

# **THE MID RISE CHALLENGE: TOOLS FOR INCENTIVIZING PRIVATE DEVELOPERS**

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## **ABSTRACT**

The research paper explores the opportunities and obstacles to mid-rise development in the city of Markham. Mid-rise buildings represent a practical solution to intensification strategies, and changing consumer patterns, which reflects a demand from planning for more human scale development. Despite these benefits, mid-rise developments between three to eight storeys are comparatively rare in the suburban communities of the Greater Toronto Area (GTA). Through interviews, and an examination of comparative hypothetical development scenarios, it revealed that the costs and risks that continue to discourage the development industry from constructing mid-rise buildings. The results of the study suggest that the attractiveness of mid-rise development can increase with direct financial incentives and minor policy changes.

Keywords: Mid-Rise, Suburban Communities, Smart Growth, Urban Economics

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<b>TABLE OF CONTENTS</b>	<b>PAGE</b>
<b>List of Figures</b>	<b>vi</b>
<b>List of Tables</b>	<b>vi</b>
<b>Introduction</b>	<b>1 - 2</b>
<b>Why Mid-Rise?</b>	<b>3</b>
<b>Research Method</b>	<b>4 - 5</b>
<b>Relevant Background Information</b>	<b>6 - 14</b>
Responding to Demand in the city of Markham	7-8
Population Forecast	8-10
Demand for Mid-Rise Development	11
Shift the Market and Market the Shift	12-13
Changing Residential Market	13-14
<b>Literature Review</b>	<b>15 - 24</b>
Municipal, Market and External Obstacles	15-18
Suburban Smart Growth and Intensification Policies	18-19
Housing Choice	20-22
Municipal Financing Tools	22-24
<b>Case Study/Comparative Development Scenarios</b>	<b>25 - 34</b>
Site Characteristics	25
Pro-Forma Assumptions	26
Pro-Forma Results	27-29
Potential Direct Incentives	30-34
<b>Findings</b>	<b>35 - 45</b>
Height, Land Cost and Parking	35-37
Municipal Regulation	37-40
Construction Material: Wood-Frame	40-42
Demographics and Market	42-44
Mixed-Use Mid-Rise	44-45
<b>Conclusion</b>	<b>46-48</b>
<b>Appendix</b>	<b>48- 56</b>
A. Interview Questions for Local Planning Staff	49
B. Interview Questions for Development Consultants	50
C. City of Toronto Pro-Forma (Mid Rise vs. High-Rise)	51
D. Hypothetical Pro-forma Development Scenarios	52-57
<b>References</b>	<b>58 - 61</b>

## **List of Figures**

Figure 1: City of Markham Boundaries.	6
Figure 2: City of Markham 2041 Population and Employment Targets.	9
Figure 3: York Region persons per household from 1971 to 2041.	10
Figure 4: Strategic priorities to spur mid-rise development.	17
Figure 5: Subject site located in the city of Markham.	25
Figure 6: Before – An eight-storey mid-rise vision along Highway 7 East	43
Figure 7: After – A four-storey low-rise vision along Highway 7 East	44

## **List of Tables**

Table 1: Pro forma analysis of hypothetical residential scenarios.	28
Table 2: Development scenario comparison of cost per square feet.	29
Table 3: Tools to incentivize mid-rise development.	30
Table 4: Parkland Dedication Scenario of (1) hectare per 300 units.	39

## **List of Acronyms**

CIP - Community Improvement Plan
DC – Development Charges
DCA – Development Charges Act
FSI - Floor Space Index
GFA – Gross Floor Area
GTA - Greater Toronto Area
GTHA - Greater Toronto and Hamilton Area
GGH - Greater Golden Horseshoe
RBC - Royal Bank of Canada
LTV - Loan to Value
MLS - Multiple Listing Service
NIMBY – Not in my back yard
OBC - Ontario Building Code

## INTRODUCTION

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Development in the suburbs is often guided by misconceptions of a low-density utopian vision. The social and physical challenges embodied by low-density urban sprawl are characterized by severe strains on city infrastructure, and personal health that ultimately decrease the quality of life. As a means of correcting the malpractices of past urban planning failures, increasing urban density must be recognized as a viable solution to urban vibrancy, more sustainable means and increased standards of living.

The vision of building mid-rise on urban corridors throughout the Greater Toronto and Hamilton Area (GTHA) is a fundamental component of creating sustainable cities and regions (Bedford, 2013). The turn of the century introduced significant planning and demographic shifts in the city of Markham, part of the GTHA. These shifts have reshaped the urban landscape primarily within the urban growth centers through intensification strategies rooted in planning policies. The Official Plan's mandate guided by the Planning Act in conjunction with the Provincial Policy Statement, Growth Plan and Greenbelt Plan have led the city of Markham to evolve into a new urbanist landscape and efficiently manage their land and resources.

This major research paper examines the obstacles to mid-rise development and also identifies practical solutions that the city could implement to spur mid-rise development. Many cities throughout the Greater Toronto Area have not been successful in unlocking the potential of mid-rise development. By and large, many developers in the GTA have favoured high-rise and low-rise construction, especially

in the city of Markham. The purpose of this paper, therefore, is to examine the nature of the economic risks involved in mid-rise development in the city of Markham, and to assess the effectiveness of different types of policies and incentives to alleviate cost and risk. Specifically, the paper will seek to answer the following research questions:

- What are the obstacles to mid-rise development in the city of Markham?
- What factors or incentives can encourage mid-rise development?
- What are the economic risks associated to mid-rise development?

Through interviews and an examination of comparative hypothetical development scenarios, the research paper will determine which obstacles and risks continue to challenge the development industry, and determine which policies may require minor changes to create a feasible option.

## WHY MID-RISE?

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The reasons for building mid-rise are documented abundantly, and encompass a broad range of environmental, social, and economical benefits (Prince Foundation, 2014). Mid-rise buildings are human-scaled in terms of size; three to eight stories as defined in Markham's 2014 Official Plan. They provide the necessary population density to support rapid transit, while blending into the character of the neighbourhood much better than high-rise. Jan Gehl (2010) views mid-rise as "edges" and the key role it plays to enforce city life. Jane Jacobs (1961) suggests, the dense mixed-use neighbourhoods with multi-family housing in low apartment buildings as an ideal urban form. Greenberg (2011) appreciates the capability of mid-rise to frame the street and provide a sense of enclosure. Furthermore, the authors recommend introducing mid-rise, especially buildings that combine retail and housing into suburban neighbourhoods, have the potential to meet density requirements, promote walkability and transit use.

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### *Social Benefit*

- Higher density neighbourhoods support walkability and transit-use.
- The built form contributes to 'complete streets.'
- Compatibility with existing neighbourhoods.

### *Economic Benefit*

- At-grade retail supports walkability, and vibrancy of a place.
- Promoting mid-rise housing supports small and medium builders and opening up more opportunities for Canadian businesses to contribute to the capital's future growth.
- The increased use of lumber for mid-rise projects supports Ontario's diminished forestry industry.

### *Environmental Benefit*

- Mid-rise can be built using renewable materials such as wood. The manufacturing of wood products also results in less greenhouse gas emissions than other materials.
- Sustainable water and energy infrastructure can be supported by mid-rise.
- Compact communities with a medium density presence, each person uses less energy and emits less carbon dioxide, than comparable residents in more sprawled communities.

Source: Prince Foundation. (2014). A Mid-Rise Solution. London, England. Digital Edition.

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## RESEARCH METHOD

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The research method for this study takes a mixed-methods approach using qualitative and quantitative data. A relevant background of existing planning policies, consumer patterns, housing preferences, and other relevant secondary sources was reviewed and analyzed. In the first phase of the research, six interviews were conducted with key stakeholders that are active in the land development process in Markham. Interviews were held with three municipal planning staff and three development consultants to discuss local policies that encourage or deter mid-rise and the financial and regulatory challenges to building mid-rise. The criteria used for selecting the interviewees were involvement in mid-rise development projects in the city of Markham. The interviews served two purposes; the first being to identify the obstacles, and the second being to confirm real-estate data to make sure it accurately reflects the current market. A schedule of interview questions for both municipal staff and development consultants can be found in Appendix A.

In the last phase of the research, a comparative hypothetical pro-forma of three development scenarios showcases a municipal preference, and a market preference that gives insight into the incentives or minor policy changes needed in order to make mid-rise development a feasible option. The purpose of the pro forma is to provide a concise description of projected cost, income and profitability of a project from its inception to its final sale or leasing. The pro forma calculations used for this study only take into account the returns generated in year 1 of the hypothetical scenarios. The results of the pro-forma scenarios cannot be generalized

to all mid-rise projects, but they can be used to assess the generalizability of claims about the effects of adopting minor policy changes or incentives.

The subject site used for this case study is located in the city of Markham and is based on the following criteria:

1. A realistic site to be developed in the upcoming years;
2. Located along a major corridor within the city of Markham such as Yonge Street or Highway 7 East;
3. A maximum distance of 1 kilometre from public transportation to limit vehicular transportation and promote alternative modes of transport;
4. The development must conform to the city of Markham's Massing and Built Form design guidelines; and
5. The site must be located and designated "Residential Mid-Rise" or "Mixed-Use Mid Rise" under the 2014 Official Plan.

Ryerson University requires that the University's Ethics Review Committee review all research involving human subjects. The application for Ethics Review for this research paper stated that the identity of all those interviewed would be held in strictest confidence. In this report, key informants have only been identified as either city staff or development consultants. Every effort has been made to protect the privacy of those individuals who generously agreed to be part of this paper

## RELEVANT BACKGROUND INFORMATION

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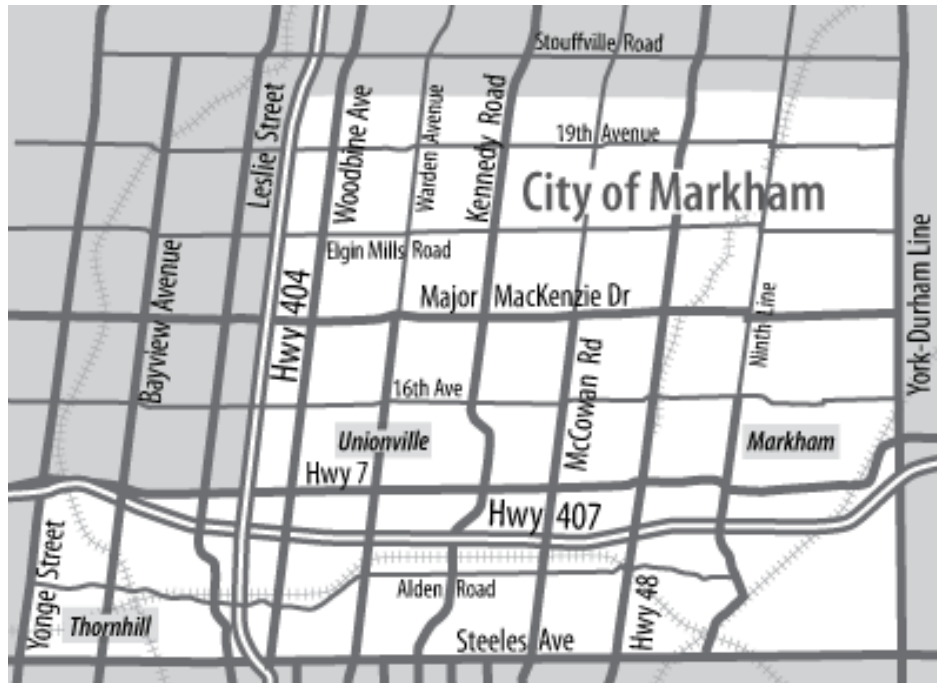


Figure 1: City of Markham boundaries. Retrieved from: [Torontoneighbourhoods.net](http://Torontoneighbourhoods.net)

The city of Markham is one of the fastest growing and most diverse municipalities in Ontario, located within the upper-tier municipality of York Region. The city of Markham covers 212 km<sup>2</sup> and abuts Toronto to the northeast. The city has a growing population of roughly 336,000 and a large employment base of company headquarters (City of Markham, 2015). The city contains two urban growth centres: Markham Centre and Richmond Hill/Langstaff Gateway that are guided by principles of smart growth and new urbanism. The fundamental goal of these principles is to create a live, work and play community through strong transit connections, high-tech employment industries, mixed-use developments and preservation of heritage communities. The city of Markham in the context of the GTA provides a unique opportunity for study and offers a progressive approach to planning as it has been experimenting with alternative methods of development for

the past twenty years. Communities such as Cornell, Leitchcroft and portions of Angus Glen are examples of early efforts to build at higher densities and adopt new urbanist principles in Canadian cities. However, despite this fact private developers and homebuyers in Markham have not embraced mid-rise development.

### **Responding to Demand in the city of Markham**

In order to challenge 21<sup>st</sup> century urban problems, innovative and creative solutions must be administered. The Greenbelt Plan and the Growth Plan represent groundbreaking solutions that promote higher density in designated urban growth areas. The Greenbelt Act created the Greenbelt Plan in 2005, an overarching plan meant to preserve 1.8 million acres of prime agricultural land and environmentally sensitive lands from development and established an urban boundary for physical growth in the GTA (2006, pg. 5). The Greenbelt Plan is the cornerstone of the Growth Plan for the Greater Golden Horseshoe and identifies where urbanization occurs, based on the regional ecological features and functions of the natural landscape in southern Ontario (2006, pg. 11).

In 2006 the Growth Plan for the Greater Golden Horseshoe (GGH) came into effect, which promises to allocate population growth through smart growth principles by intensifying downtowns, protecting farmlands, curbing sprawl, and improving regional transportation within the GGH by 2031. The Growth Plan designates urban growth centres to achieve by 2031 a gross density target of 200 residents and jobs per hectare in Markham, and similar cities. The provincial land use legislation also mandates that built up areas must meet a minimum of 40% residential growth by 2015 (2006, pg. 14). Markham has been aggressive with this

mandate at an intensification rate of 52%, as the 2014 Markham's Official Plan targets an intensification growth of 60% (City of Markham, 2014).

The city of Markham has recognized that medium density, mixed-use and mid-rise housing are key components to accommodating growth in many contexts. The 2014 Official Plan has designated many communities in Markham as "Mixed Use Mid-Rise" or "Residential Mid-Rise", such as Buttonville, Unionville and Cornell. The Official Plan defines residential mid-rise as buildings that provide diversity of housing mix, and building types that are generally located on arterial and major collector roads with minimum heights of 3 to 6 storeys (City of Markham, 2014). Whereas, mixed-use mid-rise are defined as lands that serve an important function to nearby residents by providing access to needed goods and services with minimum heights of 3 to 8 storeys (City of Markham, 2014). There is full support from Provincial, Regional and Local levels of government for the development of mid-rise. However, not enough of these developments are being built because of policies and regulations that tilt the playing field against mid-rise.

### **Population Forecast**

A major demographic milestone occurred in 2007, when the earth's population reached an urbanization rate of 50% (United Nations, 2015). Presently, the United Nation's Population Division estimates that 54% of the world's population resides in urban areas, and projecting another 2.5 billion people into global urban centers by 2050 (United Nations, 2015). The data identifies a global trend toward the rise of the megacity and the agglomerated metropolitan region throughout the world. These trends are affecting the way cities are being planned especially along the

outer edges of the core that seek increased demand for housing. Mid-rise development will help municipalities meet this demand in a sustainable manner.

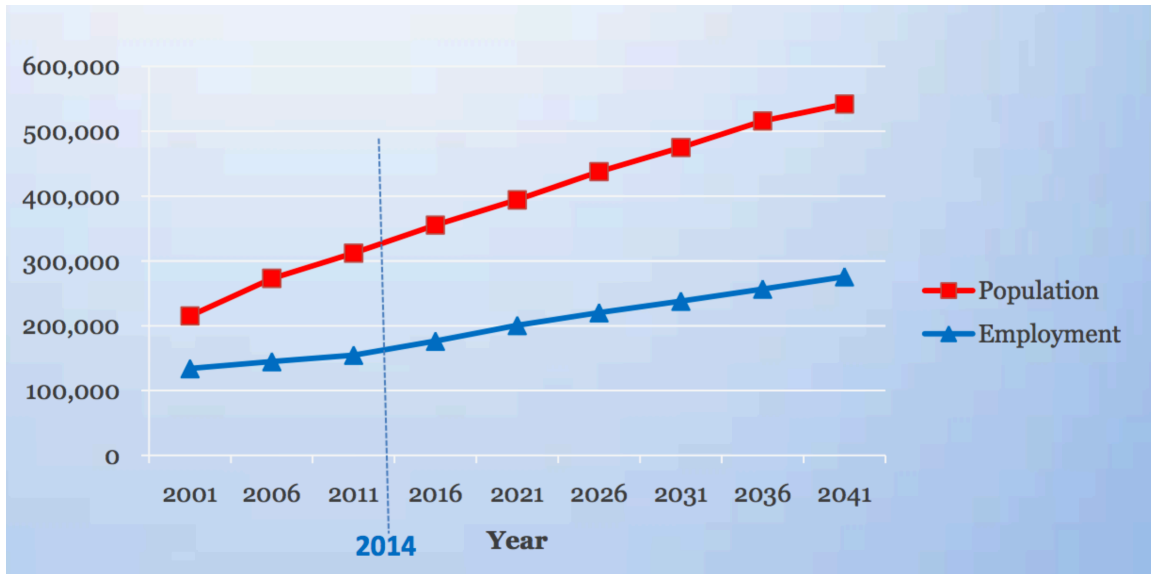


Figure 2: City of Markham 2041 population and employment targets. Source: City of Markham, 2015.

The increased demand for housing is fuelled by immigration and changing demographics that have placed an increased pressure on municipal and provincial government to establish intensification frameworks to manage the projected population growth. The GTA is one of the fastest-growing populations in Canada. Over the next 25 years, the population of the GTA is projected to increase by more than 44% (Pembina Institute, 2014). The GTA is expected to remain the region with the youngest age structure in the province, due to both immigration and positive natural increase. Within the GTA, York Region is expected to grow by 685,000 in population, which the city of Markham is assigned the greatest population growth out of the nine municipalities with a target of 536,600 to 541,900 by 2041 (York Region, 2015). Furthermore, the impact of the population forecast suggests that mid-rise development will play a critical role as Markham continues to grow. The

future population growth must be accommodated through redevelopment, infill or intensification opportunities.

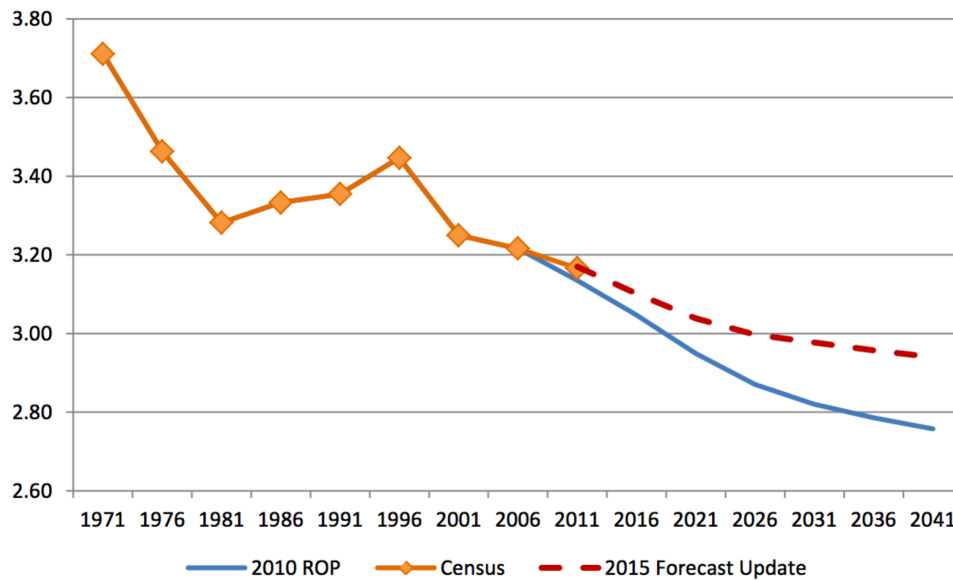


Figure 3: York Region persons per household from 1971 to 2041. York Region (2015).

The demographic composition of families and households in the Markham is shifting towards smaller households, families with fewer children, more people living alone and young adults living with parents for a longer period of time. From 2006 to 2011, the number of one-person households in Markham increased by 14.1%, while the average number of persons per census family decreased from 3.4 to 3.2 as evident in Figure 3 (Statistics Canada, 2011).

The link between housing demand, and demographic change are both complex and dynamic. People tend to demand one type of housing over another at different stages of their lives (Pembina, 2013). Thus, shifts in the age structure of Markham's population will directly influence the type of housing in demand over time. The next section will explore the market demand in Markham and how this influence could create more obstacles for mid-rise development.

## **Demand for Mid-Rise Development**

The demographic trend of migrating to urban centers is not unique to immigrants. The suburban 'empty nesters' are also responsible for the increased demand in housing within urban growth areas. This is growing portion of the population in Markham, along with the younger workforce are playing a large role in the mass migration to urban centers. The 'Millennial' demographic, aged 20 to 39, now correspond to nearly half of the population in Markham, are attracted to an urban lifestyle, centrality, entertainment and connectivity. This pattern is attributed to the widespread recognition of the implicit value of clustered access to commercial goods, transportation, employment opportunities and recreational amenities in urban centers, as well as a generational rejection of the baby boom lifestyle (Lisa Marie Williams, 2013). A study in 2012 by Royal Bank of Canada (RBC) and the Pembina Institute's Home Location Study found that over 80% of Greater Toronto Area (GTA) residents would give up a large home and yard to live in a "location efficient" neighbourhood that is transit-friendly, walkable and offers shorter commute times (Pembina, 2013). The demand is also fueled by investment interest seeking to capitalize on the lack of rental units in the marketplace. The 2011 National Household Survey indicates that the tenure mix in Markham is 88% owned, and 12% rental (Statistics Canada, 2013). The supply for rental units has recently been prevalent in Markham Centre. Many variables can affect the demand for mid-rise development, but for the purposes of this research paper it will focus on the role of the shifting commercial market that affects mixed-use mid-rise development, and also the role of affordability and demographics in the residential market.

## **Shifting Commercial Market**

E-commerce, and mobile applications are just a few of the technologies that continue to reshape the way people live and work each day. The Places to Grow Act has established a direction towards the shifting commercial market to assist in creating compact, mixed-use, pedestrian-oriented and transit supportive communities. The rate of growth for new commercial space will increase, but will be slower than in the past due to e-commerce trends, changing consumer habits, and demographics (Tate Economic Research Inc., 2015). Nonetheless, future population and employment growth forecast throughout the Region will continue to generate demand for new, more locally accessible, shopping facilities in the Region's Centres, Corridors and new communities (Tate Economic Research Inc., 2015).

Commercial vacancy rates across the sector have not increased as a result of ecommerce. However, it is anticipated that while commercial space will continue to increase in the future, the rate of increase will be reduced from historic levels (Tate Economic Research Inc., 2015). Mixed-use developments have recently gained momentum due to favourable market conditions and intensification strategies in urban and suburban locations. However, mixed-use format is not viable everywhere. Key industry stakeholders indicate that there are a number of challenges to developing mixed-use. These challenges include the limited number of retailers prepared to locate in such projects, the costs of development and potential for difficulties with financing, market constraints, and design and logistical challenges (Sonoran Institute, 2014). More specifically:

- Mixed-use development with ground floor retail does not work everywhere and is limited to the best locations such as the Region Centre and Corridors of the York Region Official Plan (Sonoran Institute, 2014).
- Successful implementation of mixed-use projects includes the reluctance of retail tenants to locate in these developments. Residential developments in particular often are faced with conflicts due to noise, or the lack of flexibility of the built form to accommodate prototype design and the high costs of development (Sonoran Institute, 2014).

The retail sector is dynamic and constantly changing in response to the evolving marketplace. There is a wide consensus from developers that the suburbs need a better tax incentive, and deferrals of development fees to compete with the downtown core. Changes in socio-economic conditions, diversifying lifestyles patterns and evolving demographics, are just some of the many market conditions that influence Canadian mixed-use projects.

### **Changing Residential Market**

The urbanization trend remains strong in Canada, and the suburbs will continue to play a critical role in supporting growth, and jobs. Experts suggests that as demand drives housing prices higher, they expect to see a growing number of people choose more affordable homes in the suburbs (PWC, 2015).

Housing affordability continues to be a major issue in cities that has not been readily addressed. While developers are building condominiums and mid-density products like stacked townhouses to meet municipal and provincial urban density demands, it is becoming difficult for developers to build affordable housing in urban centers. Provincial government policies such as the Greenbelt Plan play a key factor in driving up land cost, since it limits the land supply in an effort to promote urban densification, and protect sensitive ecological features. Expansion of the regional

transit systems across major urban areas may make it easier for people to buy affordable homes further out from the core. However, high house prices in the GTA are shifting homeownership to rental because there is a growing proportion of the population that cannot assemble the downpayment for a new home (PWC, 2015). Renting is no longer seen only as a temporary step on the road to homeownership, but as an alternative. With housing affordability likely to remain an issue for some time, rentals are expected to continue to be in demand.

The demand for mid-rise will be driven by the younger demographic cohort as it relates to changing residential values and an interest in sustainable “urban living.” Additional demand from an aging population signals the beginning of forecasted demands by seniors for accessible housing options close to services. Mid-rise could potentially serve everyone, including families with children that want to live in the suburbs. Yet, the shift toward an urban lifestyle is only indicative of a specific demographic. Developers remain apprehensive about including family-sized 3-bedroom units into developments. Their reluctance is based on the price point required to sell a family-sized condominium. Paul Golini, the executive vice-president of Empire Communities claims that families are unenthusiastic in purchasing a three-bedroom condominium when the price point is at par with the price of a low-rise home (Starr, 2011).

## **LITERATURE REVIEW**

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An overview of topics that relate to mid-rise development, smart growth, new urbanism, and market forces was conducted in preparation of this research paper.

### **Municipal, Market and External Obstacles**

Although the amount of scholarly research on mid-rise development in Canada is limited, non-profit institutions such as Pembina or programs such as the Canadian Urban Institute's Mid-Rise Symposium have been more active in this field. In June of 2005, a symposium was conducted by the Toronto City Planning Division, in association with the Canadian Urban Institute to better understand the reasoning behind the lack of mid-rise buildings within the city of Toronto. Findings from the 300 participants representing a wide cross-section of Toronto's professional, academic and public community raised concerns, which continue to discourage the development industry from mid-rise buildings (City of Toronto, 2009). As there exist no incentive for developers to construct mid-rise buildings, the construction of high-rise buildings has prevailed in the city of Toronto (refer to Appendix A). The recommendations suggested offer an overview of obstacles relevant to Toronto that may not be prevalent in a suburban context. The major obstacles identified by developers, consultants and municipalities can be categorized as municipal, market and external factors. The table below briefly summarizes what appears to be the most common obstacles as indicated by the literature.

The December 2009 Mid-Rise Symposium held in Mississauga had a broader geographic focus than the 2005 symposium held in Toronto. However, the stakeholders identified much of the similar obstacles as the previous symposium.

<b>Obstacle</b>	<b>Why is it an Obstacle?</b>
<b><i>Municipal</i></b>	
Development Charges	Development Charges are often applied unfair and inconsistent. Many proponents argue that it should be calculated based on square footage rather than units.
Tax Policy	Current tax policies are not favourable to attracting new development. An adoption of favourable tax policy would act as an incentive to attract new development.
Parkland Dedication	The amount of parkland a development must provide varies, and in some municipalities that formula is skewed against high-rise and mid-rise developments.
Approval Process/Time	The approval process and review take the same time for 10 or 40 storeys. Townhouses are faster and easier to get approved and built, even if it means leaving density on the table.
Parking Requirements	Providing parking spaces is not cheap, especially for mid-rise developments. A parking structure costs about \$30,000 per space, and underground parking can cost even more, at up to \$60,000 per space. The parking costs for mid-rise units are passed onto the homebuyers, and sometimes discourage development altogether.
<b><i>Market</i></b>	
Mixed-use	The success of ground-level spaces in mid-rise buildings depends in large part on the type and quality of retail establishments that inhabit them. If ground-level retail fails because it is poorly designed or not appropriate to the neighbourhood, it creates a financial problem for the developer and also reduces the appeal of the neighbourhood.
Land Cost	There are several factors that affect the cost of land, for instance, the need for land assemblies can be complex, costly and have uncertain outcomes. The cost of acquiring land from vendors who may not wish to sell or who are operating businesses on the property frequently rise above market values.
Revenue	Given that residential development involves a number of fixed costs and resources, focusing efforts on projects with bigger profit potential makes good business sense; this traditionally means bigger projects, not mid-rise.
Other Market and Economic Issues	Many people do not want to "live above the shop", and feel that there is a certain stigma attached to it especially in the suburbs. The majority of potential condominium buyers want a unit with a view.
<b><i>External Factors</i></b>	
Not in my back yard (NIMBY)	Local residents can significantly setback a project through additional public consultation, and reviews, which can cost the developer time and money.
Construction Cost	Mid-rise buildings on average cost more to build on a per square foot basis as compared to high-rise project. Poorer Building Efficiency - losing 1% of your sellable floor area has a big impact on the bottom line. Fixed soft costs have a disproportionate negative impact on Mid-rise projects and is a similar cost to high-rise.
Source: City of Toronto. (2009). Mid-rise symposium: Urbanizing the Avenues. Retrieved from: <a href="http://www.toronto.ca/planning/midrise_freedman.htm">http://www.toronto.ca/planning/midrise_freedman.htm</a>	

The greatest obstacles that were identified include parking requirements, the disjuncture between municipal visions and policies, the approval process, and the

Building Code regulations. The potential priorities towards a solution, evident in Figure 4, suggest a municipal intervention to spur and remove obstacles to mid-rise development. The intervention that the municipality can prioritize includes expedited approvals, public perception, mixed use requirements, fees and charges.

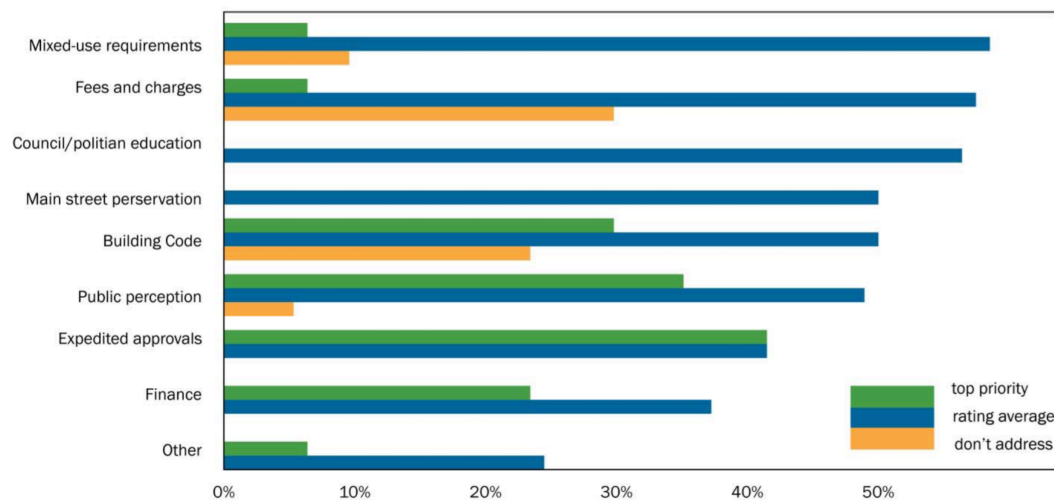


Figure 4: Strategic priorities to spur mid-rise development. Source: Canadian Urban Institute (2009).

To tackle these obstacles that can be regarded as opportunities, N. Barry Lyon Consultants Limited published a report titled *Intensification Incentives in the Region of Peel (Phase Two)*, which identifies key financial incentives that may be provided by municipalities to encourage mid-rise development. For instance, direct incentives such as abatement of property taxes or development charges can be implemented, but can be politically controversial, as they tend to benefit private development interests. The report recommends that municipalities consider utilizing Community Improvement Plan's (CIP's) to encourage development of mid-rise by assisting with lot consolidation, providing loans and grants in intensification areas and supplying interest-free loans to help fund the non-residential component of mixed-use projects (Regional Municipality of Peel, July 2010). Although useful in

understanding incentives and potential solutions, the value of the reports is limited, as it does not provide a critical understanding in the context of mid-rise development. The research study aims to fill in the gaps left by the reports by providing current data and comparing hypothetical scenarios to explore potential solutions from the perspective of the private developer and municipal planner.

### **Suburban Smart Growth and Intensification Policies**

A comprehensive analysis by the Neptis Foundation titled Smart Development for Smart Growth conducted by Blais (2000) identifies the obstacles preventing smart growth developments at the site-specific scale. The findings suggest that some of the obstacles include: there is a low demand for high-density built-form because this generally occurs towards the end of the build-out of suburban areas; too much land supply in the 905 area removes the incentive to build higher density; unrealistic expectations on behalf of the municipality and province by setting unrealistic goals and strict urban design standards that does not represent the market; opposition from residents and businesses; political willingness to support smart growth in principle, but lack of support in practice; financial regulations that favour low-density development and discourage smart growth development (Blais, 2000).

Smart growth principles in the suburban setting may be more challenging to achieve due to political forces, NIMBY, and lack of public transit infrastructure. Downs (2005) argues that NIMBYism is a major impediment to promoting smart growth; in particular, the research argues that smart growth inability to reduce traffic congestion in suburban communities increases local opposition to intensification thereby reducing the will of politicians to implement smart growth

policies. Another obstacle to the implementation to smart growth has to do with the current public transit infrastructure. A comparative study of Sydney, Australia and Toronto, Canada by Searle and Filion (2010) concluded that Sydney was able to achieve medium density because a high-frequency commuter rail network covers most of the city. Whereas, in the GTA the Toronto subway system comprises of three lines that leave many suburban parts of the city without access to high frequency transit. This results in high-density residential developments along or near subway stations and little intensification for areas that are not serviced by rapid transit (Searle and Filion, 2010).

Market preference can also be another obstacle for smart growth as revealed in a study conducted by Gonzales and Grant. The study showcases that developers in two Albertan communities were reluctant to build denser development, as market preference demanded low-density housing (Gonzales and Grant, 2010). The concept of high-density in a township may be challenging consumer expectations of what constitutes as a livable and acceptable housing form. This points to the challenge of accommodating high-density housing in a Canadian 'bedroom suburb'. A similar example is evident in a study by Grant (2009) that investigates three new urbanist communities including Cornell, Markham that were developed using smart growth and new urbanist principles. Grant found that the communities contained a small fraction of smart growth and new urbanist elements. Grant concluded that market forces might affect planners and politicians to make a compromise to intensification policies to accommodate market demand (Grant, 2009).

## Housing Choice

Understanding market demand and housing choice is imperative for this research study. Housing choice has a significant impact on what type of built form will be developed. Developers will ultimately respond to the built form demanded by the public. To encourage intensification and for the mid-rise built form to become feasible, public demand and preferences must be considered, and addressed.

A study conducted by Skaburskis (2006) explores an analysis of the residents housing choice in the new urbanist community of Cornell. The findings show that “88.6 percent of the Cornell residents living in townhomes or semi-detached say they would move to a detached house if they were to move now” (Skaburskis, pg. 14). The transitions that could occur within Cornell as the population ages is it will not free enough of the larger units for the younger households who are now living in Cornell’s row or townhouses and will be moving up in their housing careers (Skaburskis, 2006). However, given that the study was conducted in 2006, the price of a single detached home has risen drastically in 2016 and has become unattainable for most people. Condominiums and townhouses have become items demanded in urban centres by the majority of first time homebuyers and seniors downsizing their home, but a single detached housing may still be the ultimate goal. Policies alone are not sufficient driver to change housing choice. Filion and McSpurren (2007) in their study of smart growth and land use policies argue that current policy interventions are not sufficient to bring transformation in land use consumption (Filion and McSpurren, 2007). Ultimately, housing choice is affected by affordability, demographics, economy, employment and other factors.

Attitudes towards housing are crucial in further understanding the obstacles to mid-rise development. A study conducted in the Greater Toronto Area by Agrawal and Stilich (2008) explores the attitudes and perceptions towards housing preference. Those living in suburban communities were more drawn to detached housing than respondents from the city of Toronto. Townhomes and semi-detached of various sizes were also considered acceptable or may be acceptable to a wide variety of households. Condominiums were rated more acceptable as a housing option than rental accommodations. The study did not differentiate between mid-rise and high-rise buildings; however, the study found that there was significant interest in living in communities that are compact, well served by transit and walkable. The findings suggest that diversifying housing options by including medium density and mid-rise buildings would be well received by homebuyers.

Supplemental studies of British preferences demonstrate the public disinterest in compact built-form, which is unexpected due to the number of mid-rise buildings prevalent throughout Britain. Ali Madanipour (2007) argues that although there is support for intensification and compact cities in policy, the British public prefers single-family homes with gardens (Madanipour, 2002, p. 178).

The studies cited all conclude that majority of homebuyers prefer ground-based units whether they are detached, semi-detached or townhomes. The demand for ground-based living is potentially greater in the suburbs, than in urban cities such as Toronto. Apartments, whether in large or small buildings, would rank as a fourth in housing preference. Moreover, developers will react to the built-form that is demanded by the public. Although there is minimal literature that addresses

market feasibility on urban housing, it should acknowledge that housing price outside of the urban core have historically lower land price, but same construction cost, which have allowed the public to purchase larger homes for less. Currently, the average price for a detached home in Toronto is \$1.06 million, compared to the 905's at \$783,565 (Babad, 2016). The lower price outside of Toronto affects housing choice, and also affects the developer's decision of whether or not to pursue mid-rise development (Brown, 2012).

### **Municipal Financing Tools**

Local and regional municipalities have a wide range of financial tools to incentivize private developers, but these are particularly used for blighted areas, employment lands, heritage conservation districts, brownfields, or affordable housing. There are several case studies in Ontario, where local and regional municipalities have used incentives to promote intensification along major corridors or specific areas. A study conducted by Tomalty (2003) explores the strategies Canadian municipalities have applied to residential intensification through municipal incentives.

A strategy to incentivize private developers can be through exempting planning and development fees. The city of Ottawa in the early 1990's was experiencing an erosion of the city's downtown residential communities due to the mass movement to the suburbs. High land values effectively eliminated housing investment except for luxury condominium. In response, in 1994 the City launched the Residential Downtown Intensification (Re-Do-It) initiative designed to spur residential development in the city's downtown (Tomalty, 2003). The program included a waiver on development charges, a reduction in building permits, and a

reduction in residential parking requirements in specific areas. The program was again initiated in 1999 and included a wider range of financial incentives. The response from the stakeholders believed that the incentives were needed to undertake development that would otherwise be too risky due to high land prices and a myriad of practical problems (Tomalty, 2003). Most local residents also supported the exemptions as a way of encouraging redevelopment and bringing more vitality to the downtown.

The impact of these incentives brought about a revival in the downtown housing market with over 30 housing projects initiated from 1994 and 1997. When the exemption program was renewed and expanded in 2000, it spurred 34 residential projects. City planners recognized the value of these incentives, and estimate that about one-third of the recent growth in the downtown would not have occurred without the program (Tomalty, 2003). The significant loss of revenue comes out of the City's budget. However, the increase in property taxes that resulted from downtown development compensated quickly for the revenue loss.

Incentives are also prevalent in brownfield development to attenuate the associated costs and risks involved. In a research study conducted by Christopher De Sousa (2000), it examines the nature of the economic costs and risks involved in brownfield versus greenfield redevelopment in the Greater Toronto Area. The interviewee results identified that financial mechanisms such as tax incentives, funding/subsidies and guaranteed loans would reduce costs associated with remediation, as well as diminishing risks (De Sousa, 2000). The research study assesses the economic benefits of policies and programs by applying them to the

brownfield redevelopment scenario pro-forma, and calculating their impact on project returns. The results showcase that financial mechanism such as reduction in municipal taxes; reduction of development charges; or low interest loan program would improve the returns of the hypothetical pro-forma (De Sousa, 2000). Moreover, residential brownfield projects could be made more attractive with minor changes to existing policies and programs, while industrial brownfields require a more dynamic approach incorporating a variety of mechanisms.

Similar case studies of incentivizing private developers are evident throughout Ontario and in the United States. Tools such as CIP's, tax increment financing or grants are used to spur development in certain areas, preserve heritage buildings or increase affordable housing stock. Many direct financial tools may indirectly target mid-rise development such as if a development is within a heritage conservation area, or within a CIP. Indirect civic investment such as improving transit, proximity to parks, or community centres can also be a major incentive for private developers. Investment into public infrastructure is typically not undertaken with the primary intention of encouraging intensification, but rather to improve the overall quality of life, which in-turn creates residential market demand for intensification to occur.

## CASE STUDY / COMPARATIVE DEVELOPMENT SCENARIOS

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Figure 5: Subject site located in the City of Markham.

### Site Characteristics – 4080, 4084, & 4088 Highway 7 East

The subject site is located east of Village Parkway, on the north side of Highway 7 East in the city of Markham, which currently operates as an Audi dealership (as shown in Figure 5). The site is adjacent to the urban growth centre of Markham Centre, which designates the area for mostly high-rise and mid-rise development with supporting commercial and office uses. The site has a land frontage on the north side of Highway 7 East of approximately 445 feet, and a total area of 112,640 square feet. North of the site is an established single residential dwellings, which will require the development to incorporate angular planes. The site is currently designated as a 'Residential Mid-Rise' under the 2014 Official Plan. The maximum allowable height is 6 stories, and a minimum floor space index of 2.0. The site is situated in a prime location, proximity to rapid transit, and numerous proposed developments that make it an attractive option to develop a mid-rise built form.

## Pro-Forma Assumptions

The pro forma analysis of the hypothetical scenarios provides a framework for examining, on a comparative basis, the quantifiable project costs and project returns associated with developing a municipal vision versus a market vision, and the impact of the perceived costs and risks. These scenarios envision an example of what is occurring, based on information supplied by the interviews and from real estate data within the GTA. Below is a summary of the assumptions used for the hypothetical scenarios.

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1. The hypothetical scenarios reflect a 'build and sale scenario' with an assumption of 100% condominium sale and no vacancy. The study assumes that the site is a greenfield site to avoid demolition cost and assumes the same piece of land (1.0 ha) to develop the three different options.
  2. An efficiency rate of 85% of the Gross Floor Area (GFA) is used to calculate the Residential Square Footage. The loss in efficiency is allocated to common rooms, amenities, elevators, hallways, or stairs.
  3. The land cost was obtained through the Multiple Listing Service (MLS) for greenfield properties that are comparable in property size and location.
  4. Financing is based on a loan-to-value ratio (LTV) of 75% with a construction period ranging from 1 to 2 years (depending on the scale of the project). The interest rate assumes a prime rate of 2.70% plus 4% to reflect higher interest rate for the construction period.
  5. A 25-year amortization rate has been assumed with the same interest rate described above.
  6. Construction costs are identified by the Construction Cost Guide 2016 report conducted by Altus Group. Construction costs are calculated representative of a basic or medium quality ranging between \$160 and \$220 per square foot.
  7. Soft cost equal to 30% of the construction cost, which includes parking.
  8. Residential unit sales are based on properties that are currently on the market that are comparable size and location.
  9. The proposed parking standards are based on Markham's Parking Standards By-law 28-97.
  10. Parking construction cost is identified in the Altus Construction Cost Guide, which ranges between \$90 and \$160 per square foot.
  11. Residential Development Charges are based on By-laws 2015-167 & 2015-169 effective January 21<sup>st</sup>, 2016.
  12. Additional municipal permits and fees assume a total of 5% based on the hard costs of the project. Municipal permits and fees may include rezoning applications, zoning amendments, building inspections, study reports, property tax and/or consultant fees.
  13. A 5% contingency fee is calculated based on the hard costs of the project. These costs correspond to any changes such as building inspector modifications, project owner requested changes, and/or design clarifications.
  14. Parkland dedication was calculated based on the density for each vision. Higher density would require a higher land dedication to the municipality.

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Source: Kuehnhold, Julien. (2015). The Mid-Rise Project: Exploring Opportunities and Challenges to Mid-Rise Buildings in Toronto. Major Research Project, Ryerson University: School of Urban and Regional Planning.

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## Pro-Forma Results

In order to understand the challenges associated to developing mid-rise, a feasibility analysis of three scenarios in the city of Markham was conducted. The first scenario is the municipal vision of a six-storey mid-rise; the second and third scenario is the market vision of townhouses and high-rise development. The analysis helps to identify the issues developers face as they conform to the guidelines listed in the Official Plan, and Zoning By-laws.

The analysis indicates that a mid-rise scenario does not achieve the premiums from a townhouse development or the economies of scale from a high-rise development. Although, the revenue per square feet for the mid-rise development is higher than the townhouse or high-rise scenario, the costs are the biggest obstacles to developing mid-rise. A high-rise scenario is able to pay more towards parkland dedication and development charges (DC's), and less for the construction cost per square feet because the cost is distributed through the extra height and the number of units sold. Whereas, the townhouse scenario capitalizes on the sale price, quick construction period, and requires less parkland dedication.

Overall, the results from the pro-forma analysis indicate that developing a mid-rise built form is the least desirable, compared to the returns a townhouse or a high-rise development could generate as shown in Table 1. Townhouses involve a reduced up-front capital cost, and equity, compared to the mid or high-rise scenario. From a developer's perspective, townhouses or high-rises are considered the best option due to the minimal risk, quick turn around to sell units, and also the potential returns it could generate.

**Table 1. Pro forma analysis of hypothetical residential scenarios**

<i>Factor</i>	<i>Municipal (mid-rise)</i>	<i>Market (townhouse)</i>	<i>Market (high-rise)</i>
<u><i>Property Information</i></u>			
Lot Size		112,640 sq. f.	
Building Footprint		40,079 sq. f.	
Residential Floor Count	6	3	12
Gross Square Footage	240,474 sq. f.	120,270 sq. f.	480,948 sq. f.
FSI	2.0	1.06	4.27
Residential Efficiency Rate		85%	
Residential Net Square Footage	204,403 sq. f.	102,201 sq. f.	408,806 sq. f.
Number of Units	309	50	601
Number of Parking lots	464	101	901
<u><i>Construction Loan</i></u>			
Loan	\$93,444,218	\$22,067,729	\$175,749,016
LTV (75%)	\$70,080,913	\$16,550,796	\$131,811,761
Equity	\$23,360,304	\$5,516,932	\$43,937,253
Total Construction Cost (with interest)	\$101,468,268	\$24,724,208	\$195,879,262
<u><i>Project Overview</i></u>			
Revenue			
Residential	\$108,378,205	\$40,471,774	\$211,006,176
Parking	\$24,124,188	\$0	\$48,648,554
Total Revenue	\$132,502,393	\$40,471,774	\$259,654,779
Revenue per square feet	\$648	\$396	\$635
Cost			
Land Value	\$8,000,000	\$8,000,000	\$8,000,000
Construction Cost – Hard + Soft Cost (including parking)	\$101,468,268	\$24,724,208	\$195,879,262
Development Charges	\$12,269,264	\$2,916,307	\$23,953,532
Municipal Fees	\$1,971,720	\$324,640	\$3,871,131
Contingency	\$3,286,201	\$541,067	\$6,451,885
Parkland Dedication	\$5,680,000	\$1,280,000	\$11,200,000
Total Cost	\$132,675,453	\$37,786,222	\$249,355,810
Cost per square feet	\$649	\$370	\$610
<u><i>Total Profit</i></u>	-\$173,060	\$2,685,552	\$10,298,920
<b>Return on Equity</b>	<b>-12.18%</b>	<b>29.70%</b>	<b>8.47%</b>

To better understand the costs that affect the mid-rise scenario, the table below compares the development scenarios based on the cost per square feet divided by the residential net square footage to indicate which costs are higher (↑) or lower (↓). The comparison of the cost per square feet presents that most cost associated to developing mid-rise are relatively higher than a townhouse or high-rise scenario. Although the land price is the same for all three scenarios, the cost per square feet can either increase or decrease depending on the amount of residential

square footage or density is allocated towards the development. For example, developing lower density such as townhouses drive the land value per square feet higher, as opposed to a higher density.

**Table 2.** Development scenario comparison of cost per square feet

	Mid-Rise	Townhouse	High-Rise
<b>Cost per square feet</b>			
Land Value	\$39	\$78 ↑	\$20 ↓
Construction Cost	\$496	\$242 ↓	\$479 ↓
Development Charges	\$60	\$29 ↓	\$59 ↓
Municipal Fees	\$10	\$3 ↓	\$9 ↓
Contingency	\$16	\$5 ↓	\$16
Parkland Dedication	\$28	\$13 ↓	\$27 ↓
<b>Total cost per square feet</b>	<b>\$649</b>	<b>\$370</b>	<b>\$610</b>

Mid-rise buildings on average have higher construction cost on a per square foot basis as compared to high-rise project. The associated fixed soft costs have a disproportionate negative impact on mid-rise projects. The analysis also presents the disproportionate effect on the municipal financial regulation to mid-rise development such as development charges, municipal fees, and parkland dedication. The rationale behind this disproportionate effect is partly due to the proposed density of a townhouse versus a mid-rise. Although a townhouse development has a higher development charge, it is able to offset that cost due to the premium price it is able to sell townhouses compared to a mid-rise unit. In addition, although the high-rise scenario pays more than double for parkland dedication, the double amount of units from the extra density is able to absorb those cost.

Moreover, findings from the hypothetical pro forma scenario suggests that given the disproportionate cost facing mid-rise it requires direct financial incentives to encourage a feasible option for private developers. The next part of the research study presents the possible direct incentives that may help unlock and spur the development of mid-rise.

## Potential Direct Incentives

The recommendation for municipalities to progress is to identify obstacles in the development process and policy barriers that continue to add time and money to mid-rise projects. The evident increased cost associated to developing mid-rise built-form suggests direct financial incentives are needed to encourage a feasible option for the private developer. Stakeholders have identified several obstacles that continue to be a challenge to developing mid-rise in the suburbs such as parkland dedication, parking requirement, land cost and the finicky market. The table below takes into account five direct financial incentives that have been identified as “possible direct incentives” that have been repeated throughout the interviews with the local planning staff and development consultants. The results below indicate the impact that direct incentives could have on the current return on equity for the hypothetical mid-rise scenario. Municipalities in the GTA are encouraged to use a combination of one or more direct incentives to support mid-rise development.

**Table 3: Tools to Incentivize Mid-Rise Development**

	<i>Return on Equity</i>
<b>Current return with no incentives</b>	- 12.18%
<b><i>Incentive 1:</i></b> Wood-frame (Construction cost: \$200 to \$180 per sq.f.)	+ 23.22%
<b><i>Incentive 2:</i></b> Flexible Parking Requirement (Current: 1.5 per unit to 1.0)	+ 2.20%
<b><i>Incentive 3:</i></b> Deferral of Municipal DC's	+ 11.56%
<b><i>Incentive 4:</i></b> Reduction of Parkland Dedication (Current: 71% of the land to 50%)	+ 5.28%
<b><i>Incentive 5:</i></b> No Planning Application Fees	+ 6.30%

### **Incentive 1: Wood-frame**

The associated savings for wood-frame construction are reflected in the 2016 Altus Cost Guide, compared to concrete construction. Based on the hypothetical pro-forma, a change in the construction material would increase the return on equity by 23.22%. This incentive was introduced by the OBC to encourage developers and builders in the GTA to embrace wood-frame mid-rise built form. Currently, many developers are reluctant in using wood-frame material due to the attached obstacles. However, the results of this analysis portray the opportunities of wood-frame mid-rise as viable as high-rise development. This benefit is further enhanced with the use of wood, which not only grows naturally and is renewable, but also has a much lighter carbon footprint than other major building materials.

### **Incentive 2: Flexible Parking Requirement**

A flexible parking requirement was applied to the subject site, because it is located within a close proximity to the Unionville GO Station, and also rapid transit along Highway 7 East. The parking requirement was changed from 1.5 parking spots per unit to 1.0 resulted in an increase of 2.20% to the return in equity. Municipal approval to reducing parking requirements will directly be linked to the proximity of rapid transit or traffic demand management study. The flexibility towards parking requirement could be handled on a case-by-case basis, where developments closer to rapid transit can have a greater reduction in parking requirement. However, market demand in the suburbs can vary greatly, where some developments may want a reduction, while others many seek an increase. Ultimately, indirect financial investment to rapid transit from both provincial and

regional levels of government will facilitate the decrease in automobile use, and also applying flexible parking requirements. In addition, applying strategies to deal with parking such as selling the unit and parking separately could reduce the demand from potential buyers.

### **Incentive 3: Deferral of Municipal DC's**

Development charges are municipal financing tools that are enabled through the Development Charges Act (DCA), 1997. Section 27(1) of the DCA provides for the legislative authority to provide municipalities with flexibility regarding when development charges may be paid as follows:

A municipality may enter into an agreement with a person who is required to pay a development charge providing for all or any part of a development charge to be paid before or after it would otherwise be payable (DCA, 1997).

This incentive is used in the town of Newmarket, just north of Markham, to stimulate mixed-use high-rise residential and office development within the Urban Centre along Yonge Street and Davis Drive. The incentive provides for the deferral of 100% of the Town's DC's as long as it meets a specific development criteria. In addition to using the incentive as a means of stimulating development, it also requires the developer to provide 35% of the residential units affordable to low and moderate income households, provide renewable or alternative energy for a minimum of 40% of the buildings energy requirement, and other green sustainable measures (Town of Newmarket, 2012).

The hypothetical pro-forma analysis indicates that municipal deferral of DC's have a great impact on the return on equity, as evident in Table 3. The municipality

can use this incentive to not only encourage mid-rise built-form, but to also advance social, economic and environmental goals under the Official Plan.

#### **Incentive 4: Reduction of Parkland Dedication**

The amount of parkland a development must provide varies, and in some municipalities that formula is skewed against high-rise and mid-rise developments. Based on the hypothetical pro-forma analysis, a 6-storey mid-rise building would have to dedicate 71% of the land towards parkland dedication. If a municipal incentive were to instead require 50% of the land to be dedicated, it would increase the return on equity by 5.28%. Modifying the parkland dedication formula to support intensification that is appropriate to urban growth centres will provide an additional incentive in creating a viable mid-rise project. The Ontario government is currently working to amend the parkland dedication formula from (1) hectare per 300 units to 500 units. However, there is still debate on whether the new rate is consistent with the PPS or if it still discourages mid to high density. An indirect investment initiated by the municipality may be to develop a strategy that would improve the quality of the public realm within urban corridors and consider adopting a much lower alternative parkland dedication policy than is provided in the Planning Act.

#### **Incentive 5: No Planning Application Fees**

The municipality, under section 69 of the Planning Act holds the power to reduce or exempt planning application fees from the development. Based on the hypothetical pro-forma analysis, deferring municipal fees could increase the return on equity to about 6.30%. A municipality may instead want to take a similar

approach like the Town of Newmarket, where the applicant is required to pay 50% of the application fees at the time of submission. The remaining 50% is payable the earlier of 18 months after the issuance of the building permit or registration of condominium leases (Town of Newmarket, 2012). This would reduce the up-front soft cost the developer has to pay to a later timeline.

This incentive could have the same affect as an expedited approval process. Though this research study does not explore how much return on equity an expedited approval process incentive may achieve due to the complex calculations and factors involved. Evidence based upon the findings from development consultants and municipal staff demonstrate that the greatest proportion of delays in approval time are a function of planning staff coordinating the application between various departments. The lag between circulation, comments and amendments are to a large extent bureaucratic, and this leads to increased project costs for the developer through running costs associated with the land. Moreover, the incentives toolkit proposed in this research study are meant to alleviate the costs and risks associated to developing mid-rise. Municipalities must work in partnership with developers to identify obstacles and possible solutions to bringing mid-rise development to life.

The next section of the research study presents the interview findings to add substance to the quantitative analysis by exploring the obstacles and opportunities to mid-rise development from the perspective of both the development consultant and municipal planning staff.

## FINDINGS

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To better understand the implications of possible incentives for mid-rise development, the research study conducted interviews with three municipal planners and three development consultants that are active in the city of Markham. The results have been summarized to showcase which obstacles and risks continue to be a difficulty for municipalities and the development industry.

### **Height, Land Cost and Parking**

Three of the most mentioned obstacles by both development consultants and municipal planners were height, land cost, and parking. Building height could affect the potential returns because as height increases it requires more parking, servicing, development charges, and parkland dedication. Compared to a high-rise development, it is not able to absorb these costs through the number of units being sold. The combined factors of land costs, parking standards and building height drive the cost per square foot for mid-rise construction higher than costs for high-rise. The soft costs involved in developing a mid-rise and high-rise usually equal to the same cost. High-rise also offers better views, iconic architecture, amenities, and high sales absorption rate. One informant simply put it, as “the height of mid-rise is the worst of both worlds because you do not get the economies of scale in a high rise, and you do not get the premiums of a low rise”.

The high cost of land also affects the built-form and the feasibility of mid-rise. In Toronto, roads and infrastructure already service the land, but in the suburbs it is a clean slate. Although, the land is cheaper than Toronto, it can be driven to the same price with the associated cost to servicing the land. Land costs also reflect the

location and desirability of a site, particularly those serviced by strong amenities, public transit and property's zoning status at the time of purchase. In addition, ecological protection such as the Greenbelt and Oak Ridges Moraine limit the land available, which also contributes to the rising price of land. Ultimately, the purchase price will dictate the type of development based on the results performed by the developers due diligence.

Underground parking is also another major obstacle to developers. Height is critical component to offset the cost of underground parking, which ranges from \$45,000 to \$55,000. The concrete material used for underground parking also drive cost up, and also increases with the number of levels below grade. Given that mid-rise are not the same scale as high-rises, it is not able to offset these costs. A city staff suggested that municipal planners are flexible to adjusting parking standards if the developer could justify the reduction. For instance, at Markham Centre, the zoning by-law allows for a maximum parking requirements, instead of minimums. This allows flexibility for the developers, though it only applies to a specific area of Markham. However, in a suburban context, the market may instead demand more parking, such as 2 spaces per unit, which can also be a hurdle for developers to get city approval. A development consultant suggested that development firms usually do background studies to determine the amount of parking demand in a specific area. If the parking ratio is wrong, ultimately the developer is risking the units to be priced for less.

City staff suggested a couple of strategies to deal with parking, which can include selling residential units and parking separately, like in Toronto. The

potential effect is reducing the demand from the potential purchasers. The second strategy could be creating a CIP within a secondary plan to purchase key locations near intensification areas to develop parking structures. The city could reduce the need for developers to provide extensive underground parking for residential or mix-use mid-rise developments. Furthermore, city staff and development consultants agreed that higher order transit is needed to make the justification for a reduced parking demand.

### **Municipal Regulations**

Municipal regulations can act as an incentive or a disincentive for density. This section explores challenges and opportunities of pre-zoning, DC's, parkland dedication and the specific definition of height in the Official Plan.

City staff recommended that pre-zoning, zoning land to its potential height and density, is an efficient tool to facilitate mid-rise development because it provides developers with certainty and faster approval process, which could help encourage mid-rise development. One city staff and all of the development consultants disliked the idea of pre-zoning because it raises the value of the land, and also chains the developer to a specific built-form that may not be feasible or reflect current market demand. The problem remains that there is no benefit to pursue mid-rise over any other form of development. City fees, charges and timelines for review of applications do not recognize the difference between a skyscraper and a 6-storey building. Instead, it was recommended that a fast track process be implemented with an appropriate approval timeline of approximately 6 months. Overall, pre-zoning is a tool that could favour both the municipality and

developer only when it is appropriately zoned to the current market conditions. However, it could potentially raise land values, and also be subject to changing market conditions.

All municipalities within the GTA have a schedule of development charges, but the amounts vary considerably. The general philosophy behind development charges is that growth should pay for growth. City staff all agreed that DC's are not a major obstacle to mid-rise development, and should only be considered as a financial incentive for affordable housing or other social benefits. The development consultants also agreed that DC's are relatively fair compared to other suburban municipalities such as Richmond Hill and Vaughan. However, both city staff and development consultants agreed that parkland dedication could be changed to reflect a more equitable model.

The parkland dedication model in Markham is based on the amount of density that is proposed. Generally, the rate is (1) hectare per 300 units as informed by section 51.1 of the Planning Act. The city will require more land or cash-in-lieu, if the developer proposes more density. Using this calculation method, development consultants suggested that they are often paying more in parkland dedication than the land itself. The city staff also found parkland dedication challenging, because municipalities are charging too much, which may be discouraging mid and high-density projects.

The Province of Ontario is proposing Bill 73, Smart Growth for Our Communities Act, 2015, which seeks to reduce the rate to (1) hectare per 500 units. However, there is still debate on whether if this rate is consistent with the PPS and if

it would continue to discourage high-density development. The table below portrays the current parkland dedication policy applied to three different scenarios ranging from low to high-rise development. The results demonstrate that under the current conditions, the increase number of units will increase the value of land factored in the cash-in-lieu payment, thereby, discouraging high density.

**Table 4:** Parkland Dedication Scenario of (1) hectare per 300 units

	Scenario 1	Scenario 2	Scenario 3
Density (FSI)	0.5	2.0	4.0
Dwelling Units	63	250	500
Land Value	\$1,875,000	\$7,500,000	\$15,000,000
Parkland Requirement (ha)	0.21	0.83	1.67
Cash-in-Lieu Amount	\$396,625	\$6,250,000	\$25,000,000
Cash-in-Lieu per Unit	\$6,250	\$25,000	\$50,000

Source: Raj Kehar (2015). Parkland Dedication Program. City of Mississauga Legal Services.

The definition of height has played a crucial role in promoting mid-rise development in the city of Markham; it reflects a combined urban and suburban mentality. Under the 2014 Official Plan, the height of a residential mid-rise is defined as 3 to 6 stories, and up to 8 stories for mixed-use mid-rise. Townhouses, and apartment buildings are included within the definition of mid-rise. City staff suggested that by having a flexible definition, developers have a range of two distinct products that reflect a market reality. In contrast to the city of Toronto, mid-rise has a more urban definition of 5 to 11 stories. However, higher density mid-rise of 5 stories or more, along major corridors such as Highway 7, are identified in the secondary plan. Private consultants suggested that having a definition that allows

for both a low-rise and mid-rise density is important because it provides certainty with neighbours, and also responds to the market demand of a suburban city. A development consultant that has experience in both Markham and Mississauga suggested that in Mississauga's intensification nodes limits the height to three or four storeys as of right. However, a three or four-storey building would not be possible due to the inflated land prices, but rather an eight-storey building would be more feasible. A definition that embraces the suburban and urban market demand has been advantageous in promoting a mid-rise built form in the city of Markham.

#### **Construction Material: Wood-Frame**

As of January 1, 2015, the Ontario Building Code (OBC) permits wood construction for buildings of residential or mixed-use with a maximum height of 6 storeys. The changes to the OBC have expanded the application of the Code, which previously restricted the maximum height of buildings of wood construction to 4 storeys.

City planning staff agreed that wood-frame has encouraged mid-rise development in British Columbia, but there is still reluctance from the development industry to embrace this construction material. In Vancouver, this idea worked because the builders pushed the Province to change the regulations, but also to support the diminishing timber industry. Whereas in Ontario, the construction industry is still conservative and prefers to continue using concrete and steel. In the city of Markham, city staff is still in the early stages of working with a developer that has applied to construct the first wood-frame mid-rise in the municipality. The key difference that sets this developer apart from others is the experience with wood-frame and also a willingness to use new construction materials.

A development consultant identified the obstacles to wood-frame mid-rise development including the higher risk of fire during construction. These higher risk factors are reflected in higher insurance rates and also extra requirements under the OBC such as a fully functional sprinkler system. The availability and cost of insurance for mid-rise wood-frame constructed buildings are at a premium, compared to buildings constructed from non-combustible materials such as concrete or masonry. However, the cost savings could range from 10 to 25 percent due to the cheaper material, faster construction time and reduced installation cost.

The 6-storey maximum height mandated under the OBC or 18 metres can be an obstacle from a developer point of view. For instance, if the municipality mandates commercial on the ground floor level, the developer will want 9-foot ceiling heights because of the current market demand. However, achieving 9-foot ceilings can only allow for a 5-storey mid-rise due to the 18-metre height restriction, which is problematic because they are losing an additional storey to commercial space that may sit vacant for a period of time. The other option would be to decrease the commercial ceiling height for an additional residential floor, but risks having the commercial units sit vacant due to the limited market response.

Another perspective concerning wood-frame savings as suggested by a development consultant is it does not provide any additional savings, due to the fluctuating price of wood, high insurance premiums, and added cost for safety. The potential savings in Vancouver are heard to be around 25%, whereas in Ontario, builders are saying it is around the 10 – 15% range. The development consultant suggested that developers will continue to use steel and concrete because they have

been using those materials for many years, pre-fabrication of steel means faster construction times, and also lowers insurance rate. In addition, most homebuyers have accepted wood-frame in the GTA, but there have been rare occurrences where buyers have found out about the wood material and pull out from the deal.

### **Demographics and Market**

Demographics play a huge role in the market demand for mid-rise buildings. Similar to the background information conducted for this research study, development consultants and city staff confirmed that the units are primarily being marketed and sold to first time home buyers, empty nesters, and young families. Many young families want to move to Markham, but cannot afford townhomes or single dwellings and are willing to settle for a mid or high-rise built form. The city staff also resonated the same concerns and observed the rapid increase and market acceptance of families living in mid or high-rise buildings. Mid-rises have also been targeted towards senior housing because of the reduced parking space, possibility of reduced DC's and are located within walking distance of many amenities.

The interviews with city staff and the development consultants showcased two different views towards 'good' planning and market demand. Municipal planners are often confronted by a market reality, and must implement goals for the long-term sustainability of the city. Whereas, the development consultant must propose a good planning rationale within the current policy framework and also acknowledge the changing market demand. These two forces are constantly battling and trying to achieve 'good planning' in a world that is confronted by ideals and reality.



Figure 6: Before –An eight-storey mid-rise vision along Highway 7 East. Source: City of Markham. (2014).

From the development perspective, land is developed for the highest return while at the same time responding to the current market demand and conforming to planning legislation. The case study of 4002/4022 Highway 7 East showcases the conflict between planning vision versus market reality. Times Group Inc. submitted a rezoning and official plan amendment to the city of Markham to develop an eight storey mid-rise building with townhouses at the rear of the property (refer to Figure 6). The city staff rejected the application because the 2014 Official Plan allows for a maximum height of 6 stories for a residential mid-rise and the extra height might have troubled the residential neighbours. On August 2013, the OMB permitted Times Group to develop the property with the extra height and density. A year later, Times Group came back to the city requesting instead to develop a 4-storey townhouse. City staff rejected the amended proposal because it is a response to the short-term market demand, and does not address the long-term planning vision. From a developer perspective, there is an increased risk in continuing to build mid-rise because the market may not be there. In addition, the high-rise development

across from this case study was not selling units as quickly as anticipated and sitting vacant for a longer period of time.



Figure 7: After – A four-storey low-rise vision along Highway 7 East. Source: City of Markham. (2014).

City council ultimately approved the application, because it received a supportive response from the community. York Region, however, argued that it does not support downzoning because higher density development is required to recognize the benefits of invested rapid transit and other infrastructure. Another challenge with the proposal from a regional and local planning perspective is the loss of development charges due to the reduced density and difficulty to meet the Region's required intensification targets. In addition, City staff recommended for this proposal not to be approved because it would set a precedent for the upcoming developments nearby. Once a development has built a lower density, the future residential intensification opportunity is lost.

### **Mixed-Use Mid-Rise**

The concept of mixing uses such as commercial ground floor with residential units above can provide a positive benefit to the community, but may also not be viable everywhere, especially in the suburbs. The commercial space mandated from the city is unrealistic from the development consultant's point of view. Instead, they recommend implementing an interim live/work strategy and when the market

demand exists in the future, the owners could convert those spaces into commercial units. However, city staff does not prefer this alternative because condominium tenure contains clauses that make this conversion difficult. The city's vision is to have these commercial units from the beginning, or they may never be converted in the future. City staff recommended that having a leasehold tenure instead might attract more potential buyers willing to open a business.

Increasing competition from commercial plazas that are able to offer lower rents, impacts the viability of the commercial spaces located on a mid-rise building. In addition to the lower rents, commercial plazas offer more parking and are located in strategic locations. The development consultant suggested that more population is needed to make commercial stores feasible, at a certain threshold it only attracts dry cleaners or convenience stores. A high-rise development is able to develop a mix-use concept because it can absorb the costs associated to vacancy, whereas a mid-rise development might run into cost overruns. Both city staff and development consultants agreed that bringing the commercial component to a mixed-use development is challenging. City staff believed that incentives would not be enough for a developer to take on a mixed-use mid-rise development due to the associated external market factors. However, development consultants recommended breaks on commercial development charges or a possibly developing a comprehensive commercial study to determine the best locations for commercial space.

## CONCLUSION

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Mid-rise buildings represent a practical solution to intensification strategies, and changing consumer patterns, which reflects a demand from planning for more human scale development. Despite the social, environmental and economic benefits, financial incentives to encourage mid-rise have been slow to come. Bureaucratic, municipal regulation, and planning obstacles are still pushing developers to pursue as much density as they can get on a given site, even if it is appropriate to mid-rise development. Although this research study strictly focuses on the city of Markham, the findings revealed a broader implication to the surrounding municipalities and the GTHA. The obstacles and opportunities of mid-rise development in the city Markham are explored through three main focuses: exploring the obstacles to mid-rise development from the perspective of the development consultants and local planning staff, an analysis of the comparative hypothetical pro-forma scenario, and through the potential direct incentives to spur mid-rise development.

The results of the study support the obstacles to mid-rise identified in the literature, and also fill the gaps left by reports by providing a comparative hypothetical pro-forma, which showcases the costs and risks associated to developing mid-rise. Many of the municipal, market and external obstacles that are prevalent in Toronto, were also widespread in Markham as discussed by planning staff and development consultants. In the case of Markham, the cost of land, parking, municipal regulation and the mixed-use component continue to discourage developers from pursuing mid-rise projects. The interview findings revealed that in a suburban context, developers would prefer to build townhomes because it could

be sold, constructed and approved faster than a mid-rise or high-rise development. In addition, the comparative hypothetical pro-forma showcased the higher returns earned from a townhouse scenario over a mid-rise scenario. The results from the quantitative pro-forma scenarios support the literature and interview findings, which suggest that direct financial incentives are needed to encourage mid-rise development. As mid-rise buildings do not possess the economy of scale that high-rise buildings receive, municipal regulations must consider laxer regulations to stimulate their construction. The comparative pro-forma analysis determined a few potential financial incentives that could alleviate the costs and risks associated to developing mid-rise. The three most potential direct incentives that have the greatest impact on the returns are wood-frame material, deferral of municipal development charges and no planning application fees. Although this research did not explore the financial impact of CIP's, expedited approval process or interest free loans these tools could also impact the feasibility of a mid-rise development. Municipalities must work in partnership with developers to identify obstacles and possible solutions to bringing mid-rise development to life.

The interview findings shed light into the on-going obstacles that developers face in developing mid-rise, and also what may be needed in order to unlock this potential. A lesson from this research paper that can serve municipalities is the opportunity to create a flexible definition of 'mid-rise' in the official plan that is not too stringent, but reflective of a market reality. Municipal regulations could also account for the current obstacles to mid-rise development by implementing fast-track approval, direct financial incentives or minor changes to the regulation. The

analysis in this research paper, which further breaks down the cost of the three scenarios (Table 2) showcases that although mid-rise development is able to generate a higher revenue per square feet from the sale of the units, the cost associated are higher in comparison to a townhouse or high-rise scenario. A mid-rise development does not sell as many units as a high-rise, but must pay proximately the same cost per square feet. In contrast, townhouses are able to offset the costs due to the premium price it sells each unit. In addition, although the high-rise scenario pays more than double for parkland dedication, the double amount of units from the extra density is able to absorb those cost.

The goal of the research study has been to better understand the obstacles to mid-rise development in the city of Markham, and also determine the practical solutions that could be implemented to encourage mid-rise development. The potential direct incentives recommended in this research study are one way to alleviate the costs and risks associated to developing mid-rise. However, direct financial incentives cannot work alone; it needs the involvement of the regional government through indirect civic investments such as rapid transit improvements, public spaces or parks. The toolkit presented in this research can incentivize mid-rise development throughout the GTHA and should be implemented by a site-specific basis. Together, they can be used to stimulate mid-rise development, but also to improve the involvement of the private sector in the provision of affordable housing, and sustainable initiatives.

## APPENDIX A: Interview Questions for Local Planning Staff

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1. In your experience in the City of Markham, what have been some of the biggest obstacles to mid-rise development?
2. Are there any specific policies or financial regulations such as development charges acting as an obstacle to mid-rise development?
3. What role does pre-zoning or pre-approval play in mid-rise development?
4. Do you think there is a demand for mid-rise development? Or is the market shifting to another type of housing?
5. What do you hear from developers some of the difficulties of building mid-rise?
6. Why would a developer build mid-rise in Markham? Are there any special policies in place?
  - a. A 2010 study by the Peel Region, suggested that financial incentives such as abatement of D/C's might be necessary to encourage mid-rise development. Has the city of Markham consider such financial incentives?
  - b. Recent changes to the Ontario Building Code allows for wood-frame construction for buildings up to 6 storeys. Do you think this has encouraged more mid-rise? What are some of the challenges that you hear from developers?
7. What role does the city want to see for mid-rise development?

## **APPENDIX B: Interview Questions for Development Consultants**

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1. In your experience in the City of Markham, what have been some of the biggest obstacles to mid-rise development?
2. Are there any specific policies or financial regulations such as development charges acting as a barrier to mid-rise development? Should parking standards or parkland dedication be changed to spur mid-rise development or are they considered fair in the City of Markham?
3. Does pre-zoning and pre-approval help mid-rise development?
4. How does demographics play a role in mid-rise development? Do you think there is a market for mid-rise development in the City of Markham?
5. What factors would attract a development firm to consider mid-rise in the City of Markham?
6. Recent changes to the Ontario Building Code allows for wood-frame construction for buildings up to 6 storeys. How has this change encouraged mid-rise development? Are there any challenges? Does concrete & wood sell for the same?
7. What do you think municipalities can do to encourage more mid-rise or is it simply a question of market forces and potential profits?
8. In your experience, what are some of the challenges with mixed-use mid-rise buildings?

## APPENDIX C: City of Toronto Pro-forma (Mid-Rise vs. High-Rise)

### Mid-Rise Economics, Proforma Analysis

	Mid Rise	High Rise
<b>Residential Unit &amp; Area Statistics</b>		
Number of Floors	8	25
Number of Units	75	300
Average Net Unit Size (SF)	850	725
Gross to Net Efficiency (GNE, %)	85%	88%
Average Gross Unit Size (SF)	1,000	824
Total Residential Saleable Area (SF)	63,750	217,500
Gross Residential Area (GRA, SF)	75,000	247,159
Estimated Floor Plate	9,375	9,886
GRA (square meters)	6,968	22,962
Retail Area (SF)	4,688	4,943
Gross Livable Area = GRA + retail (GLA, SF)	79,688	252,102
Required Parking Stalls (per residential unit)	0.81	0.81
Resident Parking Stalls Constructed	60.75	243
Number of Visitor Parking Stalls	4.5	18
Required Retail Parking	5	5
Number of Parking Stalls Sold	56.25	225
Estimated Area per Stall (SF)	400	400
REQUIRED Total Parking Area - Below Grade (SF)	26,175	99,177
<b>Revenues</b>		
Residential Index Price (PSF)	\$300	\$300
End Price (per residential unit)	\$255,000	\$217,500
Parking Revenue (per stall)	\$20,000	\$20,000
Retail Index Price (\$20 PSF @ 8% Cap rate)	\$250	\$250
<b>Costs</b>		
<b>Hard (Construction) Costs</b>		
Above Grade GRA Construction Cost (PSF)	\$140.00	\$130.00
Above Grade Retail Area Construction Cost (PSF)	\$150.00	\$150.00
Below Grade Parking Cost (PSF)	\$45.00	\$60.00
<b>Blended Construction Cost (PSF) of GLA</b>	<b>\$155</b>	<b>\$154</b>
<b>Soft (Development) Costs</b>		
Rule of Thumb Approach, % of total development costs	30%	29%
<b>Developer/Builder Profit</b>		
Profit Margin (% of total revenues)	10.00%	10.00%
<b>PROJECTED REVENUES</b>		
Revenues from Sale of Units	\$19,125,000	\$65,250,000
Revenues from Sale of Parking	\$1,125,000	\$4,500,000
Revenues from Sale of Retail Area	\$1,171,875	\$1,235,795
<b>Total Revenues</b>	<b>\$21,421,875</b>	<b>\$70,985,795</b>
<b>PROJECTED COSTS</b>		
Land Cost - RLV to be determined		
Above & Below Grade Hard Construction	\$12,381,000	\$38,822,795
Soft (Development) Costs	\$5,306,143	\$15,857,198
<b>Total Costs</b>	<b>\$17,687,143</b>	<b>\$54,679,994</b>
Total Costs PSF GLA	\$222	\$217
<b>Total Residual Land Value and Profit</b>		
<b>Total Profit</b>	<b>\$2,142,188</b>	<b>\$7,098,580</b>
<b>Total Residual Land Value (future\$)</b>	<b>\$1,592,545</b>	<b>\$9,207,222</b>
RLV Per Residential Unit	\$21,234	\$30,691
RLV PSF of GLA	\$20	\$37
<b>Total Residual Land Value (present\$)</b>	<b>\$1,316,153</b>	<b>\$5,995,999</b>
RLV Per Residential Unit	\$17,549	\$19,987
RLV PSF of GLA	\$17	\$24

Prepared by Adrian Kozak, Barry Lyon Consultants, for Mid-rise Symposium, November 2005

## APPENDIX D: Hypothetical Pro-Forma Development Scenarios

### MID-RISE RESIDENTIAL (MUNICIPAL)

#### PROJECT ASSUMPTIONS

Lot Size	112,640	sqft
Building Footprint	40,079	sqft
Residential Floor Count	6	
Gross Square Footage	240,474	sqft
FSI	2	
Residential Efficiency Rate	85%	
Residential Net Square Footage	204,403	sqft

#### CONSTRUCTION COST

Land Cost (per sqft)	\$71	\$8,000,000
Hard Cost *Includes parking cost	\$200	\$65,724,014
Soft Cost	30%	\$19,717,204
Construction Cost before Interest		\$93,441,218

#### Construction Loan

Loan		\$93,441,218
Loan to Value (LTV)	75%	\$70,080,913.75
Equity		\$23,360,304.58
Construction Period (years)	2	
Draw (Months)	24	\$2,920,038
Construction Interest (Prime + 4%)	6.70%	\$5,107,011
Total Construction Cost with interest		\$98,548,230

#### UNIT CHARACTERISTICS

Unit Type	Range (per sqft)	Building Distribution	Total RSF	No. of Units
1 Bedroom	550 - 700	40%	81,761	126
1.5 Bedroom	650 - 850	50%	102,201	128
2 Bedroom	950 - 1150	30%	61,321	56
Total unit count				309

Unit Sale	Average Price per unit	Total
1 Bedroom	\$320,000	\$40,251,648
1.5 Bedroom	\$350,000	\$44,713,134
2 Bedroom	\$420,000	\$23,413,423

#### PARKING CHARACTERISTICS

Parking Ratio Requirement (per unit)	1.5	464
Estimated Area per stall (per sqft)	380	176,292.141
Parking Construction Hard Cost	\$100	\$17,629,214
Parking Construction Soft Cost	30%	\$5,288,764
Parking Revenue	\$52,000	\$24,124,188

## OVERALL PROJECT COST

Land Cost	\$8,000,000	
Hard Cost	\$48,094,800	
Parking Hard Cost	\$17,629,214	
Parking Soft Cost	\$5,288,764	
Soft Cost	\$14,428,440	\$ 85,441,218
<b>Development Charges</b>		
1 Bedroom	\$32,555	\$4,094,976
1.5 Bedroom	\$44,547	\$5,690,960
2 Bedroom	\$44,547	\$2,483,328
Parkland Dedication	71%	\$5,680,000
Municipal Fees/Application	3%	\$1,971,720
Contingency Fee	5%	\$3,286,201

## PROJECT OVERVIEW

Revenue		Cost per square foot
Residential	\$108,378,205	\$530
Parking	\$24,124,188	\$118
<b>Total Revenue</b>	<b>\$132,502,393</b>	<b>\$648 p.s.f.</b>
		:
Cost		
Land Value	\$8,000,000	\$39
Construction (including parking)	\$98,548,230	\$482
Development Charges	\$12,269,264	\$60
Municipal Fees	\$1,971,720	\$10
Contingency	\$3,286,201	\$16
Parkland Dedication	\$5,680,000	\$28
<b>Total Cost</b>	<b>\$129,755,415</b>	<b>\$635 p.s.f.</b>
		:
<b>Total Profit</b>	<b>\$2,746,978</b>	:

## RETURN ON EQUITY

Total Cost of Construction	\$129,755,415
Loan to Value	0.75
Loan Amount	\$97,316,561.3
Equity	\$32,438,854
Interest Rate (prime + 2%)	4.70%
Term	25
Loan Payment (Annual)	-\$6,698,707.24
Before Tax Cash Flow	-\$3,951,729
<b>ROE (%)</b>	<b>-12.18%</b>

## TOWNHOUSE RESIDENTIAL (MARKET)

### PROJECT ASSUMPTIONS

Lot Size	112,640	sqft
Building Footprint	40,079	sqft
Residential Floor Count	3	
Gross Square Footage	120237	sqft
FSI	1.06	
Residential Efficiency Rate	85%	
Residential Net Square Footage	102201	

### CONSTRUCTION COST

Land Cost (per sqft)	\$71	\$8,000,000
Hard Cost	\$90	\$10,821,330
Soft Cost	30%	\$3,246,399
Construction Cost before Interest		\$22,067,729

#### Construction Loan

Loan		\$22,067,729
Loan to Value (LTV)	75%	\$16,550,796.75
Equity		\$5,516,932.25
Construction Period (years)	1	
Draw (Months)	12	\$1,838,977
Construction Interest (Prime + 4%)	6.70%	\$817,502
Total Construction Cost with interest		\$22,885,231

\*Includes parking cost (see below)

### UNIT CHARACTERISTICS

Unit Type	Range (per sqft)	Building Distribution	Total RSF	No. of Units
3 Bedroom	800 - 1000	20%	20440	14
4 Bedroom	900 - 1400	40%	40,881	20
Corner Unit	1200 - 1400	40%	40,881	16
Total unit count				50

Unit Sale	Average Price per unit	Total
3 Bedroom	\$750,000	\$10,220,145
4 Bedroom	\$800,000	\$16,352,232
Corner	\$850,000	\$13,899,397


### PARKING CHARACTERISTICS

Parking Ratio Requirement (per unit)	2	101
Estimated Area per stall (per sqft)	380	38319
Parking Construction Hard Cost	\$10	\$383,187
Parking Construction Soft Cost	30%	\$114,956

**OVERALL PROJECT COST**

Land Cost	\$8,000,000	
Hard Cost	\$10,438,143	
Parking Hard Cost	\$383,187	
Parking Soft Cost	\$114,956	
Soft Cost	\$3,131,443	\$ 14,067,729
<b>Development Charges</b>		
1 Bedroom	\$57,841	\$788,191
1.5 Bedroom	\$57,841	\$1,182,287
2 Bedroom	\$57,841	\$945,829
Parkland Dedication	16%	\$1,280,000
Municipal Fees/Application	3%	\$324,640
Contingency Fee	5%	\$541,067

**PROJECT OVERVIEW**

<b>Revenue</b>		Cost per square foot
Residential	\$40,471,774	\$396
<b>Total Revenue</b> 	<b>\$40,471,774</b>	<b>\$396 p.sf.</b>
<b>Cost</b>		
Land Value	\$8,000,000	\$78
Construction (including parking)	\$22,885,231	\$224
Development Charges	\$2,916,307	\$29
Municipal Fees	\$324,640	\$3
Contingency	\$541,067	\$5
Parkland Dedication	\$1,280,000	\$13
<b>Total Cost</b>	<b>\$35,947,244</b>	<b>\$352 p.sf.</b>
<b>Total Profit</b>	<b>\$4,524,530</b>	

**RETURN ON EQUITY**

Total Cost of Construction	\$35,947,244
Loan to Value	0.75
Loan Amount	\$26,960,433.3
Equity	\$8,986,811
Interest Rate (prime + 2%)	4.70%
Term	25
Loan Payment (Annual)	<b>-\$1,855,799.75</b>
Before Tax Cash Flow	\$2,668,730
<b>ROE (%)</b>	<b>29.70%</b>

## HIGH-RISE (MARKET)

### PROJECT ASSUMPTIONS

Lot Size	112,640	sqft
Building Footprint	40,079	sqft
Residential Floor Count	12	
Gross Square Footage	480,948	sqft
FSI	4.3	
Residential Efficiency Rate	85%	
Residential Net Square Footage	408,806	sqft

### CONSTRUCTION COST

Land Cost (per sqft)	\$71	\$8,000,000
Hard Cost	\$190	\$129,037,704
Soft Cost	30%	\$38,711,311
Construction Cost before Interest		\$175,749,016

#### Construction Loan

Loan		\$175,749,016
Loan to Value (LTV)	75%	\$131,811,761.67
Equity		\$43,937,253.89
Construction Period (years)	2	
Draw (Months)	24	\$7,322,876
Construction Interest (Prime + 4%)	6.70%	\$12,807,370
Total Construction Cost with interest		\$188,556,386

\*Includes parking cost (see below)

### UNIT CHARACTERISTICS

Unit Type	Range (per sqft)	Building Distribution	Total RSF	No. of Units
1 Bedroom	550 - 700	40%	163,522	234
1.5 Bedroom	650 - 850	50%	204,403	256
2 Bedroom	950 - 1150	30%	122,642	111
Total unit count				601

Unit Sale	Average Price per unit	Total
1 Bedroom	\$320,000	\$74,753,061
1.5 Bedroom	\$350,000	\$89,426,269
2 Bedroom	\$420,000	\$46,826,846

### PARKING CHARACTERISTICS

Parking Ratio Requirement (per unit)	1.5	901
Estimated Area per stall (per sqft)	380	342,342
Parking Construction Hard Cost	\$110	\$37,657,584
Parking Construction Soft Cost	30%	\$11,297,275
Parking Revenue	\$54,000	\$48,648,554

**OVERALL PROJECT COST**

Land Cost	\$8,000,000	
Hard Cost	\$91,380,120	
Parking Hard Cost	\$37,657,584	
Parking Soft Cost	\$11,297,275	
Soft Cost	\$27,414,036	\$ 167,749,016
<b>Development Charges</b>		
1 Bedroom	\$32,555	\$7,604,956
1.5 Bedroom	\$44,547	\$11,381,920
2 Bedroom	\$44,547	\$4,966,656
Parkland Dedication	140%	\$11,200,000
Municipal Fees/Application	3%	\$3,871,131
Contingency Fee	5%	\$6,451,885

**PROJECT OVERVIEW**

<b>Revenue</b>		Cost per square foot
Residential	\$211,006,176	\$516
Parking	\$48,648,554	\$119
<b>Total Revenue</b>	<b>\$259,654,729</b>	<b>\$635 p.sf.</b>

<b>Cost</b>		
Land Value	\$8,000,000	\$20
Construction (including parking)	\$188,556,386	\$461
Development Charges	\$23,953,532	\$59
Municipal Fees	\$3,871,131	\$9
Contingency	\$6,451,885	\$16
Parkland Dedication	\$11,200,000	\$27
<b>Total Cost</b>	<b>\$242,032,934</b>	<b>\$592 p.sf.</b>

<b>Total Profit</b>	<b>\$17,621,795</b>
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**RETURN ON EQUITY**

Total Cost of Construction	\$242,032,934
Loan to Value	0.75
Loan Amount	\$181,524,700.6
Equity	\$60,508,234
Interest Rate (prime + 2%)	4.70%
Term	25
Loan Payment (Annual)	<b>-\$12,495,106.78</b>
Before Tax Cash Flow	\$5,126,688
<b>ROE (%)</b>	<b>8.47%</b>

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