EXPANDING HOUSING AFFORDABILITY
FEASIBILTIY ANALYSIS
EXECUTIVE SUMMARY.

As a part of the Expanding Housing Affordability (EHA) project, the City and County of Denver retained Root Policy Research and ArLand Use Economics to evaluate the financial feasibility of new development to understand the impacts of a change to the linkage fee, inclusionary housing, and zoning incentives.

The EHA project focuses specifically on regulatory tools that can leverage new market-rate development to create and contribute to affordable housing needs. Additional details on the EHA project overall are available on the project website.[1]

Financial Feasibility of EHA alternatives is based on proformas typically used in the real estate industry to determine whether a proposed development project is financially feasible. The feasibility model developed for this effort includes a comparative analysis of how proformas change under different affordability program scenarios, including changes to the linkage fee and inclusionary housing[2], and potential zoning incentives.

Development of the Feasibility Model (Model) was joint effort between Root Policy Research and ArLand Land Use Economics. The model is informed by market data on building costs and rents and incorporates variations by both geographic submarket and variations by development prototype/height. Underlying assumptions have also been calibrated through extensive stakeholder vetting.[3]

Overview of Modeling Approach

To conduct the financial feasibility analysis, Root Policy Research and ArLand Land Use Economics created base-case proformas of a variety of residential and commercial building prototypes in both typical and high-cost submarkets. Broadly speaking, high cost submarkets

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[1] www.denvergov.org/affordaibilityincentive

[2] HB-1117 allows communities across the state to require affordable housing on all new housing (including rental and ownership). The bill does include some guard rails to the regulation by requiring that a "choice of options" is provided. It also requires that local governments demonstrate its commitment to "increase the number the overall number and density of housing units… or create incentives to the construction of affordable housing units." Learn more about the state level changes enabling for inclusionary housing to apply to rental housing at: www.leg.colorado.gov/bills/hb21-1117

[3] Specific to this report, stakeholder outreach included: 1) Seventeen interviews with residential and commercial developers (both market rate and affordable), lenders, and architects active in the Denver market; 2) Six focus groups in which specific assumptions related to rent levels, building costs, soft costs, financing costs, and measures of return used to evaluate project outcomes were shared and discussed with developers; and 3) Multiple developers also shared specific recent project costs, estimates on current/planned developments, and recent proformas. Engagement was conducted in both 2020 (under the Affordable Housing Zoning Incentive project) and in May and July 2021 under the revised approach of the current EHA project. Additional outreach related to this effort can be found on the project website.

are those with extremely high land prices which typically support mid- and high-rise development prototypes. High cost submarkets areas also have higher rent premiums than typical submarkets.

Development prototypes included:

- For-sale residential: single unit; townhomes, 5-story condos, and 12-story condos;
- Rental residential: 3-, 5-, 8-, 12-, 16-, and 20-story multifamily developments; and
- Commercial: 3-, 5-, 8-, 12-, and 16-story office; 4- and 12-story hotels, standalone retail, and warehouse developments.

Following the development of base-case proformas, Root introduced affordability requirements (e.g., linkage fee increases or inclusionary housing policies) to each prototype and measured outcome variants by calculating the actual change in multiple output metrics, including Return on Equity (ROE), Return on Cash (ROC), Internal Rate of Return (IRR), and Cash on Cash return. These are the most common measures of return used by developers and investors in the real estate industry and include both short term and long-term measures. A development prototype must meet minimum targets[4] on at least one short term feasibility measure (ROC or COC) and on one long-term feasibility measure (IRR or ROE) to be considered financially feasible.

Report Organization

The EHA Feasibility Analysis is organized around the following sections:

- Section I. Proforma Development and Assumptions provides context for the Denver development market, outlines all prototypes and assumptions used in the feasibility model, and reports baseline feasibility of development prototypes under current affordability requirements (i.e., current linkage fee).

- Section II. Linkage Fee Analysis reports the results of financial feasibility testing of various increases to the current linkage fee for nonresidential prototypes and low-density residential (single unit and townhomes) as large-scale residential developments would be exempt from linkage fees under an inclusionary housing system. It also provides a brief overview of the current linkage fee system and the maximum legally defensible fees (as established in the 2016 Nexus Study).

- Section III. Inclusionary Housing Feasibility reports the results of financial feasibility testing of various inclusionary housing requirements for residential prototypes (both rental and for-sale). It also offers a framework for calculating fee-in-lieu as an alternative to on-site build requirements.

[4] ROC target is 5.5% on rental residential, 6.5% on for-sale residential, 7% on hotel, and 6% on office/other commercial; COC target 15% for for-sale residential and 6% for rental residential and commercial; IRR target is 10%; ROE target is 6%.

- Section IV. Inclusionary Incentives evaluates the financial benefit of a variety of potential incentives the City could offer to developers to encourage on-site construction of affordable units and/or exceeding baseline inclusionary requirements.

Additional details including proformas and case studies are included in the report's appendices.

What is "AMI" and why does it matter?

All inclusionary programs require a set number or percentage of income-restricted housing to be provided along with the market-rate (unrestricted) housing. Income-restricted housing commonly uses Area Median Income (AMI) to determine whether a household is considered low income and therefore eligible to obtain a restricted unit. The U.S. Department of Housing and Urban Development (HUD) uses AMI thresholds, adjusted by household size, to set the income thresholds households cannot exceed to be eligible for income-restricted affordable housing. This allows income-restricted housing programs to determine eligibility using income levels that make sense for a geographic area.

Instead of thinking about AMI as a table of numbers, it's important to understand that these categories represent people with jobs working in a range of professions. The table at right represents occupations for many people in the workforce and their associated income levels by AMI.

AMI %	2021 Income	Occupations by Income Category	2021 Max Rents (1 Bdrm, 1 2 per hh)
Income Limits (2-person household)			
31-50%	$41,950	Fast Food Worker ($27,530)	$886
		Home Health Worker ($30,350)	
		Waiter ($31,160)	
		Child Care Worker ($31,600)	
		Nursing Assistant ($34,470)	
		Bank Teller ($34,680)	
		Pre-School Teacher ($37,850)	
		Construction Laborer ($39,110)	
		Hairstylist ($40,420)	
		Administrative Assistants ($41,210)	
51-60%	$50,340	Bus Driver ($42,280)	$1,802
		EMT/Paramedic ($42,900)	
		Dental Assistant ($43,930)	
		Maintenance and Repair ($44,170)	
		Fitness Instructors ($45,400)	
		Community and Social Service Worker ($46,060)	
		Flight Attendants ($50,010)	
61-80%	$67,120	Automotive Mechanic ($51,000)	$1,467
		Postal Service Mail Carriers ($52,370)	
		School Teacher ($56,150)	
		Social Worker ($57,870)	
		Tax Preparer ($62,990)	
		Reporter/Journalist ($63,050)	
		Firefighters ($63,160)	
81-100%	$83,900	Building Inspector ($71,980)	$1,869
		Landscape Architects ($75,600)	
		Registered Nurse ($77,860)	
		Urban and Regional Planners ($78,980)	
101-120%	$100,680	Architect ($82,460)	$2,262
		Computer Programmers ($84,900)	
		Physical Therapists ($87,250)	
		Financial Specialists ($92,360)	
		Veterinarians ($95,900)	

Source: 2021 HUD Income Limits and 2020 Bureau of Labor Statistics.

Key Findings

The financial feasibility analysis tested increases to the various linkage fees for nonresidential prototypes and low-density residential (based on property type), and inclusionary housing alternatives for residential prototypes. Key findings are below.

Linkage Fee Feasibility

- Linkage fees are one-time fees imposed on new development and are designed to offset the impact of new development on low wage job creation, which in turn creates demand for affordable housing.

- The current affordable housing linkage fees assessed are well below the maximum justifiable fee levels and below the feasibility thresholds from the initial nexus and feasibility study from 2016. According to the nexus and feasibility study[5], legally justified fees range from $9.60 per square foot (psf) on single-family residential development to $119.29 psf on stand-alone retail development, including a variety of residential and commercial prototypes evaluated with legally justified fees within that range.

- Though the City is legally justified in assessing the maximum fees, the City has elected to assess actual fees well below the legally justifiable amount and the amount determined to be financially feasible. Current fees are between 1% and 10% of the legally justifiable fees and between 6% and 26% of what was determined to be financially feasible in 2016.

- According to Root's updated analysis, linkage fees across all prototypes could be increased and still achieve the specified financial feasibility thresholds.[6] Specifically:

    - Single unit infill could support linkage fees up to $9.60 per square foot (psf);
    - Townhomes could support linkage fees up to $14 psf;
    - Commercial could support linkage fees from $7 to $9 psf for retail, office, and hotel developments;
    - Industrial could support linkage fees up to $6.00 psf; and
    - Commercial prototypes of 8 or more stories in high cost submarkets could absorb linkage fees up to $11psf.

    These results are displayed in Figure ES-1, on the following page.

[5] https://www.denvergov.org/files/assets/public/housing-stability/documents/denver_r_nexus-study-final-090816.pdf

[6] It is important to note that linkage fees are legally bound by the nexus study maximum justifiable fees but are not legally required to meet financial feasibility. The feasibility analysis is designed to provide additional and updated information to the City as one of many factors in evaluating policy changes.

Figure ES-1. Linkage Fee Feasibility Summary

Source: Root Policy Research.

Prototype	Max Justifiable Nexus Fee	Current Linkage Fee	Feasible Linkage Fee: Typical Submarket	Feasible Linkage Fee: High Cost Submarket
For-Sale Residential (low density)				
Single Unit Infill	$9.60 / GSF	$.65 / GSF	$9.6 / GSF	n/a
Townhomes	$15.45 / GSF	$1.61 / GSF	$14 / GSF	n/a
Commercial			**$7 / GSF**	**$11 / GSF**
Office under 8 stories	$56.74 / GSF	$1.83 / GSF	$7 / GSF	n/a
Office over 8 stories	$56.74 / GSF	$1.83 / GSF	$9 / GSF	$11 / GSF
Hotel under 8 stories	$83.02 / GSF	$1.83 / GSF	$9 / GSF	n/a
Hotel over 8 stories	$83.02 / GSF	$1.83 / GSF	$9 / GSF	$11 / GSF
Retail (1 story)	$119.29 / GSF	$1.83 / GSF	$7 / GSF	n/a
Industrial			**$6 / GSF**	**n/a**
1-Story Warehouse	$28.51 / GSF	$.43 / GSF	$6 / GSF	n/a

Inclusionary Feasibility

- Inclusionary housing requires new residential development to include a portion of affordable housing units on-site and create mixed-income housing. Feasibility testing of an inclusionary housing option focuses on the production of on-site affordable units (as opposed to a fee in lieu), which means the following analysis only considers residential prototypes.

- Should the City elect to adopt an inclusionary housing policy, the policy would replace the linkage fee on new multifamily residential developments above a to-be-determined development threshold size.

- The financial feasibility analysis indicates several potential policy options for an inclusionary housing program that can generate units to better meet the City's affordability needs while maintaining target financial returns for developers. The results of this analysis provides findings given the current market conditions and do not account for natural market adjustments (e.g., changes in land costs and other development accommodations) following implementation of a policy that would likely over time increase feasibility beyond the requirements summarized below.

- Rental residential prototypes maintain financial feasibility thresholds under inclusionary housing policy with the following requirements:

    - 50% AMI: 5% of units in typical submarkets and 8% in high cost submarkets (50% AMI contract rent for a 1-bedroom is $886);

    - 60% AMI: 8% of units in typical submarkets and 10% in high cost submarkets (60% AMI contract rent for a 1-bedroom is $1,082);

- 70% AMI: 10% of units in typical submarkets and 12% in high cost submarkets (70% AMI contract rent for a 1-bedroom is $1,279); and
- 80% AMI: 12% of units in typical submarkets and 15% in high cost submarkets (80% AMI contract rent for a 1-bedroom is $1,476).

These results are displayed in Figure ES-2, below.

Figure ES-2. Rental Residential Inclusionary Feasibility Summary

Source:
Root Policy Research.

% AMI	Feasible Inclusionary Requirement: Typical Submarket	Feasible Inclusionary Requirement: High Cost Submarket	Contract Rent for 1 bdrm at specified AMI
Rental Residential			
50% AMI	5% of units	8% of units	$886
60% AMI	8% of units	10% of units	$1,082
70% AMI	10% of units	12% of units	$1,279
80% AMI	12% of units	15% of units	$1,476

- For-sale residential can absorb an inclusionary policy requiring 8% of units affordable to 60% AMI, 10% of units at 80% AMI,12% of units at 100% AMI, or 15% of units affordable to 120% AMI while maintaining financial feasibility thresholds. In high-cost markets (high rise condos only), feasibility extends to 10% of units at 60% AMI 12% of units at 80% AMI, 15% of units at 100% AMI, and 15% of units at 120% AMI. Note that for-sale programs commonly target higher AMIs than rental residential programs due to feasibility differences (e.g., differences in cost, margin, sale prices, outputs, etc.).

Figure ES-3. For-Sale Residential Inclusionary Feasibility Summary

Note: Home price range accounts for higher HOA costs for condos; lower bound reflects condo price and upper bound is single family homes.

Source: Root Policy Research.

% AMI	Feasible Inclusionary Requirement: Typical Submarket	Feasible Inclusionary Requirement: High Cost Submarket (high rise condos)	Home price for 2 person household at specified AMI
For-sale Residential			
60% AMI	8% of units	10% of units	$188,500 - $232,000
80% AMI	10% of units	12% of units	$251,300 - $309,300
100% AMI	12% of units	15% of units	$314,100 - $386,600
120% AMI	15% of units	15% of units	$377,000 - $463,900