Creating an Effective and Competitive Inclusionary Housing Ordinance for Bloomington, MN

A study of options to produce affordable housing units while remaining economically attractive for development

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DAEDALUS ADVISORY SERVICES

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I - Executive summary

A pressing need

Nearly a third of Bloomington's households earned less than $35,000 per year in 2017. According to the American Communities Survey of the US Census Bureau, these households are largely renters and, among renters, 85% or more live in housing stress, where their housing costs consume 30% or more of their gross income.

As the population of Bloomington grows, the housing stressed population may find itself under even more pressure as more people chase a housing supply that is growing more slowly than its population growth rate.

One mechanism that other jurisdictions have used to add new affordable housing units is an Inclusionary Housing Ordinance (IHO). An IHO creates a legal requirement for developers to reserve a portion of the total units that they produce for households earning less than a defined income threshold. An IHO can provide workforce housing for those earning from 110% down to less than 30% of an area's median income (AMI).

The public policy logic is that there is insufficiently available naturally occurring affordable housing (NOAH) and the portion that is available shrinks through redevelopment and rental increases, so additional supply must be brought to market to provide sufficient housing for those lower incomes households. Private sector developers tend to not produce these units on their own, so public policy requirements for the inclusion of these units is predicated on establishing a nexus between the influx of new incomes into an area and the resulting demand for low income labor and housing needs. BAE Urban Economics is conducting the nexus study for Bloomington's proposed IHO.

Typically an IHO is not the only tool used to address affordable housing needs and it may be used with a package of incentives for both market rate and affordable housing developers to ensure that the area's overall unit creation level is maintained and even increased over time for households across the income spectrum.

IHO design and implementation lessons learned

Having discussed IHO lessons learned with the administrators of IHO programs in four different jurisdictions across America (chosen because of either similarity with Bloomington's size and scale or a unique implementation approach of their IHO), a number of themes emerged regarding what makes a successful IHO.

First, developers are partners not competitors. Affordable housing units are built under an IHO only because market rate units are being built. Second, IHOs have direct impacts on the financial returns available from a project and cities should consider the resources they are willing to use to help developers to make their returns acceptable to their debt and equity capital sources. Thirdly, IHO flexibility in the application of rules, such as allowing developers to offer land or units in other locations or to partner with non-profit affordable housing partners, can create success for all parties. Fourth, IHOs require education of developer partners and city employees. Understand the training and staffing levels needed for effective rollout and sustainable management. Finally, successful IHOs are clear: they set easy to understand guidelines for affordable housing requirements, while allowing creative, flexible solutions that are targeted to the right resident populations in different parts of the city.

Development cost impacts and incentives

Financial modeling of both example and an actual multi-family housing project shows that the majority of steel-based vertical construction methods do not make financial sense given current rents in Bloomington. Low to mid-rise developments currently pencil out and make financial sense. Incentives can be used to offset the costs of the required inclusionary units. Incentives can be of two types: regulatory and financial. Regulatory incentives are those such as parking requirements and maximum unit counts per acre that the city can modify either through planning waivers, overlay zones or other administrative actions. Regulatory incentives tend to either lower the cost of required construction (such as parking stalls) or increase the project's potential to earn revenue (though density bonuses). Financial incentives, such as direct grants, tax increment financings or low-interest loans, are each powerful, but come at a direct fiscal cost to the city, in most cases requiring a pool of capital be available before these incentives can be widely in use.

Using the financial model of a real project that was submitted to the city's planning and zoning office, our estimates of financial impact for the prior incentives uses a baseline project that produces approximately 4% on an internal rate of return basis when 20% of the units are reserved for 30% AMI households. Using a combination of parking reductions, density bonuses, TIF funding and deferred permit fees, the project's rate of return increased to almost 14%. That return is nearly market rate, but ignores additional costs to the developer of needing to use a different construction method to add the bonus units (moving from stick over podium to steel construction). Taking the additional construction costs into account, the returns would not be as high as under the stick over podium approach, but would be much higher than without the incentives.

We estimate the total cost to the city of providing 20% of the equity investment needed for 344 average annual affordable housing units using a top-down approach (population-driven approach) at $7.2M / year. This number can be substantially less if the city provides less than 20% of total affordable housing equity commitments or if it uses a more creative mechanism of financing those units (project level TIFs, housing trust fund income or other approaches).

Recommendations and next steps

An IHO can be implemented in Bloomington with little impact on direct market rate unit creation if offsetting incentives to developers are provided. Since financial incentives have real costs to the city, there are additional research efforts needed to determine how much of the total potential affordable housing investment to fund and how best to fund it. In addition, nuances can be added to the IHO that take into account development activities (or lack thereof) in different areas of the city and attempt to balance development trends. NOAH housing should be additionally examined to create mechanisms to preserve its stock into the future, and the details of major renovation activities falling within the purview of the IHO should be further refined to maximize affordable unit creation without excessively dampening the resale market for existing multi-family housing.

II - Introduction

Context and need for the study

Economic development is not simply a process of attracting and retaining employment opportunities. A comprehensive approach to it evaluates how best to attract and retain labor in an area while minimizing environmental impacts from transportation while capturing tax expenditures. When employees find housing difficult or expensive to obtain and must move to different cities and commute into the area with the jobs, the additional wear and tear on roads, requirements for day-time parking and loss of tax revenues cumulatively reduce a city's economic development potential. Mitigation measures largely focus on enhancing the residential housing offerings to avoid the aforementioned negative externalities.

Bloomington is a mid-sized city of 88k persons, with a tight housing market (residential vacancy rate under 2%) and a solid employment base. A recent report by Maxfield Consulting shows that the city requires approximately 5,300 units through 2030. These incremental additions to the city's housing stock include 1,800 – 2,200 affordable housing units to adequately house its population in conditions that are not above 30% of household income (not considering the current need for affordable housing from the in place resident population in Bloomington).

The City Council is considering an Inclusionary Housing Ordinance (IHO) that would require market rate housing developers to reserve a portion of any new rental or for sale units for households that earn under 120% of the Area's Median Income (AMI).

The city, along with BAE Urban Economics, is calculating the percentage of the units to be reserved for affordable housing as well as the estimated in-lieu fee to be charged using a NEXUS study for the first task and an excel model for the second one.

Because any IHO is unlikely to be able to generate enough units to provide affordable housing for the various groups identified in the Maxfield report, and because IHOs can in theory exacerbate housing pressures by reducing the number of total units built and raising the costs of those that are built, Daedalus Advisory Services was brought in to provide analysis of the IHO's structure and potential impact on the city's competitiveness.

The core question we wanted to answer is: how can Bloomington maximize the benefits of an IHO and what other measures would help to alleviate its affordable housing pressures *while impacting the city's competitiveness as little as possible*?

Consultant's approach to the assignment

Our approach recognizes that other jurisdictions have IHO experience that can be tapped to avoid their mistakes and provide crucial guidance to Bloomington's proposed IHO. Further, because of the nuances of property development, any potential IHO had to include developer inputs and extensive financial modeling to understand the constraints under which they operate. Finally, since the IHO is one part of a wider affordable housing strategy, we did not attempt to define all possible affordable housing strategy options, but rather to focus on the development of a strong IHO onto which we could add additional affordable housing (and even market rate housing) policies incrementally over time.

III - Situation Review

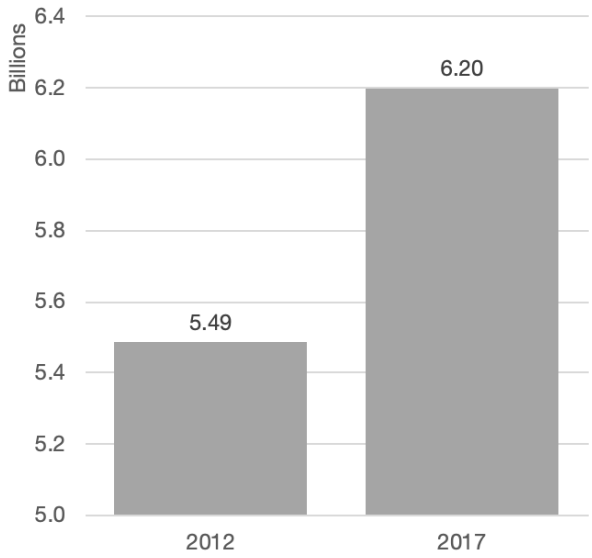
Section overview

Bloomington's economy, population, income and housing trends provide a basis for understanding the size and growth rate of factors important to the city's affordable housing situation. Using published reports and independent research, the following summary of the city's situation shows that Bloomington is a growing city with a strong economic base that continues to attract residents and grow incomes.

Economic profile

Bloomington's gross domestic product (GDP) reflects all goods and services (including government spending) produced within the city's administrative borders. As no direct measure of the city's GDP exists, the best estimate of it uses an area-wide per capita GDP figure and applies it to the city's population. This approach shows that Bloomington's GDP was $5.5B in 2012 and $6.2B in 2017 – an average annual growth rate of nearly 2.5%

Figure 1: City of Bloomington's GDP



The city's close proximity to downtown Minneapolis, transport routes, the international airport and the Mall of America have helped it continue to grow and thrive as a suburban center for various industries. The Minneapolis Metropolitan Statistical Area (MSA) is a world-class hub of companies with both national and international corporations, including eighteen Fortune 500 companies with headquarters in the area, including (among others) UnitedHealth Group, Target, Best Buy, US Bank, 3M, CHS, U.S. Bancorp, and General Mills Cargill, the largest private company in the country, is also based there.

Bloomington's economy employs 46,000 people, with most employment concentrated in professional services (the census categories of "Management of Companies & Enterprises; Finance & Insurance; and Real Estate, Rental & Leasing.") The largest industry sector is Healthcare & Social Assistance, Retail trade, and Manufacturing, and the highest paying industries are agriculture/processing, forestry, fishing, hunting, professional services, and utilities. Employment has grown slowly, recording a small growth from 2015 to 2016, of 0.19%,

According to data from the American Communities Survey (ACS) survey of the Census, this chart illustrates the share breakdown of the primary jobs held by residents.

The most common categories of jobs held by residents of Bloomington, MN, sorted by number of employees within a category are Administrative; Sales; and Management. Compared to other census places, Bloomington, MN has an unusually high number of residents working in Computer & Mathematical; Business & Financial Operations; and Architecture & Engineering.

Figure 2: City of Bloomington's employment by employment sectors

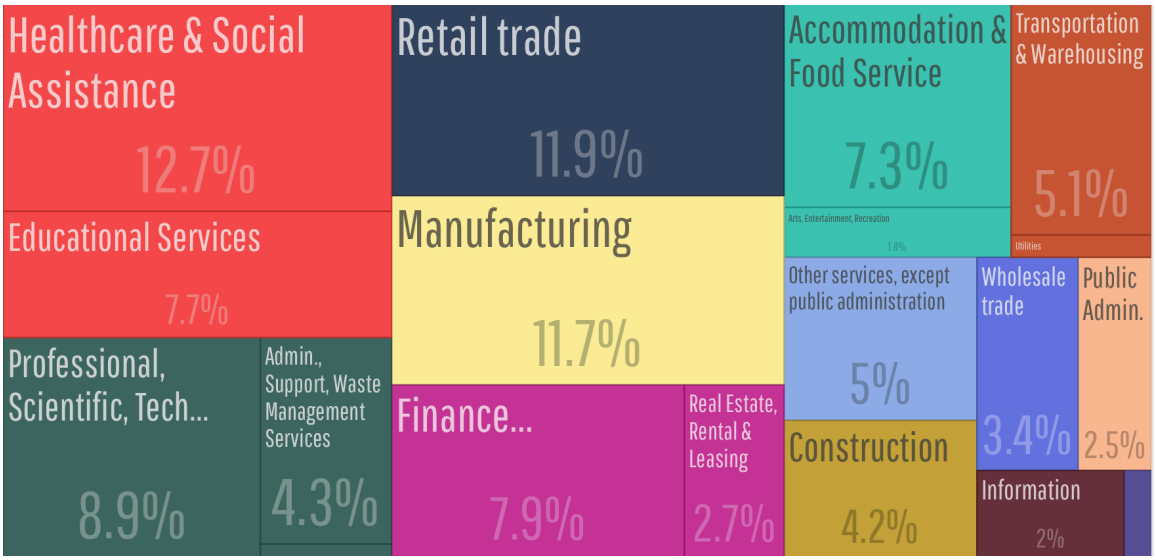
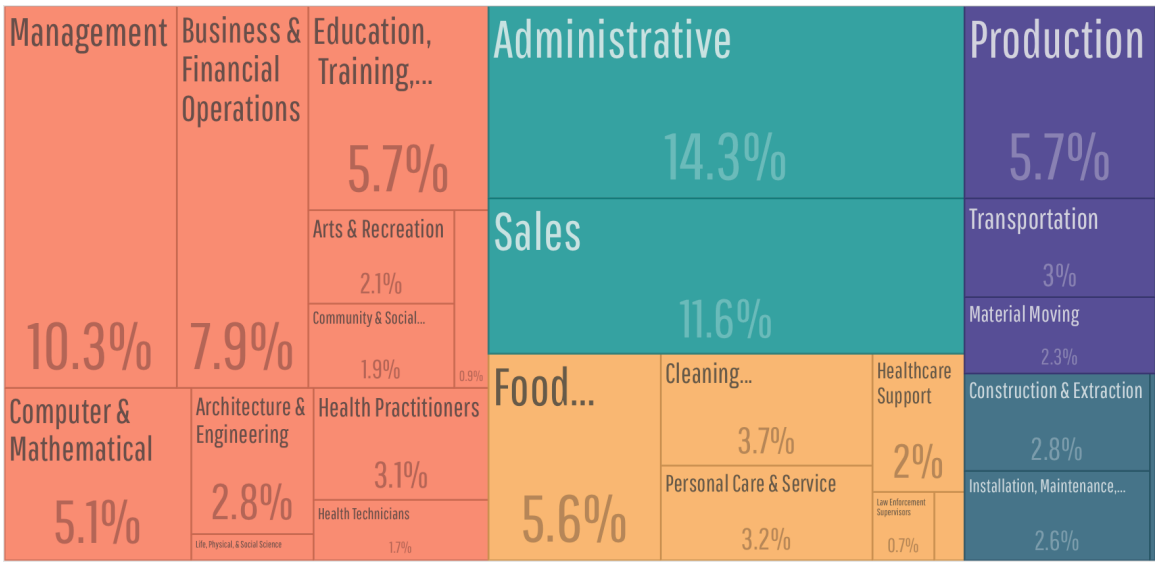


Figure 3: City of Bloomington's employment by job types



The most common employment sectors are Healthcare & Social Assistance, Retail trade, and Manufacturing. This chart shows the share breakdown of the primary industries for residents of Bloomington, MN, though some of these residents may live in Bloomington, MN and work somewhere else. Census data is tagged to a residential address, not a work address.

In terms of specific employers, the table below shows that some 25,000 workers are employed by ten companies/groups -- nearly 27% of the total jobs in the city.

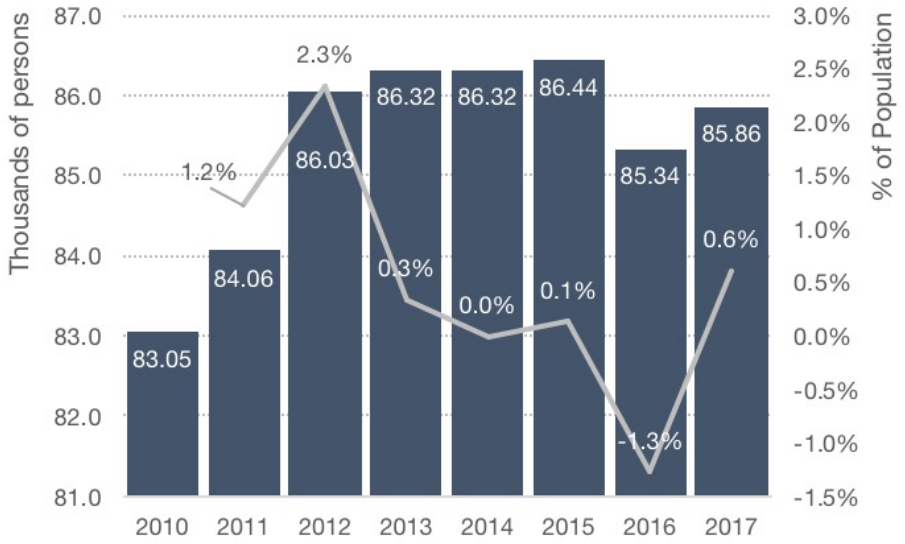
Top 10 Employers in Bloomington, MN – 2016		Total Employees
1	Mall of America Tenants (retail/entertainment)	13,000
2	Health Partners (health insurance provider)	3,234
3	Bloomington School District (education)	1,940
4	Seagate Technology (computers/manufacturing)	1,580
5	Donaldson Companies, Inc. (automotive equipment)	1,002
6	The Toro Company (lawn equipment/snow blowers)	990
7	NCS Pearson, Inc. (education services and assessment)	959
8	Barr Engineering (engineering firm)	727
9	General Dynamics Advanced Information System (defense)	678
10	Express Scripts (pharmacy benefit management)	638
	Total Top 10 Employers (approx. 27% of total)	**24,748**

Other major employers include Express Scripts, Holiday Station Stores, Thermo-King/Ingersoll Rand Corp., and the City of Bloomington.

People and demographic changes

The City of Bloomington's population is estimated by the Census Bureau's American Communities Survey (ACS) 2017 figures to be roughly 85,860 persons. The population has been growing by nearly a half percent per year on a average basis since 2010. A minor drop in population in 2015 may reflect sampling differences more than an actual population decline.

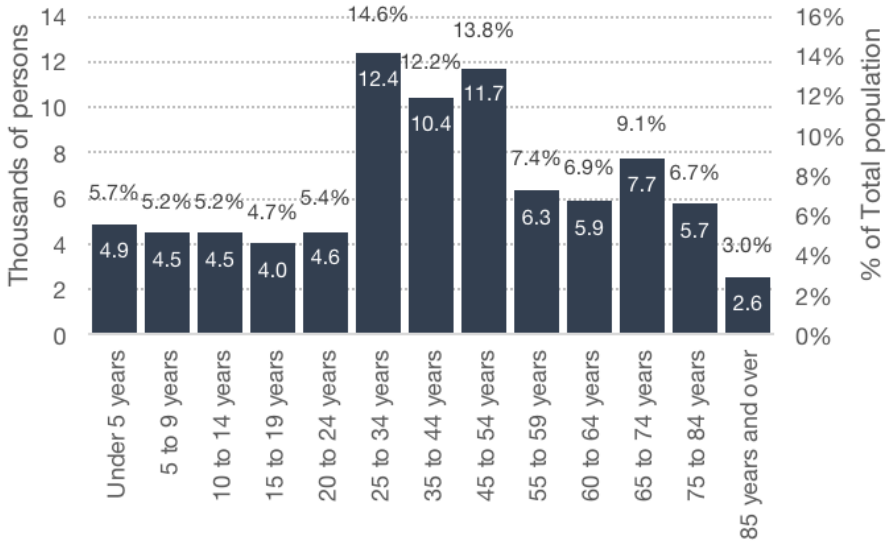
Figure 4: City of Bloomington's Population



Between 2010 and 2017, the city's population grew by approximately 2,800 people, reflecting the continued growth of the city after the global financial crisis.

The age structure of the population in 2017 shows the relative allocation of each age cohort within the overall population. The large portion of the population (nearly 40%) between 25 and 54 years old. 32% of the population is 55 or older. 28% of the population is under 25.

Figure 5: City of Bloomington's Age Structure of the Population

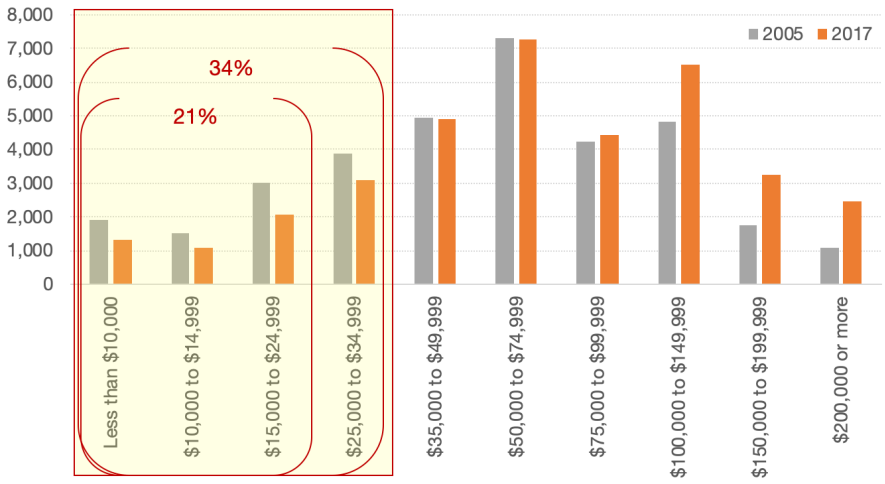


The population in the City of Bloomington is forecast to grow by 7.6% (6,297 people) and 2,760 households (7.7%) between 2010 and 2020. Population growth is expected to continue to 2030, with a forecast population growth of 2.3% (2,055 people) and 1,315 households between 2020 and 2030. The portion of the population aged 65 and older is projected to increase through 2040, reflecting the baby boom generation's cohort.

Incomes over time

The average annual personal income in Bloomington in 2017 is $36,430 a year, nearly $8,000 higher than the US average of $28,555. The average annual median household income in Bloomington in the same period is $63,053 a year, nearly $10,000 higher than the US average of $53,482.

Figure 6: City of Bloomington's Population by Income Bracket



Within the City of Bloomington, approximately

one-third of the households in 2017

A 16.0% increase in median incomes is forecast between 2017 and 2022 as incomes rise from $63,902 to $74,100. Even with rising incomes, roughly 40% of Bloomington's 2017 population with incomes of $50,000 or more choose to rent versus buy.

Homeownership preferences differ by age cohort, with large numbers of households under 35 renting, then becoming homeowners as they age and have children before downsizing and often again becoming renters when the children have moved away from home. The data shows this pattern in Bloomington. Households ages 25 to 34 had a homeownership rate of 41.0%. Households ages 75+ had a homeownership rate of 82.0% while those ages 85% decreased to 65.6% as the oldest households often move to facilities with on-site medical or support services.

Additional data points about Bloomington's population that bear keeping in mind are that married couple households with and without children increased between 2010-2017, indicating likely future needs for housing units that allow for baby rooms. That said, householders living alone grew by the greatest amount of all household types.

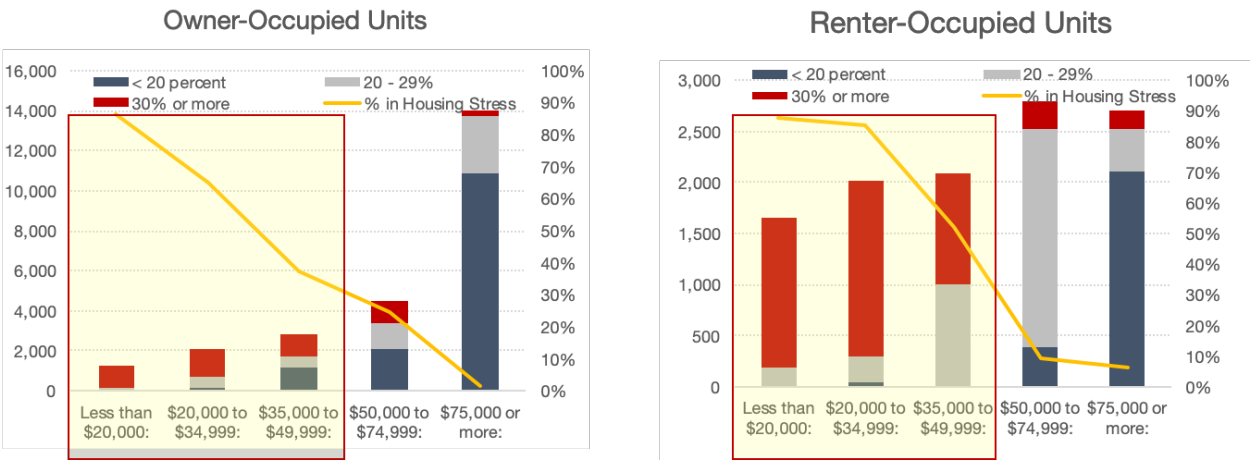
Renter households were most likely to contain one person, 43% of renter households, followed by two-person households, accounting for 30% of renter households. Family and non-family households who owned homes tend to have higher occupancies than renter households.

Most households did not move (86.5%) within the last year, and as you would expect, the portion of residents who did move was likely to be between 18 to 34 and then moving within Hennepin County. Mobility drops after age 34, but rises again beginning with households age 65 to 74 and 75 years or older. However, fully 90% or more of householders ages 55+ did not move within the last year. Older age cohorts may elect to relocate to alternative housing and the oldest households may choose to relocate to housing that provides additional support services.

Housing stress

The generally accepted standard for affordable owner-occupied housing is that a typical household can afford to pay three times annual income for rent and three and a half times annual incomes for homeownership. Paying more than that amount is considered to put the

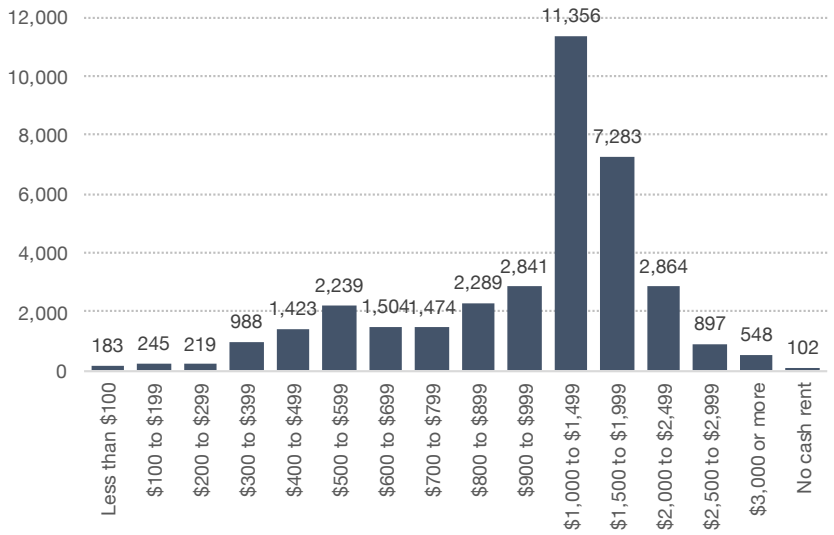
Figure 7: City of Bloomington's Households in Housing Stress



household in “housing stress,” indicating that those households may have financial difficulties because of the money they must pay just to support their housing costs.

ACS data for 2017 show that owner-occupied units with occupant incomes under $50k/year have higher levels of housing stress than incomes over that level. Some portion of the lower income levels among homeowners may be fixed income seniors, however, as very low income households tend to find it difficult to finance a home purchase. Except for the lowest two income brackets, most homeowners in Bloomington are not in housing stress. On the other hand, the vast majority of renters are in housing stress if earning under $50k/year. Under $35/year, all but a small portion of the renter households are paying more than the rule of thumb limits for housing costs, being definitionally in housing stress. This portion of the rental market would be targets for future affordable housing efforts.

Figure 8: City of Bloomington's Households by Month Rent Level



Another way of looking at housing stress is to view a histogram of housing costs by occupied housing units. On this view, roughly 36% of the market pays under $1000/month for housing costs. Another 31% of area households pay between $1,000-1,500/month. The remaining 32% pays more than $1,500/month. This higher side of the monthly housing curve mostly matches the city’s income levels. At the lowest income levels (under $15k/year in household income), there rental cost numbers show approximately 1,600 units being rented at that rate, but 2,400 households earning that amount or less – an 800 unit mismatch (assuming all 1,600 low rent units are being occupied by households with low incomes).

Housing stock and key trends

The current number, cost and types of housing structures are an integral part of understanding opportunities and constraints to an area’s housing cost picture. Areas with a large stock of recently built housing tend to be higher priced than areas with older housing stock – though the condition of the available properties will often be worse and may lack modern amenities. Permit data gives an indication of the quantity of construction activity in different periods, a view of units produced by decade throughout the city’s history.

Developers delivered 15,000 units between 2013 - 2016, according to Cushman Wakefield’s 2018 research report on the Bloomington housing market. Yet, demand for units remains high. In 2017 the market absorbed 3,500 new apartment units easily and residential vacancy continues to hover around 2.5%. With potentially 5,000 apartments projected to open during or near 2018, vacancy rates may begin to rise to a healthier level of 4–5%.

We will use Maxfield Consulting as one of the core analysis components of the area's affordable housing needs, adding to it where needed (particularly with GIS-based snapshots of various topics).

In the 2000 – 2016 period, 16 single-family homes were permitted each year on average in Bloomington, townhomes, 10 and multifamily units (including senior and general occupancy rental), 145. Since 2010, 116 single-family, 36 duplex and townhome units and 1,468 multifamily units have been permitted in Bloomington.

Figure 9: City of Bloomington's Population by Income Bracket

Issued Permits in Bloomington (2000-2015)

Year	Single Family	2-4 Units	Townhomes	Multi-Family	Total Units
2000	32	6	0	76	114
2001	16	4	23	21	64
2002	28	2	0	47	77
2003	21	0	17	96	134
2004	15	2	39	60	116
2005	18	0	50	358	426
2006	16	0	27	50	93
2007	11	0	5	0	16
2008	3	0	0	86	89
2009	5	0	3	196	204
2010	3	0	0	0	3
2011	21	0	3	621	645
2012	27	0	16	0	43
2013	21	0	10	250	281
2014	12	0	5	77	94
2015	17	0	0	395	412
Total	266	14	198	2,333	2,811

New multifamily rentals are, as is expected, priced at the top of the market (per square foot rents of $1.80 per square foot or higher). Older rental properties more affordable to a more households than newly developed properties, even with recent rent increases. As development costs and rental rates rise, developers may see slower absorption, which, together with increasing interest rates, would create the conditions that tend to limit the appeal of new development (though the market has not yet arrived at that state).

As of 2016, Bloomington was estimated to have 38,116 housing units: 66% owner-occupied and 34% renter-occupied. These percentages are similar to Hennepin County's 62% owner-occupied rate and the Twin Cities Metro Area rate of 73%.

1970 was the median year of construction in Bloomington and Hennepin County versus 1985 in the Twin Cities Metro Area. 64% of Bloomington's housing stock was built in the 1950's, 1960's, and 1970's, with the peak period being the 1950's. Nearly 24.4% of the area's housing was built in that decade, compared with Hennepin County's peak of 19% in the 1940's. This construction pattern likely reflects post war suburbanization and increasing car ownership.

Compared to Hennepin County and the Twin Cities Metro Area, 9.0% of Bloomington's housing stock was built since 2000 compared to 13.7% of Hennepin County's and 16.2% of the Twin Cities Metro Area's housing stock.

The Twin Cities metro residential construction activity in 2017 was at its highest level since the recession and back to its 45-year average after 12 years below it, according to the

Metropolitan Council's analysis of last year's municipal building permits. Indeed, even with recent construction activity and planned developments working through permitting, the Twin Cities area faces a housing challenge: Its population is projected to grow more quickly than its housing stock: the metro-area population is forecast to reach 3.5 million in 2030, up 21 percent from 2.9 million in 2010. Bloomington will feel the effects of this area-wide housing need and is well-placed to be seen as an affordable location within the Twin Cities metro area.

Multifamily construction accounted for 60 percent of the total units permitted in 2017. Since 2010, multi-family permits averaged roughly 64 percent of the net change (additions less destruction of housing stock) in metro-area housing. This trend of multi-family permitting appears set to continue for the foreseeable future, even as it has slowed in other parts of the state and country.

Affordable housing in particular

Turning our attention to the portion of the market that is under current or projected housing stress (largely as a function of having income lower than average rents), Maxfield Consulting has created a summary table of potential unit-level demand. The summary includes market rate, shallow subsidy (down to 50-60% AMI), and deep subsidy (under 50%). The shallow subsidy units are those that can be considered workforce housing, while the deep subsidy units reflect deeper challenges that often require supportive services.

Figure 10: Summary of Bloomington's Housing Demand

Summary of Bloomington housing demand for net new housing units
As of April 2017

	2017-2030	Annually
General occupancy	2,861	220
Rental units	**1,913**	**147**
Market rate	849	65
Shallow subsidy	745	57
Deep subsidy	319	25
For sale units	**948**	**73**
Single family	227	17
Multi family	721	55

	2017	2030
Age restricted (senior)	2,467	3,472
Market rate	**1,897**	**2,742**
Adult few services (active adult)	861	1,409
Ownership	*264*	*538*
Rental	*597*	*871*
Congregate	417	402
Assisted licing	371	553
Memory care	248	378
Shallow subsidy	**570**	**730**
Active adult - shallow subsidy	465	537
Active adult - deep subsidy	105	193

Source: Maxfield Research and Consulting 2017, Daedalus Advisory Services

As part of the analysis, Maxfield Consulting also looked at the senior housing market, recognizing that that portion of the population base is growing quickly and that they often have fixed incomes that can quickly become under stress from housing costs.

Their analysis shows that nearly 2,900 units of non-senior housing and another 2,500 units of senior housing may be needed in Bloomington from 2017 to 2030. This is a conservative estimate that is driven by existing population trends remaining more or less as they were projected to be in 2017.

Of the projected units needed, approximately 1,800 are considered traditionally affordable, and perhaps 2,200 if the band for affordable housing is extended up to 120% AMI. This total would translate to 220-250 units/year built between now and 2030 to support projected population growth. Existing needs for affordable housing are not included in these unit numbers as the analysis is focused on incremental housing needs from population growth and assesses affordable needs primarily from an income band perspective.

IV - IHO Lessons Learned

Background and selection of relevant IHO programs to analyze

In an era of decreasing federal subsidies for affordable housing and increasing financial burdens on governments at the local and state levels, implementation of an inclusionary housing policy seems promising. In addition, the combination of higher demand for housing and insufficient creation of supply has inevitably pushed up real estate prices across many jurisdictions. City governments and housing policy advocates are interested in solving this problem using a number of mandatory, voluntary and creative financing, inclusing public private partnership methods.

Inclusionary housing ordinances, in tandem with other programs can stimulate the production of affordable housing units through often, mandatory interventions in local zoning codes. Under such inclusionary zoning, without significant financial subsidies from local governments developers are required by law to build a designated percentage of affordable housing in new residential or mixed-use developments. There are at least an estimated 500 inclusionary housing programs in jurisdictions nationwide, with several jurisdictions that are administering decades old programs.

According to Thaden's report[1] – "the most comprehensive investigation on inclusionary housing conducted to date, this study identifies 886 jurisdictions with inclusionary housing programs located in 25 states and the District of Columbia at the end of 2016. The vast majority of jurisdictions with inclusionary housing are located in New Jersey (45 percent), Massachusetts (27 percent), and California (17 percent).

Although comprehensive data on impact and program characteristics was not available for the majority of programs, the study did find that 373 jurisdictions reported a total of $1.7 billion in impact or in-lieu fees for the creation of affordable housing. Jurisdictions also reported creating a total of 173,707 units of affordable housing, which predominantly excludes additional units created with the $1.7 billion in fees:

- 443 jurisdictions reported creating 49,287 affordable homeownership units;
- 581 jurisdictions reported creating 122,320 affordable rental units; and
- 164 jurisdictions reported an additional 2,100 affordable homes."

While the range, scope and depth of inclusionary housing policies is wide, we have selected the following 4 cities as case studies for Bloomington:

[1] Inclusionary Housing in the United States: Prevalence, Impact, and Practices Working Paper WP17ET1, Emily Thaden, Ph.D. Grounded Solutions Network, Ruoniu Wang, Ph.D. Grounded Solutions Network

Table 1: Sample Cities with on-going IHO programs

	City	Description and Rationale
1.	Montgomery County, MD	Surrounding Washington DC. Pioneer in affordable housing and significant unit production track record. Innovative program addressing urban and peri-urban areas experiencing rapid economic growth and housing costs. Achieved more than 12,000 units delivered since inception, refined mix of incentives, attention to un-intended consequences, highly integrated approach with other local housing initiatives.
2.	Denver, CO	New IHO program (since 2013), revised 2014 designed to address fast growth with wide range of incentives designed to stimulate production in specific locations. IHO design is unit production focused, with innovations addressing off-site and in-lieu payments.
3.	Carlsbad, CA	Northern suburban city near San Diego, CA. Strong desire for economic integration. Positive unit production experience; 2,000+ units delivered since 1993.
4.	Evanston, IL	Northern suburb of Chicago, IL with major university anchor. New IHO launched 2016, with revisions underway for 2018. Progressive IHO design to bring in isolated groups, strong connect with economic objectives and sustained job growth.

1. Montgomery County, MD

Overview: Montgomery County, MD has a population of 1.04M people with a median age of 39 and a median household income of $99,763. Between 2015 and 2016 the population of Montgomery County, MD grew from 1.04M to 1.04M, a 0.36% increase and its median household income grew from $98,917 to $99,763, a 0.86% increase. The population of Montgomery County, MD is 44.5% White, 19.1% Hispanic, and 17.8% Black. 41% of the people in Montgomery County, MD speak a non-English language, and 84.8% are U.S. citizens.

IHO Objective and Design: According to the county's program website, "Montgomery County's moderately priced dwelling unit (MPDU) program is one of the nation's first mandatory, inclusionary zoning laws. It was implemented 1973 to help meet the goal of providing a full range of housing choices in the county for all incomes, ages and household sizes. An MPDU is a county government-regulated unit that is required to be affordable to households earning 65 percent of area median income (AMI) for garden-style apartments and 70 percent for high-rise apartments.

Program Highlights:

The program's implementation involves both the public and private sectors, with the local government performing regulatory and administrative functions, and the building industry producing the housing. Between 12.5-15% of the total number of units in every subdivision or high-rise building of 20 or more units must be moderately priced, according to the MPDU regulation.

Effective October 31, 2018, developments with less than 20 but more than 10 units are required to make a payment to the Housing Initiative Fund in lieu of an MPDU requirement on-site. A goal of the Montgomery County Housing Policy states that affordable housing should be available to people of all incomes. To help achieve this goal, the County Council passed the Moderately Priced Housing (MPH) Law in 1974. A provision of the MPH Law requires that between 12.5% and 15% of the houses in new subdivisions of 20 or more units be moderately priced dwelling units (MPDUs). The MPH Law requires that 40% of the MPDUs be offered to the Housing Opportunities Commission (HOC) and other non-profit housing agencies for use by low and moderate income families. Connecting MPDU eligibility expressly to household income as opposed to the MPDU sale price and financing information. MOCO does not permit TIF's as part of the IHO, since financial advisors recommended against potentially impacting County's credit rating.

Requirements:

- 15 percent MPDUs in planning areas in which at least 45 percent of the United States Census tracts have a median household income of at least 150 percent of the countywide median household income.
- Typology includes detached and semi-detached homes (duplexes), townhouses, garden condominiums and high-rise condominiums and apartments.
- Sales prices and rental limits are reviewed annually and are revised to reflect changes in construction costs.
- Agreement must requires a specific number of MPDUs must be constructed on an approved time schedule; in single-family dwelling unit subdivisions, each MPDU must

have 3 or more bedrooms; and in multi-family dwelling units subdivisions, the number of efficiency and one-bedroom MPDUs each must not exceed the ratio that market-rate efficiency and one-bedroom units respectively bear to the total number of market-rate units in the subdivision.

- MPDUs are built along with or before other dwelling units; no or few market rate dwellings are built before any MPDUs are built; the pace of MPDU production reasonably coincides with the construction of market rate units; and the last building built must not contain only MPDUs.

Incentives

Density bonus: current 22% bonus density provision. The percentage of MPDUs required varies from 12.5% to 15% of the total number of units in the development, with the actual percentage for any particular development based upon the density bonus achieved. Developments that receive no density bonus are still required to provide 12.5% of the total number of units as MPDUs. In the recent past, density bonus as n incentive proved to be of limited value to MOCO developers mainly due to lot sizes and height issues in key development sites and corridors.

Fee waivers: At present, the development fee waiver is popular with developers. Other fees such as the Systems Development Charge (SDC) imposed by the Washington Sanitary Sewer Commission (WSSC), and the development impact tax collected by DPS may also be waived for MPDUs upon request and approval. MPDUs also qualify for "green tape" processing status at DPS.

Unit requirements: Allowing the MPDU requirement to be calculated based on floor area ratio instead of a percentage of total units. The FAR-based method permits market-rate projects to satisfy the MPDU requirement as a percentage of square feet of the building, allowing units to be larger than are offered as a percentage of total market-rate units.

In-lieu payments: MOCO rarely sees or allows “in lieu” payments, some exceptions are seen for high price condo projects or where HOA costs are also very high, or for strict environmental purposes. These are typically set at 3% of gross price in practice. These payments work out to a slightly better deal as compared to incorporating units – works well as an incentive. Funds go to Housing Initiative Fund (HIF) which has a broad program to support.

Other features: Housing policy or IHO can refer to new sources of “land” – e.g., parking lots – MOCO deliberately designed a sub-program “parking lots to places” and these included gas stations and lost industrial spaces. This allowed more land for development and affordable units.

- Same with Adaptive Housing – going from office to residential has merit in tight markets.
- MOCO does not permit TIF’s as part of the IHO, since financial advisors recommended against potentially impacting County’s credit rating.

2. Denver, CO

Overview: Denver, CO has a population of 693,060 people with a median age of 34.4 and a median household income of $61,105. Between 2015 and 2016 the population of Denver, CO grew from 682,545 to 693,060, a 1.54% increase and its median household income grew from $58,003 to $61,105, a 5.35% increase.

The population of Denver, CO is 54% White, 30.2% Hispanic, and 9.2% Black. 25.9% of the people in Denver, CO speak a non-English language, and 90.8% are U.S. citizens.

IHO Objective and Design: Denver is at a pivotal point in its search for more affordable housing, where despite extremely low unemployment (2.2%), high workforce participation (90%+), and solid city economic growth, housing costs are growing at such a rapid pace that incomes cannot keep up. There are about 150,000 renter households in Denver; about 61% of these households earn less than $50,000. Half of Denver's renters pay more than 30% of their income for housing; nearly a quarter of these households pay more than 50% for housing.

Program Highlights: The Inclusionary Housing Ordinance requires 10% affordability in new, for-sale developments of 30 or more units. Revisions to Denver's Inclusionary Housing Ordinance (IHO) were passed by Council in two phases. The first round of revisions to the IHO, passed in June of 2013, supported better-educated homeowners, and created circumstances that increase a family's ability to avoid foreclosure and build wealth in diverse neighborhoods. The second phase, guided by an economic study of Denver's housing needs, was passed by City Council in August 2014, and recalibrated the developer requirements to help build more homes, and provide a more flexible range of options to do so.

Denver Inclusionary Zoning Required or voluntary participation of new developments:

- Required participation of all new developments and also existing buildings that are being substantially rehabilitated or remodeled to provide dwelling units (Section 27-104). Applications for building permits must include a Moderately Priced Dwelling Unit (MPDU) plan otherwise they will not be approved by the City and County of Denver Community Planning and Development Agency (CPDA) (Section 27-106).
- Alternatives to providing MPDUs include building more MPDUs at one or more other sites in the same or adjoining statistical neighborhood, or a contribution to the special revenue fund that is equal to 50% of the price per MPDU that is not provided. The prices are determined by CPDA and their table of current maximum sales prices (Section 27-106).
- Developers also receive incentives for building MPDUs as a reimbursement of $5,000 per unit built, up to 50% of the total units in a development, and $10,000 per MPDU built that is affordable for households earning no more than 60% AMI, up to 50% total units built. However, the reimbursement amount is limited to the amount available in the special revenue fund, and is awarded by the director of CPDA (Section 27-107).
- Supplemental incentives include density bonuses of up to 10% if one unit is MPDU, parking requirement reduction of up to 20% if one MPDU is built for every 10 spaces reduced, and expedited processing of building plans if all MPDU requirements are met in plan (Section 27-108).

Minimum project size (#of units): Developments with a total of 30 or more units are required to provide 10% MPDUs, which are affordable to households earning no more than 80% of AMI. Developments with 3 or more stories, elevators, and 60% structured parking, must also

provide 10% of total units as MPDUs, which are affordable for households earning no more than 95% AMI. Maximum purchase prices for MPDUs is determined by the CPDA and is adjusted according to number of bedrooms with a maximum down payment of 5% (Section 27-105).

Guidelines for location and design of affordable housing within market-rate developments: MPDUs are required to be indistinguishable from market-rate units and depending on the size of the development they must be dispersed in two or more locations throughout the development. In single-family developments MPDUs must have 2 or more bedrooms, and in multi-family dwelling units the ratio of one bedroom units must not exceed that of the market-rate units (Section 27-106).

Limits to determine household eligibility for affordable units (AMI range):

Eligibility is determined by AMI calculation adjusted for household size, low and moderate household income are targeted with incomes no more than 80% or 95% AMI depending on the development. Unit must also be the primary residence of eligible household (Section 27-110).

Results

Since this ordinance was put into effect in 1976, the city has experienced the construction of over 15,051 units. The table below shows production since 2010:

Year	For Sale	For Rental	Total
2010	60	170	230
2011	113	0	113
2012	152	77	229
2013	141	435	576
2014	169	167	336
2015	150	185	335
2016	84	245	329

Since the program's inception in 1976, average annual production through 2016:

- For sale 244
- Rental 124
- Total 367

Approximate numbers of MPDUs under control

- For sale 1,344*
- Rental 2,230

** units under private ownership, not including units owned by the Housing Opportunities Commission (HOC)*

3. Evanston, Il

Overview: Evanston, IL has a population of 75,472 people with a median age of 35.3 and a median household income of $71,317. Between 2015 and 2016 the population of Evanston, IL declined from 75,603 to 75,472, a 0.17% decrease and its median household income grew from $70,041 to $71,317, a 1.82% increase.

The population of Evanston, IL is 58.9% White, 16.8% Black, and 11% Hispanic. 23.6% of the people in Evanston, IL speak a non-English language, and 89.5% are U.S. citizens.

IHO Objective and Design: The purpose of IHO is to promote public health, safety, and welfare of the residents of Evanston by requiring residential developments or developments which contain a residential component to include a certain percentage of dwelling units in a proposed development to be priced affordably for low and moderate income households or make a financial contribution to the Affordable Housing Fund in accordance with the terms of the adopted ordinance.

Program Highlights: The amended Inclusionary Housing Ordinance (IHO) was implemented in January 1, 2016.

- General Requirement: For privately funded developments, 10% of the total number of dwelling units in a covered development shall be affordable dwelling units. For properties receiving public funds, 20% of the total number of dwelling units in a covered development shall be affordable dwelling units
- A development containing five (5) or more dwelling units in a TOD area or a development containing ten (10) or more dwelling units outside a TOD area. Coverage includes: a) development that is new residential construction or new mixed use construction with a residential component.; b) development that is the renovation, repurposing or reconstruction of an existing multiple-family residential structure that changes the use from rental to owner occupied units or vice versa, and c) development that will change the use of an existing building from nonresidential to. Residential, and d) a development built in phases.
- The fee in lieu amount per affordable dwelling unit shall be either one hundred thousand dollars ($100,000) for units in a TOD area or seventy- five thousand ($75,000) per affordable dwelling unit in a non-TOD area. The fee in lieu is subject to annual review and revision by the city council.
- Alternative Equivalent Proposals will be reviewed - an applicant may propose to meet IHO requirements by an alternative equivalent action, subject to the review and approval by the City Council. A proposal for an alternative equivalent action may include, but is not limited to, the construction of affordable dwelling units on another site, or acquisition and enforcement of affordability restrictions on existing market rate dwelling units so as to render them affordable dwelling units, or fewer on-site affordable units at prices affordable to households at lower income levels, such as 30% AMI.

Incentives:

- Expedited Application Process
- Fee Deferral: All city required fees related to the covered development shall be for plan review, building permit fees or other similar development review fees for the non-affordable dwelling units, which are not subject to a fee waiver, shall be deferred for payment until the issuance of the first temporary certificate of occupancy for a non-affordable dwelling unit. The project applicant shall not receive a fee deferral from payment for any other City fees associated with the covered development, including but not limited to right-of-way fees, demolition fees, and fees related to the commercial portion(s) of the development.
- Fee Waiver: All projects with a covered development which must comply with the requirements of the IHO shall be exempt from all plan review, building permit fees or other similar development review fees for the affordable units. Whenever a project includes a combination of affordable and market rate housing units, fees shall be pro-rated appropriately as determined by the IHO office.
- Bonuses: Density, height, and FAR (floor area ratio) requirements provided in Title 6 are hereby amended for covered developments that provide on-site affordable units, the development is entitled to the following bonuses:

Development Bonus	In TOD Area	Outside TOD Area
Density	20% bonus	10% bonus
Height	10% bonus	5% bonus
FAR	10% bonus	5% bonus

- Parking reductions

Parking Bonus	In TOD Area	Outside TOD Area
0-1 Bedroom	0.5 parking space	0.75 parking space
2 Bedrooms	1 parking space	1.25 parking space
3+ Bedrooms	1.25 parking space	1.5 parking space

Results

- Since this ordinance was put into effect in 2016, the city has experienced the construction of over XXX units.

4. Carlsbad, CA

Overview

Carlsbad, CA in northern San Diego County has a 2017 population of 112,008 people with a median age of 42.3 and a median household income of $97,145. Between 2015 and 2016 the population of Carlsbad, CA grew from 110,830 to 112,008, a 1.06% increase and its median household income grew from $90,597 to $97,145, a 7.23% increase. The population of Carlsbad, CA is 73.8% White, 14.1% Hispanic, and 7.5% Asian. 17.6% of the people in Carlsbad, CA speak a non-English language, and 94.9% are U.S. citizens.

IHO Objective and Design

The City of Carlsbad adopted the Inclusionary Housing Program in 1993 as an outgrowth of the 1990 Housing Element review. The Program was designed to assist the City in reaching its lower-income housing goals. Specifically to ensure that all residential development, including all master planned and specific planned communities and all residential subdivisions provide a range of housing opportunities for all identifiable economic segments of the population, including households of lower and moderate income. It is also the policy of the city to:

- Require that a minimum of fifteen percent of all approved ownership and qualifying rental units be restricted to and affordable to lower-income households; subject to adjustment based on the granting of an inclusionary credit;
- Require that for those developments which provide ten or more units affordable to lower-income households, at least ten percent of the lower-income units shall have three or more bedrooms;
- Under certain conditions, allow alternatives to on-site construction as a means of providing affordable units; and
- In specific cases, allow inclusionary requirements to be satisfied through the payment of an in-lieu fee as an alternative to requiring inclusionary units to be constructed.

Program Highlights

Covers all residential market-rate dwelling units resulting from new construction of ownership units, including the conversion of apartments to condominiums and to new construction of rental units where the developer receives direct financial assistance, offsets, or any incentive. Any developer not receiving direct financial assistance, offsets, or other incentives may voluntarily agree to provide inclusionary rental units.

- For development of seven or more units, not less than fifteen percent of the total units approved are to be affordable.
- For those developments which are required to provide ten or more units affordable to lower-income households, at least ten percent of the lower-income units shall have three or more bedrooms.
- Alternative to the construction of new inclusionary units is acceptable. Alternatives may include, but not be limited to, acquisition and rehabilitation of affordable units, conversion of existing market-rate units to affordable units, construction of special needs housing projects or programs (shelters, transitional housing, etc.), and the construction of second dwelling units.

- Offsite construction can satisfy affordable housing requirements if shown that objectives can be met by allowing some or all of the inclusionary units associated with one residential project site to be produced and operated at an alternative site or sites.
- Offsets will be offered by the city to the extent that resources and programs for this purpose are available.
- For any qualifying residential development or development revision of less than seven units, the inclusionary requirements may be satisfied through the payment to the city of an in-lieu fee.
- In-lieu fees to be paid for each market-rate dwelling unit are 15% of the subsidy needed to make affordable to a lower-income household one newly constructed, typical attached-housing unit. This subsidy shall be based upon the city council's determination of the average subsidy that would be required to make affordable typical, new two-bedroom/one-bath and three-bedroom/two-bath ownership units and rental units, each with an assumed affordability tenure of at least fifty-five years.
- All in-lieu fees are to be paid to a housing trust fund. At the discretion of the city council, where a developer is authorized to pay a fee in lieu of development, an irrevocable dedication of land or other non-monetary contribution of a value not less than the sum of the otherwise required in-lieu fee may be accepted as an alternative to paying the in-lieu fee.
- Consultant study recommends that the City consider an impact fee that does not exceed $20,000 per unit or $20 per SF.

Incentives

Affordable housing projects that qualify can utilize from the following incentives or concessions:

- A reduction in site development standards or a modification of zoning code or architectural design requirements (excluding State Building Standards), that results in identifiable, financially sufficient and actual cost reductions. A reduction/modification to standards or requirements may include, but is not limited to, a reduction in minimum lot size, setback requirements, and/or in the ratio of vehicular parking spaces that would otherwise be required.
- Approval of mixed use zoning in conjunction with the housing development if: (i) commercial, office, industrial or other land uses will reduce the cost of the housing development; and (ii) the commercial, office, industrial, or other land uses are compatible with the housing development and the existing or planned future development in the area where the proposed project will be located.
- Other regulatory incentives or concessions that result in identifiable, financially sufficient and actual cost reductions.
- The city council may, but is not required to, provide direct financial incentives, including the provision of publicly owned land, or the waiver of fees or dedication requirements.

For qualifying projects:

- One incentive or concession for projects that include at least 10% of the total units for lower-income households, at least five percent for very low-income households, or at least 10% for persons and families of moderate income in a common interest development.
- Two incentives or concessions for projects that include at least 20% of the total units for lower-income households, at least 10% for very low-income households, or at least 20% for persons and families of moderate income in a common interest development.
- Three incentives or concessions for projects that include at least 30% of the total units for lower-income households, at least 15% for very low-income households, or at least 30% for persons and families of moderate income in a common interest development.

Results

Since this ordinance was put into effect in 1993, the city has experienced the successful construction of over 2,000 units of housing affordable to low, very low and extremely low income households.

V - Quantifying potential impacts

Approach

To evaluate the likely impact of in lieu fees on the financial returns of multi-family unit development as well as any potential social housing subsidiary (a city-led effort to directly create new affordable housing units), Daedalus designed and built a custom excel financial model. We did not model potential incentives to offset the costs imposed by the IHO in this model, but in a separate model for an actual project in planning currently.

This model evaluates four strategies:

1 – All market rate units with no in-lieu fees

2 - All market rate units with $50k per affordable unit in-lieu fees

3 - All market rate units with $100k per affordable unit in-lieu fees

4 – An 80-20% market – affordable development

Each strategy runs iterations along a line of increasing unit counts, from five to three-hundred units, to understand how potential returns change as unit numbers increase.

The model assumes a standard land cost per acre of $750,000 that is applied according to a scaled use of land for a given number of units (see image at right).

Land area	
DU/Acre	Req'd acres
25	0.20
25	1.00
60	0.83
60	1.67
60	2.50
90	2.22
90	3.33

There are numerous differences across the inputs and discount rates for each of the strategies and unit counts in the model, but we generally tried to maintain changes to only the most important elements.

The model's project cost estimates include land, building and parking hard costs, soft costs and financing costs. RS Means data provides our hard cost estimates for building costs, parking and soft costs come from a combination of industry knowledge and discussions with local developers. Financing costs come from the model (for interest carry during construction) and industry knowledge for lender point averages and rates.

As there are many types of construction approaches, materials and finishes, we used samples from RS Means that were appropriate for the scale of units that we evaluated. It is not practical to attempt to model all potential construction types for all potential developments or redevelopments. The scale differences in the strategies above give users a clearer understanding of how a notional developer's decision-making may be impacted by changes to incentives or fees.

Our intention with modeling the strategies and unit iterations is to allow a conversation among the city's key stakeholders that takes into account how best to craft legislation that does not create conditions that reduce the number of total residential units being developed, while also providing calculations of potential in-lieu fees to determine their impact on the project's returns.

Modeling approach and key assumptions

Financial models require input assumptions about a range of items: the property itself (size, bedrooms, common areas, etc), the timing of the key events in the property's lifecycle, development costs (land, construction, soft and financing costs), sales rates (cap rates and sales period), and financing details for the construction and permanent loans. For a standard real estate financial model, it is not uncommon to have more over 100 input items, once input rates and quantities are accounted for.

When creating multiple models, such as we have done in this exercise, the input challenge quickly becomes vast. To manage this many model options, we have set some inputs as fixed across all models, such as the square footage needed for a parking stall (330), while allowing for flexible inputs for rental rates, discount rates and hard costs that would apply to some or all of the models at once.

Figure 11: Development costs per square foot by strategy and project

	Active?	Option	Units	Land acq cost	Land prep co	Hard costs	Parking	Soft costs	In Lieu	Dev fee	Contingency	Units	Total $/GSF
	Yes												
Market	Yes	1	5	$ 40.71	$ 2.71	$ 110.00	$ 8.82	$ 20.29	$ -	$ 4.25	$ 7.09	5	$ 193.87
	Yes	2	25	$ 16.96	$ 2.71	$ 170.00	$ 8.82	$ 27.63	$ -	$ 6.28	$ 10.46	25	$ 242.86
	Yes	3	50	$ 16.07	$ 2.57	$ 170.00	$ 8.35	$ 25.89	$ -	$ 6.20	$ 10.34	50	$ 239.42
	Yes	4	100	$ 15.17	$ 2.43	$ 185.00	$ 28.09	$ 26.24	$ -	$ 6.04	$ 12.09	100	$ 275.06
	Yes	5	150	$ 15.17	$ 2.43	$ 165.00	$ 28.84	$ 23.44	$ -	$ 5.49	$ 10.99	150	$ 251.36
	Yes	6	200	$ 10.11	$ 2.43	$ 210.00	$ 29.22	$ 29.74	$ -	$ 6.78	$ 13.57	200	$ 301.85
	Yes	7	300	$ 10.11	$ 2.43	$ 205.00	$ 29.59	$ 29.04	$ -	$ 6.65	$ 13.30	300	$ 296.13
	Yes												
Market $50k IL	Yes	8	5	$ 40.71	$ 2.71	$ 110.00	$ 8.82	$ 20.29	$ 13.57	$ 4.25	$ 7.09	5	$ 207.44
In lieu fee	Yes	9	25	$ 16.96	$ 2.71	$ 170.00	$ 8.82	$ 27.63	$ 13.57	$ 6.28	$ 10.46	25	$ 256.43
$ 50,000	Yes	10	50	$ 16.07	$ 2.57	$ 170.00	$ 8.35	$ 25.89	$ 12.85	$ 6.20	$ 10.34	50	$ 252.28
	Yes	11	100	$ 15.17	$ 2.43	$ 185.00	$ 28.09	$ 26.24	$ 12.14	$ 6.04	$ 12.09	100	$ 287.20
	Yes	12	150	$ 15.17	$ 2.43	$ 165.00	$ 28.84	$ 23.44	$ 12.14	$ 5.49	$ 10.99	150	$ 263.49
	Yes	13	200	$ 10.11	$ 2.43	$ 210.00	$ 29.22	$ 29.74	$ 12.14	$ 6.78	$ 13.57	200	$ 313.99
	Yes	14	300	$ 10.11	$ 2.43	$ 205.00	$ 29.59	$ 29.04	$ 12.14	$ 6.65	$ 13.30	300	$ 308.26
	Yes												
Market $100k IL	Yes	15	5	$ 40.71	$ 2.71	$ 110.00	$ 8.82	$ 20.29	$ 27.14	$ 4.25	$ 7.09	5	$ 221.01
In lieu fee	Yes	16	25	$ 16.96	$ 2.71	$ 170.00	$ 8.82	$ 27.63	$ 27.14	$ 6.28	$ 10.46	25	$ 270.00
$ 100,000	Yes	17	50	$ 16.07	$ 2.57	$ 170.00	$ 8.35	$ 25.89	$ 25.71	$ 6.20	$ 10.34	50	$ 265.13
	Yes	18	100	$ 15.17	$ 2.43	$ 185.00	$ 28.09	$ 26.24	$ 24.27	$ 6.04	$ 12.09	100	$ 299.34
	Yes	19	150	$ 15.17	$ 2.43	$ 165.00	$ 28.84	$ 23.44	$ 24.27	$ 5.49	$ 10.99	150	$ 275.63
	Yes	20	200	$ 10.11	$ 2.43	$ 210.00	$ 29.22	$ 29.74	$ 24.27	$ 6.78	$ 13.57	200	$ 326.12
	Yes	21	300	$ 10.11	$ 2.43	$ 205.00	$ 29.59	$ 29.04	$ 24.27	$ 6.65	$ 13.30	300	$ 320.40
	Yes												
Affordable	Yes	22	5	$ 40.71	$ 2.71	$ 110.00	$ 8.82	$ 20.29	$ -	$ 4.25	$ 7.09	5	$ 193.87
	Yes	23	25	$ 16.96	$ 2.71	$ 170.00	$ 8.82	$ 27.63	$ -	$ 6.28	$ 10.46	25	$ 242.86
$ -	Yes	24	50	$ 16.07	$ 2.57	$ 170.00	$ 8.35	$ 25.89	$ -	$ 6.20	$ 10.34	50	$ 239.42
	Yes	25	100	$ 15.17	$ 2.43	$ 185.00	$ 28.09	$ 26.24	$ -	$ 6.04	$ 12.09	100	$ 275.06
	Yes	26	150	$ 15.17	$ 2.43	$ 165.00	$ 28.84	$ 23.44	$ -	$ 5.49	$ 10.99	150	$ 251.36
	Yes	27	200	$ 10.11	$ 2.43	$ 210.00	$ 29.22	$ 29.74	$ -	$ 6.78	$ 13.57	200	$ 301.85
	Yes	28	300	$ 10.11	$ 2.43	$ 205.00	$ 29.59	$ 29.04	$ -	$ 6.65	$ 13.30	300	$ 296.13

The input assumptions that we focused on were those that tend to be the most important for determining underlying project fundamentals (core costs, rental rates, cap and discount rates).

Beginning with All-In costs per square foot (land, hard, soft and financing costs), the table at right summarizes costs by the number of units in a development. The costs rise as structural component costs increase for larger buildings (from wood to steel, for example). These costs are not completely linear because although there may be a breakpoint at 100 units, there may not be an economy of scale until more units are built within that construction method.

All in development costs range from $193.87 / gross square foot for a five-unit building to $296.13 / gross square foot for a three hundred-unit building. As the building size increases, we selected options from RS Means that were appropriate for the scale of construction being proposed. For up to fifty- units, we estimated a hardi-board over stick project. For one hundred units, we proposed brick over steel. For one hundred to two hundred units, we proposed an exterior insulated finishing product over steel. Finally, for the three-hundred unit building, we went back to brick over steel. In all cases over one hundred units, we added two additional elevators (typically 2500 or 3500 pound options) to RS Means' default options.

Unit sizes were held constant for all building sizes at 700 square feet (net). The model did not attempt to create variations on unit types (studios, 1, 2 and 3 bedrooms) and then estimate the allocation of those units within each potential building. The likelihood that we could allocate the units as a developer would in a specific location or to match the specific market details is low. Instead, the model maintains a single unit type and size to focus attention on how the building performs under the controlled changes within the various options.

Market rents in the model began at $1250 per unit per month for a five unit building and escalated to $1,600 per unit per month in a three-hundred-unit building. Those rent levels on a per net square foot level range from $1.79 to $2.29 and essentially have to increase along with construction costs for any project of this size to even potentially generate a financial profit. Even set at these rent levels (as we shall see), the larger projects are not feasible without even higher rents.

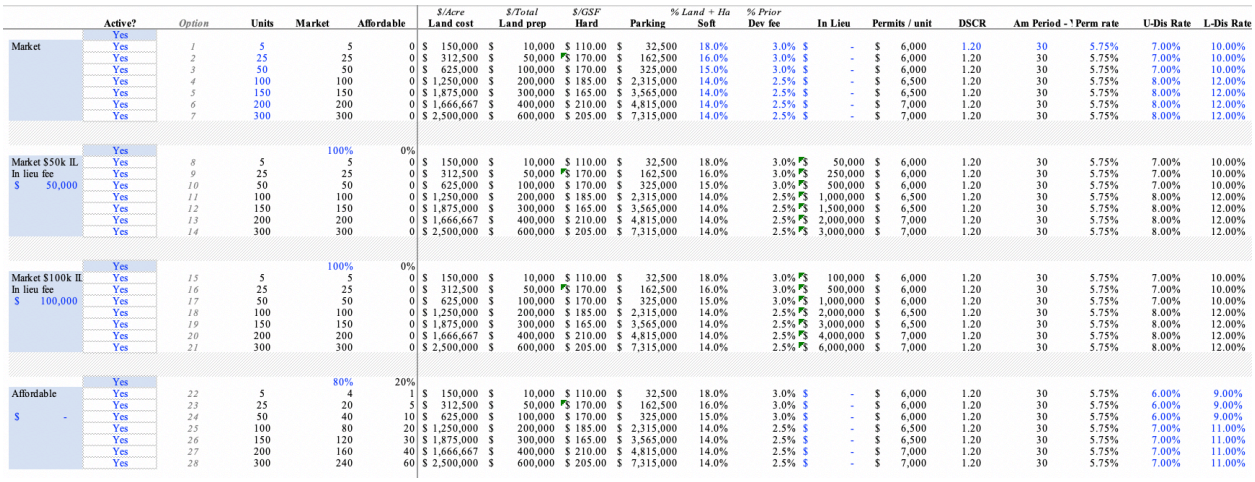
Figure 12: Development inputs by strategy and project

	Active?	Option	Units	Market	Affordable	NSF/Unit	Net to Gross	M-rent	A-Rent	M $/GSF	A $/GSF
	Yes										
Market	Yes	1	5	5	0	700	95%	$ 1,250	$ 500	$ 1.79	$ 0.71
	Yes	2	25	25	0	700	95%	$ 1,300	$ 500	$ 1.86	$ 0.71
	Yes	3	50	50	0	700	90%	$ 1,350	$ 500	$ 1.93	$ 0.71
	Yes	4	100	100	0	700	85%	$ 1,400	$ 500	$ 2.00	$ 0.71
	Yes	5	150	150	0	700	85%	$ 1,450	$ 500	$ 2.07	$ 0.71
	Yes	6	200	200	0	700	85%	$ 1,600	$ 500	$ 2.29	$ 0.71
	Yes	7	300	300	0	700	85%	$ 1,600	$ 500	$ 2.29	$ 0.71
	Yes			100%	0%						
Market $50k IL	Yes	8	5	5	0	700	95%	$ 1,250	$ 500	$ 1.79	$ 0.71
In lieu fee	Yes	9	25	25	0	700	95%	$ 1,300	$ 500	$ 1.86	$ 0.71
$ 50,000	Yes	10	50	50	0	700	90%	$ 1,350	$ 500	$ 1.93	$ 0.71
	Yes	11	100	100	0	700	85%	$ 1,400	$ 500	$ 2.00	$ 0.71
	Yes	12	150	150	0	700	85%	$ 1,450	$ 500	$ 2.07	$ 0.71
	Yes	13	200	200	0	700	85%	$ 1,600	$ 500	$ 2.29	$ 0.71
	Yes	14	300	300	0	700	85%	$ 1,600	$ 500	$ 2.29	$ 0.71
	Yes			100%	0%						
Market $100k IL	Yes	15	5	5	0	700	95%	$ 1,250	$ 500	$ 1.79	$ 0.71
In lieu fee	Yes	16	25	25	0	700	95%	$ 1,300	$ 500	$ 1.86	$ 0.71
$ 100,000	Yes	17	50	50	0	700	90%	$ 1,350	$ 500	$ 1.93	$ 0.71
	Yes	18	100	100	0	700	85%	$ 1,400	$ 500	$ 2.00	$ 0.71
	Yes	19	150	150	0	700	85%	$ 1,450	$ 500	$ 2.07	$ 0.71
	Yes	20	200	200	0	700	85%	$ 1,600	$ 500	$ 2.29	$ 0.71
	Yes	21	300	300	0	700	85%	$ 1,600	$ 500	$ 2.29	$ 0.71
	Yes			80%	20%						
Affordable	Yes	22	5	4	1	700	95%	$ 1,250	$ 500	$ 1.79	$ 0.71
	Yes	23	25	20	5	700	95%	$ 1,300	$ 500	$ 1.86	$ 0.71
$ -	Yes	24	50	40	10	700	90%	$ 1,350	$ 500	$ 1.93	$ 0.71
	Yes	25	100	80	20	700	85%	$ 1,400	$ 500	$ 2.00	$ 0.71
	Yes	26	150	120	30	700	85%	$ 1,450	$ 500	$ 2.07	$ 0.71
	Yes	27	200	160	40	700	85%	$ 1,600	$ 500	$ 2.29	$ 0.71
	Yes	28	300	240	60	700	85%	$ 1,600	$ 500	$ 2.29	$ 0.71

Because affordable rents differ depending on a number of factors, such as the number of people in a household, unit size and whether utilities are included in the rental rate, the model uses a common estimate of $500 per unit per month ($.71 per net square foot). The affordable rental rate does not change throughout the model's various strategies or unit size options.

Common areas and circulation in the buildings increased as the unit count grew. From 5% in the five unit building to 15% in the three-hundred-unit building (roughly 37,000 gross square feet).

Figure 13: Development inputs by strategy and project



	Active?	Option	Units	Market	Affordable	$/Acre Land cost	$/Total Land prep	$/GSF Hard	Parking	% Land + Ha Soft	% Prior Dev fee	In Lieu	Permits / unit	DSCR	Am Period - Yr	Perm rate	U-Dis Rate	L-Dis Rate
	Yes																	
Market	Yes	1	5	5	0	$ 150,000	$ 10,000	$ 110.00	$ 32,500	18.0%	3.0%	$ -	$ 6,000	1.20	30	5.75%	7.00%	10.00%
	Yes	2	25	25	0	$ 312,500	$ 50,000	$ 170.00	$ 162,500	16.0%	3.0%	$ -	$ 6,000	1.20	30	5.75%	7.00%	10.00%
	Yes	3	50	50	0	$ 625,000	$ 100,000	$ 170.00	$ 325,000	15.0%	3.0%	$ -	$ 6,000	1.20	30	5.75%	7.00%	10.00%
	Yes	4	100	100	0	$ 1,250,000	$ 200,000	$ 185.00	$ 2,315,000	14.0%	2.5%	$ -	$ 6,500	1.20	30	5.75%	8.00%	12.00%
	Yes	5	150	150	0	$ 1,875,000	$ 300,000	$ 165.00	$ 3,565,000	14.0%	2.5%	$ -	$ 6,500	1.20	30	5.75%	8.00%	12.00%
	Yes	6	200	200	0	$ 1,666,667	$ 400,000	$ 210.00	$ 4,815,000	14.0%	2.5%	$ -	$ 7,000	1.20	30	5.75%	8.00%	12.00%
	Yes	7	300	300	0	$ 2,500,000	$ 600,000	$ 205.00	$ 7,315,000	14.0%	2.5%	$ -	$ 7,000	1.20	30	5.75%	8.00%	12.00%
	Yes			100%	0%													
Market $50k IL	Yes	8	5	5	0	$ 150,000	$ 10,000	$ 110.00	$ 32,500	18.0%	3.0%	50,000	$ 6,000	1.20	30	5.75%	7.00%	10.00%
In lieu fee	Yes	9	25	25	0	$ 312,500	$ 50,000	$ 170.00	$ 162,500	16.0%	3.0%	250,000	$ 6,000	1.20	30	5.75%	7.00%	10.00%
$ 50,000	Yes	10	50	50	0	$ 625,000	$ 100,000	$ 170.00	$ 325,000	15.0%	3.0%	500,000	$ 6,000	1.20	30	5.75%	7.00%	10.00%
	Yes	11	100	100	0	$ 1,250,000	$ 200,000	$ 185.00	$ 2,315,000	14.0%	2.5%	1,000,000	$ 6,500	1.20	30	5.75%	8.00%	12.00%
	Yes	12	150	150	0	$ 1,875,000	$ 300,000	$ 165.00	$ 3,565,000	14.0%	2.5%	1,500,000	$ 6,500	1.20	30	5.75%	8.00%	12.00%
	Yes	13	200	200	0	$ 1,666,667	$ 400,000	$ 210.00	$ 4,815,000	14.0%	2.5%	2,000,000	$ 7,000	1.20	30	5.75%	8.00%	12.00%
	Yes	14	300	300	0	$ 2,500,000	$ 600,000	$ 205.00	$ 7,315,000	14.0%	2.5%	3,000,000	$ 7,000	1.20	30	5.75%	8.00%	12.00%
	Yes			100%	0%													
Market $100k IL	Yes	15	5	5	0	$ 150,000	$ 10,000	$ 110.00	$ 32,500	18.0%	3.0%	100,000	$ 6,000	1.20	30	5.75%	7.00%	10.00%
In lieu fee	Yes	16	25	25	0	$ 312,500	$ 50,000	$ 170.00	$ 162,500	16.0%	3.0%	500,000	$ 6,000	1.20	30	5.75%	7.00%	10.00%
$ 100,000	Yes	17	50	50	0	$ 625,000	$ 100,000	$ 170.00	$ 325,000	15.0%	3.0%	1,000,000	$ 6,000	1.20	30	5.75%	7.00%	10.00%
	Yes	18	100	100	0	$ 1,250,000	$ 200,000	$ 185.00	$ 2,315,000	14.0%	2.5%	2,000,000	$ 6,500	1.20	30	5.75%	8.00%	12.00%
	Yes	19	150	150	0	$ 1,875,000	$ 300,000	$ 165.00	$ 3,565,000	14.0%	2.5%	3,000,000	$ 6,500	1.20	30	5.75%	8.00%	12.00%
	Yes	20	200	200	0	$ 1,666,667	$ 400,000	$ 210.00	$ 4,815,000	14.0%	2.5%	4,000,000	$ 7,000	1.20	30	5.75%	8.00%	12.00%
	Yes	21	300	300	0	$ 2,500,000	$ 600,000	$ 205.00	$ 7,315,000	14.0%	2.5%	6,000,000	$ 7,000	1.20	30	5.75%	8.00%	12.00%
	Yes			80%	20%													
Affordable	Yes	22	5	4	1	$ 150,000	$ 10,000	$ 110.00	$ 32,500	18.0%	3.0%	$ -	$ 6,000	1.20	30	5.75%	6.00%	9.00%
	Yes	23	25	20	5	$ 312,500	$ 50,000	$ 170.00	$ 162,500	16.0%	3.0%	$ -	$ 6,000	1.20	30	5.75%	6.00%	9.00%
$ -	Yes	24	50	40	10	$ 625,000	$ 100,000	$ 170.00	$ 325,000	15.0%	3.0%	$ -	$ 6,000	1.20	30	5.75%	6.00%	9.00%
	Yes	25	100	80	20	$ 1,250,000	$ 200,000	$ 185.00	$ 2,315,000	14.0%	2.5%	$ -	$ 6,500	1.20	30	5.75%	7.00%	11.00%
	Yes	26	150	120	30	$ 1,875,000	$ 300,000	$ 165.00	$ 3,565,000	14.0%	2.5%	$ -	$ 6,500	1.20	30	5.75%	7.00%	11.00%
	Yes	27	200	160	40	$ 1,666,667	$ 400,000	$ 210.00	$ 4,815,000	14.0%	2.5%	$ -	$ 7,000	1.20	30	5.75%	7.00%	11.00%
	Yes	28	300	240	60	$ 2,500,000	$ 600,000	$ 205.00	$ 7,315,000	14.0%	2.5%	$ -	$ 7,000	1.20	30	5.75%	7.00%	11.00%

Soft costs decline as a percentage of total project costs, from 18% down to 14% in the highest unit count options. Financing costs are separately calculated and are not included in these figures.

Permits are set at $6000 per unit until projects reached 200 units, at which point the model assumes that permit fees would rise to $7000 per unit, reflecting higher city-issued fees for the larger projects.

In lieu fees for options that include such are set at $50,000 or $100,000 per affordable unit. The model's default affordable housing mix is set at 80% market rate and 20% affordable units. The two strategy options that include in-lieu fees are designed to take the base market rate strategy, apply the default affordable rate unit calculations to each project size, but then paying the specified in-lieu fee rather than building those units.

The development period interest rate is set at 7.5% on an interest only loan for construction, that is then taken out by a permanent loan at 30 years and 5.75% with a loan to value (LTV) maximum of 70% or Debt Service Coverage Ratio (DSCR) of 1.2. In reality, commercial projects like those modeled here would likely have shorter term debt (often a ten-year loan term with a longer amortization period), but the thirty year term approximates those continuous refinancing events.

Lease up activities are constrained to a maximum of twelve months following an eighteen-month development period. Stabilized operations begin the month following the end of lease up and operating expenses are held to 35% of income. Sales values are determined by the Net Operating Income (NOI) of the year after the notional sale's date (in line with financial theory that an investor is buying the capitalized value of the next year's cashflow).

The model separates out costs into those that are due to financing and all other costs. The non-financing costs reflect the costs of developing the property using only the developer's own capital (an all equity investment). The model allocates equity against these costs and brings unfunded costs into an area where loan points and interest can be added to the total unfunded balance. The all equity cashflow logic in the model takes the NOI, adds to them the all equity-funded investment cashflows and additional capital expenditure for replacement reserves, then adds the final sales value. The total resulting cashflows are the unleveraged cashflows for the

project. For the leveraged cashflows, the unleveraged cashflows are added to the loan points and interest costs and / or debt payments.

Date specific (and highly accurate) Internal Rate of Return (IRR) and Net Present Value (NPV) calculations are run against each cashflow stream (unleveraged and leveraged) to show how project's financial returns. Discount rates for the unleveraged cashflows are set at 7.0%, which is not at the low end of most market measures, and at 12% for the riskier, leveraged cashflows (riskier because debt obligations add complexity and legal challenges to the project if debt payments are not made). Like the unleveraged cashflows, the leveraged cashflow discount rate is not particularly high by market standards. The net present value discount rate was set at 12%, indicating a 12% profit target for the project.

Model results without incentives

The model's results are best read from the left-hand column down and then across when comparing the different strategies or from left to right when evaluating a particular unit count within a strategy.

Using unleveraged cashflows as an example, the market strategy shows nominal profits of between $634k for a five-unit building and $26M for a three-hundred-unit building. As in-lieu fees are added for affordable units that were not built onsite, those same nominal profits drop to a range of $566k to $23M for a $50k per affordable unit in lieu fee, or $516k to $20M for a $100k in lieu fee. Building the affordable units onsite reduces nominal unleveraged profit to $345k to $5M for the range of unit counts.

Figure 14: Development returns by strategy and project

	Active?	Option	Units	U-CFs	L-CFs	U-XIRR	U-NPV	L-XIRR	L-NPV	Dev$/unit	L-NPV$/unit
	Yes										
Market	Yes	1	5	$634,652	$374,929	10.94%	$168,008	18.43%	$115,239	$160,686	$23,048
	Yes	2	25	$2,386,186	$986,751	7.18%	$44,974	7.71%	($196,897)	$199,616	($7,876)
	Yes	3	50	$4,858,289	$1,960,348	7.04%	$19,987	7.34%	($478,065)	$207,468	($9,561)
	Yes	4	100	$6,605,269	$347,026	4.22%	($4,233,781)	0.53%	($4,713,017)	$251,562	($47,130)
	Yes	5	150	$14,303,171	$4,933,432	6.32%	($2,696,627)	5.52%	($3,633,094)	$230,500	($24,221)
	Yes	6	200	$16,510,708	$2,509,260	4.75%	($8,070,229)	1.75%	($9,238,367)	$275,914	($46,192)
	Yes	7	300	$26,181,343	$5,289,948	5.08%	($10,764,237)	2.51%	($12,583,349)	$270,827	($41,944)
	Yes										
Market $50k IL	Yes	8	5	$566,315	$303,700	9.47%	$108,931	14.08%	$59,200	$171,468	$11,840
In lieu fee	Yes	9	25	$2,136,186	$717,173	6.24%	($193,456)	5.30%	($428,302)	$210,399	($17,132)
$ 50,000	Yes	10	50	$4,358,289	$1,421,193	6.13%	($456,873)	5.04%	($940,875)	$218,251	($18,817)
	Yes	11	100	$5,605,269	($731,287)	3.49%	($5,181,371)	-1.07%	($5,613,346)	$262,344	($56,133)
	Yes	12	150	$12,803,171	$3,315,965	5.51%	($4,118,013)	3.54%	($4,983,587)	$241,282	($33,224)
	Yes	13	200	$14,510,708	$352,626	4.08%	($9,965,409)	0.24%	($11,039,026)	$286,697	($55,195)
	Yes	14	300	$23,181,343	$2,054,998	4.39%	($13,607,008)	0.94%	($15,284,337)	$281,610	($50,948)
	Yes										
Market $100k IL	Yes	15	5	$516,315	$249,786	8.34%	$61,245	10.83%	$12,920	$182,251	$2,584
In lieu fee	Yes	16	25	$1,886,186	$447,605	5.35%	($431,886)	3.14%	($659,704)	$221,181	($26,388)
$ 100,000	Yes	17	50	$3,858,289	$882,057	5.28%	($933,733)	2.98%	($1,403,679)	$229,033	($28,074)
	Yes	18	100	$4,605,269	($1,809,560)	2.80%	($6,128,961)	-2.55%	($6,513,663)	$273,127	($65,137)
	Yes	19	150	$11,303,171	$1,698,556	4.74%	($5,539,398)	1.73%	($6,334,063)	$252,065	($42,227)
	Yes	20	200	$12,510,708	($1,803,920)	3.44%	($11,860,589)	-1.16%	($12,839,661)	$297,479	($64,198)
	Yes	21	300	$20,181,343	($1,179,821)	3.74%	($16,449,778)	-0.52%	($17,985,289)	$292,392	($59,951)
	Yes										
Affordable	Yes	22	5	$345,961	$127,198	6.60%	$24,399	6.21%	($39,853)	$160,686	($7,971)
	Yes	23	25	$968,642	($224,051)	3.19%	($660,648)	-1.73%	($974,902)	$199,616	($38,996)
$ -	Yes	24	50	$1,963,922	($506,420)	3.12%	($1,406,099)	-1.88%	($2,055,811)	$207,468	($41,116)
	Yes	25	100	$621,166	($4,753,655)	0.43%	($7,044,689)	0.00%	($7,827,557)	$251,562	($78,276)
	Yes	26	150	$5,033,963	($2,968,297)	2.44%	($7,026,224)	-3.30%	($8,406,447)	$230,499	($56,043)
	Yes	27	200	$2,979,547	($9,029,236)	0.94%	($14,418,812)	0.00%	($16,259,629)	$275,914	($81,298)
	Yes	28	300	$5,884,602	($12,017,796)	1.25%	($20,278,437)	-5.68%	($23,097,610)	$270,827	($76,992)

Once debt is considered, those nominal profit levels fall even more. The market-only strategy delivers $374k to $5M in after debt nominal profit, falling to $303k to $2M for the range of units with a $50k in lieu fee. With that fee doubled to $100k, returns are only nominally positive up to the fifty-unit level, with returns of $249k for a five-unit building, $882k for a fifty-unit building, -$1.8M for a one hundred unit building before becoming positive again (remember that

construction costs are not perfectly linear, creating breakpoints with unexpected financial results), before ending the range with -$1.2M for the three-hundred-unit option. The affordable housing strategy losses money for all but the very first option (the five-unit building).

The returns just discussed were all nominal, that is, they did not account for the time value of money. Just as you would value $1M more now than you would in fifty years, so would investors. Inflation, risk premiums and debt costs also add real costs to that innate preference. For those reasons, investor discount future returns by a number that reflects the costs of the above factors. As noted previously, the model uses 7% to discount unleveraged cashflows and 12% for leveraged cashflows.

Under the discounted cashflows approach (U-NPV = unleveraged net present value, L-NPV = leveraged net present value), essentially none of the project evaluated here can generate sufficient profit to be financially feasible.

This result may be counter-intuitive as new residential construction is ongoing across Bloomington, but it makes sense in the context of high (and rising) construction costs and a relatively low ceiling on rental rates. Actual developers would spend a large amount of time refining the design and construction materials to reduce costs, negotiating with the city for regulatory exemptions to lower costs for parking (as a common example), securing land at lower costs than are assumed in this model or negotiating better debt terms. In those cases, profits are generated through a multi-pronged approach of incremental savings or revenue enhancements (to say nothing of taking risks by targeting rental rates that are higher than the current market rates to justify the costs of development).

To understand how far from achieving the target profit rates each strategy and unit count is, just look at the L-NPV column. The negative numbers shown there indicate the exact amount that the project must gain to achieve its profit target. As an example, for the 300 unit building with a $100k per affordable unit in-lieu fee, the current negative net present value is -$17.9M. To hit the 12% profit return threshold, the project must gain that much value from either reducing construction costs by an equal amount, adding revenue such that the total discounted value of the added value is equal to the negative NPV or some combination of the two approaches. A developer may reduce construction costs by $2M through additional value engineering, request a TIF of $10M from the city or county and raise rents across the market units to close the hole.

Incentives analysis

As an extension the financial analysis exercise, our team was instructed by the City of Bloomington to work with an actual project from a multi-family developer active in the city to test how a project's financials would change with potential incentives.

To protect the developer's privacy, we are modifying some aspects of his project's details and only discussing high level final returns with and without the incentives.

Our analysis included four incentive types:

1) Parking reductions: reducing the requirements for onsite parking stalls

2) Density bonuses: adding market rate units when requiring affordable units in a project

3) Tax increment financings (TIFs): capturing the future growth in a project's tax revenues to offset development costs

4) Fee deferrals: time shifting when development fees for permitting, parks and other requirements are due

The parking reduction incentive helps developers by reducing the requirement to have parking stalls onsite based on the development plan and activity onsite. Residential units, for example, often have a requirement for at least one parking stall per residential unit (with per bedroom adjustments being common). Reducing the parking requirements directly impacts how a development site can be used spatially as well as reducing the costs of parking, which averages roughly $35,000 for an underground stall, $25,00 above ground and $6,500 on grade. Not all parking reduction is created equal, however. Having too few parking stalls onsite with no alternatives nearby may make a project unmarketable and hence unprofitable because potential tenants may want some amount of parking onsite. This incentive then is important but often loses its benefit after an approximately 30% reduction in parking requirements.

Density bonuses directly impact the revenue generating potential of a project. Typically, a jurisdiction will allow some additional percentage of the originally allowed market rate units to be added to the market rate total. As an example, assume that a developer can build 100 units by zoning regulations with 20% being affordable (80 market rate units and 20 affordable units). A 30% density bonus would grant the developer an additional 24 market rate units (104 market rate and 20 affordable units). This incentive is quite powerful when the market can absorb the additional units at full market rates. In declining markets or specific locations where demand may not be very strong, additional market units may make the project harder to finance or lease-up. Like parking reductions, general economic conditions will partially determine the effectiveness and attractiveness of this incentive.

Tax increment financing (TIF) often takes the form of a payment to a developer with the periodic costs of that debt covered by the increase in the value of the land and other tax basis of the property. As an example, assume a parcel of land generates $100 in property taxes now (ignore other potential taxes for the moment). Under a proposed property development plan, the property would generate $250 in land taxes. The extra $150 in property taxes each year can be used to service the debt placed on the property. While there are variations on this approach, the conceptual logic tends to be similar: capture the incremental value creation as the mechanism to repay debt.

Developers often ask for a TIF because of a regulatory burden that has been placed on them for a public purpose. As shown in the financial analysis earlier, the ability to offset a portion of administratively required parking or affordable housing costs using a TIF goes very far towards getting a project into the black (financially speaking). For this reason, there is little downside for most developers (outside of debt service coverage risk if the project bears any direct repayment liability). A municipality on the other hand must balance its ability to borrow through General Obligation (GO) bonds or other methods as well as the impact on its credit rating of issuing additional debt.

Fee deferrals cover two distinct options. The first option would be simply time shifting when fees are due, but requiring all fees to be paid (though the city has the option of waiving fees as well). For this option, the logic used was that if a project had either 1) 20% or more of its units as affordable to 60% - 80% AMI, or 2) more than 10% of units were affordable to those earning 30% AMI or below, then most fees associated with development (permits,

development and parks dedication – water tap fees were excluded from the formula) could be paid twelve months after the Certificate of Occupancy (CofO). The reasoning behind this timing is that developers often refinance their property from the construction loan into a permanent loan once stabilized operations have been reached (at the end of the lease up period). Allowing developers up to twelve months after the CofO to pay their development fees reduces their capital outlay upfront and allows the fees to be paid out of the refinancing proceeds (which are often higher than what is owed on the construction loan). The second option is that the fees themselves can shift from a development cost to an operating one by making the fee payable as an interest-bearing note over a fixed period. The advantage for developers of this approach is that under a long-enough financing period, the additional cost burden on operations may be spread over the operating units as an operating cost. The disadvantage for developers of this approach is that unless the financing period is longer than ten years, the large fees associated with development will likely reduce NOI, which in turn reduces the total that can be borrowed as a permanent loan. In addition, the city's finances would be impacted for a longer time period, even with a quasi-market rate of interest (6% in the model runs that we performed). The deferred fee option simply provides an additional layer of flexibility to developers to make their numbers work.

Incentive modeling

We used the developer's model for a nearly 200 unit project as a base on which to graft the incentives in relevant areas (such as unit counts by selected strategy). Three strategies were used: one with 20% of the units at 60% AMI, one at all market rate rentals and one at 20% of the units at 30% AMI.

Figure 15: Development returns without incentives for an example project

COMPARATIVE CHART OF FINDINGS
10 Year hold

	20% at 60% AMI	All Market	20% at 30% AMI
Unleveraged			
IRR	4.84%	5.58%	4.37%
NPV	$ (24,343,905)	$ (21,469,781)	$ (26,128,441)
Leveraged			
IRR	5.95%	8.28%	4.57%
NPV	$ (11,203,765)	$ (8,084,769)	$ (13,140,342)

The model evaluated each of these strategies to determine their financial returns without any incentives and using the developer's estimates for equity and debt, rents and construction costs.

Financial returns for those scenarios are shown to the right and conform to intuitive expectations as well as the general returns guidance from the earlier modeling exercise. In these results the all market returns were 5.58% on an unleveraged basis and 8.28% once debt was included. With 20% of the units at 60% AMI, returns dropped to 4.84% (unleveraged) and 5.95% (leveraged). Reducing the AMI levels even more to 30% drops returns to 4.37% and 4.57% (unleveraged and leveraged, respectively). The declining return to debt shows that the project's debt costs are becoming a liability given the rent levels. As total rental income drops, the total amount that can be borrowed drops (because one loan sizing test verifies how much "extra" NOI exists over the required debt payment). If the project costs remain the same, then reducing the

amount that can be borrowed means that the required equity level rises. All things being equal, the more equity in the project, the more profit it must generate to generate identical IRRs.

Applying the incentives one at a time (not cumulatively until the final model run) to the 20% of units at 30% AMI strategy, the results show that a 30% parking reduction provides a slight lift to the returns (unleveraged returns rise from 4.37% to 4.73%). The impact here may be even higher if the developer can further shift some of the remaining parking stall from underground to above ground. The parking reduction did not use the city's capital or borrowing capacity.

Figure 16: Development returns with selective incentives applied

COMPARATIVE CHART OF FINDINGS
10 Year hold

	No city money	No city money *+42 market units*	City money	Deferred fees to city **Permit, parks & dev*	
			20% at 30% AMI		
	With 30% parking reduction	With 30% density bonus	With TIF	With deferred development fees*	With all incentives shown
Unleveraged					
IRR	4.73%	5.69%	6.25%	4.27%	7.70%
NPV	$ (23,904,288)	$ (21,015,993)	$ (18,435,393)	$ (26,595,600)	$ (11,565,952)
Leveraged					
IRR	5.60%	8.66%	9.45%	4.31%	13.77%
NPV	$ (11,257,781)	$ (7,606,651)	$ (7,976,329)	$ (14,248,669)	$ (1,668,405)

Using a 30% density bonus to the project provided a very strong increase in the returns, from 4.37% unleveraged to 5.69%, and even higher with debt, from 4.57% to 8.66%. This powerful incentive mechanism did not use the city's capital or borrowing capacity. The density bonus does require the ability for the additional units to be financed and absorbed by the market, however, to be effective.

The TIF incentive provides the highest direct lift to the project's returns. In this project, the TIF was applied not as a one-time payment into the project but as a series of payments over a specified period of time to support NOI. Returns rose from the baseline unleveraged return of 4.37% to 6.25%, and with debt returns jumped from 4.57% to 9.45%. This option does rely on the city's ability to make the financing work (though the financing package is backstopped by the property's tax basis rise).

Deferred development fees in this example converted $675,000 in fees into a six year note at six percent annual interest. The impact on NOI was worse than if the fees had been paid in advance (though potentially also time shifted until the permanent loan was put in place). Additional analysis on acceptable financing periods may yet make this option attractive to developers. The impact to the city's finances would be immediate for projects that qualify in that monies due to the city would not be paid right away, but over time. With proper planning, this impact too may be mitigated.

Collectively, the incentives lifted the developer's financial returns from 4.37% to 7.7% on an unleveraged basis and from 4.57% to 13.77% on a leveraged basis – and at that number the returns begin to approach acceptable market rates (though both debt and equity financing for such a project may yet be a challenge, even with the incentives).

Developers have told us directly that expedited approvals may be among the most powerful incentives that the city could offer them and would not cost the city anything directly. The model iterations that we ran did not include any impact from such an incentive, but our understanding of that incentive's benefit is primarily that it lets the developer keep capital at risk for a shorter period and take a project to market faster – which reduces the risk of a project launching into a soft market.

Relevance to the IHO

For the purposes of analyzing the IHO, the model's financial returns indicate a number of issues that ought to be considered when setting the in-lieu fees and any affordable unit percentage.

The first point is that although returns for smaller projects appear to be less impacted by the in-lieu fees and affordable requirements, those returns are really predicated on much lower construction costs than the larger buildings use. Developers of small unit buildings are building economy-level residential dwellings of often just one or two stories. They tend to operate with a small team and low cost base. Adding administrative and compliance burdens to their operations may push many (if not most) out of multi-family construction and into single family, which obviously impacts total multi-family unit production of small unit count buildings.

The second point is that profits are not guaranteed in residential development, particularly as unit counts rise. Although the returns to scale do exist when economic factors work in the developer's favor, such as when rents are rising faster than construction costs, current economic conditions appear to be closer to a tipping point: costs for construction labor and materials appear to be rising faster than rents (which are in turn related to the underlying growth in area wages). With interest rate hikes occurring and more likely over the coming two or three quarters, the underlying cost basis for new residential multi-family projects will increase as well.

The third point is that the in-lieu fees by themselves are not typically sufficient to make a project unprofitable and will likely be offset over time through lower land values, slightly higher market rate rents and slightly lower developer profits. The affordable unit percentages appear to be more financially burdensome than the unit requirements.

The fourth point is that incentives can offset the costs of the policy requirements and may be considered a useful mechanism of achieving affordable housing public policy goals. But for the creation of new rental units, affordable housing tends to be those units that are "naturally occurring," that is, older or in less desirable locations. The stock of housing that fits the naturally occurring criteria increases generally only as properties age. The city may consider that adding additional affordable units is worth the cost as it provides economic competitiveness beyond the cost of the incentives. Consider that a city with employees close to their employment will travel fewer road miles (reducing infrastructure cost and traffic congestion), spend their incomes within the city's limits, stimulating addition retail opportunities, and increasing the city's prestige as a place that is home for residents across all income levels (a form of brand equity).

Since not all incentives cost the city capital or borrowing capacity, use market demand for additional market rate units and developer preferences for speed of permitting to their fullest extent before negotiating for city-funded incentives.

Top-down analysis

One way of evaluating the Bloomington market is from the top-down, that is, estimating the number of households that an IHO would potentially apply to, then creating an estimate of annual needs for units within this group. Once an annual unit estimate can be made, an average development cost per unit can be applied to understand the total potential cost of providing those units.

Since, however, developers typically only invest approximately 35% of the total development cost of a project, the total amount estimated to be needed in a given year to provide affordable housing units can be multiplied by this percentage to reflect the non-debt costs that would be spent on their provision. With this number in mind, the City of Bloomington can consider a range of options to provide some or all of those funds (a full discussion of this approach is beyond the scope of this brief analysis, but we can speculate on potential options here).

First, we begin with an analysis of the estimated population that would be under housing stress (definitionally spending more than 30% of their income on housing costs) and to whom affordable housing units would be targeted.

Figure 17: Top-down estimate of annual affordable housing unit need

Households likely to be affected by the IHO

	Total	% in housing stress	Adjusted	% who move in a year	Inc units needed annually
Less than $10,000	1,312	100%	1,312	5%	66
$10,000 to $14,999	1,094	95%	1,039	5%	52
$15,000 to $24,999	2,078	90%	1,870	5%	94
$25,000 to $34,999	3,099	85%	2,634	5%	132
Total	**7,583**	90%	**6,856**		**344**

New development cost / unit	$	300,000
Annual household unit need		344
Total affordable housing unit cost	$	103,200,000
Adjusted for equity required (35% of total)	$	36,120,000

The American Community Survey figures for the City of Bloomington in 2017 show 7,583 households with under $35,000 in annual earnings. The earlier analysis of housing stress showed 88% of renter households under $20,000 / year were in housing stress, dropping only slightly to 85% for households between $20,000 and $34,999 / year. Since the household income data and housing stress data have different income measurements (the scales are more finely cut in the income numbers), we used conservative estimates of households in housing stress for the income bands between $0 and $24,999. Under gradually falling assumptions that begin with an assumption that everyone living on less than $1,000 per month is likely in housing stress and then reducing the percentage in housing stress by 5% for each

income band until arriving at the 85% figure that was shown in the ACS renter housing stress data. Now, not all households in these annual income categories are renters. Some are elderly homeowners, others may be temporarily unemployed or under-reporting income. At the same time, there are households in housing stress at incomes above the $34,999 / year level.

By constraining the analysis to the lower income levels and ignoring a bit of the nuance about whether every single household within these bands is in housing stress and none above the cutoff are, we can more easily get to a defensible figure of potential households that may need affordable housing units.

This defensible figure is approximately 6,856 and could be refined with additional data, but likely reflects a fair estimate of the average number of households in Bloomington that may benefit from affordable housing units. If we assume that 5% of these households in each income band move (change housing units within Bloomington) within a given year, then the lower income households in the city would need approximately 344 affordable units in a year to absorb those movers.

If each new unit costs approximately $300,000 to build, then the 344 affordable housing units reflect annual costs in 2018 dollars of $103M, of which 35% ($36M) would be the actual investor's share (the rest coming from bank loans). This $36M is the portion that the City of Bloomington could use as an internal benchmark to estimate how much it would be willing to fund from whatever sources it has available.

As an example, if Bloomington had a goal of offsetting 20% of the total estimated equity need for affordable housing units and (much like tax credit applications), asked developers to submit applications in a competitive process for the available funds, it would need $7.2M in funding.

The funding needed for the $7.2M could come from a range of sources, whether IHO-related funds, additional permit fees, special assessments or TIF districts.

VI - Results and Discussion

Results of our analysis show….

Focus	Functional Area	Implications for Bloomington
1. Inclusionary Housing Ordinance	Overall	▪ Control period of 30 years is commendable, but consider ensuring that control period resets to "0 year" when for-sale property changes hands. This will keep the net stock of units growing. ▪ Under Applicability, "New Construction – where the threshold is 5 units or more, consider the impact on small developers. The low cut-off will probably have only a minimal impact on the total number of affordable units and would add to administrative burden. ▪ Forecast the number of units needed by market characteristics and by income segment and align BIHO in a nuanced way to incorporate needs of different AMI segments and cohorts within the jurisdiction. ▪ Review administration burden of BIHO - 2-3 FTE's appears standard for mature programs. ▪ Include more direct language for monitoring and evaluation of this ordinance in § 9.22. ▪ § 9.23 - Detail who will do income verification and eligibility at outset and then annually? ▪ Be prepared to make several revisions or amendments soon after announcing and first round of projects are submitted for approvals. ▪ Add a definitions section that covers key terms and requirements. ▪ Consider separate authorization for Housing Trust Fund – need more detail and easier to manage and amend.
	§ 9.08, 9.09 9.11 Incentives	▪ Assess if providing a "menu of alternative compliance options" works better for unit production goals, e.g., converting market-rate units, extending the affordability period on existing affordable units, in-lieu fees, transfer of existing units to a nonprofit developers, bank and transfer more than the minimum number of units at one site and count those against another site), alternative housing (e.g., special needs, single-room occupancy, shelters), and land dedication to non-profits.

		▪ Under Density bonuses, consider if the height bonus is truly important to developers and if yes, determine how much bonus is ideal. ▪ Under Development Fee Waivers – examine if these can be graduated to more relevant to the target area. ▪ Assess if housing policy or IHO can refer to new sources of "land" – e.g., single level ageing strip malls, parking lots, gas stations that can be repurposed and incentivized for development and affordable units. ▪ Same with Adaptive Housing – going from office to residential has merit in tight markets. ▪ Due to complex nature of incentives and bonuses, offer preliminary review for developers pro-forma to confirm key assumptions and requirements.
	§ 9.13 In-lieu payments	▪ If unit production focused, especially in the short-term, then "in lieu" payments may be less efficient. Aim to make unit production more attractive than paying in-lieu payments. ▪ Consider offering fulfillment via partial in-lieu payment and partial unit production. ▪ Incentivize priority locations and housing types. ▪ Illustrate specifically how and where In-lieu payments will be utilized.
2. Impact Fee	Nexus Impact Fee Calculation	▪ Consider expressing as a % of gross square footage in addition to per unit. This can allow for finer calibration of fee structure and perhaps wider acceptability among developers.
3. Financial Feasibility	Small developer exclusion	▪ Small developers are less able to absorb additional costs and compliance pressures. Even with profitable small scale development, IHO burdens may not justify multi-family development activities.
	Project profitability	▪ In the current part of the economic cycle in Bloomington's situation of little available land, rising factor costs and few properties pushing rental rates higher, multi-family developer profits are generated largely by "fine-tuning" projects through cost cutting and selective rental increases. ▪ Project profits are not inherent for larger unit counts without the ability to materially shift costs lower and rents higher (or offset / defer those costs that cannot be shifted).

		▪ Model results show that market rate returns are not possible under the standard cost and rental scenarios we used (which were in turn based on RS Means and industry averages). ▪ Since multi-family development is ongoing, the best estimate about most project's profitability is that they have created the profit in their projects through advantageous land purchases, value-engineering construction, subsidy or rental increases – or all of the above.
	In-lieu fees and affordable requirements	▪ In-lieu fees alone are typically not sufficient to push a project from profitable to unprofitable. ▪ The requirement for affordable units creates more downward pressure on profits than do in-lieu fees.
	Incentives	▪ Incentives can be varied in type and do not necessarily cost the city anything, such as reducing regulations on parking requirements or maximum unit densities. ▪ Permitting speed is often cited by developers as a key incentive to improve their time to market. ▪ In terms of pure power, the density bonus and TIF each generate substantial lift to a project to which they are applied (assuming that the additional market rate units can be financed and absorbed).
	Top-down analysis	▪ Perhaps 344 affordable units per year are needed in the city to provide new affordable housing units to the households in income bands under $35k/year. ▪ These units reflect $103M in total development costs, with the equity (investor) portion being $36M. ▪ Under a 20% example target of city funds for affordable housing support, the city would need $7.2M per year for its commitments. ▪ The funding sources for the affordable housing commitments can come from a range of sources, currently TBD (but possibly, TIF districts, special assessments and fees).

VII - Sources

US Census Bureau – American Communities Survey Data, most recent year and going back five years (most often 2012-2017 data)

Bureau of Labor Statistics most recent year's data for employment

City of Bloomington (for project guidance and permit data)

Maxfield Consulting, "Comprehensive Housing Needs Assessment for the City of Bloomington", May 2018 Revision

Daedalus Advisory Services (for development industry guidance)

Montgomery County, MD (for IHO experiences)

Evanston, IL (for IHO experiences)

Boulder, CO (for IHO experiences)

Carlsbad, CA (for IHO experiences)