urban Metrics

INCLUSIONARY ZONING MARKET FEASIBILITY STUDY, CITY OF HAMILTON

Hamilton, ON

Prepared for **the City of Hamilton**

March 26, 2024

urban Metrics

Hamilton

March 26, 2024

Melanie Pham
Community Planning Program Lead – Sustainable Communities
Planning and Economic Development
71 Main Street West, 4th Floor
Hamilton ON L8P 4Y5

Dear Melanie Pham:

RE: **Inclusionary Zoning Market Feasibility Study, City of Hamilton** (Hamilton, ON)

urbanMetrics inc. is pleased to submit this study which documents our research, analysis, and findings with respect to the Inclusionary Zoning Market Feasibility Study for the City. This version of the study incorporates peer review comments provided by NBLC as of March 2022, and updates market conditions to Q4 2023.

This study should be reviewed in conjunction with the Housing Needs Assessment being prepared by SHS Consulting and the Major Transit Area study being completed by Dillon Consulting, in terms of meeting the study requirements of the Planning Act for the purposes of enacting an Inclusionary Zoning By-law.

It was a pleasure to conduct this important assignment on behalf of the City of Hamilton.

Yours truly,
urbanMetrics inc.

Rowan Faludi, MCIP, RPP, PLE, CMC
Partner

urbanMetrics Inc.

67 Yonge Street,
Suite 804
Toronto, ON
M5E 1J8

T: 416 351 8585
Toll Free: 1 800 505 8755

urbanMetrics.ca

Contents

1.0 Key Terms and Definitions 1
2.0 Executive Summary 4
Key Highlights 5
Findings 9
Recommendations 13
3.0 Background 15
3.1 Inclusionary Zoning in North America 16
3.2 Provincial Regulations for Inclusionary Zoning in Ontario 18
3.3 Hamilton Context 20
4.0 Scenarios 24
4.1 West End MTSAs 26
4.2 Central and Downtown MTSAs 27
4.3 Central East MTSAs 28
4.4 East End MTSAs 29
5.0 Methodology 30
5.1 Discounted Cash Flow, Discount Rate, and Required Profit Margin 31
5.2 Test Scenario Building Parameters 33
5.3 Price and Rent Assumptions 35
Rent Growth Rate and Time Horizon 37
5.4 Inclusionary Zoning Assumptions 38
5.5 Other Revenue Assumptions 39
5.6 Hard Construction Costs 41
5.7 Soft Construction Costs 42
5.8 Residual Land Value 44
6.0 Benchmark Results 47
6.1 Condominium Scenarios 48
6.2 Rental Scenarios 50
7.0 Sensitivity Analysis 51

7.1 Construction Costs 52
7.2 Sales Prices and Rents 54
7.3 Rent Growth Rate 56
7.4 Length of Affordability Period 59
8.0 Conclusions and Recommendations 61
Recommendations 62
Appendix A Derived Cap Rates 64
Appendix B Peer Review Changes 68

Tables

Table 2-1: Feasibility of Benchmark Scenarios 10
Table 2-2: Feasibility of Scenarios with 5% Lower Construction Costs 11
Table 2-3: Feasibility of Scenarios with 5% Higher Prices and Rents 12
Table 5-1:: Building Parameters by Scenario 34
Table 5-2: Benchmark Market Sale Prices and Monthly Market Rents 35
Table 5-3: Benchmark Unit Sizes 36
Table 5-4: Derived Sale and Monthly Rent Prices per Square Foot 37
Table 5-5: Affordable Price and Rent Per Unit Assumptions 39
Table 5-6: Sales Timing Assumptions 40
Table 5-7: Sales Adjustment Assumptions 40
Table 5-8: Commercial and Parking Price and Rent Assumptions 41
Table 5-9: Benchmark Hard Construction Costs 42
Table 5-10: Benchmark Soft Construction Costs 44
Table 5-11: Total Percent Charges on Land Costs 45
Table 5-12: Adjusted (50% Premium) Assessed Property Values by Scenario 45
Table 6-1: Residual Land Values Over Existing, Benchmark Scenarios 49
Table 7-1: Sensitivity Analysis, 5% Lower Hard Construction Costs 53
Table 7-2: Sensitivity Analysis, 5% Higher Market Sale Prices and Rents 55
Table 7-3: Sensitivity Analysis, 3.5% and 4.5% Growth Rate in Market Rents 57
Table 7-4: Sensitivity Analysis, 4% Growth Rate in Affordable Rents 58
Table 7-5: Sensitivity Analysis, 60-Year Affordability Period 60
Table A-1: Derived Cap Rates, Benchmark Scenario 65
Table A-2: Derived Cap Rates, Rent Growth Rate Sensitivity Analysis 66
Table A-3: Derived Cap Rates, 60-Year Affordability Period Sensitivity Analysis 67

Boxes

Box 3-1: Effects of Inclusionary Zoning Policies 17
Box 5-1: Discounted Cash Flow vs. Direct Income Capitalization 32

Figures

Figure 2-1: Draft MTSA Boundaries and Transit Stations 6
Figure 2-2: Test Site Locations 8
Figure 3-1: Rent and Purchase Price of Apartments as % of 2012 Levels 21
Figure 3-2: Draft Major Transit Station Area (MTSA) boundaries 22
Figure 3-3: Annual Completions in Hamilton by Housing Type 23
Figure 4-1: Test Site Locations and Regions 26
Figure 5-1: Average Annual Change in Rent, City of Hamilton 38

1.0 Key Terms and Definitions

Inclusionary Zoning (IZ): A planning policy which requires that a certain amount or fraction of a residential development must be sold as affordable housing at below-market rates.

Market Rate: The home prices or rental rates which are set by the market, in the absence of special subsidies or regulations.

Affordable Housing: In the context of IZ policies, units which must be sold or rented at a prescribed price or rental rate that is below the market rate.

Major Transit Station Area (MTSA): The area including and around any existing or planned higher order transit station or stop within a settlement area; or the area including and around a major bus depot in an urban core. Major transit station areas generally are defined as the area within an approximate 500 to 800 metre radius of a transit station, representing about a 10-minute walk.[1]

Protected Major Transit Station Area (PMTSA): An MTSA which a municipality has designated as protected. PMTSAs must set a minimum number of residents and jobs per hectare to be planned to be accommodated within the area, which land uses are allowed, and the minimum densities that are authorized. In Ontario, IZ policies are only allowed within PMTSAs and Development Permit System Areas.

Minimum Project Size or Threshold: In an IZ policy, the minimum number of units or building area a project must have before the IZ policy applies.

Set-aside Rate: In an IZ policy, the percentage of housing units which must be set aside as affordable housing and sold or rented at the prescribed below-market prices and rental rates.

[1] Ontario. (2020). A Place to Grow: Growth Plan for the Greater Golden Horseshoe.

Depth of Affordability: In an IZ policy, the prescribed prices or rental rates at which affordable homes must be sold or rented. Usually, these are set as a percentage of average market prices or rents, or as what would be affordable (i.e., shelter costs are less than 30% of household income) for a prescribed household income percentile of households in the region.

Affordability Period or Term: In an IZ policy, how long the affordable housing units must be sold or rented at the prescribed below-market prices and rents before they become market-rate units.

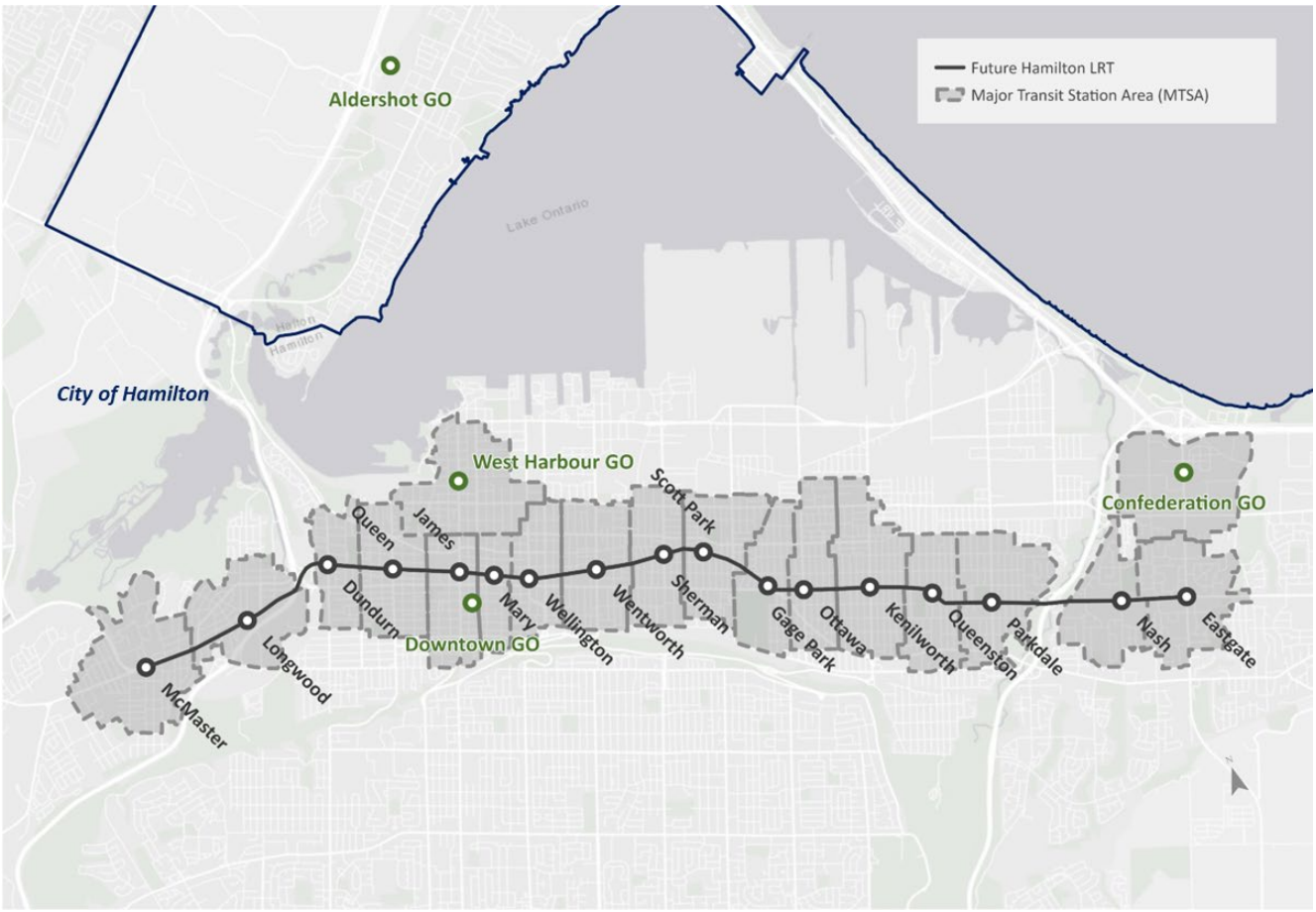
2.0 Executive Summary

Key Highlights

- Inclusionary Zoning is a tool available to municipalities through the Planning Act. This Study, in conjunction with the Housing Needs Assessment prepared by SHS Consulting, is required in order for the City to pass an Inclusionary Zoning By-law.
- An Inclusionary Zoning By-law requires that a share of new housing units in new residential developments of 10 units or more be set aside for affordable housing.
- Under the Planning Act, Inclusionary Zoning can only be undertaken in Protected Major Transit Station Areas (PMTSAs). Proposed PMTSAs are being reviewed and confirmed based on the study conducted by Dillon Consulting.
- The proposed amendments to O.Reg 232/18 released by the Province in October 2022 would limit the set-aside rate to 5% and the period an affordable unit remains affordable to 25 years, as well as limiting affordable prices and rents. It is unknown at this time whether these changes will be implemented as proposed or when they will go into effect.
- This study examines the impact of an Inclusionary Zoning By-law on the feasibility of condominium and rental housing development based on current and proposed legislation.
- The study conducts sensitivity analyses to test varying set-aside rates and affordability periods, in the event that the approved Regulations differ from those which were proposed at the current time. In addition, this study also examines the sensitivity of changes in rental rates, condominium prices and construction costs.
- The methodology involves the identification of 10 representative test redevelopment sites within the proposed PMTSAs. For each site, a hypothetical apartment building was modeled based on “as-of-right” planning permissions and development trends in the area. Each scenario was prepared in conjunction with Hamilton Planning Staff. A discounted cash flow analysis was conducted to test the impact of various Inclusionary Zoning policies on the feasibility of each hypothetical development.
- The condominium development scenarios we considered were feasible in PMTSAs in the regions from McMaster to Downtown. In PMTSAs east of Downtown to Confederation GO, the condominium development scenarios were not feasible under existing conditions, although this may change when market conditions improve.
- Under benchmark assumptions, the condominium developments that were feasible without Inclusionary Zoning would be unfeasible even with 5% set-aside rates. However, with lower construction costs or higher sale prices, a 5% set-aside rate could be feasible for condominium projects in the McMaster and Downtown PMTSAs.
- Rental developments were much less feasible overall. The rental development scenarios we considered were not feasible. Even with lower construction costs or higher rent prices, an Inclusionary Zoning policy that applies to rental developments was not feasible.
- An IZ policy can only be implemented after PMTSAs are approved. Market conditions would likely change in the intervening time. While IZ may not be feasible at this time, it may become feasible as residential development market conditions improve.

This report analyzes the market feasibility of condominium and rental developments in the City of Hamilton under various Inclusionary Zoning (IZ) policies. Like many municipalities in Southwestern Ontario, the City of Hamilton has experienced significant increases in housing prices and rents over the past ten years. In response, the City is considering the implementation of an IZ policy in the proposed Protected Major Transit Station Areas (PMTSAs). The draft Major Transit Station Area (MTSA) boundaries and GO and Light Rail Transit (LRT) station locations are shown in Figure 1-1.

Figure 2-1: Draft MTSA Boundaries and Transit Stations



SOURCE: urbanMetrics inc., with MTSA boundaries by Dillon Consulting and Future Hamilton LRT data from Metrolinx

IZ policies exist in many jurisdictions and differ along many dimensions. Each IZ implementation must mandate a certain set-aside rate, which is the fraction of new housing developments that must be sold or rented at affordable rates. IZ policies

must also define the length of the affordability period, after which these affordable units may be sold or rented at market rates. Crucially, IZ policies must define the affordable prices and rents. These affordable prices and rents are usually either defined in terms of what would be affordable for households at certain income deciles or are defined based on the average market resale price or rent.

An IZ policy relies on a continued and strong private-sector residential development market to deliver affordable units. If the IZ policy is too burdensome and deters future development, it will fail to achieve its goals and could even worsen housing affordability by constraining supply.[2] As such, Ontario regulations require the "analysis of potential impacts on the housing market and on the financial viability of development" prior to the municipal adoption of an IZ policy.

In Ontario, municipalities are empowered to pass Inclusionary Zoning By-laws through the Planning Act. The Ontario Government has proposed amendments to the Planning Act and to O.Reg 232/18 which would limit the percent of new developments required to be set aside as affordable units to a maximum of 5% and the length of the affordability period to no more than 25 years. The proposed amendments would also define affordable units at 80% of average market rents for rental units and 80% of average resale prices for ownership units.

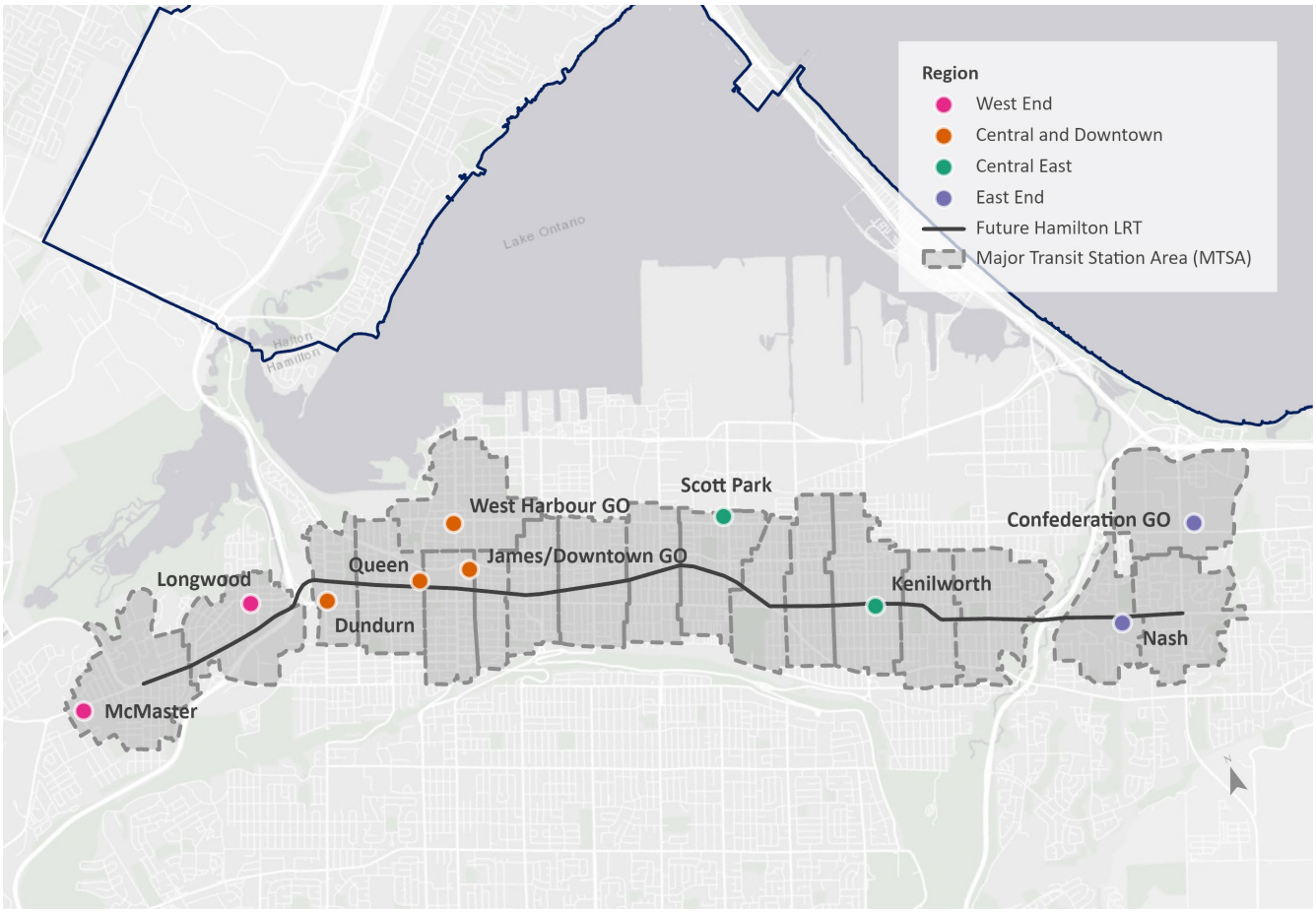
urbanMetrics inc. conducted a residual land value analysis of hypothetical condominium and rental developments for ten different test sites within the proposed MTSAs. The locations of the 10 test sites are shown in Figure 2-2. The sites represent a potential development scenario in each area for the purposes of analyzing feasibility of possible multi-residential housing developments. These scenarios are not prescriptive and do not imply the City of Hamilton's or urbanMetrics' support or opposition for any real-world development on these or other sites. For each test site, we considered a test scenario with building parameters that were allowed as-of-right under the existing zoning by-laws.

The residual land value analysis follows the format of a discounted cash flow (DCF) analysis. Revenues were projected using sale prices and rents based on Hamilton's existing housing market conditions in those areas. Hard and soft construction costs were estimated based on City and industry data sources. Cash flows were discounted to present values at rates based on the interest rates of construction loans and commercial mortgages plus a small risk premium. Our benchmark set of

[2] For a discussion on how residential development reduces housing prices, see: Phillips, S, M. Manville, M. Lens. (2022). *Research Roundup: The Effect of Market-Rate Development on Neighborhood Rents.* UCLA Lewis Center for Regional Policy Studies. https://www.lewis.ucla.edu/research/market-rate-development-impacts/

discount rates and growth rates of rents were roughly equivalent to using cap rates around 3.4%.

Figure 2-2: Test Site Locations



SOURCE: urbanMetrics inc., with MTSA boundaries by Dillon Consulting and Future Hamilton LRT data from Metrolinx.

We considered scenarios to be financially feasible if the present value of revenues less expenses are sufficient to purchase the property and generate a required profit margin. We assumed the property must be purchased at 50% over its assessed property value. This represented a lower bound on the price that would have been needed to buy out the existing business so the property can be demolished and redeveloped. The 50% cushion takes into consideration that most properties were last assessed in 2016 or 2017 and a premium is needed to induce a sale of the property. The analysis also assumes the industry standard 15% profit margin before income taxes for developers to proceed with the development. This

profit margin is required to cover applicable income taxes, compensate developers and investors for the risk and length of development projects, provide a cushion to cover higher-than-expected contingencies, and to secure debt financing. If profit margins are below levels commensurate to the risks, lenders, equity investors, and developers would shift to other asset classes.

The main IZ policy considered has a 5% set-aside rate and a 25-year affordability term, which are the maximum allowed for IZ policies in the proposed regulations under the *Planning Act.* We also considered set-aside rates up to 20% in the event that the maximum set-aside rates that are ultimately passed are different from the 5% proposed. Finally, we conducted several sensitivity analyses to consider the effects of higher construction costs, higher or lower sale prices and rents, different rent growth rates, and changes in the length of the affordability period for all scenarios.

We compared the results of the residual land value analysis of the no-IZ scenario to those of different IZ policies. We focused on two main outcomes of the analysis. First, we examined whether an IZ policy would change projects from feasible to unfeasible. If test scenarios become unfeasible with an IZ policy, it is likely too burdensome and could negatively impact the housing market in the City of Hamilton over time. Second, we calculated the reduction in residual land value caused by IZ. This provides information on the size of the financial impact of IZ, which can be helpful for thinking about its effects on scenarios that differ from our benchmark parameters.

Findings

Our findings for the benchmark scenarios are summarized in Table 2-1. Market conditions for residential development have worsened through 2023. Still, without IZ, almost all condominium scenarios from the McMaster University area to Downtown (scenarios 1-6) were feasible, while scenarios to the east of Downtown to Confederation GO (scenarios 7-10) were not feasible under these assumptions. None of the rental scenarios were feasible, even without IZ.

Due to the difficult market conditions, almost none of the benchmark condominium scenarios have enough cushion to absorb the financial impacts of IZ. Even a 5% set-aside rate would render all but one condominium scenario unfeasible. Residual land values would fall by $1.0 million for the smallest development scenario to $12.3 million for the largest scenario. In rental scenarios, residual land values would fall by $0.8 million for the smallest scenarios and $9.5 million for the largest.

Table 2-1: Feasibility of Benchmark Scenarios

CONDOMINIUM

Scenario	MTSA	No IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	Y	Y	N	N	N
2	Longwood	Y	N	N	N	N
3	Dundurn	Y	N	N	N	N
4	West Harbour	Y	N	N	N	N
5	Queen	Y	N	N	N	N
6	James/Downtown	Y	N	N	N	N
7	Scott Park	N	N	N	N	N
8	Kenilworth	N	N	N	N	N
9	Nash	N	N	N	N	N
10	Confederation	N	N	N	N	N

RENTAL

Scenario	MTSA	No IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	N	N	N	N	N
2	Longwood	N	N	N	N	N
3	Dundurn	N	N	N	N	N
4	West Harbour	N	N	N	N	N
5	Queen	N	N	N	N	N
6	James/Downtown	N	N	N	N	N
7	Scott Park	N	N	N	N	N
8	Kenilworth	N	N	N	N	N
9	Nash	N	N	N	N	N
10	Confederation	N	N	N	N	N

SOURCE: urbanMetrics inc.

It is important to recognize this feasibility assessment represented average market conditions at the time of this study, and whether a specific development is feasible may change as market conditions change. The market for residential development was especially challenging at the time of this report. Construction costs, sales prices, rents, and other factors will change with time. Projects may also be targeted at different markets with variations in amenities and finishings, with appropriate sale price and rent discounts and premiums. As a result, even if the tested policies may not be feasible given the benchmark parameters, they may still impact the viability of actual projects with different cost and revenue parameters.

We also find that reductions in construction costs or higher market prices would enable the feasibility of IZ for condo developments in the West End and

Central/Downtown MTSAs. With just 5% lower construction costs or 5% higher market prices, the condominium scenarios in the West End and Central/Downtown MTSAs become feasible at a 5% set-aside rate. These assumptions allowed 3 rental scenarios to become feasible without IZ, but most of these become unfeasible at a 5% set-aside rate.

Table 2-2: Feasibility of Scenarios with 5% Lower Construction Costs

CONDOMINIUM

Scenario	MTSA	No IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	Y	Y	Y	N	N
2	Longwood	Y	Y	N	N	N
3	Dundurn	Y	Y	N	N	N
4	West Harbour	Y	Y	N	N	N
5	Queen	Y	Y	N	N	N
6	James/Downtown	Y	Y	N	N	N
7	Scott Park	N	N	N	N	N
8	Kenilworth	N	N	N	N	N
9	Nash	Y	N	N	N	N
10	Confederation	Y	N	N	N	N

RENTAL

Scenario	MTSA	No IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	Y	Y	N	N	N
2	Longwood	N	N	N	N	N
3	Dundurn	N	N	N	N	N
4	West Harbour	N	N	N	N	N
5	Queen	Y	N	N	N	N
6	James/Downtown	Y	N	N	N	N
7	Scott Park	N	N	N	N	N
8	Kenilworth	N	N	N	N	N
9	Nash	N	N	N	N	N
10	Confederation	N	N	N	N	N

SOURCE: urbanMetrics inc.

Increasing the market sale price and rents by 5% increases the feasibility of scenarios in a similar way. Again, IZ with a 5% set-aside rate becomes feasible for the condo developments in the West End and Central/Downtown MTSAs in this scenario. IZ remains unfeasible for rental developments.

Table 2-3: Feasibility of Scenarios with 5% Higher Prices and Rents

CONDOMINIUM

Scenario	MTSA	No IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	Y	Y	Y	N	N
2	Longwood	Y	Y	N	N	N
3	Dundurn	Y	Y	N	N	N
4	West Harbour	Y	Y	N	N	N
5	Queen	Y	Y	N	N	N
6	James/Downtown	Y	Y	N	N	N
7	Scott Park	N	N	N	N	N
8	Kenilworth	N	N	N	N	N
9	Nash	Y	N	N	N	N
10	Confederation	Y	N	N	N	N

RENTAL

Scenario	MTSA	No IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	Y	Y	N	N	N
2	Longwood	N	N	N	N	N
3	Dundurn	N	N	N	N	N
4	West Harbour	N	N	N	N	N
5	Queen	Y	N	N	N	N
6	James/Downtown	Y	N	N	N	N
7	Scott Park	N	N	N	N	N
8	Kenilworth	N	N	N	N	N
9	Nash	N	N	N	N	N
10	Confederation	N	N	N	N	N

SOURCE: urbanMetrics inc.

Changing other IZ policy parameters related to rental units can affect the feasibility of scenarios and the costs of IZ. Allowing affordable rent to grow at the same rate as market rents (4%) reduces the change in residual land values caused by IZ by 13%-14%, which is not enough to change the feasibility of the scenarios considered.

Finally, we considered the effects of a 60-year affordability period on rental units. With the benchmark 2% affordable rent growth rate, this longer affordability period causes a larger decrease in residual lad values of 17%-19%. With a higher 4% growth rate in affordable rents, the longer affordability period would decrease residual land values by an additional 11%-14%. The affordability period would not impact the financial feasibility of condominium developments since the future resale value of affordable condominium units it does not affect developer cash flows.

Recommendations

First, we do not recommend the implementation of an IZ policy with a 5% or higher set-aside rate at this time. Due to adverse market conditions, residential developments are facing significant difficulties. The implementation of an IZ policy with a 5% set-aside rate was enough to render many of our benchmark scenarios financially unfeasible. It is important to avoid implementing an IZ policy that severely impacts the feasibility of residential developments. Not only does an IZ policy require new development to produce affordable units, reducing the amount of residential development would also result in higher housing prices and rents across the City.

As market conditions improve, a 5% IZ policy may be considered for condominium developments in the West End and Central/Downtown MTSAs. Notably, IZ may not be implemented until PMTSAs have been approved. It is possible that the completion of the LRT may improve the market feasibility of developments around the stations. The City may want to consider re-evaluating the market feasibility of IZ prior to the mandated 5-year timeline if market conditions improve.

If and when an IZ policy is implemented, we recommend that the implementation should be phased in starting from a lower set-aside rate, similar to other IZ policies in Ontario. This phase-in allows time for the impacts of IZ to be reflected in land values. It would reduce the impact on existing developments, which could otherwise affect the solvency of developers that had acquired land at prices which do not reflect the IZ policy.

Second, incentives should be considered for both rental and condominium projects to offset the costs of IZ. IZ policies can only produce affordable units if sufficiently large residential development occurs, so such developments should be encouraged to maximize the production of affordable units. This can be especially important given variation in construction costs and sale prices, where incentives can make more marginal developments feasible.

A detailed examination of incentives has not been conducted in this report. Based on some preliminary investigations, increases in allowed height may be effective in higher-priced areas but may be less effective with higher construction costs, lower sale prices and rents, or IZ policies with high set-aside rates, especially because IZ policies reduce the per-unit revenues that the increased height would bring in.[3]

[3] For example, there may be evidence to suggest that Seattle, Washington's Mandatory Housing Affordability program did not provide sufficient height bonuses to offset the costs of IZ. See: Krimmel, J., B. Wang. (2023). *Upzoning With Strings Attached: Evidence From Seattle's Affordable*

Another possible incentive is the waiver of development charges and property taxes (for a set period) on all residential units in the development, a feature of Portland, Oregon's Inclusionary Housing program.[4]

Finally, a broader strategy is needed to solve the housing affordability crisis. Even if market conditions improve and implementing IZ becomes more feasible, the number of affordable units created will be limited and will not likely be enough to meet more than a fraction of the need. For example, the City may own surplus or under-utilised lands that could be made available for affordable housing projects.

Housing Mandate. Cityscape, Vol. 25, No. 2, Double Issue: Reentry Housing After Jail or Prison: Recent Reforms in Zoning, pp. 257-278. https://www.jstor.org/stable/48736629

[4] BEA Urban Economics. (2023). *Inclusionary Housing Calibration Study.* City of Portland. https://www.portland.gov/phb/documents/portland-inclusionary-housing-study-final-report/download

3.0 Background

3.1 Inclusionary Zoning in North America

Inclusionary Zoning (IZ) is a land use planning tool intended to increase the supply of affordable housing. IZ requires residential developers to set aside a fraction of homes to be sold or rented at affordable prices. In the United States, IZ policies have been implemented in many jurisdictions including municipalities in Maryland, California, Massachusetts, and New Jersey. In Canada, IZ has been adopted in the City of Toronto, City of Mississauga, and the City of Kitchener, and in other provinces including Quebec and British Columbia.

The specific requirements and other parameters of an IZ policy can differ dramatically. Each jurisdiction that implements IZ must set these parameters for their policy. These parameters will affect the outcomes of an IZ policy.

First, each IZ policy has a required set-aside rate, which mandates the minimum fraction of units which must be offered at affordable prices or rents. IZ policies may further mandate that affordable units be similar to market-rate units in terms of unit mix, size, quality of construction, and other features.

Second, IZ policies must mandate the length of the affordability period. Some implementations of IZ make the set-aside units affordable permanently. However, many IZ policies set a time period (e.g., 25 years, 60 years, or 99 years) during which the set-aside units would remain affordable. After that period, these set-aside units lose their restrictions and can be sold or rented at market rates.

Third, IZ policies must define affordable prices and rents, usually targeting a certain income group. For example, the sale prices and rents could be set so that housing payments would not exceed 30% of the income for households of a chosen income decile. Alternatively, affordable prices and rents can be defined as some fraction of average market prices and rents. These will usually be below the market price or rent for new units because the statistics include old units, and older rental units are often rent-controlled.

Finally, IZ policies can offer incentives or other provisions to make them less costly for developers. Such policies usually allow developers to build with greater density or offer discounts on various fees. In some jurisdictions, developers can build the affordable units in a different site from the development or pay cash in lieu to support the creation of affordable housing through public or non-profit organizations. Such options may take advantage of more cost-effective options for constructing affordable units, thus increasing the overall number of affordable units created. Some IZ policies are even voluntary, offering additional density

bonuses or other incentives if set-aside rates are met. These voluntary policies tend to be less successful at creating affordable units.

Box 3-1: Effects of Inclusionary Zoning Policies

A number of studies have been completed which document the success of IZ policies in terms of creating new affordable housing units. Overall, there is significant variation in the impact of IZ policies. The most successful policies created hundreds of affordable units per year, representing over 5% of new housing construction in those areas.[5,6] Many IZ policies, however, tended to create more modest amounts of affordable housing.[7,8] Additionally, some IZ policies created almost no affordable housing.[9,10] These IZ policies were either voluntary and did not offer sufficient incentives to fund affordable housing or were too stringent and discouraged development.

There are relatively few studies on the causal effects of IZ policies on housing prices and housing construction. Data is limited, and the diversity of IZ policies make analysis more challenging. Most of these studies find evidence that IZ policies slightly increase housing prices but do not find that IZ reduces housing starts.[11,12,13] Still, some jurisdictions have anecdotally reported especially burdensome IZ policies can discourage housing construction.

Besides providing housing to lower-income families, IZ may have an additional benefit of allowing children in lower-income households to grow up in more socio-economically diverse neighbourhoods. Research shows growing up in socio-

[5] Mukhija, Vinit, Lara Regus, Sara Slovin & Ashok Das. (2010). *Can Inclusionary Zoning Be an Effective and Efficient Housing Policy? Evidence from Los Angeles and Orange Counties*. Journal of Urban Affairs, 32:2, 229-252, DOI: 10.1111/j.1467-9906.2010.00495.x
[6] Kontokosta, Constantine. (2015). *Do inclusionary zoning policies equitably disperse affordable housing? A comparative spatial analysis*. J Hous and the Built Environ (2015) 30:569–590, DOI 10.1007/s10901-014-9430-5
[7] Mukhija et al. (2010). *Can Inclusionary Zoning Be an Effective and Efficient Housing Policy?*
[8] Schuetz, Jenny, Rachel Meltzer and Vicki Been. (2011). *Silver Bullet or Trojan Horse? The Effects of Inclusionary Zoning on Local Housing Markets in the United States.* Urban Studies, 48(2), 297–329. https://doi.org/10.1177/0042098009360683
[9] Mukhija et al. (2010). *Can Inclusionary Zoning Be an Effective and Efficient Housing Policy?*
[10] Hamilton, E. (2021). Inclusionary Zoning and Housing Market Outcomes. Cityscape, 23(1), 161–194. https://www.jstor.org/stable/26999944
[11] Hamilton. (2021). *Inclusionary Zoning and Housing Market Outcomes.*
[12] Bento, A., Lowe, S., Knaap, G.-J., & Chakraborty, A. (2009). Housing Market Effects of Inclusionary Zoning. Cityscape, 11(2), 7–26. http://www.jstor.org/stable/20868701
[13] Schuetz et al. (2011) *Silver Bullet or Trojan Horse?*

economically diverse neighborhoods and schools strongly improves the outcomes of children in lower-income families.[14,15]

IZ policies can improve socio-economic mixing, but its success depends on the design of the policy.[16,17] Jurisdictions with housing policies which allow for less local discretion and more regional oversight on housing construction are more suited in IZ increasing dispersion. Jurisdictions allowing greater local discretion often concentrate affordable units in minority and low-income areas.

As discussed below, IZ in Ontario is strictly governed by Provincial legislation. The approaches available to municipalities in Ontario are more limited than in other jurisdictions, particularly in the United States and other Canadian provinces.

3.2 Provincial Regulations for Inclusionary Zoning in Ontario

In Ontario, the Provincial government regulates IZ through the *Planning Act.* The *Development Charges Act* also has policies relating to discounts and exemptions available to affordable housing, including affordable housing created though IZ. The recent passage of *Bill 23* has modified or proposed to modify some of these requirements. Municipalities must work within this framework when drafting their IZ policies.

Under the Planning Act, IZ can only apply to developments with 10 or more units and are restricted to lands within Protected Major Transit Station Areas (PMTSAs). Municipalities are required to identify:

- Where an Inclusionary Zoning By-law applies;

[14] Chetty, Raj, Nathaniel Hendren, and Lawrence F. Katz. 2016. "The Effects of Exposure to Better Neighborhoods on Children: New Evidence from the Moving to Opportunity Experiment." American Economic Review, 106 (4): 855-902.
[15] Chetty, R., Jackson, M.O., Kuchler, T. et al. Social capital I: measurement and associations with economic mobility. Nature 608, 108–121 (2022). https://doi.org/10.1038/s41586-022-04996-4
[16] Kontokosta,C. (2015). *Do inclusionary zoning policies equitably disperse affordable housing?*
[17] Ryan, S., Enderle, B.E. (2012). *Examining spatial patterns in affordable housing: the case of California density bonus implementation.* J Hous and the Built Environ 27, 413–425. https://doi.org/10.1007/s10901-011-9259-0

- The household incomes eligible for the affordable units;
- The housing types and sizes for affordable housing units;
- The amount of affordable housing required;
- The length of time units will remain affordable for;
- How any incentives will be determined;
- How the price or rent of affordable units is determined;
- The percent of proceeds from the sale or rent of affordable housing units which must be distributed to the municipality (limited to 50%);
- Conditions for offsite affordable housing units; and
- Any other conditions for affordable housing units.

In addition, a third-party assessment of the potential impacts of IZ is required, which is the role of this report. The assessment report must contain the components listed below. Because this IZ assessment report is being conducted concurrently with the Housing Needs Assessment, some of the below components are only included in the Housing Needs Assessment (HNA) and not in this report to avoid duplication, as noted below.

- An analysis of demographics and population of the municipality (HNA);
- An analysis of household incomes in the municipality (HNA)
- An analysis of housing supply by housing type currently and planned for in the Official Plan (HNA);
- An analysis of housing types and sizes of units to meet demand for affordable housing (HNA);
- An analysis of the current Average market price and rent by housing type (HNA and IZ Assessment Report); and
- An analysis of the potential impact on the housing market and financial feasibility of development as a result of IZ by-laws accounting for (IZ Assessment Report)
    - Value of land
    - Cost of construction
    - Market price

- Market rent
- Housing supply and demand

The above analysis is also required to be peer reviewed by an independent qualified party.

In addition to the above regulations, there are currently proposed amendments to O. Reg 232/18: Inclusionary Zoning which, if implemented, would:

- Limit the affordable unit ("set aside") rate to a maximum of 5%;
- Limit the maximum length of the affordability period to 25 years;
- Set a floor for depth of affordable ownership to 80% of the average resale price; and
- Set a floor for depth of affordability for affordable rental to 80% of the average market rent.

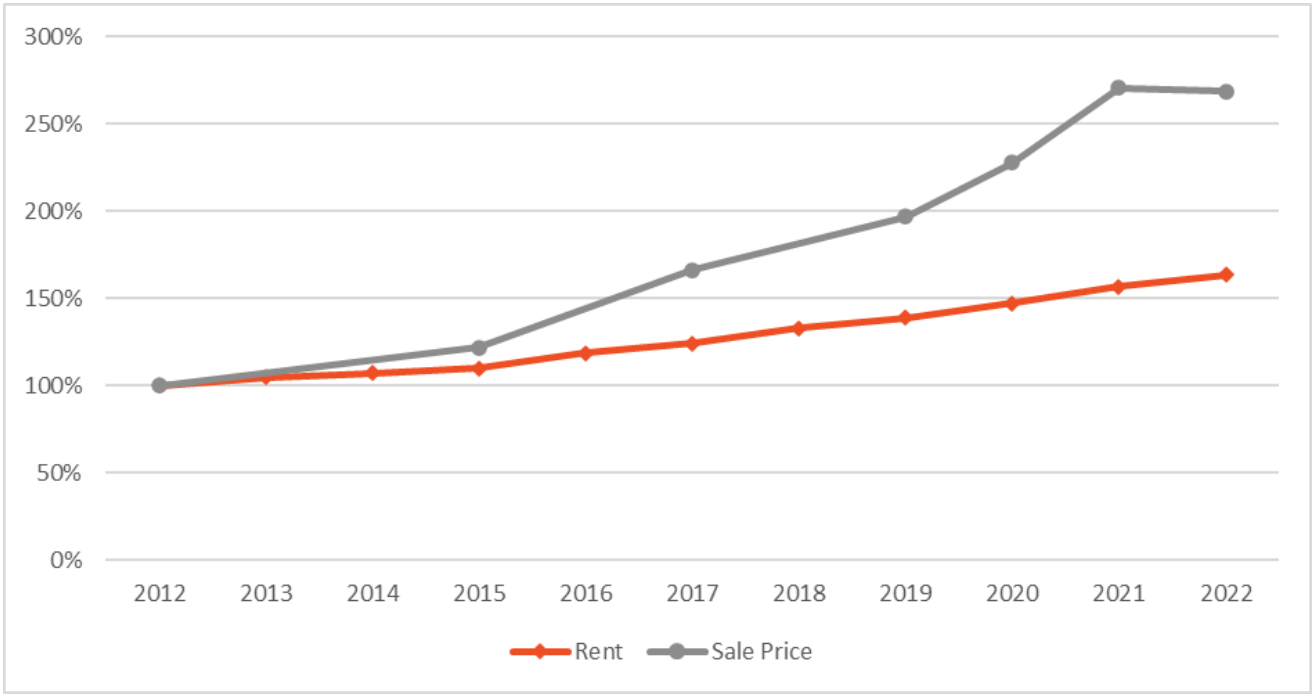
The amendment is not yet in force, although the public comment period has lapsed. It is currently unclear whether these proposed changes will be implemented. As such, this report includes scenarios beyond what would be permitted under these proposed amendments to O. Reg 232/18.

3.3 Hamilton Context

Housing costs have escalated rapidly across Ontario in recent years, and the City of Hamilton is no exception. As shown in Figure 3-1, both the rents for purpose-built rental apartments and prices of condominium apartments have risen rapidly since 2012. This rate of increase far exceeds the rate of inflation, which rose by 17% between 2012 and 2021, while condominium prices more than doubled, and rents rose by over 1.6 times.[18]

[18] Based on Statistics Canada Consumer Price Index

Figure 3-1: Rent and Purchase Price of Apartments as % of 2012 Levels



SOURCE: urbanMetrics, with data from CMHC and the Realtor's Association of Hamilton-Burlington. Sale price data was only available for years 2012, 2015, 2017, and 2019-2022.

This increase in housing costs has raised significant concerns around housing affordability in Hamilton. As noted above, one of the tools available to municipalities in Ontario to provide affordable housing is IZ, and the City of Hamilton is now considering its implementation.

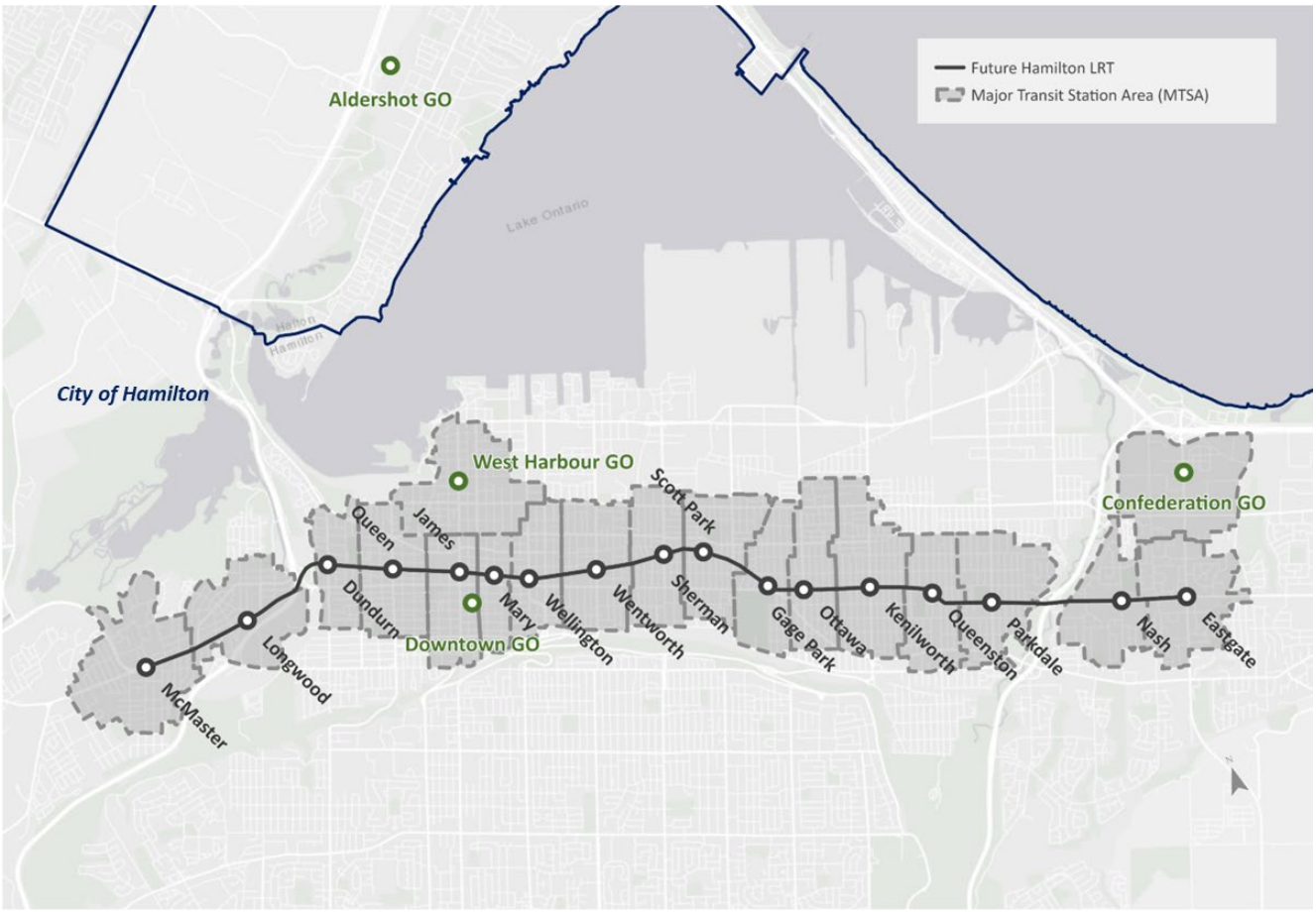
urbanMetrics has been retained by the City of Hamilton to prepare a Market Feasibility Report on the potential impacts of IZ in Hamilton, as required by Planning Act. Concurrent with this report, the City of Hamilton has retained SHS Consulting to prepare a Housing Needs Assessment which will address housing affordability more broadly, and Dillon Consulting to prepare a report delineating the Major Transit Station Area (MTSA) and Protected Major Transit Station Area (PMTSA) boundaries surrounding the current and planned LRT and GO stations.

The draft PMTSA boundaries prepared by Dillon Consulting surrounding each LRT and GO station are shown in Figure 3-2. The Planning Act restricts IZ to within PMTSAs and Development Permit System areas. As such, this report has only examined IZ within the areas shown below.

It is important to consider the potential yield of affordable units from an Inclusionary Zoning By-law in Hamilton. As with many municipalities in Ontario,

apartments make up a small share of new housing completions in Hamilton (see Figure 3-3). While there has been a large increase in apartment completions from 2020-2022, the historical average was 210 new apartments a year. Some of these completions were outside the boundaries of the proposed PMTSAs. An IZ policy with a 5% set-aside rate, under historical average apartment completions, would yield at most 13 additional affordable units a year. If the peak of 1,258 apartments completed in 2022 continues and all are constructed in PMTSAs, a 5% IZ policy would yield around 60 affordable units a year.

Figure 3-2: Draft Major Transit Station Area (MTSA) Boundaries

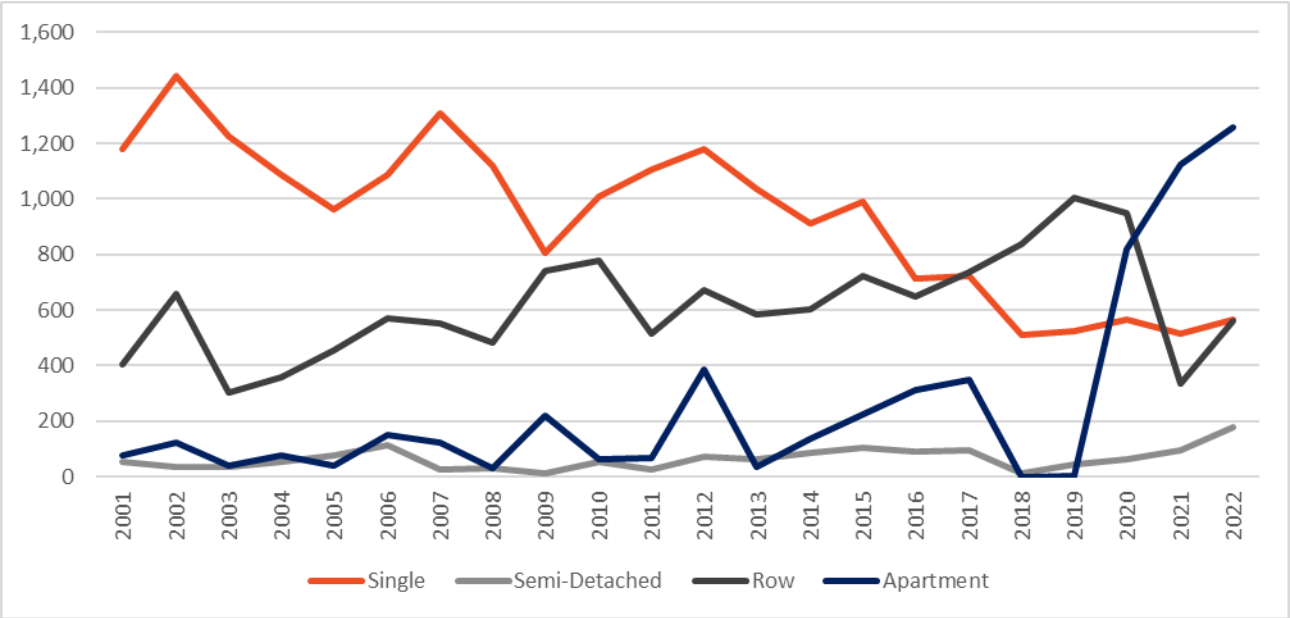


SOURCE: urbanMetrics inc., with MTSA boundaries by Dillon Consulting and Future Hamilton LRT data from Metrolinx

IZ depends on new development to add affordable housing units. In the absence of large increases in apartment development activity, an IZ policy in Hamilton will have only a modest contribution to the affordable housing stock. As such, IZ

should be considered one of the tools available to address the need for affordable housing and not a stand-alone solution.

Figure 3-3: Annual Completions in Hamilton by Housing Type



SOURCE: urbanMetrics inc., with CMHC data.

4.0 Scenarios

As discussed in the previous sections, the City of Hamilton is examining the implementation of IZ to support the creation of affordable housing units. The success of IZ policies requires continued private-market housing development. IZ policies which are too burdensome can greatly reduce development and thus worsen housing affordability challenges in the region.

To examine the financial impact of potential IZ policies in the City of Hamilton, we analyzed ten test sites within the proposed MTSAs. These test sites were selected in collaboration with the City of Hamilton to be broadly representative of typical potential developments in the each CMHC region in Hamilton. They are not intended to make any claims about where a specific development could or should take place, nor to support or oppose any specific development project.

We divided the MTSAs into four regions based loosely on CMHC Zones:[19]

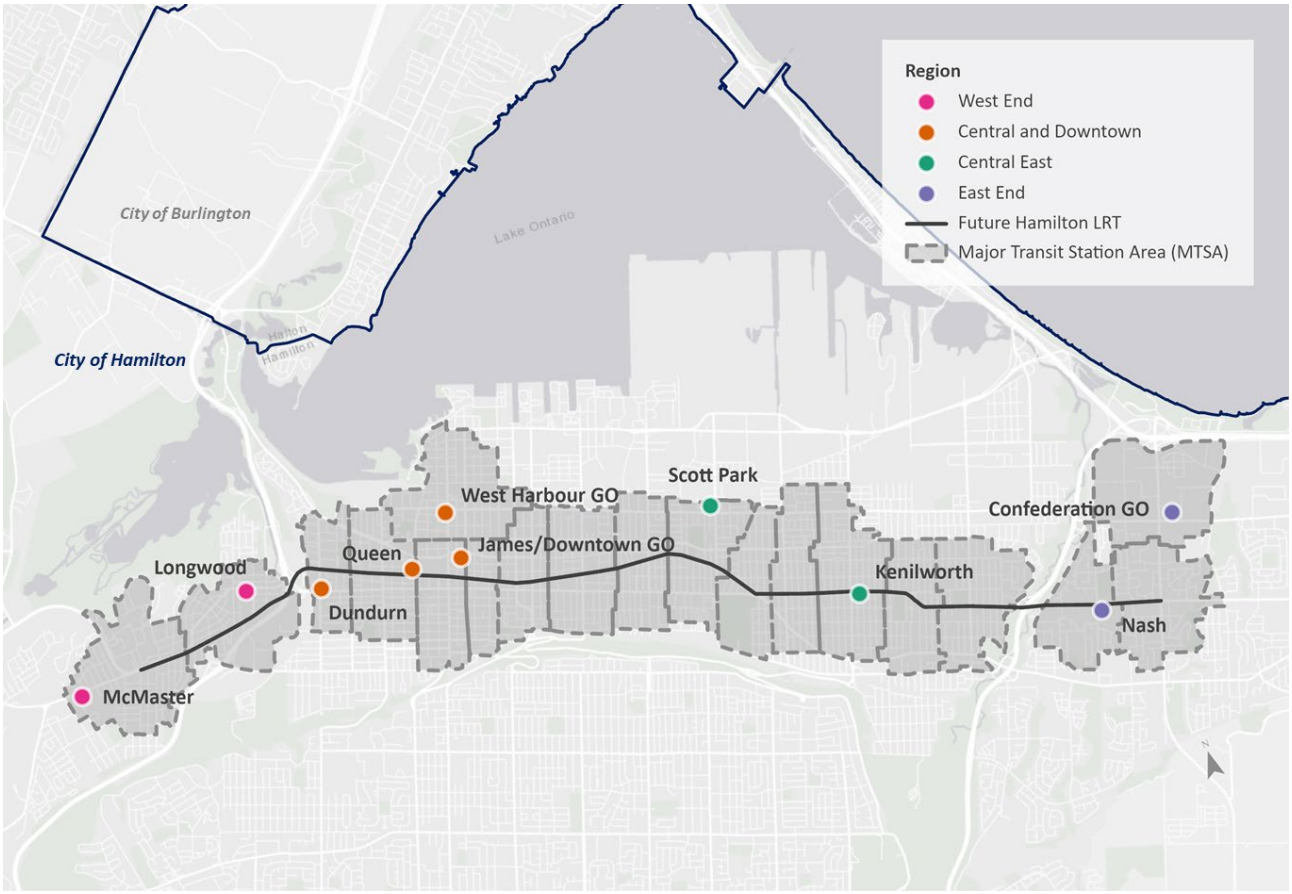
- West End: west of Highway 403. Includes McMaster University.
- Central and Downtown: between Highway 403 and Sherman Ave. Includes the downtown core and the West Harbour GO Station.
- Central East: between Sherman Ave. and Red Hill Parkway. Includes Gage Park and Tim Hortons Field.
- East End: east of Red Hill Parkway. Includes Eastgate Square and the Confederation GO Station.

Four sites were selected inside the Central and Downtown region since most developments in the City occur in this area. Two sites were selected for each of the three other regions. All sites are consistent with the Growth Plan requirements as to where intensification and higher densities are to be prioritized.

For each test site, we considered a scenario with building parameters that were permitted as-of-right by existing zoning by-laws. The exception is the Confederation GO test site, where existing zoning did not permit residential dwellings. We assumed this site will be rezoned to allow mixed use development with the establishment of the PMTSA.

[19] CMHC Zones are housing submarkets based on groupings of Census Tracts, and are smaller than Census Subdivisions.

Figure 4-1: Test Site Locations and Regions



SOURCE: urbanMetrics inc., with MTSA boundaries by Dillon Consulting and Future Hamilton LRT data from Metrolinx

4.1 West End MTSAs

The West End CHMC zone encompasses the region west of the Alexander Graham Bell Parkway (Highway 403) and includes the neighborhoods of Ainslie Wood and Westdale along with McMaster University. We consider one test site in each of the two proposed MTSAs (McMaster and Longwood) that mostly fall within this zone.

The region consists mostly of low-rise buildings and single-detached homes. Many of these single-detached homes have been entirely or partially converted to rentals. Some mid-rise and high-rise rental apartments and a small number of condominium apartments exist in the region. There is a cluster of rental apartment buildings to the south-west of the McMaster MTSA.

The region has seen some recent multi-residential housing developments, and more are in the planning stages. Some of the recent developments are intended for student housing and consist mostly of studio dwelling units.

The McMaster site represents development directly on Main Street West on sites currently used for low-density retail uses, which are separated from residential uses by roads or other commercial uses.

The Longwood site represents four-storey low-rise development on a larger lot with adjacent residential units that require setbacks and angular planes.

4.2 Central and Downtown MTSAs

The Central and Downtown CMHC zones encompass the area between the Alexander Graham Bell Parkway and Sherman Avenue. We selected four test sites in the Central and Downtown zones in the proposed Dundurn, West Harbour GO, Queen, and James/Downtown GO MTSAs.

Buildings in this region are diverse, with many examples of low-rise, mid-rise, and high-rise buildings. The region has significant amounts of office, government, and institutional buildings, including Hamilton General Hospital. Many types of retail buildings exist: single detached buildings, big box stores, and ground floor retail in low-rise and high-rise buildings. Many buildings in this area have cultural or historical significance and are listed or designated on the municipal heritage register.

Housing in the area is equally diverse. Single-detached dwellings, townhouses, low-rise and mid-rise apartments, and high-rise towers are all prevalent in the area. This region sees the most development activity. Multiple developments of around 30 stories have been recently completed, are under construction, or are currently in the planning process. While most are condominium units, some of these developments are purpose-built rentals aimed at the broader market beyond just student housing.

The region has one additional feature relevant for our analysis. The high water table of this region makes underground parking more expensive to construct.

The Dundurn site represents mid-rise development on small lots directly on Main Street West outside of the downtown core. A current use of low-density retail and

limited adjacent residential uses requiring setbacks are all characteristics of this type.

The West Harbour GO site represents mid-rise apartment development not on a major road, and minimal required setbacks.

The Queen site represents a high-rise development on a moderately sized lot in the downtown core, and minimal required setbacks.

The James/Downtown site represents a high-rise development on a large site taking up an entire block, and minimal required setbacks.

Of note, the cumulative impact of shadow requirements was not considered, which may reduce the allowed density of future developments as the region builds out.

4.3 Central East MTSAs

The Central East CMHC zone encompasses the region between Sherman Avenue and the Red Hill Valley Parkway. We selected two test sites, one each in the proposed Scott Park and Kenilworth MTSAs.

The region contains mostly low-rise buildings. Retail businesses exist along the main roads in this region. The northern area of this region is industrial. The region also contains Gage Park and Tim Horton's field.

Most of this region consists of single-family homes. A few low-rise apartments and townhouses exist. There are almost no recent multi-family residential developments in the area, and the developments that are occurring are mainly non-profit affordable housing projects.

The Scott Park site represents a mid-rise development on a large lot along Barton Street East, which is in relatively close to industrial uses to the north. This site has setbacks.

The Kenilworth site represents a mid-rise development along a major street on a modest-sized site, with adjacent residential uses that require setbacks and angular planes.

4.4 East End MTSAs

The East End CMHC zone encompasses the region east of the Red Valley Parkway. We selected two test sites, one each in the proposed Nash MTSA and the Confederation GO MTSA.

The region contains mostly low-rise retail, industrial, and residential buildings. Large-format shopping plazas and big-box stores are the predominant uses along the main roads in this region, with single-family homes behind the retail uses. The northern area of this region is within a Protected Employment Zone currently used exclusively for industrial purposes. There are also a few older apartments the east end of this area. There are few recently-constructed or under-construction apartment buildings in the area, with a notable example being the market-rate rental development currently under construction at 870 Queenston Road. However, there have been several recent proposals for large residential developments, especially following the approval of the Centennial Neighbourhoods Secondary Plan in 2019.

The under-construction Confederation GO station and Eastgate Mall are located in this area. Of note, Eastgate Mall represents the largest share of developable land, and is in the early stages of the planning process for a major redevelopment. Due to the active application, as well as unique size and regional function of Eastgate Mall, it would be inappropriate to use this as a test site. However, it is likely that it will represent a significant portion of new units in this area, given its size.

The Nash site represents one mid-rise phase/block of a larger redevelopment of a larger retail use along a major street.

The Confederation GO site represents a mid-rise development along a major street a distance from the LRT, on a very large site with adjacent industrial uses that the secondary plan requires large setbacks. As of this report, the site was not zoned for residential dwellings, but we assumed it will be rezoned to parameters similar to C5 zoning as part of establishing the PMTSA.

5.0 Methodology

We conducted a residual land value analysis to examine whether the proposed IZ policies would affect the market feasibility of housing developments. Here, the residual land value is calculated as the remainder after hard and soft construction costs and the required developer's profit margin are subtracted from the present value of the project's revenues. If the residual land value is greater than the value of the land's existing use, then it would be feasible to buy out the existing landowner and develop the land at the required profit margin.

We considered the effect of an IZ policy in two ways. First, we considered whether the residual land value exceeds the value of the land's existing use. An IZ policy which makes many test scenarios unfeasible would be too stringent.

Second, we quantified the effective cost of the IZ policy. This is defined as the difference in profits for the developer for providing housing units at affordable prices or rents instead of at market prices or rents. We present this effective cost in two ways: the total cost divided by the total number housing units (which can be compared to a development charge), and the total cost divided by the number of affordable units (which can be compared to other policies which produce or acquire housing to be provided at affordable prices and rents). The benefit of these metrics compared to considering a project's feasibility is they are less sensitive to assumptions. Specifically, these cost metrics are not affected by changes in construction costs and land values. That can make these cost metrics more useful to consider in volatile economic conditions.

5.1 Discounted Cash Flow, Discount Rate, and Required Profit Margin

The analysis follows the format of a discounted cash flow (DCF). In a DCF analysis, the amount and timing of revenues and expenses are projected. Future cash flows are exponentially discounted to present values using a discount rate that reflects the cost of capital and the risk of the project. DCF analysis is a common method of evaluating the financial feasibility and attractiveness of projects across many industries.

Box 5-1: Discounted Cash Flow vs. Direct Income Capitalization

An alternative method of valuing real estate development projects is the direct income capitalization method. Here, one-period stabilized net operating incomes are divided by the cap rate for similar projects to arrive at the asset value of the development. This asset value is compared to the total costs and required profit margin to determine if the project is viable.

The direct capitalization method is often used in the real estate industry to value properties. For example, it is used by MPAC to assess property values for municipal property taxes. A white paper on IZ feasibility studies found experts believe both DCF and direct income capitalization methods are sufficient for such studies.[20] For comparability purposes, we calculate the derived cap rate of the DCF, using the net present value of after-tax cash flows for the asset's value.

While the DCF method requires more assumptions and is more complex, it allows for a more transparent examination of how various timing and risk assumptions affect feasibility. In a cap rate analysis, assumptions about the effects of rental escalation rates, the cost of capital, and the riskiness of the project are all combined into the cap rate. As such, the choice of a cap rate can be more difficult to justify especially in a volatile economic environment.

The housing development market is experiencing volatile conditions at the time this analysis is being conducted. Interest rates have risen dramatically over the past year, with the prime rate increasing from 2.45% in March 2022 to 5.45% in September and 6.45% in December 2022. Industry cap rates for multi-family residential projects, as reported by Colliers, have increased by less than 0.50% from March to September.[21] Rental prices have also experienced significant volatility over the pandemic. There are concerns that the reported cap rates may not fully reflect the recent changes. The greater transparency provided by a DCF is especially helpful in this situation.

The choice of a discount rate has a large effect on the results of a DCF analysis. This is especially true for purpose-built rentals, where most of the revenues are earned only in the distant future.

[20] Grounded Solutions Network. (2018). *Strengthening Inclusionary Housing Feasibility Studies.* https://inclusionaryhousing.org/wp-content/uploads/2018/11/ih-feasibility-studies-convening-report.pdf

[21] Colliers. (2022). *Canada Cap Rate Report Q3 2022*. https://www.collierscanada.com/en-ca/research/canada-cap-rate-report-2022-q3

The discount rate represents difference in value between money earned in the future and money earned today. This difference usually captures two factors. First, it represents the cost of capital. Earlier earnings can be used to pay off debt or reinvested in projects without taking on additional debt. An investment with cash flows far in the future must be financed, which requires paying interest or a market rate of return on equity. Second, the discount factor includes a risk premium. A riskier project requires a higher return to be feasible, especially because the failure of projects may jeopardize the financial health of a company.

Unlike standard DCFs, a residual land value analysis also includes the developer's required profit margin. The profit margin compensates developers for the risk of the project and provides a cushion to allow for securing financing. Following previous IZ feasibility studies, we use a 15% profit margin before income taxes. The risk premium component of the discount rate will be used to capture the additional risk of the test scenarios.

Developers usually face different borrowing costs before and after construction completes. Construction loans tend to have higher interest rates, while mortgages are secured by the building and have lower interest rates. As such, we also use a different discount rate before and after construction completes. Condominium developments are fully sold shortly following construction, so this difference has a small effect for such projects. On the other hand, this difference is vitally important for rental developments, which are long-duration assets that are extremely sensitive to discount rates.

The benchmark discount rate during construction is based on the interest rate on construction loans. According to various sources, the interest rate on construction loans tends to be around the prime rate plus 1.5%. The prime rate was 7.20% as of December 2023, so construction loan rates were around 8.70%. A 1% risk premium was added to this discount rate to reach our benchmark rate of 9.70%. We use a 2.5% lower discount rate, for a rate of 7.20%, for cash flows following construction. After construction is completed, the balance of the construction loans are rolled into mortgages which face lower risks and thus have lower interest rates.

5.2 Test Scenario Building Parameters

For each test site, except for Site 10, we create a test scenario with building parameters which are permitted as of right by existing zoning. The existing zoning of Site 10 does not permit residential dwellings, so we assume it is reclassed to

Zone C4. In consultation with the City of Hamilton, we also consider an additional test scenario for some sites where building parameters are modified to better represent buildings that would likely be allowed in the region beyond those which would be permitted by existing regulations, or to consider the effects of possible incentives that could be used to offset the costs of IZ.

These building parameters include height limits, setback requirements, and parking units. From these parameters, we derive the lot coverage and commercial, residential, and administration/other (e.g., amenities, lobby, utilities, hallways, stairs, and elevators) floor space distributions based on comparable developments in the area.

For parking, we assume that parking minimums are mostly removed for all scenarios but some amount of parking is required to meet market demand. We assume 0.33 parking units per housing unit in the Central/Downtown MTSAs and 0.5 parking units per housing unit elsewhere. We assume all parking is underground to maximize the residential space available. Central and downtown locations have hard construction costs for underground parking increased by 50% due to the water table.

Table 5-1:: Building Parameters by Scenario

Scenario	MTSA	Lot Size (K ft2)	Lot Cov. %	Storeys	Resid. GFA (K ft2)	Comm. GFA (K ft2)	Parking Spaces	Units
1	McMaster	69	68%	4	138	14	98	195
2	Longwood	97	63%	4	161	42	114	228
3	Dundurn	13	83%	7	57	2	27	80
4	West Harbour	22	91%	7	98	7	46	139
5	Queen	34	85%	30	382	7	178	540
6	James/Downtown	97	72%	30	814	20	304	1,151
7	Scott Park	191	53%	7	550	27	389	778
8	Kenilworth	37	75%	7	131	8	92	185
9	Nash	92	68%	13	580	26	411	820
10	Confederation	228	27%	12	490	6	347	693

Note: This table shows the test scenario parameters for the test sites. For the test scenarios, we assume building parameters permitted by as-of-right by zoning. The exception is Scenario 10, where we assume the building conforms to C4 zoning because its current zoning does not allow for non-employee dwellings. These parameters are only intended to be representative of a variety of types of housing developments and are not prescriptive. Actual developments will differ from these parameters.

Due to the size of Scenarios 6 (James/Downtown), 7 (Scott Park), 9 (Nash), and 10 Confederation, we assume these projects are built over two phases with each

phase being 50% of the units. The second phase is assumed to begin its planning process following the completion of the first phase. We assumed the discount rate for the phasing period is equal to the mortgage interest rate plus risk premium of 7.2%.

5.3 Price and Rent Assumptions

We used comparable listings on various data sources including Altus, MLS, and individual property websites to derive sale and rent prices for each of the four regions. The ideal comparable units were (re)sales and rentals of newly constructed apartment units. The availability of such data was limited, especially outside the Central and Downtown region. As such, we also examined data on rents for older apartments, resales of older condominium units, and rentals and sales of townhouses and single-detached homes (in part or whole). These were adjusted based on CMHC data and our understanding of local markets. Markets with data gaps for certain unit types were also imputed this way.[22]

Table 5-2: Benchmark Market Sale Prices and Monthly Market Rents

Region	West End	Central/DT	Central East	East End
Sale: Studio	$450,000	$475,000	$400,000	$425,000
Sale: 1BR	$575,000	$600,000	$525,000	$550,000
Sale: 2BR	$725,000	$750,000	$675,000	$700,000
Sale: 3BR	$875,000	$900,000	$825,000	$850,000
Rent: Studio	$1,850	$1,900	$1,800	$1,800
Rent: 1BR	$2,250	$2,300	$2,150	$2,200
Rent: 2BR	$2,600	$2,700	$2,550	$2,600
Rent: 3BR	$3,200	$3,300	$3,150	$3,200

Notes: These values are derived from various data sources including Altus, MLS, and individual property websites and are adjusted based on CMHC data and our understanding of the local markets. These figures are only intended to be reasonable estimates of what average new housing units may sell for in these regions and are not prescriptive. Prices of actual units will differ from these numbers.

Using these methods, we derived the benchmark sale and rent prices as shown in Table 5-2. These figures are intended to be reasonable estimates, and it would be

[22] The prices and rents were collected Q4 2022, then adjusted to Q4 2023 based on the MLS Home Price Index for sale prices and Rentals.ca and Urbanation data for rents. Based on this data, sale prices were kept at the Q4 2022 levels, while rents were increased by 6% then rounded to the nearest $50.

expected that any specific development would have prices that differ from these. In Section 7.0, we conduct a sensitivity analysis to show the effect of changes in prices on the impact of IZ and the feasibility of test scenarios.

Projecting revenues also requires assumptions on average unit sizes by unit type. Data on the size of units was more limited than data on sale and rent price.[23] The square footage of units was often provided as a range or estimate or was not provided at all. Again, we derived the size of units by what data we had available. Based on 2023 development data, we assumed unit sizes of new construction would be similar across the four regions. Table 5-3 summarizes our assumptions regarding unit sizes, which results in the derived sales per square feet figures in Table 5-4.

Table 5-3: Benchmark Unit Sizes

	Square Feet
Studio	450
1BR	610
2BR	840
3BR	1050

Notes: These values are derived from various data sources including Altus, MLS, and individual property websites. These figures are only intended to be reasonable estimates of what the size of average new housing units in these regions may be and are not prescriptive. Sizes of actual units will differ from these numbers.

Sale and rent prices per square foot differ by unit type, with smaller units having higher prices per square foot. As such, the unit mix of the development will affect its revenues. While we see some developments which are almost entirely studios and/or small 1-bedroom units in the City of Hamilton, market demand would likely require most developments to build units of larger sizes. As such, we assume a unit mix of 10% studios, 50% 1-bedroom, 30% 2-bedroom, and 10% 3-bedroom.[24] We allow for fractional units since developers can make minor adjustments to unit sizes to fill the available space with commensurate price increases.

We assume condominium sale prices grow at 2% annually, same as all other variables except rents. Pre-sales are sold at the current value, despite only

[23] Due to the data limitations on size of units, we start from assumptions on price per unit and size per unit to derive price per square foot values, rather than starting from price per square foot.
[24] Compared to the March 2023 version of this report, we have decreased studios by 10% and increased 2-bedroom units by 10%.

receiving 80% of the sale price at completion. The growth rate of rents is higher and is discussed below.

Table 5-4: Derived Sale and Monthly Rent Prices per Square Foot

Region	West End	Central/DT	Central East	East End
Sale: Studio	$1,000	$1,056	$889	$944
Sale: 1BR	$943	$984	$861	$902
Sale: 2BR	$863	$893	$804	$833
Sale: 3BR	$833	$857	$786	$810
Rent: Studio	$4.11	$4.22	$4.00	$4.00
Rent: 1BR	$3.69	$3.77	$3.52	$3.61
Rent: 2BR	$3.10	$3.21	$3.04	$3.10
Rent: 3BR	$3.05	$3.14	$3.00	$3.05

Notes: These values are derived from the price and size assumptions in Table 5-2 and Table 5-3. These figures are only intended to be reasonable estimates of what average new housing units may sell for in these regions and are not prescriptive. Prices of actual units will differ from these numbers.

Rent Growth Rate and Time Horizon

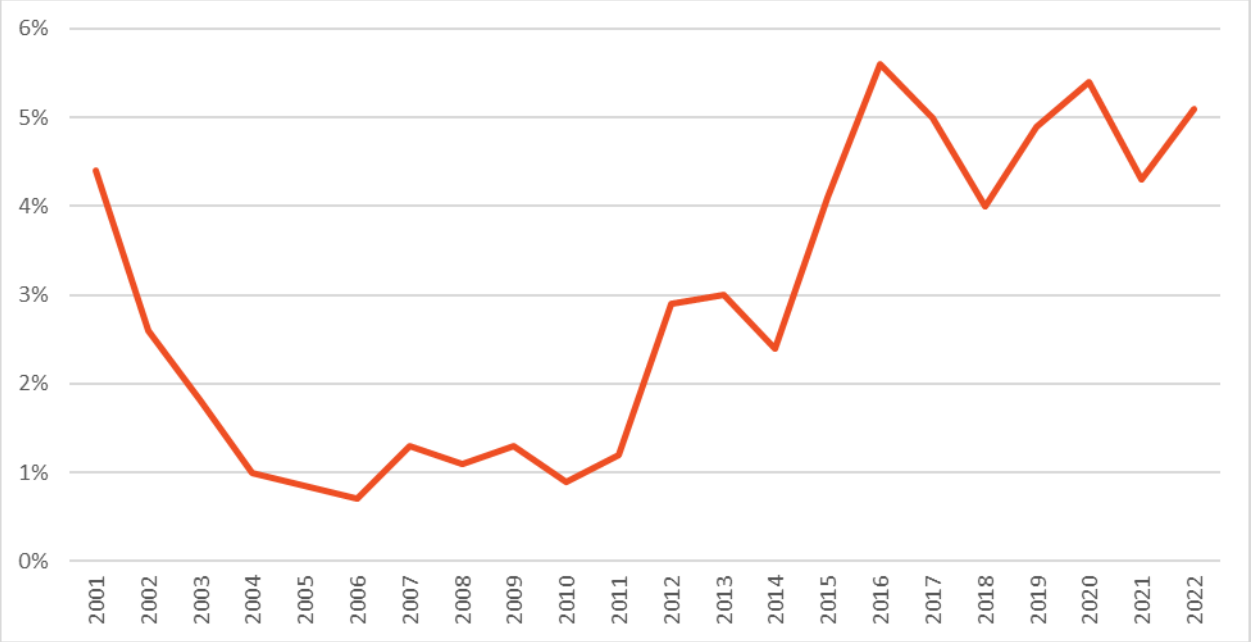
The feasibility of rent scenarios depends on the annual growth rate for rent as much as the discount rate. Rental units built before November 15, 2018 are subject to rent control. Newer rental building would not be subject to rent control. As such, we assume an annual rent growth rate of 4% for both market-rate rentals and for affordable rentals. While high, this assumption is in line with past rent growth rates. As shown in Figure 5-1, average rents in existing purpose-built rentals in Hamilton have grown by 4.0%-5.6% year-over-year since 2016. This growth rate is similar for all bedroom types. Because there are more regulations over how much affordable rents can be raised annually, we assume they grow at 2%.[25]

The income of rent scenarios also depends on the time horizon of the analysis, beyond which the building is assumed to have no value and the land is sold for redevelopment. We assume a 100-year time horizon for this analysis. Because the difference between the rent growth rate and the after-construction discount rate is relatively small in this analysis, the choice of the time horizon does have a significant effect on the results. This may be longer than historical average multi-

[25] This differs from the benchmark affordable rent growth assumptions in the March 2023 report, where we assumed that affordable rents, being calculated as a percentage of average market rents, would grow at the same rate at average market rents.

residential building lifespans. However, older buildings are often in use for over 70 years and modern construction techniques can improve the lifespan of buildings.

Figure 5-1: Average Annual Change in Rent, City of Hamilton



Notes: Data only includes purpose-built apartment rentals that were present in the previous Rental Market Survey. This data reflects the average rent growth in individual buildings, and not rent growth in the overall market. Newly built rentals have higher rents, which would increase the average market rent faster than rents increase in an existing building. SOURCE: urbanMetrics inc., with CMHC data.

5.4 Inclusionary Zoning Assumptions

As discussed earlier, IZ policies vary dramatically in many of their parameters. Proposed regulatory changes following the passage of Bill 23, *More Homes Built Faster Act*, define limits for IZ policies. The proposed regulations set a maximum set-aside rate of 5% for affordable units and a maximum affordability period of 25 years. The proposed regulations also define affordable units at 80% of average market rents for affordable units and 80% of average resale prices for ownership units, although it is unclear if these changes will be implemented as proposed.

Our benchmark IZ policy follows these parameters. Many IZ policies require affordable units to be similar to market-rate units. As such, we assumed that a fraction equal to the set-aside rate of each unit type would be set aside as affordable. We allow for fractional units to simplicity the analysis and to reflect that our scenarios represent averages. For affordable rental units, we assumed that the price remains affordable for the 25-year affordability period, then jumps to the market rate at the end of the affordability period. The affordability period does not affect the analysis of ownership units since developers are not directly affected by resale values. In the event that the proposed regulatory amendments change prior to passage, we also included results for set-aside rates of 10%, 15%, and 20% and conduct sensitivity analyses with a 60-year affordability period.

We set the affordable prices and rents based on regulatory parameters. For rentals, we used 80% of the average market rent across the City of Hamilton by unit type. According to the housing needs assessment conducted by SHS concurrently with our analysis, this results in the affordable rents per unit as shown in Table 5-5. Similarly, we used the affordable ownership prices by unit type provided by SHS (these were calculated based on household income deciles in Hamilton), which results in the prices per unit as shown in Table 5-5. Notably, we assume that all of the proceeds from the rental or initial sale of affordable units goes to the developer, with none going to the municipality.

Table 5-5: Affordable Price and Rent Per Unit Assumptions

	Ownership	Rental
Studio	$194,965	$732
1-Bedroom	$245,402	$876
2-Bedroom	$300,934	$1,017
3-Bedroom	$364,429	$1,183

5.5 Other Revenue Assumptions

Several additional factors are required to calculate revenues. First, assumptions must be made around the timing of sales and rentals. These assumptions are detailed in Table 5-6. For condominiums, we assumed 80% of units are pre-sold. We assumed a 20% deposit is received upon start of construction for pre-sold units with the rest being received on completion of construction. The remainder of condominiums are sold in the quarter following completion of construction. For affordable units, we assume no units are pre-sold, and all units are sold evenly over

two quarters following completion of construction. For rentals, we assume market-rate units take four quarters to reach stabilization and affordable units take two quarters.

Table 5-6: Sales Timing Assumptions

	Unit	Value
Fraction of condominiums pre-sold	%	80%
Deposit on pre-sold condominium sale price	%	20%
Quarters to fully sell, market-rate condominiums	Quarters	1
Quarters to fully sell, affordable condominiums	Quarters	2
Quarters to stabilization, market rentals	Quarters	4
Quarters to stabilization, affordable rentals	Quarters	2

Second, various expenses and adjustments are subtracted from potential gross revenues to arrive at effective gross revenues as described in Table 5-7. These include selling and agent fees, operating expenses, bad debt and delinquency, and vacancy. Selling expenses apply for both condominium and rental scenarios, while the other expenses apply only for rentals.

Table 5-7: Sales Adjustment Assumptions

	Unit	Value
Selling and agent fees	% of sales	5%
Operating expenses	% of rent	25%
Bad debt and delinquency	% of rent	2%
Vacancy at stabilization, market rentals	%	2%
Vacancy at stabilization, affordable rentals	%	1%

Finally, we added commercial and parking revenues as detailed in Table 5-8. We assumed commercial space is sold to a commercial leasing company for a lump sum when construction completes. Developers reportedly tried to minimize commercial property space in residential developments. As such, we assumed the sale price of commercial property is much lower than that of residential property. We confirmed these commercial prices were similar to recent sale prices of commercial retail property in the respective regions.

Parking space in condominiums is sold with the units. We used comparable sales to set the price of parking space in the Central and Downtown region. Unfortunately, we were unable to find comparable sale prices for parking spots in the other

regions. We assumed parking spots in these other regions would sell for less than parking in the Central and Downtown region.

Table 5-8: Commercial and Parking Price and Rent Assumptions

Region	West End	Central/DT	Central East	East End
Commercial price/SF	$300	$400	$300	$300
Parking sale price	$50,000	$60,000	$50,000	$50,000
Parking rent price	$100	$125	$100	$100
Parking rent AGR	2%	2%	2%	2%
Quarters to stabilization	3	3	3	3
Parking vacancy	2%	2%	2%	2%

Parking space in rentals is retained by the development and is rented out. We examined monthly parking rates in the City of Hamilton to project likely parking prices that a new development could charge in the different regions. We further assume parking rent prices grow at 2% a year, same as most other variables, and that parking will reach stabilization with the same long-term vacancy rate as the market-rate housing units.

5.6 Hard Construction Costs

The hard construction costs include costs of labour and materials to construct the building and parking. It also includes the cost of demolition, landscaping, and hardscaping. We assume half the lot size is needed to be demolished. The lot area less the building envelope will need to be landscaped and hardscaped.

Our benchmark hard construction costs, as shown in Table 5-9, are taken from Altus cost data for the Greater Toronto Area for 2023.[26] Construction costs for below-ground parking in the Central and Downtown scenarios were increased by 50% due to the high water table. We further assume a 10% average contingency used during construction, which reflects unexpected costs. Finally, we assume all hard costs grow at a 2% rate annually, same as the growth rate on all other variables except rents.

[26] Altus Group. (2023). *2023 Canadian Cost Guide*.

Table 5-9: Benchmark Hard Construction Costs

	Unit	Value
Residential costs		
Up to 6 stories	$ per sf	$283
7-39 stories	$ per sf	$328
Parking costs		
Surface	$ per sf	$20
Above-ground garage	$ per sf	$175
Below-ground garage	$ per sf	$243
Below-ground garage, Central	$ per sf	$364
Other hard costs		
Demolition	$ per sf	$10
Landscaping and hardscaping	$ per sf	$10
Contingency	%	10%

SOURCE: Altus

Also important is the time needed to construct the building. We assume 30 storey buildings require roughly 16 quarters to construct, 12-13 storey buildings require 12 quarters, 6-7 storey buildings require 10 quarters to construct, and 4 storey buildings require 8 quarters. We assume parking is constructed first, followed by the rest of the building. For simplicity, we assume occupancy only begins after the entire project is completed.

5.7 Soft Construction Costs

Soft construction costs include professional fees, planning charges, and property taxes. Also considered is how long it takes for development projects to move from land purchase to the start of construction. We assume as-of-right developments require an average of 8 quarters to move through the design and planning approval process until construction can begin.

These assumptions are low compared to residential developments in the existing planning framework. However, these as-of-right scenarios would require no Official Plan Amendments or Zoning By-Law Amendments, which should significantly speed the approval process. Additionally, the establishment of a PMTSA limits the right to request an Official Plan Amendment or Zoning By-law Amendment.

Professional fees are difficult to project and differ across companies and developments. As with previous analyses, we assume a budget for professional fees of 14.5% of hard costs.

Condominium developments must register for Tarion warranty. The cost schedule of Tarion depends on the sale price of units. The cost schedule is discontinuous, with one fee for a range of sale prices. To simplify the analysis and allow it to be more representative of a broad range of developments, we approximated the Tarion fee as 0.25% of sales.

We used a sales tax of 13%, charged only for condominiums. The same percentage is recovered from hard costs and half of professional fees (this assumes half of professional fees come from in-house employees and the other half from external consultants).

Property taxes have a small effect on condominium developments. Condominiums sell all units shortly after construction completes. Such developments pay little property taxes, mostly on the value of land. Property taxes have a much larger effect on rental developments. We use property tax rates of 1.327% for multi-residential sales and 3.204% for commercial sales, which were the City of Hamilton's 2023 property tax rates. Following MPAC's assessment method, we calculated the assessed values using the direct capitalization method on net operating income. Net operating incomes were divided by a cap rate to calculate the assessed value. Because the assessed value will grow over time with escalation in revenues, we used a higher cap rate of 8% to avoid double-charging for future rent price appreciation. This seemed comparable to property tax valuations of other multi-residential properties in Hamilton.

We used the City of Hamilton's planning and development-related charges as of January 2024, as shown in Table 5-10. All projects must pay development charges, cash-in-lieu of Parkland, site plan approval, and building permit fees. All condominium projects must submit a plan of condominium.

Finally, only projects requiring alterations to the as-of-right building permissions must submit an Official Plan Amendment and Zoning By-Law Amendment. These processes often may require amendments and revisions at additional cost. We assumed one round of such amendments are needed, and they are rolled into the base costs. Currently, the scenarios examined in this study were all permitted as-of-right by the current zoning by-law, so no projects were assessed these fees.

Table 5-10: Benchmark Soft Construction Costs

	Unit	Value
Taxes		
HST for condominiums	%	13%
Property tax rate for multi-residential	%	1.327%
Property tax rate for commercial	%	3.204%
Other fees		
Professional fees	% of hard costs	14.5%
Tarion enrollment fees, condominiums	% of sales	0.25%
Development charges		
Per studio and 1-bedroom, condominium	$ per unit	$26,709
Per 2-bedroom and 3-bedroom, condominium	$ per unit	$37,537
Per studio and 1-bedroom, rental	$ per unit	$22,703
Per 2-bedroom, rental	$ per unit	$30,030
Per 3-bedroom, rental	$ per unit	$28,153
Per affordable unit	$ per unit	$3,274
Per sq. ft. commercial	$ per sf	$21.61
Parkland dedication (market-rate units only)		
As percent of existing land value	%	10%
Site Plan Approval		
Total Residential SPA cost	$	$80,255
Commercial SPA cost per square metre	$	$10
Plan of Condominium		
Total base cost	$	$24,000
Add'l per-unit charge	$ per unit	$90
Building permit		
Base cost and foundation permit	$	$4,007
Residential cost per square metre	$ per sf	$17.79
Demolition per square metre	$ per sf	$0.52

5.8 Residual Land Value

We calculate the residual land value by subtracting the hard and soft construction costs from revenues. This value is then adjusted by percentage charges that would affect the land price, as shown in Table 5-11. As required by Bill 23, we reduce the base community benefits charge of 4% by the fraction of affordable units. For rentals, the land price is reduced by the present value of the sale price at the owner's time horizon of 100 years, assuming a 2% annual growth rate in land values.

Table 5-11: Total Percent Charges on Land Costs

	Percent
Property tax on land pre-construction	4.4%
Land transfer tax	4%
Community benefits charges	4%
PV land sale at time horizon, rental	-0.62%

To test for market feasibility, the residual land value is compared against an estimate for the lowest price the land would sell for. The lowest price should be the highest and best use excluding the potential residential development considered. This method is used instead of the market price of land because the market price could be affected by IZ policy, and it would be unclear whether there would be room to decrease the market price.

Because the test sites considered were all commercial sites at the time of study, we assumed their existing use was the highest and best use. We approximate the value of the existing use with MPAC's assessed value of the property's existing use at the time of this study.[27] To develop these sites into multi-residential housing, the existing business must be purchased and retired. The owner of the business would only sell if the price exceeded the returns from continued operations. Most of the test sites were last assessed in 2016 or 2017. As such, we assumed a 50% premium would be required over these assessed values to reflect the current market and to induce the current owner to sell (this is roughly equivalent to a 2% annual growth rate in property values combined with a 30% premium over the assessed value to induce a sale). Based on an examination of retail land sales, almost no properties are sold below their assessed values. The existing land value assumptions are shown in Table 5-12.

Table 5-12: Adjusted (50% Premium) Assessed Property Values by Scenario

Scenario	1	2	3	4	5	6	7	8	9	10
$ (MM)	$4.4	$7.2	$1.7	$2.1	$2.4	$8.0	$10.4	$3.3	$5.8	$3.9
$/SF	$64	$75	$138	$98	$72	$83	$54	$88	$64	$17

Comparing residual land values to the existing assessed property value is different than the methods of previous IZ feasibility studies in Ontario. In their previous

[27] We use the assessed property value of all sites except test site #9, the Eastgate scenario. That scenario uses part of a larger land parcel. We established the value of test site #9 using similar establishments in the same region.

studies for the Peel Region and City of Toronto, NBLC estimated the value of the land given alternative uses. The benefit to this previous approach is that it may better reflect the value of the land with multiple competing purchasers with different planned uses of the land. Furthermore, the estimate may reflect recent changes in land values better than assessment data, which dates back to 2016 and 2017. The drawback of this approach is it may not be a reliable indicator of the minimum sale price of land. As such, it is difficult to use market prices of land to calculate whether an IZ policy would render development infeasible, or whether the residual land value of an apartment development would remain above the value of alternative uses.

The benefit of using assessed values to estimate land value is that it could be a more reliable proxy of the current value of the site and the minimum price which the landowner would sell for. MPAC likely has more information regarding the profitability and value of the existing business and thus would likely produce more accurate assessments of land values than an independent analysis using publicly available information. Additionally, demand from alternative buyers is not guaranteed, at which point the profitability of the existing business may be a stronger influence on land prices. Further, we found significant variation in land sale prices in Hamilton across 2022 and 2023, making it challenging to use comparables to establish the minimum sale price of existing land. While neither methodology is perfect, the assessed property value should provide a conservative lower bound on the value of the land that would not be affected by an IZ policy.

6.0 Benchmark Results

In this section, we address the two main questions of this study using the benchmark scenarios. First, we consider whether an IZ policy make some feasible housing development scenarios become unfeasible. Scenarios are feasible if they result in residual land values in excess of 50% over the existing property's assessed value, as detailed in Table 5-12 in Section 5.8. Second, we quantify the effective cost of each affordable unit created by an IZ policy. This cost can be used by the City to compare IZ to other approaches for creating affordable housing, although this comparison is outside the scope of this report.

We consider these questions for each of the ten test scenarios. For each scenario, we considered both condominium and rental models.

To answer these questions, we focused on the following metrics. First, we calculated the residual land value over the existing property's adjusted assessed value. Second, we calculated the IZ policy's effective fee per unit, which is the reduction in net income divided by the total units in the development. Using that value, we then calculated the effective cost per affordable unit created by dividing the effective fee per unit by the set-aside rate.

The results of these analyses are shown in Table 6-1. We discuss the results for condominium scenarios and rental scenarios in the subsections below.

6.1 Condominium Scenarios

With no IZ policy, we found all condominium projects were feasible in the West End and Central/Downtown regions, while they were not feasible in the Central East and East End regions. This was mostly in line with our expectations. There were many multi-residential developments in the Central and Downtown zones, as well as a few developments in the West End region. We saw only a couple recent multi-residential developments in the Central East and East End regions.

However, there had been some development applications filed recently in the East End region. Our assumptions on sale prices and unit sizes were based on known current market conditions. Development applications may reflect expectations of future conditions, potentially with the improvement of transit. A development application does not guarantee that development will occur, at least in the short term. In Section 7.2, we conducted a sensitivity analysis which considers increases in market sale prices.

Table 6-1: Residual Land Values Over Existing, Benchmark Scenarios

CONDOMINIUM Scenario	MTSA	Lot Size (K ft^2)	Storeys	Units	Aff. Units, 5% IZ	Residual land values over existing ($MM) No IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	69	4	195	10	$4.8	$2.3	-$0.1	-$2.5	-$5.0
2	Longwood	97	4	228	11	$0.4	-$2.4	-$5.3	-$8.1	-$11.0
3	Dundurn	13	7	80	4	$0.3	-$0.7	-$1.7	-$2.7	-$3.8
4	West Harbour	22	7	139	7	$1.3	-$0.5	-$2.2	-$4.0	-$5.8
5	Queen	34	30	540	27	$4.9	-$1.3	-$7.5	-$13.8	-$20.0
6	James/Downtown	97	30	1151	58	$10.2	-$2.1	-$14.4	-$26.8	-$39.2
7	Scott Park	191	7	778	39	-$16.4	-$24.0	-$31.6	-$39.2	-$46.8
8	Kenilworth	37	7	185	9	-$5.0	-$7.0	-$9.1	-$11.2	-$13.2
9	Nash	92	13	820	41	-$7.1	-$15.1	-$23.0	-$31.0	-$39.0
10	Confederation	228	12	693	35	-$4.2	-$10.9	-$17.6	-$24.3	-$31.1

RENTAL Scenario	MTSA	Lot Size (K ft^2)	Storeys	Units	Aff. Units, 5% IZ	Residual land values over existing ($MM) No IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	69	4	195	10	-$0.6	-$2.4	-$4.2	-$6.1	-$7.9
2	Longwood	97	4	228	11	-$6.1	-$8.2	-$10.3	-$12.5	-$14.6
3	Dundurn	13	7	80	4	-$2.1	-$2.9	-$3.6	-$4.4	-$5.2
4	West Harbour	22	7	139	7	-$3.0	-$4.3	-$5.6	-$6.9	-$8.3
5	Queen	34	30	540	27	-$7.5	-$12.3	-$17.1	-$22.0	-$26.9
6	James/Downtown	97	30	1151	58	-$11.9	-$21.4	-$31.0	-$40.6	-$50.2
7	Scott Park	191	7	778	39	-$27.4	-$33.4	-$39.4	-$45.5	-$51.6
8	Kenilworth	37	7	185	9	-$8.0	-$9.6	-$11.2	-$12.9	-$14.5
9	Nash	92	13	820	41	-$20.8	-$27.0	-$33.3	-$39.6	-$45.9
10	Confederation	228	12	693	35	-$15.7	-$21.0	-$26.3	-$31.6	-$36.9

Notes: This table shows the effects of inclusionary zoning for the benchmark parameters. Residual land values over existing is calculated by subtracting 150% of the assessed value of the existing property at the test site from the residual land value calculated in the DCF.

When considering the effects of IZ policies, a 5% IZ policy resulted in all but one of the feasible condominium projects becoming unfeasible. At the time of this study, market conditions for residential development were unfavourable and there was little cushion to absorb the impacts of IZ. A 5% IZ policy reduced residual land values from $1.0 million for smaller projects to $12.3 million for the largest projects considered.

6.2 Rental Scenarios

Rental projects were far less profitable than condominium projects. With the benchmark parameters, none of the rental developments were feasible.

Unfortunately, this makes it challenging to evaluate the impacts of IZ on rental developments. Still, the analysis can be used to evaluate the costs of IZ. A 5% IZ policy reduced residual land values by $0.8 million to $9.5 million. IZ would make it more difficult to reach the market conditions which are suitable for rental developments.

To allow comparisons between our DCF analysis and direct capitalization methods, we derive cap rates using the ratio of net operating income excluding income and property taxes to the net present value of revenues minus property taxes and land transfer taxes. Based on the discount rate and rent growth rate assumptions, cap rates are approximately 3.4%. This is slightly lower than the “low” cap rates of 3.5%-3.75% for multi-residential developments in Toronto and Waterloo as reported by Colliers for Q3 2023.[28]

That finding is reasonable since our buildings would be newer than the average building in Colliers’ data. Additionally, our simplifying assumption of constant rent growth rates would reduce the derived cap rate compared to a more complicated scenario where rent growth is initially higher but decreases over time. A table of these derived cap rates and a more detailed discussion can be found in Appendix A.

[28] Colliers. (2023). *Canada Cap Rate Report Q3 2023*.

7.0 Sensitivity Analysis

We set our benchmark assumptions to best represent average housing developments in Hamilton. However, a single set of parameters cannot capture the different circumstances and economic environments which housing developers may face. Sale prices, rents, and construction costs will vary over time, across developers, and even across projects by the same developer.

In this section, we consider the effects of IZ with assumptions different from our benchmarks. We consider the effects of higher construction costs, higher or lower prices and rents, different growth rates of rent prices, and longer affordability periods. Overall, we find these differences can affect the impact of IZ policies on the feasibility of housing developments. Additional caution may be needed in deciding the set-aside rate of the IZ policy.

7.1 Construction Costs

The benchmark costs were taken from the Altus 2023 Canadian Cost Guide.[29] However, after labor and materials costs grew significantly from 2020-2022, there are signs the growth may be slowing. Toronto's residential building construction price index for apartments increased almost 24% year-over-year in Q3 2022 and increased 10% in Q3 2023.[30] Some of these reflect temporary conditions. Certain costs are falling from their highs during Covid, such as shipping, lumber, and steel costs. Additionally, inflation is expected to slow in the near future.[31] It is possible that construction costs may decrease in the future.

As such, we consider the scenarios with a 5% decrease to hard construction costs from our benchmark. Table 7-1 shows the results of this sensitivity analysis. The effects of lower construction costs increase residual land values across the board. Scenarios 9 and 10, in the East End, are now feasible without IZ. Additionally, three previously unfeasible rental scenarios (scenarios 1, 5, and 6) are now feasible with no IZ.

[29] Altus Group. (2023). *2023 Canadian Cost Guide.*
[30] Statistics Canada. (2023). *Table 18-10-0276-01: Building construction price indexes, by type of building and division*. DOI: https://doi.org/10.25318/1810027601-eng
[31] Hertzberg, E. and R. Thanthong-Knight, Bloomberg News. (2024). *Bank of Canada surveys show inflation expectations are coming down*. BNN Bloomberg. https://www.bnnbloomberg.ca/bank-of-canada-surveys-show-inflation-expectations-are-coming-down-1.2022063. Accessed Jan. 15, 2024.

Table 7-1: Sensitivity Analysis, 5% Lower Hard Construction Costs

CONDOMINIUM		Lot Size			Aff. Units,	Residual land values over existing ($MM)				
Scenario	MTSA	(K ft^2)	Storeys	Units	5% IZ	No IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	69	4	195	10	$7.2	$4.8	$2.4	-$0.1	-$2.5
2	Longwood	97	4	228	11	$3.5	$0.7	-$2.1	-$5.0	-$7.8
3	Dundurn	13	7	80	4	$1.4	$0.4	-$0.6	-$1.6	-$2.7
4	West Harbour	22	7	139	7	$3.2	$1.4	-$0.3	-$2.1	-$3.9
5	Queen	34	30	540	27	$11.7	$5.5	-$0.7	-$6.9	-$13.2
6	James/Downtown	97	30	1151	58	$23.4	$11.2	-$1.1	-$13.5	-$25.9
7	Scott Park	191	7	778	39	-$7.1	-$14.6	-$22.2	-$29.8	-$37.5
8	Kenilworth	37	7	185	9	-$2.5	-$4.5	-$6.6	-$8.6	-$10.7
9	Nash	92	13	820	41	$2.3	-$5.6	-$13.6	-$21.5	-$29.5
10	Confederation	228	12	693	35	$3.7	-$3.0	-$9.7	-$16.4	-$23.2

RENTAL		Lot Size			Aff. Units,	Residual land values over existing ($MM)				
Scenario	MTSA	(K ft^2)	Storeys	Units	5% IZ	No IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	69	4	195	10	$2.1	$0.3	-$1.5	-$3.3	-$5.1
2	Longwood	97	4	228	11	-$2.6	-$4.7	-$6.8	-$8.9	-$11.0
3	Dundurn	13	7	80	4	-$0.9	-$1.6	-$2.4	-$3.2	-$3.9
4	West Harbour	22	7	139	7	-$0.8	-$2.1	-$3.4	-$4.8	-$6.1
5	Queen	34	30	540	27	$0.2	-$4.6	-$9.5	-$14.3	-$19.2
6	James/Downtown	97	30	1151	58	$3.0	-$6.6	-$16.1	-$25.7	-$35.3
7	Scott Park	191	7	778	39	-$16.9	-$22.9	-$28.9	-$35.0	-$41.0
8	Kenilworth	37	7	185	9	-$5.1	-$6.7	-$8.4	-$10.0	-$11.6
9	Nash	92	13	820	41	-$10.2	-$16.4	-$22.6	-$28.9	-$35.2
10	Confederation	228	12	693	35	-$6.9	-$12.1	-$17.4	-$22.7	-$28.0

Notes: This table shows the effects of inclusionary zoning with higher construction costs. Residual land values over existing is calculated by subtracting 150% of the assessed value of the existing property at the test site from the residual land value calculated in the DCF.

With lower construction costs, IZ becomes more feasible. Scenarios 1 through 6 are now all feasible with a 5% set-aside rate, and Scenario 1 remains feasible at a 10% set-aside rate. For rentals, a 5% set-aside rate makes all scenarios unfeasible, compared to the 15% rate required with the benchmark parameters.

These results suggest that while an IZ policy may not be feasible in Hamilton with the benchmark parameters, it may become feasible if construction costs decrease. These results also suggest that IZ should be prioritized for condo units in the West End and Central/Downtown MTSAs. Applying IZ on condo units in the Central East and East End MTSAs and rental units should only occur after significant improvements in market conditions.

7.2 Sales Prices and Rents

The benchmark sale prices and rents were derived from comparable units in the regions studied. Still, it can be difficult to determine the sale price or rental rate for new housing developments. Sale prices and rents can vary across buildings in the same area based on their features and amenities. They can even vary in different parts of the same building and will change from the beginning to the end of the sales period. Even when a housing development proceeds with a set of projected sale or rent prices, changes in the housing market between planning and when the units go on market can render those projections inaccurate.

In this section, we consider the scenarios if market-rate sale and rent prices are 5% higher than the benchmark assumptions. Here, we assume the affordable sale and rent prices remain at their benchmark levels.

Table 7-2 shows the results of the sensitivity analyses on prices. A 5% increase in prices and rents has similar effects to a 5% decrease in construction costs. For condos, the East End scenarios (scenarios 9 and 10) become feasible without IZ, and scenarios 1-6 can support an IZ policy with a 5% set-aside rate. For rentals, scenarios 1, 5, and 6 again become feasible without IZ, and only scenario 1 can sustain a 5% set-aside rate.

Again, the results of this sensitivity analysis shows that while IZ policies may not be feasible under the benchmark conditions, they may become more feasible with an increase in home sale prices. This could happen if interest rates begin to fall in the future. As before, rental developments are less profitable and can sustain lower rates of IZ.

Table 7-2: Sensitivity Analysis, 5% Higher Market Sale Prices and Rents

CONDOMINIUM		Lot Size			Aff. Units,	Residual land values over existing ($MM)				
Scenario	MTSA	(K ft^2)	Storeys	Units	5% IZ	No IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	69	4	195	10	$7.7	$5.2	$2.6	-$0.0	-$2.6
2	Longwood	97	4	228	11	$3.9	$0.9	-$2.2	-$5.2	-$8.2
3	Dundurn	13	7	80	4	$1.6	$0.5	-$0.6	-$1.7	-$2.8
4	West Harbour	22	7	139	7	$3.4	$1.6	-$0.3	-$2.2	-$4.1
5	Queen	34	30	540	27	$12.5	$5.9	-$0.7	-$7.3	-$14.0
6	James/Downtown	97	30	1151	58	$25.2	$12.2	-$0.9	-$14.0	-$27.2
7	Scott Park	191	7	778	39	-$7.0	-$15.1	-$23.1	-$31.2	-$39.3
8	Kenilworth	37	7	185	9	-$2.5	-$4.6	-$6.8	-$9.0	-$11.2
9	Nash	92	13	820	41	$2.6	-$5.8	-$14.2	-$22.7	-$31.2
10	Confederation	228	12	693	35	$4.1	-$3.0	-$10.2	-$17.3	-$24.5

RENTAL		Lot Size			Aff. Units,	Residual land values over existing ($MM)				
Scenario	MTSA	(K ft^2)	Storeys	Units	5% IZ	No IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	69	4	195	10	$2.4	$0.5	-$1.5	-$3.4	-$5.3
2	Longwood	97	4	228	11	-$2.6	-$4.8	-$7.1	-$9.3	-$11.6
3	Dundurn	13	7	80	4	-$0.8	-$1.7	-$2.5	-$3.3	-$4.1
4	West Harbour	22	7	139	7	-$0.8	-$2.2	-$3.6	-$5.0	-$6.4
5	Queen	34	30	540	27	$0.3	-$4.8	-$10.0	-$15.1	-$20.3
6	James/Downtown	97	30	1151	58	$3.6	-$6.6	-$16.8	-$27.0	-$37.2
7	Scott Park	191	7	778	39	-$17.3	-$23.7	-$30.2	-$36.6	-$43.1
8	Kenilworth	37	7	185	9	-$5.2	-$7.0	-$8.7	-$10.5	-$12.2
9	Nash	92	13	820	41	-$10.4	-$17.1	-$23.8	-$30.5	-$37.2
10	Confederation	228	12	693	35	-$7.0	-$12.6	-$18.2	-$23.9	-$29.6

Notes: This table shows the effects of inclusionary zoning with lower market sale prices and rents. Residual land values over existing is calculated by subtracting 150% of the assessed value of the existing property at the test site from the residual land value calculated in the DCF.

7.3 Rent Growth Rate

Rental developments are assets with income streams stretching far into the future. As such, they are extremely sensitive to the difference between long-term discount rates and the growth rates of rents. Discount rates are difficult to benchmark and there is a great deal of discretion in setting them. The growth rate of rents over decades can also be difficult to forecast. Unfortunately, small differences in these assumptions can have a large effect on the outcome of the analysis.

Our benchmark assumptions used a 4% rent growth rate for both market-rate units and a 2% rent growth rate for affordable units. **Here, we considered the effects of a 0.5 percentage point change in market rent growth rates (these effects would also be roughly equivalent to the effects of a similar change in the discount rate). We also considered the effects of a 4% growth rate of affordable rents while market rents continue to grow at 4%.**

Table 7-3 shows the results of the sensitivity analysis with a 3.5% and 4.5% rent growth rate, respectively, for both market-rate units. A 3.5% rent growth rate is associated with derived cap rates of 3.8%, and a 4.5% rent growth rate is associated with derived cap rates of 3.0%. These compare with derived cap rates of 3.4% for the benchmark scenarios. The table with derived cap rates and a more detailed discussion can be found in Appendix A.

These assumptions have a dramatic effect on residual land values. No scenarios are feasible with a 3.5% rent growth rate. Similarly, all scenarios are feasible with a 4.5% rent growth rate and no IZ. Given the small number of purpose-built rental developments and the anecdotal agreement that purpose-built rentals are difficult to make work financially, it is unlikely that the 4.5% rent growth rate assumptions are reasonable.

Even the 4.5% rent growth rate scenarios have limited room for IZ policies. A 5% set-aside rate is enough to make two scenarios unfeasible, and most scenarios become unfeasible with a 15% set-aside rate.

We also consider affordable rent growth rates which are the same as market rent growth rates. Affordable rents would likely be limited by rent control rules. However, under a separate interpretation of IZ policies, affordable rents are defined based on average market rents, so they could grow at the same rate as market rents.

Table 7-3: Sensitivity Analysis, 3.5% and 4.5% Growth Rate in Market Rents

RENTAL, 3.5% growth rate		Lot Size			Aff. Units,	Residual land values over existing ($MM)				
Scenario	MTSA	(K ft^2)	Storeys	Units	5% IZ	No IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	69	4	195	10	-$8.8	-$10.3	-$11.8	-$13.2	-$14.7
2	Longwood	97	4	228	11	-$15.7	-$17.4	-$19.1	-$20.8	-$22.6
3	Dundurn	13	7	80	4	-$5.5	-$6.2	-$6.8	-$7.4	-$8.0
4	West Harbour	22	7	139	7	-$8.9	-$10.0	-$11.0	-$12.1	-$13.2
5	Queen	34	30	540	27	-$29.6	-$33.5	-$37.4	-$41.3	-$45.2
6	James/Downtown	97	30	1151	58	-$55.6	-$63.3	-$71.0	-$78.7	-$86.5
7	Scott Park	191	7	778	39	-$54.9	-$59.8	-$64.7	-$69.6	-$74.5
8	Kenilworth	37	7	185	9	-$15.4	-$16.7	-$18.0	-$19.4	-$20.7
9	Nash	92	13	820	41	-$49.4	-$54.5	-$59.5	-$64.6	-$69.7
10	Confederation	228	12	693	35	-$39.9	-$44.2	-$48.5	-$52.8	-$57.1

RENTAL, 4.5% growth rate		Lot Size			Aff. Units,	Residual land values over existing ($MM)				
Scenario	MTSA	(K ft^2)	Storeys	Units	5% IZ	No IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	69	4	195	10	$9.7	$7.4	$5.2	$2.9	$0.7
2	Longwood	97	4	228	11	$5.9	$3.3	$0.7	-$1.9	-$4.6
3	Dundurn	13	7	80	4	$2.2	$1.3	$0.3	-$0.6	-$1.6
4	West Harbour	22	7	139	7	$4.5	$2.9	$1.2	-$0.4	-$2.1
5	Queen	34	30	540	27	$20.3	$14.3	$8.3	$2.2	-$3.9
6	James/Downtown	97	30	1151	58	$43.1	$31.2	$19.3	$7.3	-$4.7
7	Scott Park	191	7	778	39	$7.2	-$0.3	-$7.8	-$15.3	-$22.8
8	Kenilworth	37	7	185	9	$1.4	-$0.6	-$2.6	-$4.7	-$6.7
9	Nash	92	13	820	41	$15.2	$7.5	-$0.3	-$8.2	-$16.0
10	Confederation	228	12	693	35	$14.7	$8.2	$1.6	-$5.0	-$11.7

Notes: This table shows the effects of inclusionary zoning with higher or lower growth of rents. Residual land values over existing is calculated by subtracting 150% of the assessed value of the existing property at the test site from the residual land value calculated in the DCF.

Table 7-4: Sensitivity Analysis, 4% Growth Rate in Affordable Rents

RENTAL, 4% aff. growth rate		Lot Size			Aff. Units,	Residual land values over existing ($MM)				
Scenario	MTSA	(K ft^2)	Storeys	Units	5% IZ	No IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	69	4	195	10	-$0.6	-$2.2	-$3.7	-$5.3	-$6.9
2	Longwood	97	4	228	11	-$6.1	-$7.9	-$9.7	-$11.6	-$13.4
3	Dundurn	13	7	80	4	-$2.1	-$2.8	-$3.4	-$4.1	-$4.8
4	West Harbour	22	7	139	7	-$3.0	-$4.1	-$5.2	-$6.4	-$7.5
5	Queen	34	30	540	27	-$7.5	-$11.6	-$15.8	-$20.0	-$24.2
6	James/Downtown	97	30	1151	58	-$11.9	-$20.1	-$28.4	-$36.7	-$45.0
7	Scott Park	191	7	778	39	-$27.4	-$32.5	-$37.7	-$42.9	-$48.1
8	Kenilworth	37	7	185	9	-$8.0	-$9.4	-$10.8	-$12.2	-$13.6
9	Nash	92	13	820	41	-$20.8	-$26.1	-$31.5	-$36.9	-$42.4
10	Confederation	228	12	693	35	-$15.7	-$20.2	-$24.8	-$29.4	-$33.9

Notes: This table shows the effects of inclusionary zoning with benchmark growth of market rents but lower growth of affordable rents. Residual land values over existing is calculated by subtracting 150% of the assessed value of the existing property at the test site from the residual land value calculated in the DCF.

Table 7-4 shows the results for a 4% growth rate in affordable rents while keeping the growth rate of market rents at the 4% benchmark. IZ becomes less costly for rental scenarios by approximately 13%-14%.

7.4 Length of Affordability Period

One key parameter in IZ policies is the length of the affordability period. After the affordability period expires, the affordable units revert to market-rate units. A longer affordability period can allow for more stable housing situations and communities. Here, we considered the effect of a 60-year affordability period. Due to discounting and the time horizon of 100 years for our analysis, it is likely that longer affordability periods would not differ much from results for 60-year affordability periods.

We found the impact of the length of the affordability period depends on the growth rate of affordable rents, as shown in Table 7-5. When affordable rents grow at 2% while market rents grow by 4%, the decrease in residual land values increases by 17%-19%. When affordable rents grow at the same 4% as market rents, the decrease in residual land value induced by IZ is 11%-14% larger with a 60-year affordability period.

It is worth noting that for condo developments, developers only receive cash flows from the initial sale of units and not from future resales. As such, the length of the affordability period has no impact on the financial feasibility of condo developments. Some jurisdictions, such as Mississauga and Ottawa, have considered longer (e.g., 99-year) affordability periods for affordable condo units and shorter (e.g., 25-year) affordability periods for rental units.

Table 7-5: Sensitivity Analysis, 60-Year Affordability Period

RENTAL, 2% aff. growth rate		Lot Size			Aff. Units,	Residual land values over existing ($MM)				
Scenario	MTSA	(K ft^2)	Storeys	Units	5% IZ	No IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	69	4	195	10	-$0.6	-$2.8	-$4.9	-$7.1	-$9.2
2	Longwood	97	4	228	11	-$6.1	-$8.6	-$11.1	-$13.6	-$16.2
3	Dundurn	13	7	80	4	-$2.1	-$3.0	-$3.9	-$4.8	-$5.7
4	West Harbour	22	7	139	7	-$3.0	-$4.5	-$6.1	-$7.7	-$9.2
5	Queen	34	30	540	27	-$7.5	-$13.1	-$18.8	-$24.5	-$30.2
6	James/Downtown	97	30	1151	58	-$11.9	-$23.0	-$34.2	-$45.5	-$56.7
7	Scott Park	191	7	778	39	-$27.4	-$34.5	-$41.6	-$48.8	-$56.0
8	Kenilworth	37	7	185	9	-$8.0	-$9.9	-$11.8	-$13.7	-$15.7
9	Nash	92	13	820	41	-$20.8	-$28.1	-$35.5	-$42.9	-$50.3
10	Confederation	228	12	693	35	-$15.7	-$21.9	-$28.1	-$34.4	-$40.7

RENTAL, 4% aff. growth rate		Lot Size			Aff. Units,	Residual land values over existing ($MM)				
Scenario	MTSA	(K ft^2)	Storeys	Units	5% IZ	No IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	69	4	195	10	-$0.6	-$2.4	-$4.2	-$5.9	-$7.7
2	Longwood	97	4	228	11	-$6.1	-$8.2	-$10.2	-$12.3	-$14.4
3	Dundurn	13	7	80	4	-$2.1	-$2.9	-$3.6	-$4.4	-$5.1
4	West Harbour	22	7	139	7	-$3.0	-$4.3	-$5.6	-$6.9	-$8.2
5	Queen	34	30	540	27	-$7.5	-$12.1	-$16.8	-$21.5	-$26.2
6	James/Downtown	97	30	1151	58	-$11.9	-$21.1	-$30.3	-$39.5	-$48.8
7	Scott Park	191	7	778	39	-$27.4	-$33.2	-$39.0	-$44.8	-$50.7
8	Kenilworth	37	7	185	9	-$8.0	-$9.5	-$11.1	-$12.7	-$14.3
9	Nash	92	13	820	41	-$20.8	-$26.8	-$32.8	-$38.9	-$44.9
10	Confederation	228	12	693	35	-$15.7	-$20.8	-$25.9	-$31.0	-$36.1

Notes: This table shows the effects of inclusionary zoning with a longer affordability period, with either a 2% (benchmark) or 4% growth in affordable rents. Residual land values over existing is calculated by subtracting 150% of the assessed value of the existing property at the test site from the residual land value calculated in the DCF.

8.0 Conclusions and Recommendations

We considered whether an Inclusionary Zoning (IZ) policy in the City of Hamilton would affect the feasibility of hypothetical multi-residential development projects and calculated IZ's effective cost for creating each affordable unit. We conducted discounted cash flow analyses on ten as-of-right test scenarios. This analysis calculated the net present value of cash flows and residual land value over the existing property's adjusted assessed value for each scenario with set-aside rates ranging from 5%-20%.

From these analyses, we reached several major findings. First, without IZ, almost all benchmark condominium scenarios in the West End and Central/Downtown regions were feasible. Due to the difficult market conditions, the benchmark rental scenarios were not feasible.

The benchmark condominium scenarios were not able to absorb the costs of an IZ policy with even a 5% set-aside rate. Only one benchmark condominium scenario remains feasible with a 5% set-aside rate. The benchmark rental scenarios were not feasible even without IZ, and their feasibility worsened with the introduction of IZ.

The sensitivity analyses showed that IZ can become more feasible if housing market conditions improve. Even 5% lower construction costs or 5% higher prices and rents can allow condominium developments in the West End and Central/Downtown regions to sustain a 5% set-aside rate. These assumptions allowed certain rental scenarios to become feasible without IZ, but they still could not sustain a 5% set-aside rate.

We also considered the effects of changes to the IZ parameters for rental scenarios. A 60-year affordability period worsened the impact of IZ on the financial feasibility of rental developments by 17%-19% (changes in the affordability period would not affect the financial feasibility of condominium developments since future resale value does not affect developer cash flows). Allowing affordable rents to grow at 4% instead of 2% reduced the financial impact of IZ by about 14%, which was not enough to change the financial feasibility of IZ for rental scenarios.

Recommendations

First, we do not recommend the implementation of an IZ policy with a 5% or higher set-aside rate at this time. Due to adverse market conditions, residential developments are facing significant difficulties. The implementation of an IZ policy with a 5% set-aside rate was enough to render many of our benchmark scenarios financially unfeasible. It is important to avoid implementing an IZ policy that

severely impacts the feasibility of residential developments. Not only does an IZ policy require new development to produce affordable units, reducing the amount of residential development would also result in higher housing prices and rents across the City.

As market conditions improve, a 5% IZ policy may be considered for condominium developments in the West End and Central/Downtown MTSAs. Notably, IZ may not be implemented until PMTSAs have been approved. It is possible that the completion of the LRT may improve the market feasibility of developments around the stations. The City may want to consider re-evaluating the market feasibility of IZ prior to the mandated 5-year timeline if market conditions improve.

If and when an IZ policy is implemented, we recommend that the implementation should be phased in starting from a lower set-aside rate, similar to other IZ policies in Ontario. This phase-in allows time for the impacts of IZ to be reflected in land values. It would reduce the impact on existing developments, which could otherwise affect the solvency of developers that had acquired land at prices which do not reflect the IZ policy.

Second, incentives should be considered for both rental and condominium projects to offset the costs of IZ. IZ policies can only produce affordable units if sufficiently large residential development occurs, so such developments should be encouraged to maximize the production of affordable units. This can be especially important given variation in construction costs and sale prices, where incentives can make more marginal developments feasible.

A detailed examination of incentives has not been conducted in this report. Based on some preliminary investigations, increases in allowed height may be effective in higher-priced areas but may be less effective with higher construction costs, lower sale prices and rents, or IZ policies with high set-aside rates, especially because IZ policies reduce the per-unit revenues that the increased height would bring in. Another possible incentive is the waiver of additional municipal fees and/or taxes.

Finally, a broader strategy is needed to solve the housing affordability crisis. Even if market conditions improve and implementing IZ becomes more feasible, the number of affordable units created will be limited and will not likely be enough to meet more than a fraction of the need. For example, the City may own surplus or under-utilised lands that could be made available for affordable housing projects.

Appendix A Derived Cap Rates

As discussed in Section 5.1, this study uses a DCF approach. In the development industry, the direct income capitalization approach is often used to value rental properties. In this section, we provide the derived cap rates from our DCF analysis to facilitate comparisons across the two approaches.

The derived cap rate is calculated as the annual net operating income, based on current rents, divided by the building's terminal asset value. The building's asset value represents the value a hypothetical purchaser of the building would assign it. The asset value is calculated as the discounted present value of revenues less bad debt, operating expenses, selling and agent fees, property taxes, and the land transfer tax. Revenues from commercial space are excluded due to our assumption that commercial space is sold, even for rentals. Income taxes are also excluded.

The derived cap rates are shown for the benchmark scenario in Table A-1 and for the rent growth rate sensitivity analysis in Table A-2. Derived cap rates range from 3.41%-3.42% for the benchmark scenarios. These rates are lower than the rates of 3.50%-4.50% reported by Colliers for multi-residential developments in Toronto and Waterloo in Q3 2023.[32] This result is likely reasonable. The development scenarios are likely newer buildings compared to the universe of transactions in Colliers' data. Additionally, the low cap rates were partly due to our simplifying assumption of constant rent growth rates. More realistically, rent growth would likely be high in the years immediately following completion and fall afterwards, which would increase the derived cap rate. Derived cap rates are 3.83%-3.85% with 3.5% rent growth rates and 2.98%-3.02% with 4.5% rent growth rates.

Table A-1: Derived Cap Rates, Benchmark Scenario

RENTAL Scenario	MTSA	Lot Size ($K ft^2$)	Storeys	Units	Aff. Units, 5% IZ	Implied Cap Rate 0% IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	69	4	195	10	3.41%	3.41%	3.41%	3.41%	3.42%
2	Longwood	97	4	228	11	3.41%	3.41%	3.41%	3.41%	3.42%
3	Dundurn	13	7	80	4	3.41%	3.41%	3.41%	3.41%	3.41%
4	West Harbour	22	7	139	7	3.41%	3.41%	3.41%	3.41%	3.41%
5	Queen	34	30	540	27	3.41%	3.41%	3.41%	3.41%	3.42%
6	James/Downtown	97	30	1151	58	3.40%	3.40%	3.41%	3.41%	3.41%
7	Scott Park	191	7	778	39	3.41%	3.41%	3.42%	3.42%	3.42%
8	Kenilworth	37	7	185	9	3.41%	3.41%	3.42%	3.42%	3.42%
9	Nash	92	13	820	41	3.41%	3.41%	3.42%	3.42%	3.42%
10	Confederation	228	12	693	35	3.41%	3.41%	3.42%	3.42%	3.42%

[32] Colliers. (2023). *Canada Cap Rate Report Q3 2023*.

Table A-2: Derived Cap Rates, Rent Growth Rate Sensitivity Analysis

RENTAL, 3.5% growth rate Scenario	MTSA	Lot Size (K ft²)	Storeys	Units	Aff. Units, 5% IZ	Implied Cap Rate 0% IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	69	4	195	10	3.85%	3.85%	3.84%	3.84%	3.83%
2	Longwood	97	4	228	11	3.85%	3.85%	3.84%	3.84%	3.83%
3	Dundurn	13	7	80	4	3.85%	3.84%	3.84%	3.83%	3.83%
4	West Harbour	22	7	139	7	3.85%	3.84%	3.84%	3.83%	3.83%
5	Queen	34	30	540	27	3.85%	3.84%	3.84%	3.84%	3.84%
6	James/Downtown	97	30	1151	58	3.84%	3.84%	3.84%	3.83%	3.83%
7	Scott Park	191	7	778	39	3.85%	3.85%	3.85%	3.84%	3.84%
8	Kenilworth	37	7	185	9	3.85%	3.85%	3.85%	3.84%	3.84%
9	Nash	92	13	820	41	3.85%	3.85%	3.85%	3.84%	3.84%
10	Confederation	228	12	693	35	3.85%	3.85%	3.85%	3.84%	3.84%

RENTAL, 4.5% growth rate Scenario	MTSA	Lot Size (K ft²)	Storeys	Units	Aff. Units, 5% IZ	Implied Cap Rate 0% IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	69	4	195	10	2.99%	2.99%	3.00%	3.00%	3.01%
2	Longwood	97	4	228	11	2.99%	2.99%	3.00%	3.00%	3.01%
3	Dundurn	13	7	80	4	2.98%	2.99%	2.99%	2.99%	3.00%
4	West Harbour	22	7	139	7	2.98%	2.99%	2.99%	2.99%	3.00%
5	Queen	34	30	540	27	2.98%	2.99%	2.99%	3.00%	3.01%
6	James/Downtown	97	30	1151	58	2.98%	2.98%	2.99%	3.00%	3.00%
7	Scott Park	191	7	778	39	2.99%	2.99%	3.00%	3.01%	3.02%
8	Kenilworth	37	7	185	9	2.99%	2.99%	3.00%	3.01%	3.02%
9	Nash	92	13	820	41	2.99%	2.99%	3.00%	3.01%	3.02%
10	Confederation	228	12	693	35	2.99%	2.99%	3.00%	3.01%	3.02%

RENTAL, 4% aff. growth rate Scenario	MTSA	Lot Size (K ft²)	Storeys	Units	Aff. Units, 5% IZ	Implied Cap Rate 0% IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	69	4	195	10	3.41%	3.40%	3.40%	3.39%	3.38%
2	Longwood	97	4	228	11	3.41%	3.40%	3.40%	3.39%	3.38%
3	Dundurn	13	7	80	4	3.41%	3.40%	3.39%	3.38%	3.38%
4	West Harbour	22	7	139	7	3.41%	3.40%	3.39%	3.38%	3.38%
5	Queen	34	30	540	27	3.41%	3.40%	3.40%	3.39%	3.39%
6	James/Downtown	97	30	1151	58	3.40%	3.40%	3.39%	3.39%	3.38%
7	Scott Park	191	7	778	39	3.41%	3.41%	3.40%	3.40%	3.39%
8	Kenilworth	37	7	185	9	3.41%	3.41%	3.40%	3.40%	3.39%
9	Nash	92	13	820	41	3.41%	3.41%	3.40%	3.40%	3.39%
10	Confederation	228	12	693	35	3.41%	3.41%	3.40%	3.40%	3.39%

With a 4% growth rate in affordable rents, cap rates are very similar to the benchmark scenario. However, there is a slight decline in cap rates as set-aside rates increase. This decrease occurs because rents on affordable units jump to the market rate when the affordability period ends.

A 60-year affordability period has a minor effect on cap rates (see Table A-3). The decline in cap rates with higher set-aside rates reverses with a 60-year affordability period. Those assumptions push the jump in rents too far into the future to have an impact on cap rates.

Table A-3: Derived Cap Rates, 60-Year Affordability Period Sensitivity Analysis

RENTAL, 2% aff. growth rate		Lot Size			Aff. Units,	Implied Cap Rate				
Scenario	MTSA	(K ft^2)	Storeys	Units	5% IZ	0% IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	69	4	195	10	3.41%	3.43%	3.46%	3.48%	3.51%
2	Longwood	97	4	228	11	3.41%	3.43%	3.46%	3.48%	3.51%
3	Dundurn	13	7	80	4	3.41%	3.43%	3.45%	3.48%	3.51%
4	West Harbour	22	7	139	7	3.41%	3.43%	3.45%	3.48%	3.51%
5	Queen	34	30	540	27	3.41%	3.43%	3.45%	3.48%	3.51%
6	James/Downtown	97	30	1151	58	3.40%	3.42%	3.45%	3.47%	3.50%
7	Scott Park	191	7	778	39	3.41%	3.43%	3.46%	3.49%	3.52%
8	Kenilworth	37	7	185	9	3.41%	3.43%	3.46%	3.49%	3.52%
9	Nash	92	13	820	41	3.41%	3.43%	3.46%	3.49%	3.52%
10	Confederation	228	12	693	35	3.41%	3.43%	3.46%	3.49%	3.52%

RENTAL, 4% aff. growth rate		Lot Size			Aff. Units,	Implied Cap Rate				
Scenario	MTSA	(K ft^2)	Storeys	Units	5% IZ	0% IZ	5% IZ	10% IZ	15% IZ	20% IZ
1	McMaster	69	4	195	10	3.41%	3.42%	3.43%	3.43%	3.44%
2	Longwood	97	4	228	11	3.41%	3.42%	3.43%	3.43%	3.44%
3	Dundurn	13	7	80	4	3.41%	3.41%	3.42%	3.43%	3.44%
4	West Harbour	22	7	139	7	3.41%	3.41%	3.42%	3.43%	3.44%
5	Queen	34	30	540	27	3.41%	3.41%	3.42%	3.43%	3.44%
6	James/Downtown	97	30	1151	58	3.40%	3.41%	3.41%	3.42%	3.43%
7	Scott Park	191	7	778	39	3.41%	3.42%	3.43%	3.44%	3.44%
8	Kenilworth	37	7	185	9	3.41%	3.42%	3.43%	3.44%	3.44%
9	Nash	92	13	820	41	3.41%	3.42%	3.43%	3.43%	3.44%
10	Confederation	228	12	693	35	3.41%	3.42%	3.43%	3.43%	3.44%

Appendix B Peer Review Changes

As per O.Reg 232/18, the market feasibility study for IZ policies must be peer reviewed. We provided a draft report for peer review in January 2023. NBLC provided a peer review of the report and suggested areas of changes. Following the peer review, we made the following adjustments to our assumptions:

- Unit mix: we originally assumed a unit mix including 20% studio units, 50% 1-bedroom units, 20% 2-bedroom units, and 10% 3-bedroom units. Following NBLC's recommendations and in consultation with City staff, we updated it to 10% studio units, 50% 1-bedroom units, 30% 2-bedroom units, and 10% 3-bedroom units.
- Construction timelines: Based on feedback from NBLC, we increased construction timelines by 1-2 quarters for all scenarios.
- Hard construction costs: we had originally used hard construction costs from the 2022 Altus Cost Guide, the latest available at the time of the report. We have updated them to the 2023 Altus Costs Guide figures, which was the latest available at the time we presented the updated report to the City of Hamilton for review (the 2024 Altus Costs were released afterwards).
- Parkland dedication: The peer review highlighted that Bill 23 caps Parkland dedication at 10% of the land value, which we originally did not do. We have implemented this cap.
- Land values: for land values, we had originally assumed a premium of 30% over the assessed values. NBLC recommended we review the land value assumptions. After a review, we increased that premium to 50%.

In addition to these changes, we updated several parameters based on more recent data and policies:

- Discount rates: due to increases in interest rates, we increased our assumption on the construction loan interest rate from 7.95% to 8.70%.
- Planning and regulatory fees: we updated to the latest planning and regulatory fees as of January 2024.
- Downtown CIPA: due to the expiration of the Downtown CIPA, we eliminated some discounted planning and regulatory fees that were previously in place for those scenarios.
- Property taxes: we updated to the latest property tax rates as of January 2024.

- Unit sizes: based on new developments in the Central East and East End areas, we reduced the unit size assumptions in all areas to equal those of the Central and Downtown area.
- Parking: due to lower parking minimums adopted by the City of Hamilton, we significantly reduced parking spaces needed for all scenarios.

Combined, these changes had a net effect of reducing the feasibility of the scenarios. In our previous results, the West End and Central/Downtown scenarios were mostly feasible and could tolerate at least a 5% set-aside rate, if not more for certain scenarios. The previous rental scenarios were feasible without IZ in the same areas, but could not reliably sustain a 5% set-aside rate. Following these adjustments, the condominium scenarios remained feasible but could no longer sustain a 5% set-aside rate for IZ, and the rental scenarios all became infeasible.