If so, have they been increasing over time? And at what time were these services created? *Clarify that the expenses are not "flow through" dollars, and are from the general fund.*
- Is the county doing anything to supplement the health care/healthy living/screenings/etc. (possibly mental health, dentistry, etc.)? There are very few optional programs through the state, so additional ones would come through a property tax levy.
- Are the cities doing anything regarding direct housing support that is funded through the budget? What about homeless programs?
- Are they doing anything explicitly to partner with the philanthropic community to address the needs through coordination, etc.?
- Food, other social services, etc. categorized detail?
- How are those programs taxed/strained into the future?
 - Does the local government feel the trend will continue?
- Are there current conversations about this very subject across departments?
- For housing authorities, what trend, if any, have they seen in demand? What is the waitlist?

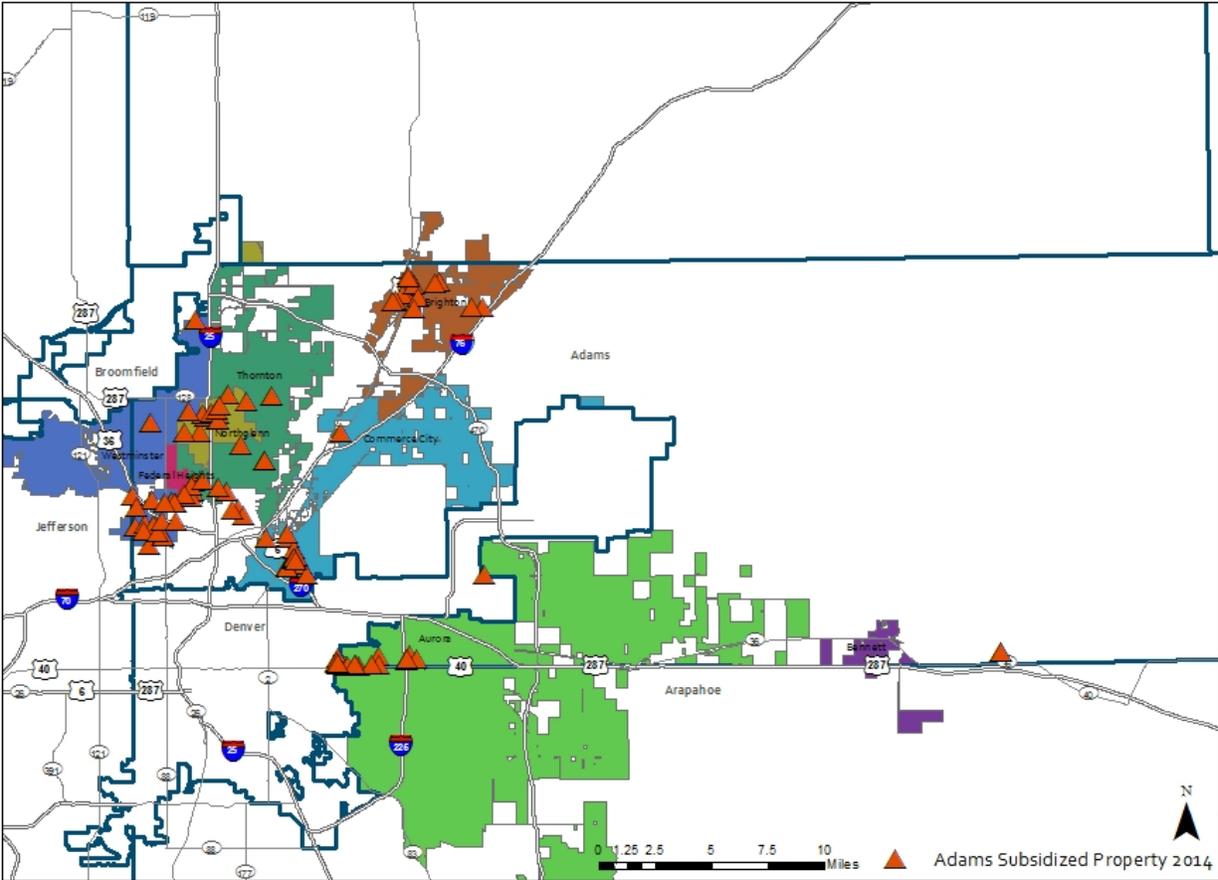
Appendix B

Study Area: Adams County & its Municipalities



Appendix C

Adams County Subsidized Properties



Appendix D

Figure 5 Adams County Public Use Microdata Areas (PUMAs)

