

Toronto, Ontario

Affordability and Resilience: The Challenge of Tower Renewal in Private Rental Apartment Buildings

A ULI Advisory Services Panel Report

February 23–28, 2020



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About the Urban Land Institute

THE URBAN LAND INSTITUTE is a global, member-driven organization comprising more than 45,000 real estate and urban development professionals dedicated to advancing the Institute's mission of providing leadership in the responsible use of land and in creating and sustaining thriving communities worldwide.

ULI's interdisciplinary membership represents all aspects of the industry, including developers, property owners, investors, architects, urban planners, public officials, real estate brokers, appraisers, attorneys, engineers, financiers, and academics. Established in 1936, the Institute has a presence in the Americas, Europe, and the Asia Pacific region, with members in 81 countries.

ULI's extraordinary impact on land use decision making is based on its members' sharing expertise on a variety of factors

affecting the built environment, including urbanization, demographic and population changes, new economic drivers, technology advancements, and environmental concerns.

Peer-to-peer learning is achieved through the knowledge shared by members at thousands of convenings each year that reinforce ULI's position as a global authority on land use and real estate. In 2019 alone, more than 2,400 events were held in about 330 cities around the world.

Drawing on the work of its members, the Institute recognizes and shares best practices in urban design and development for the benefit of communities around the globe.

More information is available at uli.org. Follow ULI on Twitter, Facebook, LinkedIn, and Instagram.

About the ULI Center for Sustainability and Economic Performance

THE ULI CENTER FOR SUSTAINABILITY AND ECONOMIC PERFORMANCE is dedicated to creating healthy, resilient, and high-performance communities around the world. Through the work of its Greenprint, Building Healthy Places, and Urban Resilience programs, the Center

provides leadership and support to real estate and land use professionals to invest in energy-efficient, healthy, resilient, and sustainable buildings and communities. More information is available at uli.org/sustainability.

The ULI Foundation Governors Advisory Services Fund

THIS PANEL WAS MADE POSSIBLE IN PART by the ULI Foundation Governors Advisory Services Fund, which was established to financially support immediate and short-term needs presented by panel assignments and to supply ULI governors to serve as volunteer panel members.

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About ULI Advisory Services

THE GOAL OF THE ULI ADVISORY SERVICES program is to bring the finest expertise in the real estate field to bear on complex land use planning and development projects, programs, and policies.

Since 1947, this program has assembled well over 700 ULI-member teams to help sponsors find creative, practical solutions for issues such as downtown redevelopment, land management strategies, evaluation of development potential, growth management, community revitalization, brownfield redevelopment, military base reuse, provision of low-cost and affordable housing, and asset management strategies, among other matters. A wide variety of public, private, and nonprofit organizations have contracted for ULI's advisory services.

Each panel team is composed of highly qualified professionals who volunteer their time to ULI. They are chosen for their knowledge of the panel topic and screened to ensure their objectivity. ULI's interdisciplinary panel teams provide a holistic look at development problems. A respected ULI member who has previous panel experience chairs each panel.

The agenda for a five-day panel assignment is intensive. It includes an in-depth briefing day composed of a tour of the site and meetings with sponsor representatives; a day of hour-long interviews of typically 50 to 100 key community representatives; and two days of formulating recommendations. Long nights of discussion precede the panel's conclusions. On the final day on site, the panel makes an oral presentation of its findings and conclusions to the sponsor. A written report is prepared and published.

Because the sponsoring entities are responsible for significant preparation before the panel's visit, including sending extensive briefing materials to each member and arranging for the panel to meet with key local community members and stakeholders in the project under consideration, participants in ULI's five-day panel assignments are able to make accurate assessments of a sponsor's issues to provide recommendations in a compressed amount of time.

A major strength of the program is ULI's unique ability to draw on the knowledge and expertise of its members, including land developers and owners, public officials, academics, representatives of financial institutions, and others. In fulfillment of the mission of the Urban Land

Institute, this Advisory Services panel report is intended to provide objective advice that will promote the responsible use of land to enhance the environment.

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Acknowledgments

On behalf of the Urban Land Institute, the panel would like to thank its hosts: the city of Toronto, the Tower Renewal Partnership, and ULI Toronto. A special thank-you goes to Amy Buitenhuis, Aderonke Akande, Graeme Stewart, Sudipta Saha, and Alyssa Atef and other city of Toronto, Tower Renewal Partnership, and ERA Architects staff for their support of the panel and coordinating the briefing materials, tour, interview invitations, and other last-minute details. The panel would like to thank the University of Toronto School of Cities for supporting this panel. The panel would also like to thank our colleagues at ULI Toronto, especially Richard Joy and Alexandra Rybak. This panel would not have been possible without them.

The panel would also like to thank the ULI Foundation, which provided significant financial support for this panel.

In addition, the panel would like to thank the more than 50 residents, business and community leaders, and representatives from across the Toronto area who shared their perspectives, experiences, and insights with the panel over the week.

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Message from the Panel Chair

AFTER THE PANEL TOOK PLACE IN LATE FEBRUARY 2020, each panelist traveled back to his or her home and watched the COVID-19 pandemic unfold. While COVID-19 was not a part of the panel's scope, the scale, speed, and fallout of this new reality underscore the importance of considering the fragile interconnectedness of systems.

The panel's task, and subsequent recommendations, helped illuminate the reality that there are no isolated issues in large cities. Housing, affordability, market forces, dignified living, and the local economy are all interconnected. While the market in which the panelists made their original recommendations has changed, the panel's recommendations are all the more important because of COVID-19 and a heightened global focus on racial and social injustice. Residents of Toronto's towers make up a large portion of the city's frontline workers, and include large communities of Black, Indigenous/First Nations, and other people of color. Many residents of Toronto's towers have been disproportionately affected by the pandemic. Consequently, driving investment in safe, sustainable, resilient, and affordable housing for all Toronto citizens will be a necessary part of the city's recovery—not only from a housing perspective, but also from a perspective of public health and overall resilience.

Jim Heid

Founder, Urban Green LLC, and Panel Chair
Healdsburg, California



MONIKA HENNIGLI



Background and the Panel's Assignment

Aging, purpose-built rental apartment buildings are the backbone of the rental stock in Canada and are home to hundreds of thousands of households with modest and low incomes. Many are “tower-in-the-park” types of buildings with a concrete frame surrounded by significant open space and are generally exclusively residential.

Today, over 500,000 Toronto residents live in 1,189 towers that comprise eight or more floors and were erected before 1985: 801 are purpose-built rentals and the rest are condominiums. The majority (85 percent) of these buildings are privately owned. Due to a lack of investment, many of these provide rental rates lower than those provided by newer rental buildings, creating a “de facto” affordable housing option for Torontonians. As such, the towers have become a crucial component of Toronto’s housing stock, providing housing for one in three low-income families.

These buildings face multiple challenges—high greenhouse gas emission footprints, low resilience, susceptibility to catastrophic system failures, poor housing quality, and an

increasing concentration of “vertical poverty,” which results in high social needs.

As this stock of housing ages, some of the oldest towers are at considerable risk of failure if core systems go offline. For example, at 650 Parliament in Toronto, aging infrastructure led to a building fire and the full-building displacement of residents for an extended period.

With a citywide vacancy rate of less than 1 percent, there is limited availability in the housing system and no contingency for widespread high-rise building failures.

The timing of the ULI Advisory Services panel was opportune. After a decade of work on the topic and the recent tower failure at 650 Parliament that displaced more than 1,500 residents for over a year, renewed public attention and strong public policy initiatives are underway.

The Panel's Assignment

The following section outlines the background and scope of work provided by the city of Toronto and Tower Renewal Partnership.

Background

- Aging, purpose-built rental apartment buildings are the backbone of the rental stock in Canada, and are home to hundreds of thousands of households with modest and low incomes. The majority of these buildings are privately owned.
- In Toronto, over 500,000 residents live in about 1,000 towers that are eight or more stories and built before 1985:
 - » 85 percent of buildings are privately owned.
 - » One in three low-income families live in apartment towers.
- These buildings are now over 35 years old and require investment to continue to be safe, comfortable, and healthy places to live for another 50 years. Many have not updated heating systems and windows and are inefficient and susceptible to failure. Many do not have backup power to allow residents to shelter in place, meaning key systems like heating, water, elevators, and lighting may not work in a power failure. Almost all (94 percent) do not have central air conditioning and indoor temperatures often reach unhealthy levels during the summer. Toronto's Resilience Strategy identified these buildings as the single most urgent priority for the city's resilience.
- There is enormous opportunity to invest in these buildings through deep retrofits to achieve a number of goals:
 - » Improve the livability for their 500,000-plus residents;
 - » Decrease greenhouse gas emissions by 50 percent or more;
 - » Improve resilience to risks such as power failures, heatwaves, and extreme cold;
- Improve indoor air quality, including reducing high indoor temperatures in summer;
- Improve solid waste management by 25 percent or more;
- Reduce water consumption by 15 percent or more; and
- Create local jobs through investment into mostly low-income neighborhoods.
- There has been a decade of work in Toronto from the city and private and nonprofit organizations to drive investment in these buildings.
- Social housing providers, including Toronto Community Housing (the city's social housing provider), are now making investments in apartment buildings with funding from provincial and federal governments. There are many lessons to be learned from these projects.
- However, there have been few examples of deep retrofits in the private housing stock. Financial modeling completed to date indicates that deep retrofits without a broader business case simply are not economic for private building owners under current conditions.
- There are two competing public policy goals at play with tower retrofits:
 - » Preserve and expand affordable housing; and
 - » Improve housing stock to ensure that it is high quality and resilient, and that greenhouse gas emissions are minimized.
- Innovative solutions are required to maintain affordable rents in these buildings (including by not increasing rents beyond the Ontario guidelines) while unlocking capital improvements to meet the goals described in this brief.
- If deep retrofits are possible in ways that are cash-positive with a strong return on investment (ROI), these buildings could be one of the last untapped real estate opportunities in one of the toughest markets in the Americas.
- If Toronto can identify a way to drive retrofits for these towers while preserving affordability, it can be a model for Canada—developing strategies to finance and complete energy efficiency retrofits in ways that provide value for investors and the communities in which they operate.

Proposed Questions

1. How can the public and private sectors work together to unlock this market, and drive retrofits of Toronto's towers while maintaining existing rents?
2. What financing strategies could accelerate investment in deep retrofits for these buildings? Do current financing tools work, or would the public and private sectors need to develop new tools to unlock capital for these buildings? How do you build the business case for these retrofits while maintaining current rents?
3. What "carrots and sticks" have been effective in other jurisdictions to motivate retrofits while preserving rents in similar buildings?
4. Significant work on this problem has occurred in Toronto over the last decade. What are the next steps and priorities for the private and public sectors to address this problem?

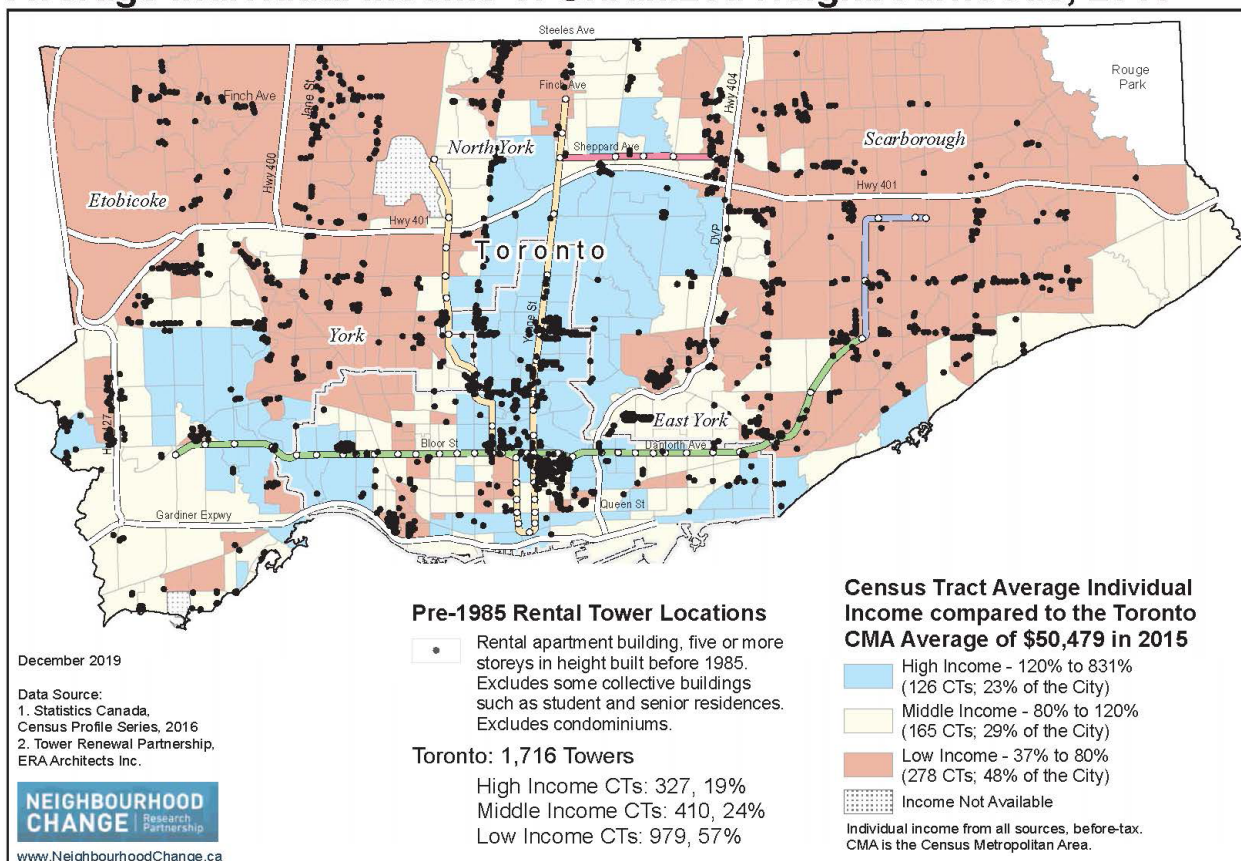
The Panel's Scope

The panel would focus on representative tower clusters in the Greater Toronto Area (GTA). Based on analysis of the challenges facing renovation and redevelopment of these sites, the panel would look to develop recommendations that could be applied more broadly to Toronto's older tower building stock.

About the Towers

Toronto's rental towers are not limited to one neighborhood but are dispersed around the region from downtown to outer exurban edges. However, they are clustered together by design, with 89 percent of towers found in clusters of two or more and 62 percent found in clusters of five or more. Even within clusters, however, individual towers are often owned by separate entities. Built in the modernist era, the clusters were designed for a car-centric lifestyle; however, today's residents are more likely to depend on transit, walking, or cycling to get around.

Pre-1985 Rental Highrise Apartment Buildings, City of Toronto and Average Individual Income of Urbanized Neighbourhoods, 2015



Map of pre-1985 rental high-rise apartment buildings, city of Toronto, and average individual income of urbanized neighborhoods.

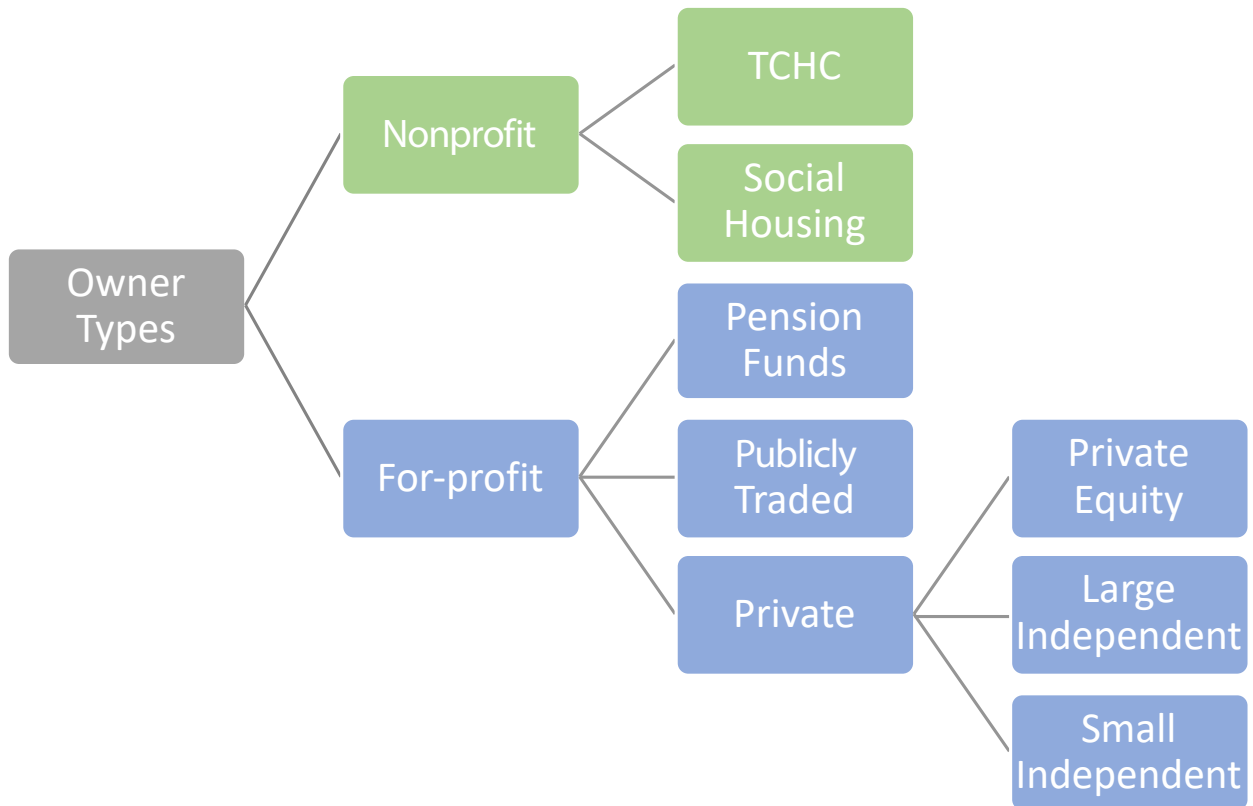
Legacy zoning bylaws initially prevented new uses from the existing neighborhood and led to single-use zoning and limited amenities. In 2016, Residential Apartment Commercial (RAC) was approved, allowing for cafés, small businesses, shops, classes, or community services at 373 tower sites.

Population

Within the 828 private rental towers, there are 153,329 units. These units house an estimated 13 percent of Toronto’s population. Also, household density is increasing, with the percentage of tower units comprising more than one person per room rising from 8 percent in 1981 to 17 percent in 2006. Due to the larger size of most units (i.e., three to four bedrooms), this leads to household or unit population exceeding the capacity for which many of these complexes were designed. In several instances, the panel saw examples where the entire neighborhood housed twice as many individuals as the original design program had intended.

Ownership

The majority of rental towers are privately owned, with nonprofit housing providers including Toronto Community Housing Corporation (TCHC), the city’s public housing agency, and other social housing providers owning the rest (212). Private, for-profit owners can fall into different categories: small private owners, mid-sized private owners, large private investment fund owners (e.g., pension funds or insurance companies), and large publicly traded owners (e.g., real estate investment trusts [REITs]). Larger institutional owners have access to lower-cost capital, and due to the emerging environmental, social, and governance (ESG) goals of many of these companies, they may be more motivated to undertake retrofits and renewal. Smaller, independent owners—estimated to own 20 to 30 percent of all towers—lack access to both capital and technical expertise for the same projects and are less motivated to undertake improvements with long payback periods.



Breakdown of apartment tower ownership.

Tower Renewal in Toronto

For more than a decade, tower renewal has been identified as a critical problem facing Toronto. The city government began addressing this in a targeted way under Mayor David Miller with the start of the Tower Renewal Program.

Now, the city's Tower and Neighborhood Revitalization Unit works to improve Toronto's aging towers and the neighborhoods around them. These activities include delivery of a high-rise retrofit financing program (Hi-RIS), providing guidance on site improvements, implementing the new Residential Apartment Commercial zoning, and supporting tower community initiatives.

Nonprofit research groups like the Centre for Urban Growth and Renewal (CUG+R), United Way, as well as different levels of government institutions and private-sector stakeholders have also come together through the Tower Renewal Partnership to assess needs, implement projects, and provide financial and technical analysis to help guide solutions.

Considerable opportunity exists to invest in these buildings and achieve multiple goals, including improving tenant livability, decreasing greenhouse gas emissions, improving building and community resilience, and increasing workforce development in low-income areas. City, provincial, and federal programs have led to significant investment in the tower stock, mostly in the not-for-profit and public sectors, representing several dozens of projects in the region. This has included projects such as the Passive House tower retrofits at 500 MacNab in Hamilton, several deep energy retrofits within the TCHC portfolio, and others in the planning stage for various private not-for-profit organizations throughout the city.

TCHC has secured a landmark \$1.34 billion to engage in asset renewal and deep energy retrofits through the National Housing Strategy. As a result of this work, the retrofit industry is developing the capacity for more wide-scale activity. In parallel, a small number of private owners have engaged in deep retrofits; however, wide market uptake has yet to occur.

Key Recommendations and Takeaways

Early observations from the panelists highlighted the extreme stress in the local housing system, with limited new rental supply being built and the failure of 650 Parliament as a “canary

in the coal mine” moment. With this in mind, the panel made the following recommendations for how to renew the towers for safety, comfort, sustainability, and resilience while maintaining affordability:

- **Own the issue:** The city's leadership on tower renewal must be aligned and focused and have authority. Since its inception, the Tower Renewal Program has been located within various offices within city government: the mayor's office, the city manager's office, and now social development, finance, and administration. Because tower renewal requires collaboration and execution from so many different city agencies, and its failure or success will affect so many sectors of the city, the panel recommended that the Tower Renewal Program be elevated to reside in the city manager's office with a clear point person empowered to execute the program.
- **Develop Toronto's long-term housing strategy:** The panel strongly affirmed that the towers must not be Toronto's de facto affordable housing strategy. As part of a comprehensive plan, the panel emphasized the importance of removing barriers to new rental apartment development and construction by making the approval process faster and more predictable and encouraging the development of mid-rise buildings focused on a more midmarket demographic. Panelists also recommended that the city implement a robust inclusionary housing policy that is tailored to individual neighborhoods and markets, but secures long-term affordability (50-plus years) to increase the stock of affordable housing options and relieve pressure on the towers as the city's low-cost option, as outlined in HousingTO: 2020–2030, the city's 10-year housing plan approved at the end of 2019.
- **Build community resilience:** In order to improve livability and the resilience of the tower community, the panel recognized strong opportunities to capitalize on the spaces in between the towers by animating disused spaces, and updating the “tower in the park” concept to be relevant

to current lifestyle needs and trends. Specifically, the panel recommended the creation of tower enhancement districts (TEDs), a form of building owners association that would connect local stakeholders—building owners, local businesses, residents, and the city—and take the lead in accelerating positive change through public realm improvements, soft programming, small business development, and emergency preparedness. TEDs can also serve as a convener for discussing the value and benefits of new infill development so that when projects go through the approval process, stakeholders are already engaged and developers know what the community wants.

- **Balance priorities and accelerate uptake:** Panelists identified that it was possible for tower renewal to achieve affordability, sustainability, and resilience, but the public and private sectors would have to partner to make it happen. In order to ensure safety and create a path for the future, the panel recommended policies, including owner assurance of building safety, a public energy benchmarking program for transparency and to track progress, and

mandatory audits. The panel also introduced an expanded calculation for how investors should think about their ROI that would include utility savings, reduced maintenance costs, and savings to social costs.

- **Take action now:** Finally, while there are excellent public and nonprofit retrofit case studies, since the largest owner of properties is the private sector, the panel encouraged aggressive goals to create a pilot program for 10 private building owners to build industry capacity and demonstrate what is possible. To catalyze this action, the panel recommended that the city create a competitive grant program for early adopters who commit to high-performance/resilience goals and are willing to share lessons learned, to create a roadmap for how to cost-effectively execute deep retrofits within the private sector.



Tower refurbishment underway in St. James Town.

DEBORAH KERSON BILEK/ULI

Understanding City Politics, Sustainability and Resilience Goals, and Market Challenges

WITH 3 MILLION RESIDENTS, Toronto is the fastest-growing city in North America, welcoming 77,000 new residents in 2019 alone, but with only 7,800 new purpose-built rental units in development. By 2046, the population is projected to reach 4.3 million. Toronto's budget of \$17.32 billion in 2019 makes it the sixth-largest government in Canada and the Toronto region accounts for 18.5 percent of Canada's gross domestic product (GDP). In addition to providing services for residents within city boundaries, Toronto faces regional pressures as the primary provider of public housing in the Greater Toronto Area (90 percent).

Toronto Local Government

The Canadian Constitution gives provinces exclusive control over municipalities and the rules that govern them. Because Toronto derives its powers from the province of Ontario's City of Toronto Act, major policy changes, including new revenue tools, are subject to provincial approval. Even existing structures can be subject to provincial revision, as in 2018, when the Toronto City Council was halved by the province.

The city of Toronto governs through a balance among the City Council, the public service, and the public. The City Council is composed of the elected mayor and 25 councilors elected by their ward. The mayor fulfills a citywide mandate, leading the council in strategic and financial planning and representing the city to other governments. The mayor and councilors each have one vote at council and a majority vote decides most matters.

City Council is directly responsible for oversight of the city's services and indirect oversight for services delivered through its agencies and corporations, such as the Toronto Police Service, the Toronto Transit Commission (TTC), and the Toronto Community Housing Corporation (TCHC).

Toronto City Budgets

The city is required by provincial law to balance its operating and capital budgets each year. Thirty-two percent of the total operating budget (\$13.5 billion in 2019) comes from property taxes. The remainder comes from provincial grants and subsidies, a municipal land transfer tax paid out by the buyer, and user fees. A new 10-year capital budget and plan is presented and approved each year and is funded from reserves, development charges, other levels of government, and debt. For 2019–2028, a \$40.7 billion capital budget and plan was approved, with \$3.8 billion for 2019.

Housing Affordability

“By 2030, everyone in Canada has a home that they can afford and that meets their needs.”

—Evan Siddall, president and CEO, Canada Mortgage and Housing Corporation (November 22, 2019)

Toronto’s population growth has been accompanied by worrying income and affordability trends. Even though Toronto received 77,000 new residents in 2019 alone, only 89,577 residential units were constructed between all of 2014 and 2018. What new private-sector housing has been built is largely high-end residential space due to the costs and risks associated with new housing development in Toronto. In addition to a lack of new supply, there has been a significant loss of rental housing units on the more affordable end of the market due to gentrification and other changes in property use consistent with many other North American cities. In search of affordable housing, families are moving to inner suburban high-rises—also known as towers—because these buildings are increasingly all that they can afford in the city.

Segregation by race and income has worsened even as diversity has increased over the past 50 years, with Toronto’s nonwhite residents disproportionately concentrated in low-income neighborhoods. In addition, the rental market is becoming more expensive as 87 percent of low-income renters in the private market spend more than 30 percent of their income on shelter.

Seniors with low incomes or complex health needs, lone-parent households, indigenous peoples, visible minorities, and immigrants in particular are at higher risk of being excluded from suitable housing or from the housing market altogether.

Over the past few years, the vacancy rate has hovered around 1 percent, leading to increased homelessness and people’s inability to pay rent. Indigenous peoples, racialized populations, and those identifying as LGBTQ2S+ are far more likely to be homeless than others.

Toronto’s Climate Goals

On October 2, 2019, the Toronto City Council unanimously voted to declare a climate emergency. TransformTO, Toronto’s climate action strategy, lays out the long-term, low-carbon goals and strategies to get there in a way that also aims to improve health, the economy, and social equity.

Toronto’s greenhouse gas (GHG) emission reduction targets based on 1990 levels are as follows:

- 30 percent by 2020;
- 65 percent by 2030; and
- Net zero by 2050, or sooner.

To achieve these targets, several more specific goals are in place: The most recent GHG inventory showed that overall emissions

Toronto’s TransformTO Climate Goals

	BY 2030	BY 2050
HOMES/BUILDINGS	All new buildings built to produce near-zero greenhouse gas emissions.	All existing buildings retrofitted to improve energy performance (average of 40 percent).
ENERGY	N/A	75 percent of energy renewable or low-carbon and 30 percent of total floor space connected to low-carbon heating and cooling energy.
TRANSPORTATION	N/A	100 percent of vehicles use low-carbon energy and 75 percent of trips under five kilometers walked or cycled.
WASTE	N/A	95 percent of waste diverted from landfills.

CITY OF TORONTO, DIVISION OF ENVIRONMENT AND ENERGY

have been reduced 44 percent from 1990 while experiencing strong population and economic growth.

City Resilience Strategy

“The overlap of climate risks and vulnerability in Toronto’s aging high-rise rental apartment towers represents the single most pressing, urgent priority for the city’s resilience.”—Toronto Resilience Strategy

With a changing climate, Toronto recognizes that more extreme weather will follow and be felt most by the city’s most vulnerable residents including seniors, those with mobility issues, or recent immigrants who are unfamiliar with legal rights and systems available to support them. The city of Toronto defines resilience as the capacity of individuals, communities, institutions, and systems within a city to survive, adapt, and thrive in the face of the chronic stresses and acute shocks they experience. The city’s resilience strategy identifies six primary resilience challenges, including the following: equity, climate and environment, civic engagement, communities and neighborhoods, housing, and mobility.

The first goal of the resilience strategy is to ensure that Toronto has resilient, safe, and affordable homes. A priority action identified by the city to achieve this is vertical resilience to improve or retrofit apartment towers and units. As the towers continue to age and are populated primarily by vulnerable groups, there is immense public-sector interest in making these

buildings more resilient. With that in mind, the city has already committed to developing guidelines for deep retrofits, embed resilience into all work focused on the towers, and collaborate with the real estate industry and other owners to support investment in vertical resilience.

Challenges of Meeting the City’s Sustainability and Resilience Goals

While the public sector has set ambitious climate goals and recognizes the importance of the city’s apartment towers in providing affordable housing, there has been limited uptake from private owners to invest in deep retrofits. Many of the apartment towers are still far below current standards for building design and performance due to a number of market challenges. These include the following:

- A lack of traditional return on investment while maintaining affordability;
- A lack of technical expertise;
- Expensive and extensive upgrades triggered by a retrofit;
- Continued profitability with no investments due to low vacancy rates;
- Limited access to capital; and
- Workforce constraints, with contractors often preferring to work on new developments instead of retrofits.

It is increasingly difficult to drive reinvestment and maintain affordability, but the necessity to improve tenant safety, comfort, resilience, and energy performance becomes increasingly urgent each year.

Energy Use in Towers

In Toronto, homes and buildings represent 52 percent of GHG emissions, primarily from natural gas heating indoor spaces and water. It is estimated that 23 percent of Toronto’s residential GHG emissions come from the apartment towers, an average of 5.3 to 5.8 tons per unit.

The towers are highly energy inefficient, often lacking updated heating and electrical systems, efficient windows and building envelope, backup power, and air conditioning. One-third of the buildings in this collection have their original heating systems in place, which are more than 40 years old. Electric heating systems are overrepresented in the older systems, primarily because it is an invasive and expensive process to update them.

NOAA



City resilience strategy outline.



Energy meter outside an apartment tower.

Tenant Safety

Tower resilience and livability are becoming increasingly important due to climate change, since extreme rainfall and flooding, heat waves, and power outages can affect important building systems like sprinklers, elevators, and electrical systems. The lack of investment has meant that residents in these towers are often susceptible to the following shocks:

- Elevator breakdowns are a common problem. The city funds and staffs a full-time fire department unit to extricate residents from upper floors when elevators are out and the residents are in need of critical medical care.
- During winter power outages, indoor temperatures can rapidly drop to inadequate levels.
- Flooding during extreme rain events could result in the failure of other systems, with past occasions of basement flooding causing power outages.
- A lack of central air conditioning in most buildings leaves residents, especially the elderly, vulnerable to heat waves. Window units also have been recognized as a safety problem due to fall risks and previous incidents. This leads to residents being unable to control temperature

within their units, which can lead to discomfort and exacerbate health issues.

- Old ventilation systems can lead to significant air quality issues, which lead to adverse health effects among vulnerable residents.
- Mold issues due to plumbing and water penetration issues have adverse health effects.

Programs and Financial Resources to Support Retrofits

Retrofitting existing affordable housing is significantly less expensive and less carbon-intensive than building new housing or replacing towers and requires less government support to maintain both the stock and its affordability. It is critical to ensure investments to maintain a base state of good repair.

The Canadian federal government's National Housing Strategy (NHS) outlines goals for new housing programs with an aim to complete the repair and renewal of 300,000 existing units across the country. Funding is being provided over 10 years to repair and renew 240,000 community and affordable housing units.

Modeling Retrofit Costs

TYPE OF RETROFIT	TARGETS	COST (\$CAD)/UNIT
BASE REPAIR AND RESILIENCE		
Level A: Base state of repair	Prevention of building systems failure.	\$36,600
Level B: Accessibility upgrades	Enhanced inclusivity and ability for aging in place.	\$24,800
Level C: Life-safety upgrades	Improved life safety through fire suppression and backup power.	\$12,000
Level D: Resident resilience	Improved resident comfort and community resilience (e.g., to extreme heat).	\$11,400
HIGH-PERFORMANCE AND COMPREHENSIVE RETROFIT		
Light energy retrofit	Reduced utility costs.	\$15,500
Medium energy retrofit	Reducing greenhouse gases (35 percent) and critical capital upgrades.	\$50,600
Deep energy retrofit	Reducing greenhouse gases (70 percent-plus) and critical capital upgrades.	\$84,700
Complete retrofit	Replacing all existing systems and transition to high-performance, resilient building.	\$171,806

Levels of Retrofit Primer, Centre for Urban Growth and Renewal, and the Tower Renewal Partnership.

In 2019, Canada’s federal government announced \$1.3 billion in funding (both loans and direct contributions) for TCHC buildings to help address its capital repair backlog. A similar funding stream is available for private-sector owners meeting certain levels of affordability and energy efficiency, but there has not yet been much uptake, in large part due to burdensome program requirements. In addition, large institutional owners have access to other capital and smaller owners may not have either the desire or the expertise to undertake a project.

On the city side, a handful of financing and improvement support programs exist, including the following:

- High-rise retrofit improvement support (Hi-RiS), where the cost of improvements is added to property tax and is paid over a fixed term that does not exceed the project’s useful life;
- The Sustainable Towers Engaging People (STEP) Program, which provides an on-site building assessment

that identifies environmental and quality-of-life improvements; and

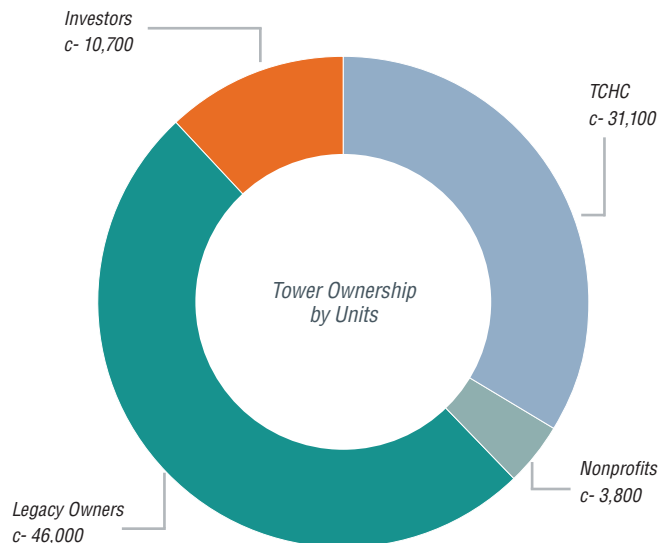
- Energy retrofit loans, which offer low-interest loans for up to 100 percent of project costs to improve the energy efficiency of buildings over 20 years.

Who Owns the Towers?

THE CHALLENGE OF UPGRADING THE RENTAL TOWERS in Toronto is multifaceted: the hundreds of aging towers not only must meet current standards, but also must deploy best practices for resilience, livability, and safety to ensure that they remain affordable and high-quality housing for decades to come. The panel simplified the “taxonomy of tower ownership” into four major categories: TCHC, nonprofit housing entities, institutional and commercial investors, and legacy (often family-run) owners.

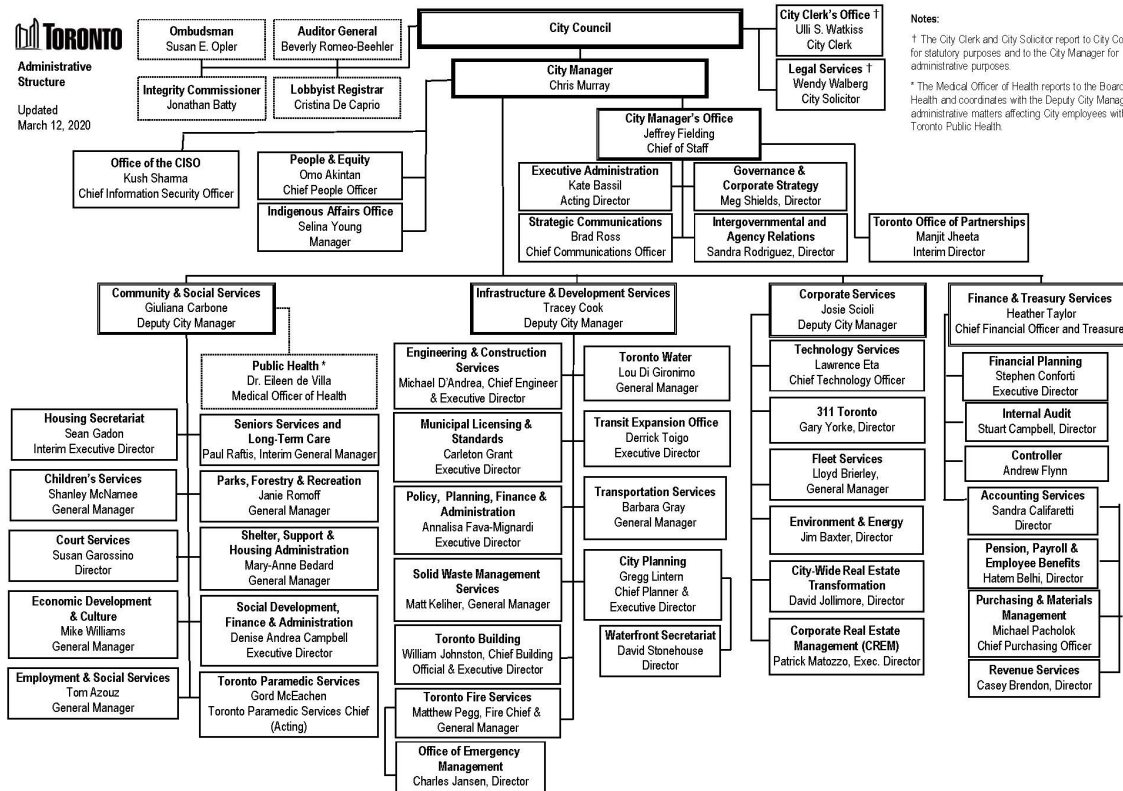
There also are two broad locational categories of towers: those that are transit accessible and lie in development hot zones, and those that are access challenged/cool development zones. In all, the towers are not a universal typology and there is no “one-size-fits-all” solution for the region’s towers.

To achieve the broad objectives of tower renewal, the panel recommends a portfolio of solutions, tailored to each building’s location, tenure, ownership motivation, and/or mission. Each holds its own unique challenges and opportunities, solution set, and priorities that form the basis of the panel’s findings and recommendations.





Administrative Structure
Updated March 12, 2020



Notes:
* The City Clerk and City Solicitor report to City Council for statutory purposes and to the City Manager for administrative purposes.
* The Medical Officer of Health reports to the Board of Health and coordinates with the Deputy City Manager on administrative matters affecting City employees within Toronto Public Health.

CITY OF TORONTO

City of Toronto administrative structure.

Who Owns the Towers?

While there are multiple owner types, the major public policy concerns around this issue mean that the public sector also must take ownership of the issue. However, over the last 10 years of tower renewal, the department managing the program started out of the mayor's office, moved to the city manager's office, and is now seated within the Social Development, Finance, and Administration department under Community and Social Services.

Tower renewal requires involvement from multiple city departments, including the Housing Secretariat; Public Health; Shelter, Support, and Housing Administration; Economic Development and Culture; Employment and Social Services; City Planning; Toronto Building; and so on. The panel recommends that the program be placed in an area of city government that has the ability to direct change across these multiple departments, such as the city manager's office. Recognizing the significance of tower renewal would also help the program retain institutional focus and outlast mayoral transition.

BOSTON GREEN RIBBON COMMISSION

The Boston Green Ribbon Commission (GRC) was founded in 2010 to support and drive climate action in the city. It was funded by a coalition of 10 local foundations, and the vast majority of its first participants were not climate leaders but business executives—including commercial real estate chief executive officers—with a vested interest in Boston's long-term success.

Chaired by the mayor of Boston and the cofounder of the Barr Foundation, this executive group meets twice a year to discuss the bigger picture with technical working groups that meet regularly throughout the year to discuss policy details and best practices on topics such as health care and commercial real estate. The GRC has continued its work through the years as a permanent stakeholder group that transcends political change in the city.

For members of the private sector, participation in this group showcases their leadership, provides exposure to city and utility leaders, and educates them on climate risks to the city and their businesses. On the city government side, policymakers have access to an established stakeholder group to provide feedback on upcoming policies, creating momentum for their acceptance when they are released.

This partnership has been pivotal in the city's climate action planning since its founding, and recently it informed and provided strategic direction to two key policy initiatives: Climate Ready Boston, addressing resilience planning, and Carbon Free Boston, which sets Boston on the path toward its 2050 climate targets and creates a cleaner, greener city that attracts top talent for the business community.

Increasing the Housing Supply

TORONTO TAKES GREAT PRIDE in being an open and welcoming city for immigrants, accepting 125,000 new immigrants in 2019 alone. With a less than 1 percent vacancy, the number of theoretically available units is far too low to house Toronto's growing immigrant population. A 1 percent vacancy rate does not indicate strong economic growth, but rather a market failure. The overall population outside of the growing immigrant population in Toronto also continues to grow, with the greater Toronto region now home to over 6 million. Toronto is therefore experiencing a housing crisis.

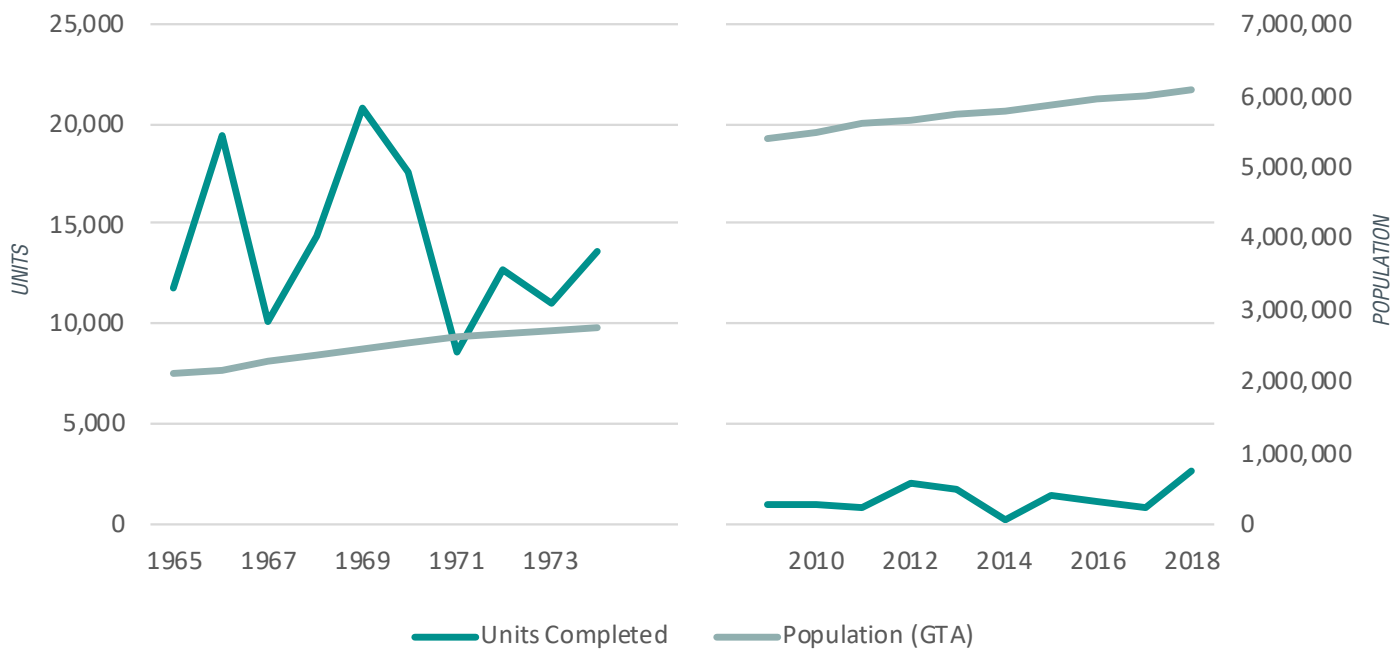
While the towers are a part of the overall picture, the panel affirmed that this problem extends way beyond these towers. The total production of housing units is mismatched with the sustained population growth. Over the last several years, the number of new rental units produced in the city has been under 3,000 per year, compared with over 70,000 new households being formed. With so few new units, the panel is concerned about where the city plans to house these new residents.

While the panel contends that tower renewal is an essential component of Toronto's housing strategy—including a role in providing affordable units—the broader problem of affordability cannot be solved without adding a considerable amount of new, permanently protected units to the city's overall housing stock.

If there is no place for tower residents to relocate to when the retrofits start, it will be harder to accomplish the required deep retrofits.

In addition, a low vacancy rate means that unhealthy and unsafe buildings do not have to compete to get and keep residents. This distorts natural market forces and allows disinvested owners to continue to receive large rents without upgrading or addressing maintenance issues in their properties. Unless housing supply is expanded, and households have more options of where they can live and what they have to pay, there will be little incentive for many tower owners to upgrade their properties.

Completed Rental Units by Year and Population Growth across the Greater Toronto Area



The panel proposes several actions to set a new course for the future and increase housing production in the city. These actions recognize the need for housing in Toronto, especially affordable housing; recognize that this is a citywide issue that requires a holistic solution; and aims to be both aspirational and realistic.

A Regional Housing Strategy

The panel recommends expanding the scope of the city’s housing plan, HousingTO 2020–2030, to at least 2050 and using the most up-to-date projected population numbers. This will achieve better equilibrium in the context of growth and create a master plan for increased production at existing and planned transit nodes and other available/appropriate sites.

This housing plan provides an opportunity for a thoughtful master-planning exercise to find opportunities for transit-oriented housing across the entire Greater Toronto Area in conjunction with the significant transit planning already underway. It will also create better alignment of existing and anticipated jobs with residential growth. Toronto can also incorporate green initiatives that address the city’s environmental goals with growth as well as preservation through tower/affordable housing retrofits. Finally, the city can review the list of financing tools to encourage production of new rental housing, which has lagged in the last several decades.

Removing Uncertainty in the Development Process

While the panel identified multiple barriers to new housing production, the overarching challenge that developers cited was uncertainty. Uncertainty in the development process—how long approvals might take, what communities and political leaders want to see, what kinds of exactions and community benefits will be required to secure an approval—makes the process of developing housing less predictable and more expensive. As a result, less housing gets built, and what does get built is skewed toward the luxury end where high prices can absorb the risks and uncertainties of an inefficient process.

On the process side, the city has already worked with KPMG to assess the development review process. The panel agrees with this review, and emphasizes the need for changes to make the approval process shorter and more predictable, moving from an ad hoc site-by-site negotiation to a neighborhood planning process that establishes community expectations early and then translates them into quantifiable and certain community benefits that developers can build into their early cost models.

“Toronto needs a new, transformed operating model for its development review process. Overcoming the systemic obstacles to collaboration requires fundamental change in how the development review process is structured.”—KPMG End-to-End Review of the Development Review Process, City of Toronto Final Report



BILLY GRAYSON/JULI

Viewing residential towers near the St. James Town neighborhood.

Rental versus Condo Development

Although rental unit development has been limited, condo development in Toronto is strong. At present, condo development is favored in Toronto for a number of structural reasons. Facing an expensive and long planning and approval process, developers look to accelerate payback with high-rise and luxury condos. Also, developer equity requirements are lower for condos than for rental, since in Canada, downpayments on units reserved before development begins can be used to supplement developer equity (this financing tool is not possible in the United States). The harmonized sales tax on rental development is also very high (13 percent) and paid by the developer within 30 days of the certificate of occupancy being issued, while in condos the tax rate is lower and paid for by the condo purchaser.

While some condo units will wind up in the market as individual rental units, condos are not a substitute for dedicated rental stock because they can be sold by the owner at any time, displacing the renter; they are often targeted to the higher end of the market; and due to current design norms, they are not sized for families. As a result, Toronto's growing condo market is not a reasonable alternative path to increasing the city's housing supply.

To make rental construction more attractive, the panel recommends that the city work with its partners in the provincial and federal government to develop a combination of the following:

- Review the harmonized sales tax rates to create more parity in the condo and rental rates.
- Create expanded financial tools to increase construction loan proceeds (i.e., higher debt-to-equity ratios).
- Streamline and shorten the project approval process to make rental returns more attractive.
- Reduce permitting fees for creating additional affordable units.
- Consider zoning for mid-rise buildings, which require shorter construction windows and lower construction costs.

Identify New Sites

For all land types, there are near- and mid-term opportunities to identify and plan for new development. From public to transit to nonprofit to private tower neighborhood sites, land is available for new residential construction. These opportunities should promote density in the appropriate locations and a wide range of housing options, including mid-rise buildings.



- 1. Public sites:** Scale the city’s Housing Now program, which activates city-owned sites for the development of affordable housing within mixed-income, mixed-use, and transit-oriented communities, to identify all vacant/underused city-owned sites appropriate for residential development
- 2. Nonprofit sites:** Mission-based organizations often have underused sites that can be developed for housing.
- 3. Transit sites:** Look for opportunities to include affordability at developments near future transit stations and right-size parking requirements for new developments near current transit nodes. Consider land banking around future transit nodes for workforce housing.
- 4. Private tower infill sites:** Create a master plan for existing tower neighborhoods, seeking sites for new infill products that developers can “plug-and-play.” The goal should be to increase supply, activate disused public spaces, and create new housing formats to increase the range of options for different life stages and incomes. One other advantage to this strategy will be the ability to create new “swing space”.

OPPORTUNITIES ON UNDERUSED LAND IN NEW YORK CITY

In New York City, the creation of affordable housing is challenging in part due to the limited availability of vacant lots. As part of the city’s housing plan, the mayor’s office charged the Department of Housing Preservation and Development to identify underused city-owned sites that could be redeveloped as affordable housing.

In 2012, one of these sites, a New York City Housing Authority–owned parking lot, was transitioned into the affordable and energy-efficient Elliott-Chelsea development, with various unit sizes and levels of affordability. Of the 168 units in the development, six units are reserved for households earning up to 40 percent of area median income (AMI), 28 units for households earning up to 50 percent of AMI, 20 units for households earning up to 160 percent of AMI, 58 units for households earning up to 165 percent of AMI, and 55 units for households earning up to 195 percent of AMI.

DENVER’S TRANSIT-ORIENTED DEVELOPMENT FUND

The city and county of Denver, the Urban Land Conservancy, Enterprise Community Partners, and other investors partnered in 2010 to acquire land or property with the goal of developing or preserving affordable housing around mass transit hubs. After an initial \$2.5 million, the fund was expanded to \$24 million in 2014 and made available to affordable housing developers throughout the Denver region. Since its creation, 17 loans have been made and \$34 million in financing provided, creating and preserving 1,450 affordable homes.

TORONTO

Notice

APPLICANT'S PROPOSAL APRIL 24, 2012

The drawing depicts the applicant's proposal as submitted and may change. The City of Toronto's 3D Rendering Model is available for free at: www.toronto.ca/3d

- 1 Tower (51 Storeys)
- 2 Mid-Rise (5 & 10 Storeys)
- 4 Townhouse Blocks (3 Storeys)

- 887 New Residences
- 6,100m² New Retail
- 3,585m² New Office/Community Service

- 1,210 m² New Public Park
- 4,850 m² Privately-Owned Public Spaces (POPS)

A change is proposed for this site.
 A Development Application has been submitted to change the Official Plan and Zoning By-law to allow for a reconfigured network of streets and open spaces, a redesigned ground floor of existing buildings, new residential buildings including a point tower, a mid-rise rental building, and 4 townhouse blocks, a new commercial mid-rise building, and a new public park.

Applicant: Bousfields Inc.
Address: 238-280 Wellesley Street East & 650 Parliament Street

PUBLIC MEETING
 Public meeting information will be posted on this sign when available.
 File # 18 148195 STE 28 OZ

COMMUNITY PLANNING
 Thomas Rees
 416-392-1791
 thomas.rees@toronto.ca

APPLICATION INFORMATION CENTRE
 aic.to/240WellesleyStreetEast

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 toronto at your service

Plans for infill development in the St. James Town neighborhood.

Tower Infill: The Swing Space Opportunity

Due to the original towers in the park design, many tower neighborhoods are now good candidates for low- and mid-rise infill on the land between the towers. This infill can add variety to the neighborhood housing supply (both in size and income); enrich, animate, and enliven the public realm; and even be an opportunity for swing space.

Swing space development should initially focus on housing current tower residents during deep retrofit projects and be placed to be a resource for the largest clusters of towers. While some public funding may be required for private developers to build these spaces, there should be a rental stream to cover building operations. If used strategically, this swing space could be used sequentially for a series of privately owned tower retrofits. When work is completed, the spaces could revert to TCHC or nonprofit ownership as a source of affordable housing or be sold as a source of revenue for TCHC, with the primary goal of maintaining some degree of affordability.

The panel recommends that infill be undertaken via a comprehensive neighborhood planning scale effort. Each tower neighborhood should be studied for areas that offer the following opportunities: potential for additional development, improvement of public amenities, improvement of circulation, and improvement in overall quality of life, by drawing on best practices in active design, implementation of Crime Prevention Through Environmental Design (CPTED) principles, and application of tactical urbanism principles. This plan should allow for typologies other than single-family and high-rise buildings and reduce parking requirements to increase the number of units developed near major transit nodes.

The master plan should be undertaken by a trusted entity and would draw upon the TED group as convener and spokesperson. An approved plan can greatly shorten the approval process and risks for investors, by setting guidelines for what goes where in the community, what community benefits are expected, and where city funding may be available to create more affordable housing stock. This is also an opportunity for transparency, allowing current tower residents to provide feedback on the overall master plan.

	Boston	Chicago	District of Columbia	San Francisco	Seattle*	Existing NYC Voluntary IH Program	New NYC MIH Program
Year Adopted	2000	2003	2006	2002	2001	1987 (R10) 2005 (IHDA)	2016
Program Type	Voluntary	Voluntary	Mandatory	Mandatory	Voluntary	Voluntary	Mandatory
Duration of Affordability	50 years	30 or 99 years	Permanent	Permanent	50 years	Permanent	Permanent
Set Aside (%)	15%	10%	Varies	12% onsite 20% offsite	5%	4-5% (R10) 20% (IHDA)	20 to 30% onsite 25 to 35% offsite
Income Targets (AMI)	<70 to 100%	≤60 to 100%	<50 to 80%	≤55 to 90%	80 to 100%	< 80%**	Basic options at average of 60% and/or 80%; additional options at average of 40% and/or 115%

Comparison of inclusionary housing programs in major U.S. cities.

The Importance of Inclusionary Housing

A housing strategy for the city must leverage multiple tools to create access to affordability by its residents. One of the primary tools used throughout North America is inclusionary housing to bring affordable housing to the market in lockstep with market-based housing. The panel recommends augmenting the city's inclusionary housing policy so that it both 1) is tailored to local market feasibility and 2) meets the different needs of varying density and mobility contexts. This could involve the following: conducting market economic feasibility studies to understand what each submarket/ geography can bear in terms of inclusionary requirements; creating a menu of options for affordability; and addressing needs of different user groups—families as well as singles and special-needs population. For neighborhoods with underlying lower value, for developers to achieve higher levels of affordability, low-cost financing or property tax abatements can help ensure that projects across all areas are feasible.

An assessment of different North American cities highlights a number of key parts of a successful inclusionary housing program. First is the definition of affordable—which is a function of price of the unit (for sale or rent) based on some income factor. Second is the need to deed-restrict the unit so that only individuals who meet the requirements can occupy the unit. The third is voluntary and mandatory zoning programs. While many cities started with bonus voluntary inclusionary housing programs, many have moved to make the requirements mandatory. Fourth is the percentage of total units that are designated affordable. Generally, 10 to 30 percent of units are required to be affordable. In New York City, there is a sliding scale with options to develop a lower total number of units at deeper rate of affordability or more units at more moderate affordability. Finally, the term of affordability is most important. The panel recommends that the city aim for permanence or a minimum term of affordability of 50 to 60 years.



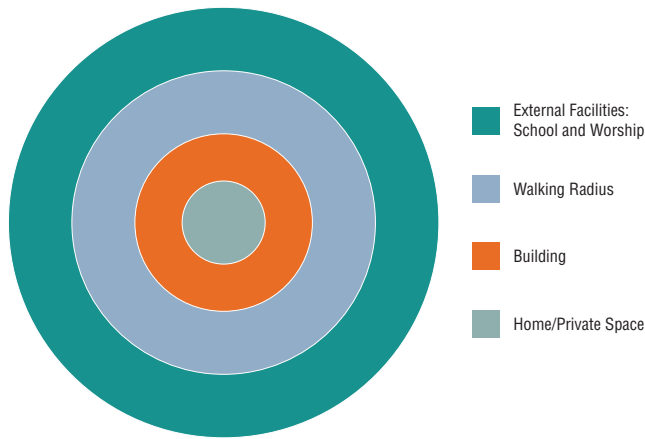
Software before Hardware

RESILIENCE AND LIVABILITY ARE INTERCONNECTED. Currently, the physical framework of the towers does not foster a broad spectrum of opportunities and experiences for its residents. The binary “tower in the park” form provides only two kinds of experiences—in a vertical tower or in a broad, open, and often desolate park. This can be modified intentionally and strategically to foster broader livability by layering in a finer grain of uses, building forms, landscape, and experiences while sustaining what is good about the tower community and arresting degradation of the units.

In addition to ensuring sustainability and resilience of the apartment towers, the panel perceived an extensive array of opportunities to develop a sense of connectivity and community resilience among tower residents. These opportunities are poised to improve daily life in the near term and cultivate more options for the residents’ future.

The panel recommends that the city expand and integrate the public realm by extending the city’s urban design programs

into the tower neighborhoods. To assist that, the panel proposes creating a detailed survey of open space ownership, including parcel edges and rights-of-way. Uncertainty and a lack of clarity around ownership of many underused spaces are currently preventing positive change in tower neighborhoods. A comprehensive survey could help identify new opportunities while providing clarity and connecting owners, and building relationships for more improved spaces.



Layers of Livability

Create Tower Enhancement Districts

There has already been grassroots development of tower neighborhood community groups. However, panelists considered these community groups to be either building-specific, or to have developed in response to a negative pressure.

To accelerate positive change within a tower neighborhood community, the panel recommends the creation of tower enhancement districts (TEDs). These TEDs should adapt and combine the models of a business improvement district and master-planned residential communities by bringing multiple community stakeholders—including tenants, building owners, social service providers, relevant city agencies, and local businesses—into a resilient and perpetual community structure.

TEDs provide a proactive and positive opportunity for tenants and social service organizations to develop a rubric for comprehensive organizing. By formalizing these community organizations, the city ensures that every tower has organization and facilitation. This organization can become a comprehensive resident services platform with information on tenant rights and navigating the city's social safety net. It will also benefit tower owners by creating building value through working together.

TEDs can be initiated immediately with minimal costs; and for ongoing funding, options include city grants, tower owner parcel taxes, nongovernmental organizational (NGO) funding, philanthropy, and local business resources.

All of the following recommendations in this section are initiatives that a TED can undertake.

Reclaim and Animate the Spaces in Between

When touring a suburban tower neighborhood, the panelists were struck by the chain-link fences separating each parcel. This fencing creates a “no man’s land,” or dead space within the neighborhood that serves no function.

An enhanced public realm creates value with new forms and functions. New spaces inside or at the base of the towers can be created to meet community needs. The streetscape—including lighting for pedestrian paths, and placement of bus stops and bus shelters—supports resident safety and mobility. Coordinated usage creates a bridge across currently fenced-off parcels or surface types with multiple owners.

In infill development, mid-rise and low-rise structures increase variety in and the texture of the city form. Adjunct spaces next to or between towers can be modular or prefabricated to lower costs and speed up development.

In addition, tenants should explore opportunities to reopen defunct community/amenity spaces. In the case of an unresponsive owner, grants and donations could be sourced and volunteers or skilled residents could be called upon. For additional support, local architecture and planning school students and networks can be leveraged to enhance or augment the public realm.

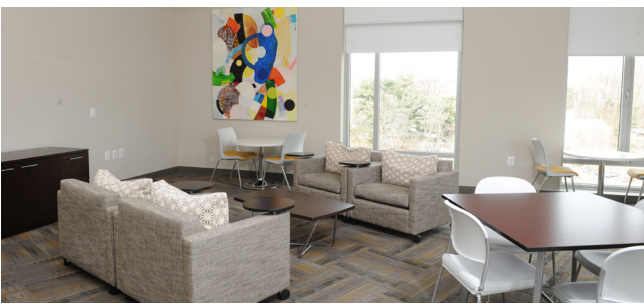
After completing the survey of open space ownership within a tower neighborhood, the panel recommends targeting disused and disjointed spaces for small-scale and varied uses that animate the space, including the following options based on neighborhood needs:

- Aesthetic renewal to brighten the identity of towers and tower neighborhoods and create a sense of place through layers of color, scale, and shape via neighborhood art or murals.
- Programmed places for social and recreational use including night markets, outdoor cooking (grills, tandoori ovens, pizza ovens), informal meeting places like pavilions

OPPORTUNITIES FOR HEALTHY EATING AND WORKFORCE DEVELOPMENT

La Cocina, a bilingual nonprofit organization, provides culinary training for low-income individuals in the Washington, D.C., metro area and also donates healthy meals. Formerly located in a basement space, the nonprofit group recently moved to a 5,000-square-foot retail space in the Arlington Partnership for Affordable Housing (APAH) Gilliam Place affordable housing development. This larger space not only provides low-income residents with healthy donated meals and the opportunity to develop industry skills, but also provides access to micro-lending and café space to low-income entrepreneurs hoping to start their own food business.

ARLINGTON PARTNERSHIP FOR AFFORDABLE HOUSING



Arlington Partnership for Affordable Housing's Columbia Hills affordable rental community integrates art into common areas from local artists to enliven the space and foster a sense of community.

PROPERTY TRANSPORTATION COORDINATORS

Low-income citizens often face transit pressures, including costs, availability, and service consistency. To help residents, each of APAH's properties has a designated property transportation coordinator (PTC) to disseminate information and connect residents with local transit solutions starting at move-in. One-on-one contact between residents and the PTC is key, because even though information is online, in-person communication can solve questions and language barrier challenges. To support this work, the PTCs also invite an Arlington Transportation Partners Champion to multiple on-site events throughout the year for advanced technical knowledge of transit options and incentives.

DEBORAH KERSON BILEKULU



Buses provide key transit mobility in Thorncliffe Park.

or gazebos, or children's play spaces. This programming increases both casual and planned socialization.

- Social services and support for both education and employment. For recent immigrants to Toronto, financial education resources on Canadian banking and credit, employment training, and education on the importance of renter's insurance are particularly important. Community rooms in a tower or local school can be a place to hold these types of trainings.
- Natural systems to promote stormwater retention, tree planting, gardens, and seasonal and native plantings and also attract pollinators and songbirds. These features connect residents with nature and the city's environmental goals, increase aesthetics, and provide shade to cool residents during increasingly warm summer months.
- Transportation mobility through increased connections, reliability, reduced commute times, and range of options (walking, bus, rail, or bicycle). Vertical mobility also is important by ensuring clean and clear stairways and usable elevators.
- District-scale opportunities for renewables and battery storage, facilitated through shared technical resources.

Leverage Existing Programs and Tools

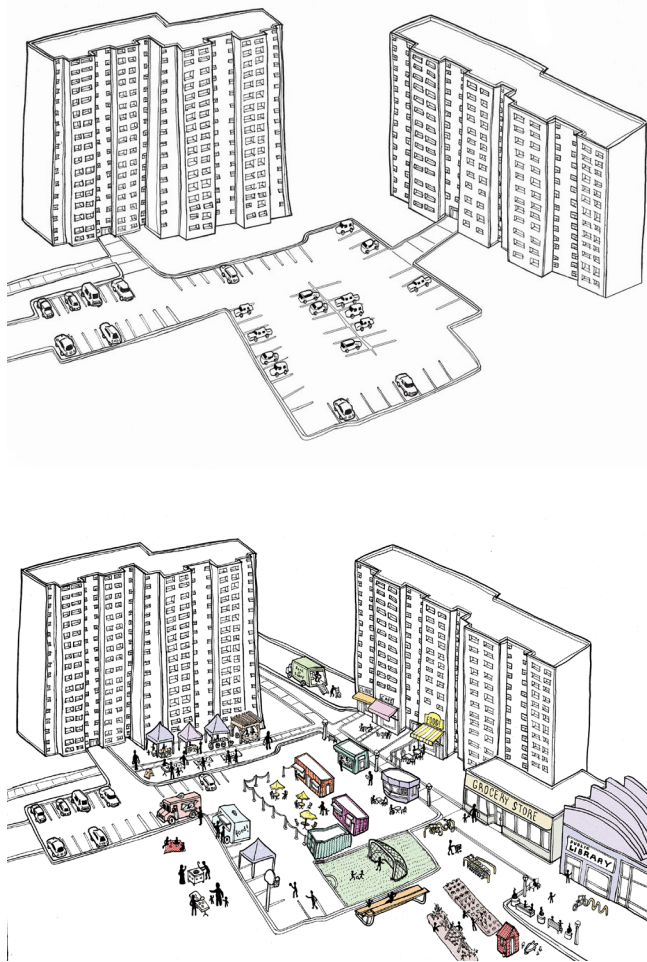
The city has already created programs that advance tower community needs as well as its strategic priorities, such as economic vitality, sustainability, resilience, social development, and good governance. The panel recommends that the city continue to leverage existing programs and tools within the tower resident community.

Current initiatives include the Enhancing Our Streets and Public Realm program, which provides graffiti management, street art installations, green streets to manage stormwater, street furniture, sidewalk cafés, parklets, and general civic improvements within an area as well as Recipe for Community, which targets one community a year, bringing together donors, sponsors, and residents to invest in four key community "ingredients": food, convening, youth engagement, and neighborhood beautification to strengthen community belonging and pride and build community skills and capacity. Residents of apartment towers should be educated on these opportunities and encouraged to access them.

The city's recently passed Residential Apartment Commercial (RAC) zone delivered a huge spark of power into community hands. RAC zoning allows small-scale commercial and community uses on apartment building sites including small shops, food markets, cafés, learning centers, barbershops, medical offices, community centers, and places of worship. By allowing residents to create new ventures in the tower buildings, they not only contribute a sense of vibrancy and diversity in neighborhoods, but also overcome the limitations of a residential-only neighborhood.

Other stakeholders, like settlement counselors for recent immigrants, can also provide dynamic information to tower residents. These counselors can help orient new residents of Toronto, share observations about tower livability, and connect them with their local TED.

RACZONE.CA



Before and after RAC zone changes.

Enhancing Public Realm Communications

Intelligent communication is necessary to share technical data and success stories with tower neighborhoods, across tower communities, and across the city. The goal of this communication would be to promote collaboration, share success stories, and educate tenants on sustainability-driven and construction activities around the city.

To support communication between tenants and across tower community groups, the panel recommends that the city evaluate tenant access to the internet, the reliability of the internet connection, in-building cellphone service, printer availability, and public wi-fi needs. Ensuring that tenant needs are met for personal, business, and community communication will support overall education and employment opportunities.

There also are external resources that TEDs can liaise with to garner new strategies for tower improvement, including engaging young tenants, the design and planning community, local universities, and a global community of tower neighborhoods in Europe and North America.



Communication structures across community resilience organizations.

ARLINGTON PARTNERSHIP FOR AFFORDABLE HOUSING



Achieving Affordability, Sustainability, and Resilience

THE BROAD VISION of the Tower Renewal Program is to make every tower safe, resilient, a better place to live for residents, and more efficient to reduce its climate impact.

To build public support for the Tower Renewal Program and the political will to see it implemented aggressively, it is important to be clear as to the mission and vision of these deep retrofits, and the multiple benefits they provide to owners, residents, and the population of Greater Toronto, including the following:

Creating a more resilient asset that will be safe and viable into the future;

- Improving the resident's overall quality of life;
- Enhancing community resilience;
- Enhancing asset value over time while maintaining affordability;

- Reducing public expenses (e.g., health, emergency, temporary shelter, and fire); and
- Reducing social costs such as lost school days, workdays, and rising inequality.

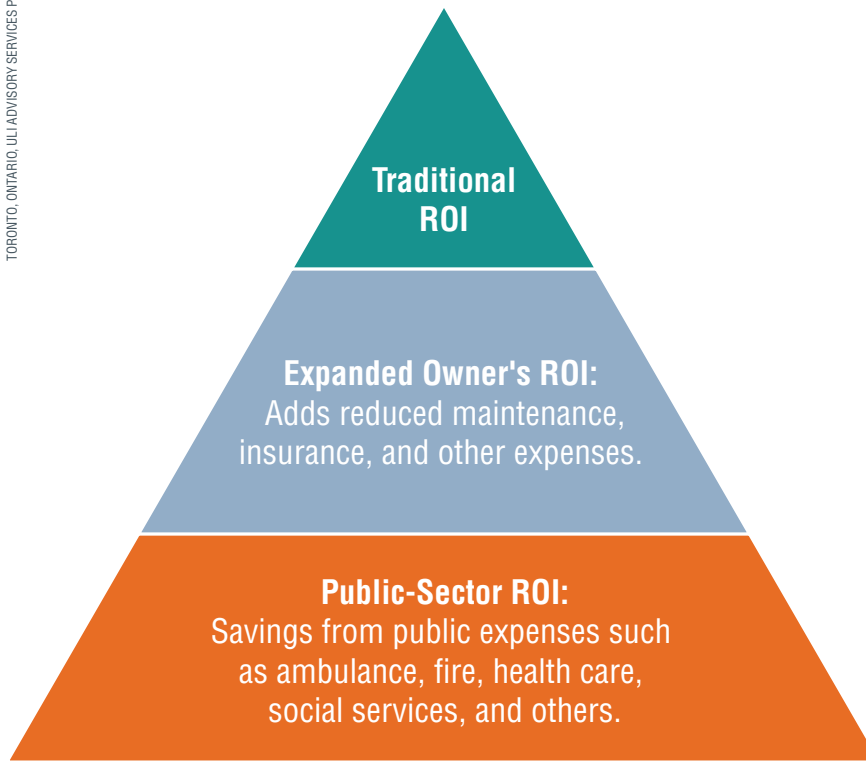
This broad vision will help shape how owners, tenants, and the public sector look at the return on investment of deep retrofits of Toronto's towers.

Rethink ROI for Tower Retrofits

Today's calculus for ROI typically takes a "top line" approach, focusing on how investments can drive increased rents. More recently, investment strategies have shifted to include energy

A Better Way to Look at Return on Investment

TORONTO, ONTARIO, ULI ADVISORY SERVICES PANEL



cost savings when calculating project ROIs, creating a top-line/bottom-line benefit analysis.

With a desire to avoid extraordinary top-line increases, new ROI calculations must take into consideration lower maintenance costs, reduced insurance expenses, increased access to insurance, lower tenant turnover, attracting higher-quality tenants who respect and maintain the property, as well as the contingent liability of disaster costs—including relocation and legal expenses—associated with fires or other major catastrophes.

At the same time, the panel found that the public sector at the city, provincial, and federal levels is not quantifying the financial benefits of reduced emergency services (fire, ambulance, and temporary housing), health care (hospital visits and mental health resources), and other social program expenses associated with ensuring safety and quality of life that if included in the “cost” of operating the towers could have a meaningful impact on a more holistic approach to ROI.

To preserve affordability and accelerate the pace of retrofits, the panel recommends that the public sector provide funding

equivalent to the reduced cost of ongoing public benefits that could result from the tower retrofits, while also achieving resilience and sustainability goals. This commitment and investment from the city should have a dramatic impact on financing, catalyzing, and accelerating deep retrofits.

Since energy savings in multifamily retrofits are often passed on exclusively to the tenants due to limited common space energy use, a split incentive results when landlords do not feel compelled to invest in retrofits. The panel also recommends that energy savings be shared between owners and tenants. While this may affect the lease structure to help the landlord recoup a percentage of a tenant’s energy savings, the panel is confident that this way preserves affordability more than a business-as-usual strategy that results in above-grade increases (AGIs), tenant buyouts, and “ren-evictions.”

With a refined and expanded business case for tower renewal, building owners will have a better sense of the full life-cycle value of these deep retrofits, and the public sector can better size its financial contribution to accelerate this retrofit program relative to the value created for each stakeholder.

A New Action Plan for All Apartment Towers

While a strong business case can be made for owners and the public sector to accelerate tower deep retrofits through market factors and incentives, the panel recognizes that regulations also will be necessary to ensure that all apartment towers in Toronto see upgrades for tenant health and safety.

The panel recommends that a set of policies, like those outlined below, would achieve the city's goals by 2030 in a majority of apartment towers by focusing immediately on the most pressing challenges these buildings face and then building in additional resilience. Many of these recommendations build off work done by the city's RentSafeTO standards, a bylaw enforcement program that ensures that apartment building owners comply with building maintenance standards.

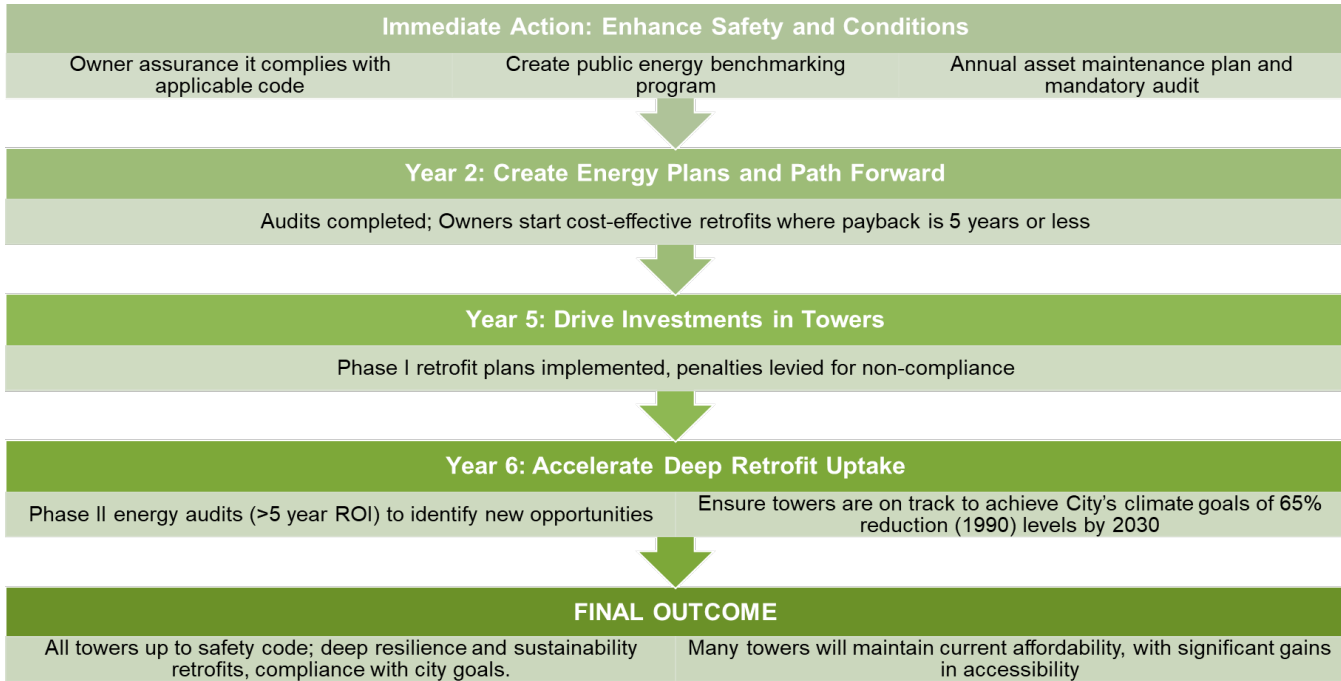
- **Immediate Actions: Enhance Safety and Set New Standards**

1. To start, all buildings should submit a letter to the city of Toronto, signed by a representative of ownership confirming that they comply with all applicable fire, life safety, electrical, and plumbing codes. If they are not in compliance, a mitigation/compliance plan to meet these codes by the end of the year should be included.
2. For buildings that may not have seen any major investment in several decades, requiring the owner to evaluate whether their building is up to code will spur self-inspection and ensure that all buildings are following applicable code for these key safety issues. Owners who do not comply may also help the city prioritize audits and inspections under existing city enforcement powers. While already underway with RentSafe, this program should be more transparent to tenants and fully employ available penalties for noncompliance.
3. Toronto should launch a mandatory benchmarking and public disclosure program for all buildings above a certain size, including the apartment towers, possibly expanding the STEP program to be mandatory. Owners of properties measuring over 50,000 square feet should already be submitting to Ontario's Energy and Water Reporting and Benchmarking initiative, making benchmarking an easy lift. However, the city's policy should publicly disclose the submitted benchmarking

data. Energy benchmarking programs are already common in other major North American cities and require building owners to report annual energy consumption (utilities are often required to provide whole-building energy use) along with additional building details like square footage, number of floors, number of units, and any supplemental use types (e.g., retail, office, and so on). Mandatory energy disclosure helps owners better understand building performance year over year and relative to their peers. Having owners report this information also helps the city prioritize owner engagement around incentive programs and other support to drive energy efficiency. Making the data public also gives potential residents insight into building performance and allows for easy comparison across buildings.

4. In tandem with the energy benchmarking program, the city should set minimum energy-efficiency and resilience standards that phase in over time, recognizing that certain technologies and strategies will eventually become more cost-effective. These standards should be set with input from building owners. Mandatory audits should be put in place every five years for every existing multifamily building to:
 - Assess any energy efficiency/renewable energy opportunities and identify a package of building upgrades that meet minimum standards while also achieving a reasonable payback. To achieve the strongest carbon and cost savings, the panel recommends that projects with a quicker payback be bundled with those that have a longer payback but result in a deeper retrofit.
 - Require owners to meet these standards on a set timeline, or face fines that are adequate to deter noncompliance.
 - Provide the city with information on current building systems and performance as well as provide data on where to focus incentives that will help achieve deeper retrofits and greater carbon reductions.
5. Owners would also need to complete a maintenance plan every year and submit it to the city,

A New Action Plan for All Towers



strengthening RentSafe's requirement that the capital and cleaning plans should be created but made available only upon request.

- Require at least one person per site to be trained (or have industry certification) in key components of building resilience and sustainability strategy such as maintaining code compliance with fire, life safety, electrical, and plumbing, and strategies to improve safety and optimize the building's energy performance.

- Year 2: Create energy plans and a path forward.**
 - » After the mandatory audit has been conducted, buildings should begin to implement all identified actions to meet minimum standards.
- Year 5: Verify completion of audit recommendations.**
 - » Ensure compliance with the audit recommendations and level any penalties for noncompliance.
- Year 6: Accelerate retrofit uptake.**
 - » Restart the audit cycle; as minimum standards escalate and technologies become more efficient, a new package of cost-effective measures will be available to implement to lower costs and carbon.

SEATTLE'S BENCHMARKING AND AUDIT POLICY

For many cities that already have energy benchmarking programs in place, mandatory audits are often the next step for promoting building efficiency. In Seattle, after an energy benchmarking policy was passed in 2012, the Seattle Building Tune-Ups Ordinance was adopted in 2016. This policy requires commercial buildings measuring over 50,000 square feet to undergo a tune-up process so that operational and maintenance problems can be assessed and required corrections can be made. Tune-ups aim to optimize energy and water performance by identifying low- or no-cost actions related to building operations and generate an average 10 to 15 percent in energy savings.

- » Review building performance and identify measures necessary to meet Toronto's 2030 climate goal, including off-site renewable energy and/or additional energy efficiency improvements.
- » Owners who go above and beyond 2025 and 2030 requirements (for example, making an older building 100 percent accessible, or achieving an 80 percent improvement in energy efficiency) should get some rebate to reward them for their additional contribution to city goals. The panel recommends that the city consider a range of tools to encourage this performance up and above the current policy (including property tax rebates, and cash grants to incentivize achieving higher energy and resilience goals).

Enforce Current Policies to Accelerate Performance

The city of Toronto and the province of Ontario already have several tools to drive performance improvement in the towers, including the aforementioned RentSafeTO, a bylaw enforcement program for buildings with three or more floors and 10 or more units that ensures that apartment building owners comply with building maintenance standards. In addition, Ontario has the building code and permitting process that can be used to drive enhanced compliance under current law.

The panel recommends some common mechanisms for improving enforcement, including making sure that permits require all complementary systems to come up to current code when a building undergoes an upgrade. On the inspection side, the panel recommends that if a complaint on one building system leads to an inspection, the inspection should document everything out of compliance with city policy and require corrective action for all violations found.

Drive Resilience Above and Beyond the Audit Program

While the mandatory audit process can help accelerate the implementation of retrofit measures with a reasonable ROI, there are some key resilience measures such as tree planting, stormwater retention methods, renewable energy installation, and backup power generation where the landlord will not be able to achieve minimum standards with a strong return.

For these investments, the panel recommends that the city, province, and federal government and utilities work to provide incentives commensurate with helping tower owners meet phased-in minimum standards. Specific strategies can

include providing low-/no-cost feasibility assessments and incentives that encourage market adoption including expedited permitting, utility rebates, and compelling demand management pricing. Incentives for additional grid resilience could include streamlining the process for multiple stakeholders to participate in district energy, community solar programs, or providing backup power systems at the district scale (ideally renewable systems with battery backup).

Incentivize Deeper Affordability with Retrofit Financing

An enormous number of building retrofits can be achieved that are accretive to value from day one by improving the net present value of an asset. This would be cash positive for most owners using most types of debt financing, even in the absence of grants or public policy requirements.

However, a number of factors may slow down owners' adoption of these investments, including a lack of available capital, concerns over disruptions to tenant spaces, and unfamiliarity with the technologies and service providers who can cost-effectively execute these retrofits. The panel identified that these challenges would be particularly acute for legacy/small independent owners.

Under a "business as usual" scenario, apartment tower owners who make these retrofits convert affordable units to market-rate units when they turn over, effectively diminishing the supply of affordable rental units in the city. To preserve affordable rental units and to accelerate the investment of towers in deeper retrofits, the panel recommends that a combination of government grants and simplified low-cost financing be made available and tied to maintaining affordability targets. The city should condition its incentives on one or more factors, specifically:

- Offer a government grant or no-interest loan (as a percentage of construction costs) to owners who are willing to include a modest additional affordable housing goal in their renovation.
- Possibly cap the increase in rent for a vacant apartment at a 50 percent increase (as opposed to the 200 percent or 300 percent increase that may bring the apartment up to market rent).
- Offer a larger government grant or no-interest loan for owners who will accept a 10-year cap on rent increases above 5 percent on vacated units.

- For owners who want to go beyond the items identified as meeting minimum standards in their audit, offer similar grants to meet deeper resilience and climate mitigation goals (including 100 percent accessible buildings, net-zero buildings, and other more ambitious targets).

Toronto Community Housing Can Lead the Way

In addition to the \$1.3 billion in funding from Canada’s federal government for TCHC, the panel finds that Toronto’s public housing has three key attributes that make it the best place to accelerate the Tower Retrofit Program:

1. The ROI exists, without subsidies: The city of Toronto already bears all direct and indirect costs of these buildings’ current condition, including the cost of emergency services when these buildings fail, the energy and maintenance costs of aging and inefficient systems, the social costs of unhealthy buildings like missed work or school days due to illness, and additional demands on the public health system and social services. Investments in deep retrofits address all these costs, and they should all be included in justifying deep investment in these buildings.
2. This portfolio is greatly in need of retrofits: According to panel research and interviews, the TCHC portfolio appears to be the set of towers most in need of retrofits since these buildings have the oldest mechanical systems, some of the most inefficient building envelopes, and have seen more wear and tear in tenant spaces.
3. Holistic plan and success stories already available: While some private towers have made modest improvements in efficiency and resilience and a few towers have completed deep retrofits, a majority of private towers do not appear to have an immediate plan for deep retrofits. TCHC has already created a plan with the National Housing Strategy Co-Investment Fund Agreement and secured dedicated funding (\$1.34 billion over nine years) ready to be deployed in support of this initiative from the Canada Mortgage and Housing Corporation’s (CMHC) National Housing Co-Investment Fund. The panel recommends that the city publicize the positive results of and lessons learned from these projects to continue building the business case for deep retrofits in the private sector.

Strengthen the Local Market

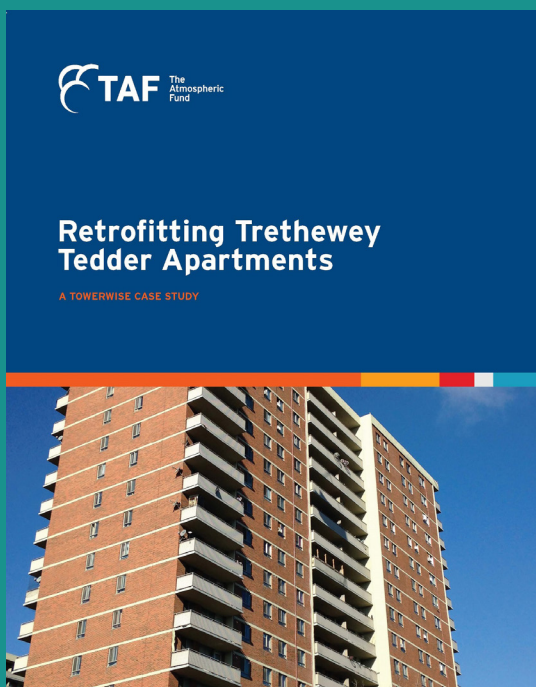
The panel asserts that completing deep retrofits on all 131 public towers in a comprehensive public building retrofit program can accelerate private compliance through more than just case studies, by lowering construction and material costs and strengthening the workforce. Public investment and progress would also show the private sector that the government is “walking the talk” with these retrofits.

- Develop the construction workforce: The city should calculate the construction workforce to complete a deep retrofit of all towers within their portfolio and develop a job training program commensurate with their labor needs (perhaps in partnership with a technical program). For example, “The retrofit of 131 TCHC towers will be completed over 10 years, and need 2,500 trained construction workers [and plumbers, electricians, and fire safety specialists] to complete and the city will partner with local universities and/or unions to fill this need.” Sharing these plans with the local market ensures an educated workforce able to meet demand.
- Create a plan for purchase of materials: The city should calculate the amount high R-value glass, sensors and controls, solar panels, high-efficiency elevators, boilers, HVAC, and other technologies it plans to purchase and the necessary specifications (seasonal energy efficiency ratio [SEER] rating, R-value, and so on) for their deep retrofits. Indicating future demand for these materials will boost production and ultimately lower costs for the private sector.
- Develop an open data platform: On this platform, public and private apartment tower owners can see the following: how the city is executing its retrofits; the planned energy and resilience improvements; and how the contractors, equipment providers, and service providers are making these projects happen. Identifying the best contractors supporting the city’s public buildings initiative can be leveraged by the private-sector towers in their own retrofit efforts, particularly small owners with less technical expertise.

	Trethewey Tedder Apartments	RJ Smith Apartments	
EFFICIENCY MEASURES	Building details	Two 1970s high-rise buildings, with a total of 369 units	Three 1965 buildings: two are identical seven-story buildings and the third is 11 stories, with 471 total units
	Gas	New condensing boilers Recommissioned boilers In-suite smart thermostats New air-handling units and duct cleaning	New condensing boilers Existing domestic hot water boiler recommissioning
	Electric	LED lighting retrofits (interior, exterior, garage) Occupancy sensors Variable frequency drives on heating pumps	LED lighting retrofit (interior, exterior) Occupancy sensors Variable frequency drives on domestic cold-water booster pump
	Water	Ultra-low-flow 3L toilets	Ultra-low-flow 3L toilets
OUTCOMES	Tenant comfort	Improved thermal comfort and indoor air quality for residents	Reduced overheating by 59%
	Total cost	\$1,638,745	\$1,511,785
	Annual cost savings	\$242,997, exceeding projections by 28%	\$123,957, exceeding projections by 6%
	Emissions reductions	24% reduction	30% reduction
	Payback/ROI	6.2 years/364%	7.1 years/500%

TCHC TOWER RENEWAL AND RETROFIT PROFILES

As part of the TowerWise program, from 2015 to 2018 the Atmospheric Fund (TAF, a regional climate agency) partnered with Toronto Community Housing to conduct energy and carbon efficiency retrofits in seven buildings on three sites. Below are profiles of two of those projects as well as findings on positive outcomes for residents from the entire TowerWise program (including the additional buildings not profiled here).



CASE STUDY OF THE TRETHEWEY TEDDER APARTMENTS.

POSITIVE OUTCOMES FOR RESIDENTS

TAF performed a post-retrofit survey of residents' comfort and satisfaction one year after efficiency measures had been installed, showing the retrofit's broader return on investment through increased occupant satisfaction and health improvements. Results included the following:

- Increased temperature comfort was reported, during both winter and summer;
- Fewer draft- and odor-related complaints were received;
- Reports of fatigue, headaches, irritated eyes, dry throat, cough, dry skin, and runny nose decreased by up to 57 percent; and
- Reported hospital visits over a three-month period decreased by 39 percent at two of three sites.



Achieving scale with retrofits is important to drive market transformation.

A Pilot Competition to Drive Private-Sector Retrofits

To accelerate investment in tower retrofits, the panel recommends that the city of Toronto initiate a call for proposals for up to 10 towers that are committed to working with the city on a deep retrofit. These towers would work alongside the public cohort to pursue deep retrofits with a focus on safety, resilience, and sustainability.

The panel recommends a \$50 million pilot for up to 10 towers that want to drive best-in-class upgrades, providing a one-to-one matching grant with a minimum pilot cost of \$2 million (up to \$10 million). However, to access city funding, pilot proposals would have to demonstrate the following:

- Reduce energy consumption by 30 percent or more;
- Bring facilities' electrical, plumbing, fire/life-safety features, and elevators up to new construction code;
- Make it multimeasure—at least three major energy conservation measures (for example, building envelope, heating system, and elevators);
- Integrate renewable energy and on-site energy storage/backup power for resilience;

- Make 20 percent of units accessible for people with special needs;
- Show that tenant energy costs have been lowered and;
- Develop and conduct tenant surveys before and after retrofits are delivered. These surveys aim to collect data on the delivery of benefits to tenants.

Be transparent about costs, benefits, and outcomes (energy savings, maintenance savings, number of fire/emergency calls before and after, and so on) to develop robust case studies that can inform public and private tower renewal going forward. To kick off the pilot, it is recommended that the city and owners publicly share their plan, and the projected savings of the 10 projects to both the city and the owners. Upon completion of the pilot, the city should consider whether an additional cohort of public/private tower renovations is necessary to continue progress toward tower renewal goals.



Conclusion

THE PANEL DEEPLY APPRECIATES the chance to better understand Toronto’s housing challenges as they relate to overall resilience and policy goals. The extraordinary work completed so far in thinking through this challenging problem and dedication to a market-based solution should be applauded. After reframing the original task, the panel determined that Toronto needed to consider tower retrofits as a key part of the larger ongoing discussion around housing quality, affordability, and supply.

The panel’s primary conclusion during their research and stakeholder interviews is that Toronto’s apartment towers are an asset. The towers compose the backbone of the city’s rental housing stock and are critical affordable housing options for those in economically challenged circumstances, landing points for new immigrants, and housing strivers constrained by the “missing middle.” Keeping them economically viable is crucial since no alternative housing currently exists for much of the city’s residents. These towers were built for the long term—and

with good maintenance and deep retrofits, they can remain a vital part of the city’s housing stock for the next 40 to 50 years.

But the panel also found that the towers cannot be dealt with in isolation. They are a significant part of Toronto’s housing ecosystem, but should not be the city’s only focus. Concurrent with retrofitting the towers, parallel attention needs to be paid to removing barriers to expanding the housing supply, by first removing development barriers to new rental housing and then

creating much-needed policy tools to build and then preserve deed-restricted housing via new housing supply streams.

Across Canada, the federal, provincial, and city governments all have goals regarding housing affordability and quality. Real estate capital decisions should be aligned through policies and incentives to achieve those outcomes and avoid catastrophic building failure. Instead of waiting for developers to deliver projects that do not make economic sense, governmental leadership is needed to guide new housing stock to be energy efficient and healthy.

With these recommendations and strong city leadership, the panel believes that Toronto's towers can be a global example for cities across North America and Europe facing similar challenges of aging and inefficient residential towers.

Within Toronto, all facets of the greater tower community—including owners, investors, developers, operators, agencies, managers, planners, trades, and residents—need to be aligned. If the city is able to accomplish all these recommendations, it should be further along to meet the goal of all Canadians having a home that they can afford and that meets their needs by 2030.

Summary of Key Recommendations

WHO OWNS THE TOWERS		
	Key players	Sequence
Recommendation: Reorganize the Tower Renewal Program within city government.		
Empower the city manager with oversight and authority over tower renewal.	City Council, city manager	Immediate
DEVELOP TORONTO'S LONG-TERM HOUSING STRATEGY		
Recommendation: Expand the scope of the city's housing plan to at least 2050.		
Conduct a needs assessment to inform neighborhood master plans.	City, TCHC, Build Toronto, TTC, Metrolinx, consultants as needed	Immediate
Develop a neighborhood planning process for tower neighborhoods, focusing on those closest to transit. Identify sites for infill and swing space development opportunities.	City	Immediate
Expedite approvals for projects within master plans.	City	After master plans created
Recommendation: Address structural biases favoring condo over rental.		
Conduct a needs assessment to inform neighborhood master plans.	City, TCHC, Build Toronto, TTC, Metrolinx, consultants as needed	Immediate
Develop a neighborhood planning process for tower neighborhoods, focusing on those closest to transit. Identify sites for infill and swing space development opportunities.	City	Immediate
Expedite approvals for projects within master plans.	City	After master plans created
Recommendation: Address structural biases favoring condo over rental.		
Review the harmonized sales tax rates to create more parity in the condo and rental rates.	Federal government, province, city	Immediate
Create financial tools to increase construction loan proceeds.	Government, CMHC, big banks, debt funds	Immediate
Streamline and shorten the project approval process to make rental returns more attractive.	City	Immediate
Consider reducing permitting fees for creating additional affordable units or zoning for mid-rise buildings, which require shorter construction windows.	City	Immediate

	Key players	Sequence
Recommendation: Promote density in the appropriate locations.		
Identify all vacant/underused city-owned sites appropriate for residential development.	City	Immediate
Work with nonprofit organizations with underused sites to reprogram/add housing.	Nonprofit groups, city	During housing plan creation and ongoing
Leverage transit expansion to encourage development of affordable housing.	Metrolinx, TTC, Build Toronto, developers, large employers	In conjunction with new transit planning
Consider infill as an opportunity to create additional building typologies or swing space during retrofits.	City, developers	In conjunction with neighborhood master plan
Recommendation: Create a mandatory inclusionary housing program.		
Conduct market economic feasibility studies to understand each submarket and geography.	City	In conjunction with housing plan
Create a menu of options for affordability (lower total number of units at deeper rate of affordability or more units at more moderate affordability) and address needs of different user groups.	City	In conjunction with housing plan
Ensure that low-cost financing is available for projects in lower-value markets.	City, CMHC, big banks	In conjunction with housing plan
Require long-term or permanent affordability.	City	In conjunction with housing plan
INCREASE COMMUNITY RESILIENCE		
Recommendation: Identify open space ownership.		
Create a detailed survey of open space ownership, including parcel edges and rights-of-way to help connect owners and build relationships.	City	Immediate
Recommendation: Create tower enhancement districts (TEDs).		
Bring together community stakeholders to create resilient and perpetual community structure. Develop a legal framework and template for TED bylaws and funding.	City, tenants, building owners, social services, local business	Immediate and ongoing
Create seed capital/grant program for TED pilot projects including entity formation and operation, and master-planning efforts in key tower districts.	City, tenants, building owners, social services, local business	Immediate and ongoing

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	Key players	Sequence
Recommendation: Target and animate currently disused and disjointed spaces.		
Renew aesthetics to brighten the identity of towers and tower neighborhoods and create a sense of place.	City, tenants, building owners	Ongoing
Program places for social and recreational use to increase casual and planned socialization.	City, tenants, building owners, social services, local business	Ongoing
Promote access to social services and support for education and employment.	City, social services	Ongoing
Advance local natural systems to connect residents with nature and the city's environmental goals.	City, building owners, social services	Ongoing
Increase transportation options with community mobility and vertical mobility.	City, Toronto Transit, building owners	Ongoing
Identify district-scale opportunities for renewables and battery storage.	Building owners, service providers	Long term as part of resilience planning
Continue to leverage existing city programs and tools among the tower resident community.	City, social services	Ongoing
Evaluate tenant access to the internet, reliability of the internet connection, in-building cellphone service, printer availability, and public wi-fi needs to support overall education and employment opportunities.	City	Immediate
INCREASE COMMUNITY RESILIENCE		
Recommendation: Identify city funding for projects that create public benefits.		
Develop an illustration of a new way to calculate a project's return on investment, for the developer and the city.	City, building owners, institutions of higher education (e.g., University of Toronto)	Immediate
Provide incentives for highly efficient retrofits commensurate with helping these key investments achieve minimum tower standards.	City, province, CMHC	Immediate
Make a combination of government grants and low-cost financing available, but tied to affordability targets, to maximize affordability in efficiency projects.	City, province, CMHC	Immediate

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	Key players	Sequence
Recommendation: Create a new set of policies to move toward the city's goals.		
Improve enforcement by reviewing all permits when a building undergoes an upgrade and document everything out of compliance if called to inspect a building.	City	Ongoing
Require all buildings to affirm that they are up to all applicable codes for fire, life safety, electrical, and plumbing.	City, building owners	Immediate
Launch a benchmarking and public disclosure program for all buildings over a certain size, including apartment towers.	City, building owners, service providers	Immediate
Audit all multifamily to identify and require all investments to meet minimum standards (sustainability and resilience) and fine owners who do not implement by 2025.	City, building owners	Ongoing
Require building owners to complete a maintenance plan every year and submit it to the city.	City, building owners	Ongoing
Require at least one person per site to be trained (or have industry certification) in key components of building resilience and sustainability strategy.	City	Ongoing
Continue to leverage existing city programs and tools among the tower resident community.	City, social services	Ongoing
Recommendation: Build off the TCHC building retrofits.		
Publicize the positive results and lessons learned from TCHC projects.	City, TCHC	Immediately and ongoing
Share labor needs to develop the construction workforce.	City, TCHC, labor community, universities	Once information is available
Create a materials purchase plan to boost production and lower costs for the private sector.	City, TCHC	Once information is available
Develop an open data platform to show how the city is executing its retrofits, including a list of contractors and equipment providers.	City, TCHC	Once information is available
Recommendation: Create a city pilot program for private-sector retrofits.		
For buildings willing to implement best-in-class and multimeasure upgrades, provide a one-to-one matching grant with a minimum pilot cost of \$2 million (up to \$10 million).	City, building owners	As soon as funds can be identified
Publicly share pilot plan, the projected savings, and results to develop robust case studies.	City, building owners	In conjunction with pilot program

About the Panel

Jim Heid

Panel Chair
Healdsburg, California

Heid is a real estate developer and strategic real estate adviser focused on the tools and techniques that lead to a more sustainable built environment. His consultancy—UrbanGreen—advises government agencies, real estate companies, and legacy landowners across the globe. In 2017, Heid founded CRAFT, a real estate company focused on incremental development and intentional place-building.

An active member of the Urban Land Institute (ULI), Heid has participated in over 12 Advisory Services panels, most recently chairing a deep dive into Napa's Oxbow District. He writes and speaks regularly on sustainable design, resilience, and the value of small-scale, incremental development. His forthcoming book—*Building Small: A Handbook for Real Estate Entrepreneurs, Civic Leaders, and Great Communities*—will provide a detailed look at the why and how of fine-grained development based on national research and forums over 14 cities.

Trained as a landscape architect at the University of Idaho, Heid went on to receive a master's degree in real estate development from the Massachusetts Institute of Technology.

Bradford H. Dockser

Bethesda, Maryland

Dockser is the chief executive officer and cofounder of Green Generation, which transforms the world's built environment through a turnkey approach by integrating energy, real estate, technology, and capital markets to "Operate in the Green."

Dockser spent over two decades of real estate investing as a principal with national real estate investment firm MacFarlane Partners, overseeing activities of its mid-Atlantic business; and founder and managing director for Starwood Capital Europe, overseeing operations, direct investments, and operating joint ventures and financing activities throughout Europe. He earlier founded Starwood Capital Asia and was responsible for its Asian operations.

He is a member of the Urban Land Institute, the U.S. Green Building Council, Harvard University Asia Center Advisory Committee, and the International Society of Sustainability Professionals. He serves on ULI's Center for Sustainability and Economic Performance's global advisory board and is also chairman of the Institute's Washington Sustainability Committee and chair of the ULI Redevelopment and Reuse Product Council. He also was founding director of the Greater Washington Exploratory Committee, D.C.'s bid committee for the 2012 Summer Olympics.

Dockser received an AB *cum laude* in economics as well as a master's degree in business administration, both from Harvard University.

Billy Grayson

Washington, D.C.

Grayson is the executive director for the Center for Sustainability and Economic Performance at the Urban Land Institute, a nonprofit education and research organization that focuses on land use, real estate, and urban development.

As executive director for the center, Grayson manages a team leading programs on climate risk and resilience, health and wellness, and building energy and environmental performance.

Grayson has over a decade of experience leading energy and sustainability initiatives in real estate, distribution, and supply chain operations. As sustainability director at Liberty Property Trust, he led a 500-plus building initiative that included green building construction, energy efficiency retrofits, and sustainability-focused property management strategies and tenant engagement.

As vice president, social and environmental sustainability for the Electronics Industry Citizenship Coalition (EICC), Grayson led a global compliance program working with the electronics supply chain to identify and mitigate environmental and human rights risks in their shared supply chain, as well as programs addressing climate change mitigation.

As sustainability director at WESCO, he developed an operational sustainability program that reduced energy, water,

and waste, and launched a global marketing initiative for WESCO's sustainability-focused energy technology products and services.

Grayson is a Leadership in Energy and Environmental Design Accredited Professional and a former board member of the Delaware Valley Green Building Council and NAREIT Sustainability Advisory Committee. He holds an MBA and a master's degree in public policy from the University of Maryland and a bachelor's degree in environment, economics, and politics from Claremont McKenna College.

Purnima Kapur

New York, New York

Kapur is a planning consultant with over 25 years of experience. She is also an adjunct professor at Columbia University's Graduate School of Planning and Architecture. Kapur serves as a director on the board of trustees of the Hudson River Park Trust and the Skyscraper Museum. She also serves on the board of advisers of Columbia University's Center for Buildings Infrastructure and Public Space (CBIPS).

Until recently, Kapur was the executive director of the New York City Department of City Planning (DCP), where she oversaw the agency's five borough offices as well as the central planning divisions. Kapur is one of the key architects of New York City's groundbreaking Mandatory Inclusionary Housing regulation. Under her leadership, the city adopted five Integrated Neighborhood Plans in four boroughs, as well as an innovative plan for the redevelopment of Greater East Midtown.

Kapur has been a key player in the redevelopment and transformation of Brooklyn over the past two decades. Under Mayor Bloomberg, she served as director of DCP's Brooklyn Borough Office from 2006 to 2014. She led high-priority and transformative projects, including the development of the Greenpoint-Williamsburg waterfront, downtown Brooklyn, and Coney Island, among other neighborhoods.

Bill Lashbrook

Hopewell, New Jersey

In 2020, Lashbrook retired from PNC Bank, completing a 47-year banking career with the last 35 years in commercial real estate. He began his career in 1973 at the Bank of New York. After 12 years there as a corporate lender, he moved to commercial real estate lending. In 1993, Lashbrook joined MidLantic Bank as the real estate credit officer and retained that role after that bank's merger with PNC in 1997. After joining PNC, he held various roles, including providing customers with debt and equity capital for real estate investment, acquisition integration, internal bank risk management, and regulatory risk capital reporting for commercial real estate.

Lashbrook has been a ULI member since 1998. In 2004, he arranged ULI's first sustainability discussion at the 2004 Fall meeting. He went on to become a founding member of ULI's Climate, Land Use, and Energy (CLUE) committee, a predecessor to the ULI Center for Sustainability and Economic Performance.

He has served on 10 Advisory Services panels, including the Institute's first panel focused on sustainability factors in Biloxi, Mississippi, in 2008 and was a member of ULI's "After Sandy" advisory panel that highlighted the need for resilience planning for the coastal New Jersey/New York/Connecticut area. In July 2019, Lashbrook was a member of the ULI panel advising property owners and District agencies on the implementation of Washington, D.C.'s energy efficiency and sustainability statute.

Also at ULI, Lashbrook has been an active member and leader in product councils—first in Urban Development Mixed-Use Councils, then an early member of the Responsible Property Investing Council, and later cofounded the Redevelopment Reuse Product Council. He is a Governing Trustee of ULI, a ULI Foundation Governor, and on the board of the Institute's Women's Leadership Initiative. In 2018, he completed a two-year term as an Executive Committee member of ULI Americas.

Lashbrook graduated from Duke University in 1973 with a BA in political science and economics. He received an MBA from Seton Hall University in 1976.

Laura London

Arlington County, Virginia

London has worked in the real estate industry for two decades in multifamily project management, master plan community development, real estate marketing, and asset management. She joined the Arlington Partnership for Affordable Housing (APAH) in 2012 and manages predevelopment, entitlement, financing, and construction activity, as well as physical design and construction standards across the portfolio. At present, APAH is managing the pipeline development activity of more than 750 affordable rental units.

Recently, she managed delivery of the Springs, in Arlington's Ballston neighborhood, which in 2017 was recognized as Multifamily New Construction Project of the Year in Viridiant's Sustainable Leadership Awards, and as a finalist for Excellence in Housing Development in ULI Washington's Trends Award. She currently spearheads construction and predevelopment for Gilliam Place and Queens Court, and is supporting APAH's expansion outside Arlington County.

London was involved in delivering more than 2,000 multifamily units as managing director with Kettler. Previously, she worked in project management and acquisitions for North America Sekisui House (NASH), and at Lennar in the San Francisco Bay area, focusing on higher-density infill and mixed-use deals including several former military base sites.

As an active member of ULI, London is a graduate of the 2013–2014 Regional Land Use Leadership Institute class, an event panelist, and a member of its district Housing Initiative Council. She serves on the boards of the Views at Clarendon Corporation and the Lee Highway Alliance.

London earned a BA, *cum laude*, in history of art (architectural history) from Yale University. She earned a master's in city planning (urban design) and an MS in real estate development from the Massachusetts Institute of Technology.

Elizabeth Propp

New York, New York

Propp is senior vice president at the Community Preservation Corporation (CPC), a leader in the financing of affordable housing projects in New York City and state. She joined CPC in 2015 to develop and implement several new equity initiatives to complement CPC's lending activities. Current investment programs focus on long-term affordability, sustainability, and minority and women business enterprise (MWBE) developers. Propp is also leading CPC's participation in the RAD conversion/rehabilitation of a 1,700-unit portfolio of public housing units in upper Manhattan in partnership with the New York City Housing Authority.

Propp was previously managing director/acquisitions team leader for Real Estate Americas at JP Morgan Investment Management. Over 15 years at JP Morgan, her focus was on making equity real estate investments on behalf of institutional clients. Her transaction experience includes office, multifamily, retail, and industrial property acquisitions and ground-up developments, and covers a range of strategies including core, value-add, and opportunistic.

She also worked at New York University's Furman Center for Real Estate and Urban Policy, the Penn Station Redevelopment project, and the New York City Economic Development Corporation.

Propp's professional affiliations include the Urban Land Institute and WX–New York Women Executives in Real Estate. She is a graduate of Harvard University and Yale School of Management.

Deborah Kerson Bilek

Washington, D.C.

Bilek is the vice president of Advisory Services at the Urban Land Institute. The Urban Land Institute is a global nonprofit education and research organization dedicated to providing leadership in the responsible use of land and in creating and sustaining thriving communities worldwide.

Bilek is passionate about building community, and her work centers on facilitating multisector collaboration to achieve a common purpose. She facilitates groups and individuals with different interests around issues of importance to the economic competitiveness of the metropolitan region.

Most recently, the programs she manages touch on issues related to economic development, equity of opportunity, housing affordability, and transportation.

Prior to joining the Advisory Services team, Bilek was the senior director of community outreach at ULI Washington, a district council of the Urban Land Institute. Before ULI, she worked as a planner with the Metropolitan Washington Council of Governments, where she served as professional staff to the National Capital Region Transportation Planning Board and managed leadership development programs for citizens.

Bilek began her career as a Presidential Management Fellow with the U.S. Federal Transit Administration, where she also had the opportunity to serve as staff to the U.S. House of Representatives Committee on Appropriations.

Bilek holds an executive certificate in facilitation from Georgetown University. She earned her master's degree in public administration from New York University and her undergraduate degree in anthropology from Washington University in St. Louis.

Monika Henn

New York, New York

Henn is a manager at the Greenprint Center for Building Performance at the Urban Land Institute, a nonprofit education and research organization whose mission is to provide leadership in the responsible use of land and in creating and sustaining thriving communities worldwide.

Henn has extensive experience in data collection, reporting, and city engagement strategies. She is a Leadership in Energy and Environmental Design Green Associate and a Fitwel Ambassador. She holds a BS in biology from the University of Virginia and an MS in aquatic resources from Texas State University.

Michaela Kadonoff

Washington, D.C.

Kadonoff is the senior associate for meetings and events at the Urban Land Institute, a nonprofit education and research organization whose mission is to provide leadership in the responsible use of land and in creating and sustaining thriving communities worldwide.

Since joining ULI in January 2018, Kadonoff has participated in more than a dozen Advisory Services panels. In her role as associate, she manages the logistics and coordination for panels as well as assists in the planning of the Institute's Annual Fall and Spring Meetings.

Prior to her role at ULI, Kadonoff worked at the Healthcare Distribution Alliance as the administrator/registrant for the meetings and conferences department.

Kadonoff graduated from Roanoke College with a bachelor's degree in business administration and marketing in 2014.



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