3. Urban Design Principles and Guidelines

3.1 Introduction

The urban design guidelines set forth a long-term vision for the physical form and character of Markham's segment of the highly important Yonge Street corridor. The objective of the guidelines is to direct future growth in a manner which builds upon recent intensification efforts and higher-order transit improvements and protects the character of the existing neighbourhood.

The intent is to insure that all development contributes to making Markham a unique and special place—a 'Made in Markham' solution. The Plan seeks to capitalize on burgeoning development potential and ensure that proposed higher density development also provides the qualities and amenities that will create an attractive, livable community with a lively mix of uses, walkable streets, convenient transit, distinctive neighborhoods, and access to open spaces.

Finally, this plan is only a means to an end—a tool to assist the Town in achieving its long-range vision. The vision itself will only be brought to life through the persistence and cooperative efforts of all those who participate in the creative process of building Markham's future.

The public realm guidelines provide some guidance for private development, but their primary focus is to provide direction to Town departments and decision-makers who are responsible for the design, implementation and maintenance of improvements within the City's parks and public rights-of-way.

The guidelines will provide Town staff, decision-makers, and private interests a common basis for the evaluation of design and development issues during the design review and approval process for individual private development proposals.

The guidelines in this document are intended to provide direction rather than prescriptive requirements. The Town should have the authority to waive individual guidelines for specific projects where it is found that such waiver will better achieve the design policy objectives than strict application of the guidelines.

This chapter is organized in five sections:

General Principles and Guidelines - describes the overall intent of the urban design and articulates the overall vision for the physical form and character of the redevelopment area;

Built Form Guidelines - addresses the key elements regarding the placement and design of buildings, how they relate to one another as well as the existing neighbourhood;

The Streets: Built Form and Public Realm Guidelines - addresses in more specific detail the built form and public realm guidelines for each street type in the redevelopment area;

Environmental Design and Sustainable Development - suggests how new projects within the redevelopment area can reduce their impact on the environment and contribute to the overall green image of Markham.

Demonstration Plan - illustrates—through the use of digital 3-dimensional models—one possible scenario for redevelopment of the study area that follows the urban design principles and guidelines.

3.2 General Principles and Guidelines

3.2.1 Encourage a Well-Integrated, Rich and Varied Urban Form

Principle: Redevelopment should include a broad mix of housing, commercial and employment uses, with the higher densities and greater building height and massing focused closer to Yonge Street with transitions down towards the low-rise residential areas.

Background

Region of York transit-supportive intensification targets applicable in the Yonge Street corridor (outlined in Chapter 2: Planning Framework) provide for significantly higher development densities than currently exist in the Study Area.

With redevelopment comes the opportunity to define vibrant mixed use and high quality transit-oriented development—to create places where people will want to live, work, recreate, shop and spend time. Redevelopment should incorporate mixed-use projects, new housing, neighborhood-serving retail, employment, schools, day care centres, parks and other amenities to serve the local community.

The scale of new development must balance the transit supportive intensification objectives with the protection of adjacent stable residential neighbourhoods. Intensification can and should improve overall environmental and community sustainability.

Built-form analyses conducted through this study conclude that the target average densities and satisfactory interfaces with the residential neighbourhoods can be achieved if mid-rise and high-rise development is concentrated towards Yonge Street and on larger land parcels adjacent to the railway and industrial uses; transitioning to low-rise residential development closer to the existing residential neighbourhoods.

This pattern of built-form is entirely consistent with the urban design and traffic objectives of having substantial built-up edges and mixed-uses towards the Yonge Street Corridor to give shape and a sense of enclosure as well as reinforcing the pedestrian realm of this main street.

Guidelines

- Built form, density and land use designations will guide and regulate the mix and emphasis of land uses.
- Building massing and density should concentrate closer to Yonge Street. There should be a transition in the density and built form so that building mass increases towards Yonge Street and away from the residential areas outside of the redevelopment area. Absolute height limits and angular planes will regulate the heights of buildings in various locations.
- Provide for and encourage the development of both residential, employment and other non-residential uses through the land use and urban design policies.

3.2.2 Transition with Adjoining Neighbourhoods

Principle: The interface between the redevelopment sites and the adjoining neighbourhoods should minimize adverse impact and respect the character of the single-family residential areas by creating a comfortable transition in the built form.

Background

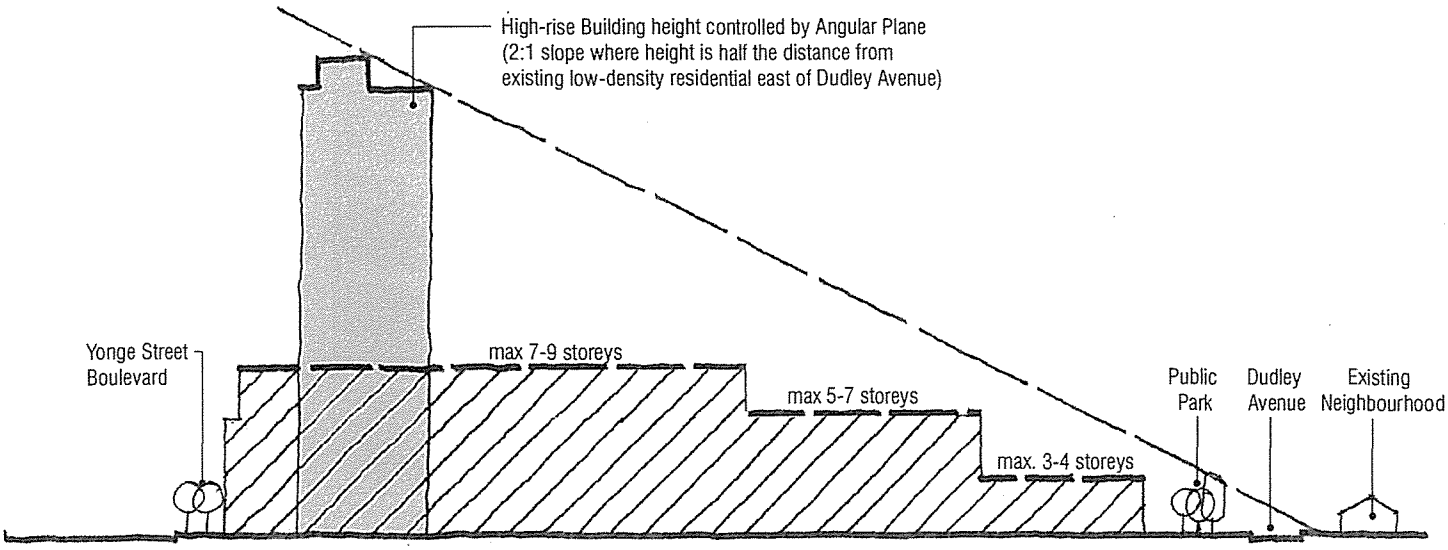
Built-form and public realm design guidelines are required to minimize the visual and traffic impacts of higher density development on the adjacent low-density residential neighbourhoods.

The neighborhoods immediately east of the study area are predominantly single-family residential homes of modest scale on small lots. Those existing properties that abut Dudley Avenue on the eastern edge of the study area are mainly single storey with pitched roofs fronting the east-west streets.

New high-rise buildings in the redevelopment study area should be clustered in the area of Yonge Street and the CN Rail corridor, furthest away from the low-rise residential neighbourhood. The building height and scale should be stepped down towards the low-rise residential areas.

Guidelines

- Linear parks are required on the west side of Dudley Avenue at the ends of all redevelopment blocks. Larger neighbourhood parks and publicly accessible open spaces are also required to better serve the broader study area.
- Redevelopment on the west side of the linear park facing Dudley Avenue is restricted to 12 metres in height—3 or 4 storey residential buildings (most likely townhouses or small walk-up apartments) that address the linear parks and have entrances accessed from a footpath at the edges of the parks.
- New buildings that face the larger neighbourhood parks, or are behind the 'front row' of low-rise buildings along the linear parks, will be restricted to mid-rise buildings no higher than 25 metres (5-7 storeys) inclusive of mechanical penthouse.
- High-rise point tower buildings (over 35 metres) will be permitted in a typical block close to Yonge Street. These buildings are subject to 'angular plane' height controls that slope up and away from the existing residential neighbourhoods, along with floor plate size restrictions and spacing requirements that control the visual bulk and appropriate separation.
- Refer to Section 3.3 for the specific details of these built-form guidelines including the angular plane.



General transition of building height and density between new development and the existing adjacent low-density neighbourhood for a typical development block

3.2.3 Redevelop with Appropriate Densities

Principle: Redevelopment densities should meet regional and Town intensification objectives while minimizing the impact on existing low-density residential areas.

Background

Density controls are required to help guide the intensity and location of redevelopment within the study area. These controls will work in concert with the built form guidelines to limit building mass adjacent to the existing neighbourhoods, with greater massing towards Yonge Street.

Recent high-level planning targets by the Province and Region suggest a target density along intensification corridors (such as Yonge Street) be increased to a Floor Space Index (FSI) of 2.5.

An average block density of 2.5 FSI is useful as a coarse grain planning-level tool. The recommended approach in this study is to have a transition, with higher densities towards Yonge Street, the railway and the industrial areas and lower densities towards the existing residential neighbourhoods. The average residential density in the study area will generally meet the Region's target. Additional provisions are recommended to encourage commercial development and to support higher-order transit improvements. This strategy will allow for flexible redevelopment either incrementally or with larger parcel assembly.

Guidelines

- Density will be higher towards Yonge Street, the railway and the industrial land uses and lower towards the existing low-density residential neighbourhoods to the east.
- The average net density target for new residential development within the study area should be 2.5 FSI.
- An additional 1.0 FSI should be permitted for commercial buildings or commercial floor space within mixed residential/commercial buildings. Therefore, the maximum density for a mixed use building shall be 3.5 FSI.
- Densities should be restricted to 1.5 FSI closest to the existing low-density residential neighbourhoods.
- A minimum density of 1.0 FSI should be required on all redevelopment sites.

Maximum Density Zones

- 2.5 FSI Residential / 1.0 FSI Commercial
- 1.5 FSI Residential
- 2.5 FSI Residential
- Public or Publicly Accessible Open Spaces, Easements, or Boulevard Setbacks

3.2.4 Enhance Community Facilities through Redevelopment

Principle: The Town should leverage redevelopment to improve the quality and supply of community facilities and services within the study area.

Background

One of the aspects most impacted by an increase in population—and often overlooked—is the provision of community facilities and services. A considerable benefit of redevelopment is the opportunity for the Town to enhance community facilities, services and other public amenities through various mechanisms. Potential enhancements could include the acquisition of land for and the on-going operations and maintenance of parks and open space, libraries, community centres, streetscape improvements and infrastructure upgrades.

Guidelines

- The Town will enhance community facilities and other public amenities in the study area through the redevelopment process.
- The Town should monitor community facilities and services as redevelopment proceeds to ensure that capacity allocation is sufficient to meet the demand.
- The Town should investigate opportunities with the Cities of Vaughan and Toronto to share the cost of joint facilities and services where appropriate.

3.2.5 Balance Pedestrian and Vehicular Priorities

Principle: The impact of vehicular circulation, access and parking in the pedestrian realm should be minimized.

Background

With intensification and transit-oriented redevelopment comes the opportunity to reduce the amount of space dedicated to the movement and storage of private automobiles and service vehicles and to redress the balance towards the pedestrian.

For example, parking can be located below grade to liberate the ground level for other uses such as parks and other public spaces; service entrances can be incorporated into the interior of blocks; and driveways and drop-off areas can be consolidated and located so as to not interfere with the continuity of public sidewalks and the regularity of street tree plantings, and to minimize visual impact on public streets and open spaces.

With significantly improved transit, the overall demands for parking can be reduced. The Town's parking standards should be reviewed and adjusted in recognition of a higher transit modal split.

Above grade parking structures should not be permitted unless they are surrounded by residential or commerical buildings, meaning they should not have a public address. Underground access ramps should be incorporated into the ground floor of buildings where possible. Ventilation of below grade parking garages should be located away from pedestrian areas.

Vehicle access to development sites should be from the east-west side streets in order to concentrate local access/egress movements and maintain continuity of building frontages and pedestrian routes on the north-south streets (Yonge and Dudley and on Steeles).

Guidelines

- No direct vehicular access will be permitted from Yonge Street, Steeles Avenue or the west side of Dudley Avenue. Access should be from rear service lanes or the east-west local streets.
- A system of north-south lanes behind the Yonge Street properties should also be considered as part of the development process.
- No direct vehicular access will be permitted on the redeveloped frontages on Steeles Avenue east of Dudley Avenue. Access will be from an east-west mid-block service lane or from the east side of Dudley Avenue south of Highland Park Boulevard).
- Vehicular access to buildings fronting on the local streets should be consolidated to serve multiple buildings. Shared rear access lanes and interior service courts are encouraged.
- Service entries should be screened to provide a visual buffer and reduce noise impacts on the adjacent neighbourhood.
- Surface parking should be minimized and generally limited to wheelchair-accessible spaces.
- All other parking should be below ground, under buildings or landscaped courtyards.
- Structured above-grade parking should only be considered where it is surrounded by residential or commercial frontage and incorporates a landscaped 'green' roof.
- The Town should explore opportunities with the Region to provide on-street parking on Yonge Street (off-peak).
- Parking should be provided wherever possible on the east-west local streets between Yonge Street and Dudley Avenue.
- To faclitiate an increase in the modal split, the Town should reduce parking requirement standards for redevelopment as the study area becomes better served by transit.
- Adequate and sheltered public bicycle parking should be provided at or near building entrances for residents and employees within residential and commerical buildings.
- Major redevelopment applications should be required to provide a Travel Demand Management (TDM) study. TDM studies should explore opportunities for reducing parking supply, indicate before-and-after trip generation, and assess TDM initiatives such as bicycle parking, shuttle bus service to subway stations, enclosed bus shelters, and priority parking for carpooling.
- The Town should explore opportunities to ensure that any subway stations within the study area are accessible from grade as part of any potential subway extension along Yonge Street. Below grade connections to the subway station should also be explored as part of any redevelopment.

3.2.6 Strengthen the Traditional Pattern of Streets and Blocks

Principle: The existing fine-grain pattern of streets and blocks should be retained and extended into large redevelopment sites.

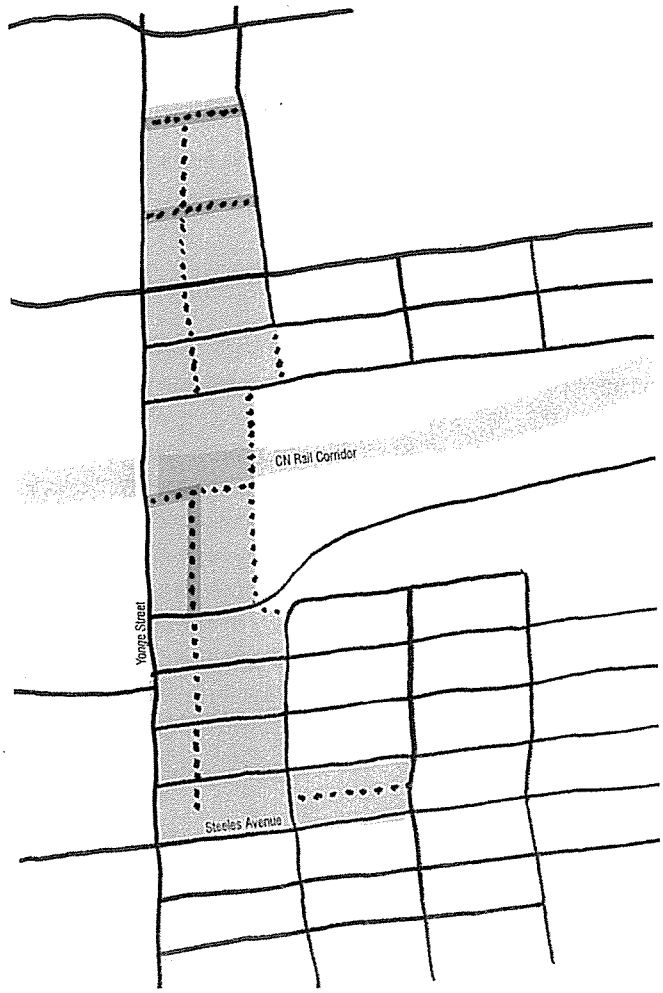
Background

Throughout North America, the traditional manner in which communities have developed is with a planned grid of streets and development blocks. This pattern allows municipalities to guide future growth in a manner that supports incremental development of varied scales and facilitates connectivity of public circulation. The grid permits an even distribution of traffic, and provides a variety of routes to all parts of the community for pedestrians, bikes, and cars alike.

The existing street and block pattern within the study area is similar to much of the urban fabric along the historic Yonge Street corridor. The street network is a rectilinear grid with an average block size of about 80 by 200 metres. A similar pattern is found to the south of the study area in the City of Toronto.

There are two larger blocks with consolidated parcels in the study area that front Yonge Street: one on the south side of CN Rail corridor that currently has a retail plaza and large surface parking lot and a second on the north side of Clark Avenue which accommodates a group of mid-rise apartment buildings, a corner gas station and the St. Luke's Learning Centre.

In these large parcels where the frontage on Yonge is much greater than the typical historic block, publicly accessible streets should be introduced. These could be in either public or private ownership but with full public access and designed to look like public streets. These streets will segment the block to better relate to the surrounding context, improve pedestrian connectivity, and provide a street address for development internal to the super-block.



Existing Street Pattern with Potential New Connections to Improve Vehicular and Pedestrian Access.
Public or Publicly Accessible Streets in red, alleys and lanes in dotted lines.
Conceptual Diagram only

Guidelines

- Large land parcels should be dissected by streets to ensure a high-level of permeability for public circulation and to encourage a scale of redevelopment similar to that of a traditionally sized block.
- The closure of public streets to consolidate ownership of adjacent blocks and facilitate super-block scale redevelopment should not be permitted.
- New streets may be transferred to public ownership and should meet all municipal standards or they may be retained in private ownership, as long as full public access is guaranteed and the design characteristics are similar to those of public streets.
- A system of public or publicly accessible lanes and driveways should also be introduced or protected for, through the redevelopment process, to facilitate internal block circulation for vehicles and pedestrians.

3.2.7 Develop a Context-Sensitive Circulation Network

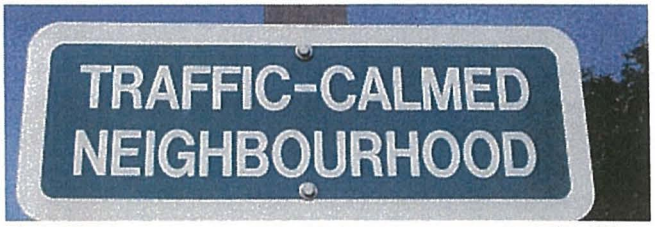
Principle: Through-traffic issues should be resolved by traffic management rather than street closures or diversions.

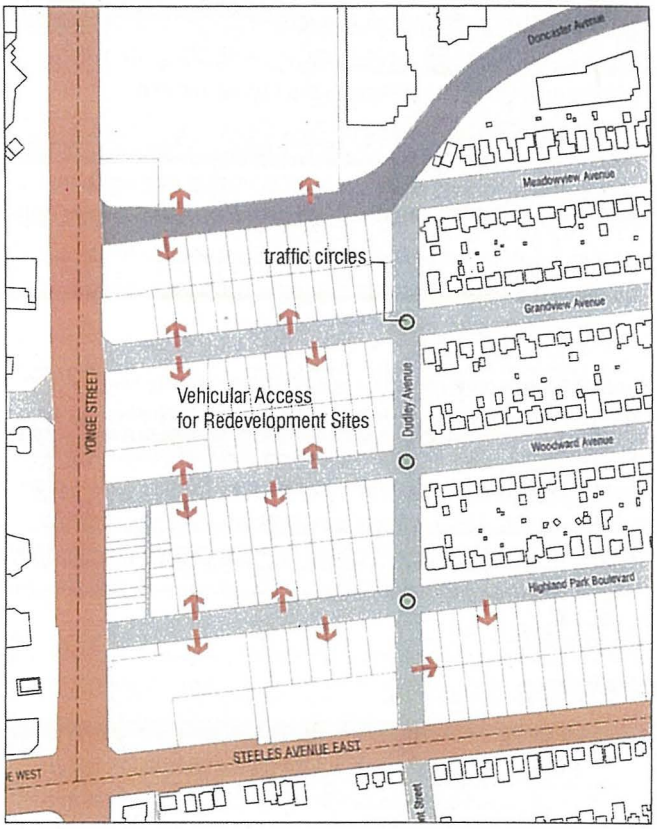
Background

In a grid system, traffic is distributed to accommodate the appropriate traffic volume in order to maintain a balance in the entire network. Thus, this Plan discourages the closure of existing streets to vehicular traffic. In response to public concerns over traffic infiltration, a series of traffic calming measures should be introduced to the existing residential neighbourhoods. The intent of traffic calming is straightforward—make drivers more aware of their slower-pace surroundings to improve the safety and livability of streets. This is accomplished by increasing 'friction' along the street through the addition of on-street parking, bike lanes and narrower travel lanes, and the introduction of traffic circles at appropriate intersections.

Guidelines

- A street structure plan should be incorporated into the Town's Secondary Plan, including both public streets and privately owned streets with guaranteed public access.
- The Town should commission a traffic calming study for the local residential neighbourhoods in consultation with adjacent municipalities.





Site Access and Traffic Calming Measures (conceptual only)

To reduce the impact of traffic on the neighbourhood, consider traffic calming measures (top images) for the intersections of Dudley Avenue and the east-west local streets (shown in yellow). This would indicate to vehicles that they are entering a slower paced residential area and provide a gateway transition from the existing neighbourhood to the new redevelopment.

To further minimize traffic infiltration into the existing residential neighbourhood restrict access to the redevelopment blocks from the east-west streets between Dudley Avenue and Yonge Street.

3.2.8 Improve the Pedestrian Realm

Principle: A vibrant public realm will set the stage for and be framed by redevelopment. Streets, parks and publicly accessible open spaces will support a range of local social and recreation activities.

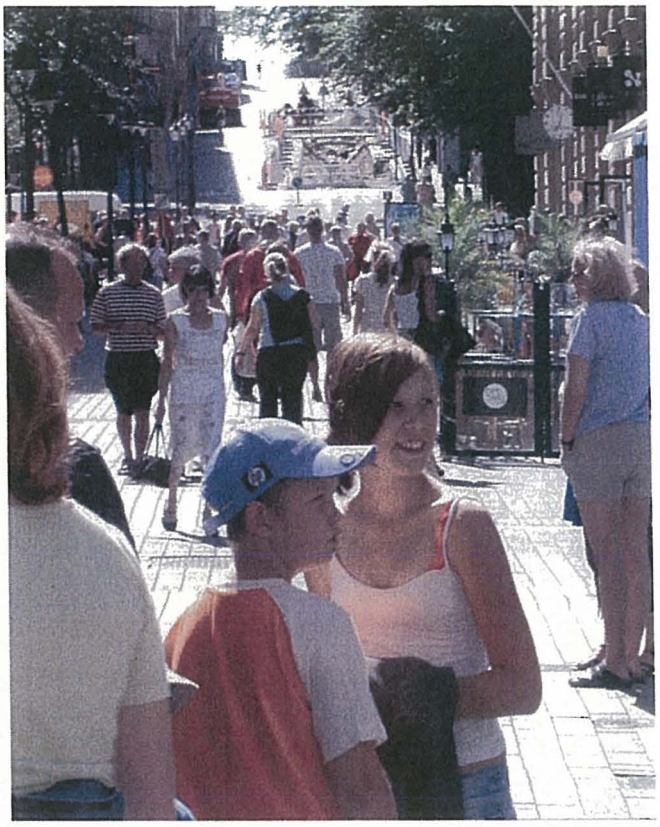
Background

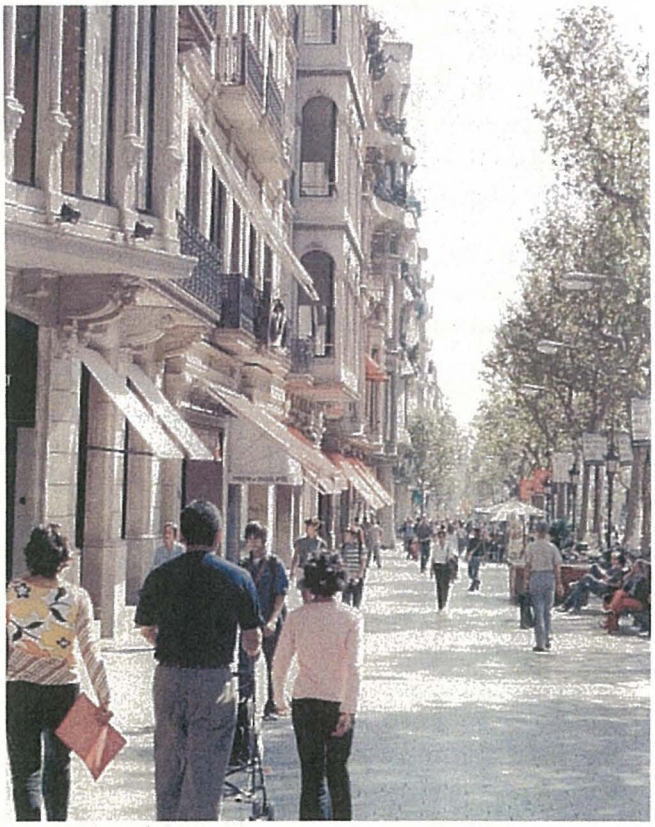
The pedestrian realm is the structure, setting and support for public life in urban settings. A public realm that is well proportioned, connected, legible, comfortable, safe and attractive contributes to the quality of life for all citizens. Improvements for pedestrians should focus on increasing space to support social and retail activities, providing visual relief in an urban setting, and elevating environmental quality. Streets, the foremost open spaces in the study area, should be the primary address for all new buildings.

There are two approaches to treating the transition space between the private and public realms. The first promotes interaction between the ground floor uses and the public sidewalk, which has a primarily paved character to accommodate commercial/pedestrian activities. The second approach provides privacy for the ground floor uses and usually has a soft vegetated character for residential activities.

Guidelines

- In the Yonge Steeles area, the public realm is the framework around which private development should occur, it should:
    - Consist of appropriately scaled public streets, parks and publicly accessible open spaces (see Section 3.2.9).
    - Establish spatial edges created by adjacent buildings and landscape elements, with at-grade uses to help support and animate the pedestrian realm.
    - Where possible, parks, open spaces and easements should be secured in advance of redevelopment or should be integral to the redevelopment application process.





Sensitive design of the pedestrian environment can greatly improve both social and recreational activities as well as foster a sense of community.

3.2.9 Create Better Public Spaces and Parks

Principle: New public parks, promenades, streetscape improvements, pedestrian bridge, and privately owned parkettes should be combined to form a coherent, publicly accessible pedestrian and bicycle, green space system.

Background

Using the Town's standards for the provision of park space, the study area and adjacent neighbourhoods are deficient in publicly owned park space. Redevelopment and intensification of the study area presents the opportunity to contribute to off-setting some area-wide park space differences but more importantly, to provide a range of high-quality parks and public spaces that are specific to an intense urban setting. These are:

Yonge Street Boulevard: Yonge Street could play a more central role in the life of Markham if the boulevards were widened to accommodate a generous promenade and space for lingering, sidewalk merchandising and café seating. Please refer to Section 3.4.3 for more detail).

Publicly Accessible Parkettes, Courts and Squares, particularly on Yonge Street, could expand the use and enjoyment of the area. If they are on private lands their design and public use should be secured through site plan agreements, public right-of-way easements or other mechanisms to ensure public accessibility. They should be enhanced through public art provisions.

Dudley Linear Parks are proposed at the ends of each block, along Dudley Avenue, as part of the green "seam" between the redevelopment areas and the established neighbourhoods.

Neighbourhood Parks and other Large Publicly Accessible Open Spaces: Two larger neighbourhood parks should be established to supplement the Dudley linear parks. They should be sized to accommodate a wider range of recreational activities and facilities than the linear park system. One park is proposed to the north of the rail corridor, the other to the south. A third larger publicly accessible open space is proposed as part of the large redevelopment parcel north of Meadowview Avenue.

Pedestrian Bridge: A new pedestrian and cycle bridge across the C. N. Rail corridor, linked by greenways to the Dudley linear parks, can effectively connect together the entire length of the study area. The bridge should be of sufficient width to accommodate two-way bicycle and pedestrian use. It should be a landmark structure with identifying features such as arches, lighting and unique structural characteristics.

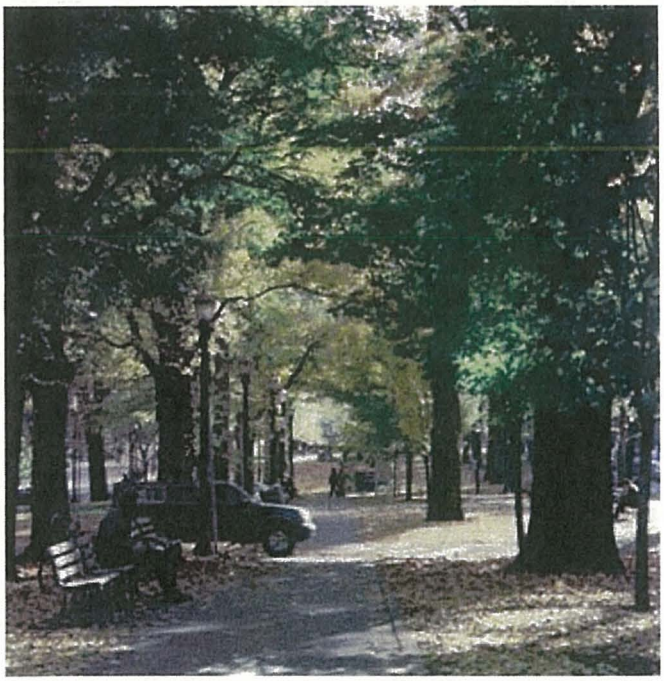
"Green" Linking Streets, with special streetscape improvements—such as designated cycle lanes, signage, sidewalks and street tree planting—could be established between redevelopment in the study area through the neighbourhoods to the east. Particularly important linkages are to the larger parks and school grounds and to the valley lands pathways.

School Grounds: More effective use should be made of the existing school sports and playing fields resources in the area.

Guidelines

- The Town should develop a detailed implementation strategy for open space and parkland acquisition in the Yonge Steeles Corridor Study Area and adjacent neighbourhoods.
- Refer to Sections 3.4.3 and 3.4.5 for the boulevards on Yonge Street and Steeles Avenue.
- The Dudley Linear Parks shall establish a green seam between the redevelopment area and the stable residential neighbourhood. The Parks shall be equivalent to one parcel depth from Dudley Avenue (approximately 15 metres).
- Neighbourhood parks will be equivalent to four parcel depth from Dudley Avenue (approximately 60 metres) and approximately 0.5 hectares in area. One park will be located on Dudley Avenue between Woodward Avenue and Highland Park Boulevard. Another park will be located on Dudley Avenue between Morgan Avenue and Glen Cameron Road.
- The Town should investigate opportunities to acquire the Dudley Avenue linear parks and the two neighbourhood parks in advance of redevelopment. The publicly accessible open space east of Yonge Street and north of Meadowview Avenue will be negotiated by the Town as part of the redevelopment process.
- The Town will investigate opportunities for a new pedestrian bridge across the rail corridor to the north and south, and explore options for funding through the development process. The necessary easements for public access to the bridge crossing of the CN railway will be acquired through the development process.
- Provision of parkland and open space should be encouraged as part of the new development. All new parkland shall be adjacent to public roads and be publicly accessible.
- Parkland dedicated and conveyed to the Town as credit shall meet minimum size requirements. Cash-in-lieu parkland dedication is required where physical dedication is not possible. All other public amenity spaces will be classified as Open Space or Boulevard and not credited for parkland dedication.
- The Town should initiate a study of the east-west local streets in the existing residential neighbourhoods as green connecting linkages between the existing and new development areas.

- Public art is encouraged to locate in parklands, boulevards and public open spaces.
- The York Roman Catholic School Board site on Dudley Avenue should be retained in the public realm. The Town will investigate the opportunity to acquire this site for future community facilities.
- The Town shall work with local school boards to use existing open space for broader community purposes.



With intensification, resources available for open space become increasingly scarce. In urban settings, linear park systems like the Panhandle in San Francisco and the South Park Blocks in Portland, Oregon connect neighbourhoods and offer many environmental benefits.

The Dudley Avenue Linear Parks—although different in scale—will serve a similar function. They will connect through each block, providing a green transition between the new development and existing residential neighbourhoods. The large community parks will further buffer the low-rise housing to the east while providing a much needed open space amenity for both the local residents and the greater Thornhill area.

Public Space Improvements

- Public parks or publicly accessible open spaces through property acquisition or as part of the redevelopment process
- Required boulevard setback for Yonge Street Boulevard and Steeles Avenue or easements for the continuation of the Dudley Avenue Linear Park system

3.2.10 Design Complete Streets

Principle: All streets in the neighbourhood should be designed as public spaces that have a strong sense of spatial enclosure, meet the appropriate engineering standards, and have sufficient space and amenities to support a wide range of pedestrian social and recreational activities.

Background

It is often assumed that the main purpose of streets is to accommodate the movement of vehicles and to provide for the routing of public utility lines. Most current standards and criteria for the design of streets reflect those priorities.

Beyond their utilitarian purposes, streets have many other, equally important dimensions. Streets are highly valued civic spaces as settings for public social life and activity.

The best, most popular and thriving urban main streets are where there are narrow–fronted shops, with transparent display windows and entrances, set back sufficiently from the roadway to allow for canopies, street trees and furniture, and room for boulevard window shopping, outdoor eating and merchandizing, as well as the circulation of passing pedestrians. Parked vehicles at curbside also help to insulate walkers from moving traffic. These characteristics should be brought to this part of Markham.

The best local residential streets are more intimate in scale and detail, allowing residents to live at a slower pace. Buildings are appropriately designed and set back further from the roadway with lushly planted and well-maintained front yards. Traffic is slower, providing a higher sense of safety for cyclists and pedestrians. As with Yonge Street, on-street parking can influence driving speed and provide a buffer for pedestrians. On-street bike lanes would further promote a healthy lifestyle.

Guidelines

Streets as Public Spaces. Streets should be seen as 'urban rooms' with floors, walls, ceilings or canopies, and furnishings. The quality of this space relies heavily on the attention given to the design, materials and finishes applied to the area that is closest to the pedestrian:

- Provide coherent street walls, street trees, and other elements that give enclosure to the street spaces.

Vibrant main streets should serve as public spaces that allow for activities to mix and mingle, blurring the line between inside and out.

- Provide clear (and possibly subtle) indications of what is public and what is private, in the choice of paving, walls, steps, materials, planting, etc.

Streets as Engineering. Engineering standards should be appropriate to the type and use of the particular streets:

- Dimension traffic lanes, intersection geometries, and other vehicular traffic design standards to be consistent with the type and multi-purpose use of each street.
- Provide adequate street lighting for pedestrian safety.
- Provide a minimum sidewalk width free of obstacles for safe passage by two wheelchairs. Provide sidewalk ramps and reasonable sidewalk grades for wheelchair accessibility (per Town of Markham standard).
- Coordinate and consolidate underground utilities to ensure operational and maintenance efficiency and the protection of undisturbed areas for municipal tree planting.
- Avoid private under-ground structures below public property.

Streets as Settings. The best streets are supportive settings for a wide range of social and recreational activities - places for sidewalk games, cycling, strolling, walking the dog, porch sitting, people watching, window shopping and unplanned social encounters that make for good gossip, news gathering and conversation. Residents will often use their place on the street as a means of personal expression and a display of their horticultural prowess.

The first few metres back from the sidewalk provide the space to demonstrate the rich character and individuality of a residential local street.

The scale and detailing of the first couple of floors above street level greatly influence the quality and comfort of the pedestrian realm.

Merchants use displays to inform and entice potential customers. Restaurateurs expand their seating capacity in the summer months with outdoor café seating.

The necessary support for these kinds of activities requires careful design coordination for example:

- Allow for on-street parking wherever possible. Paid-parking is encouraged (i.e., metres and residential permits) with charges applied to encourage the use of other modes of transportation such as public transit.
- Provide minimum pavement dimensions on local residential streets to encourage low traffic speeds.
- Provide uninterrupted sidewalk dimensions that allow pedestrians to pass or to walk side by side.
- Provide paving surfaces, catch basins, grates, etc. that are not hazardous to pedestrians or cyclists.
- Provide canopy trees on sidewalks for summer shade.
- Provide stoops, porches, terraces, canopies etc. to encourage residents to linger and socialize outside the entrance to the homes.
- Maximize the number of front doors on all streets.
- Discourage access to loading and service areas from street frontages.

The First Few Metres. The area between the sidewalk and the building is where, in established residential neighbourhoods, one usually finds gardens and other elements that are, cumulatively, a source of richness and liveliness in the landscape of the street.

The design of the local streets should allow for many uses of the front yard setback areas, provide the opportunity for personal presentation, and perform the transition between the public and private realms.

The First Couple of Floors. The lower storeys are in the central cone of vision of a person on the street, and are the most critical in defining the quality and purpose of the buildings. The lower levels of the buildings should be well designed and executed with high quality materials and finishes. There should be many windows at the observable level of the street to provide 'eyes on the street', and there should be frequent private entrances to ensure the comings and goings of many 'feet on the street'.

3.2.11 Provide Grade-Related Uses

Principle: Continuous frontages of sidewalk-related, narrow fronted retail and commercial uses should be concentrated on the main street frontages within convenient walking distance of the Yonge/Steeles intersection. Elsewhere, frontages should have residential uses at grade with access from the public sidewalks.

Background

With a corridor that has evolved into a regional arterial, the design of present-day Yonge Street is focused on the movement of vehicles, not pedestrians. Existing commercial development reflects this vehicular dominance in both form and function. With a shift towards a more pedestrian-friendly streetscape, commercial activities must follow. Shops, services and restaurants must relate to the sidewalk, taking advantage of and supporting the pedestrian activities—cafes can spill out onto the boulevard, restaurants can set up outdoor seating patios and passers-by can comfortably stroll and window shop.

The local residential streets are a further key to any successful neighbourhood. This is where most residents will live and for streets to feel safe and friendly, new buildings must be designed to allow for ground level uses that animate the pedestrian realm and provide opportunities for social interaction. Stoops, porches, front doors and gardens are simple and conventional means of connecting the inside with the outside, giving residents a proprietary sense of the street and fostering a greater sense of community.

Guidelines

- Retail uses are mandatory along the frontage of Yonge Street south of the CN Rail corridor and the frontage of Steeles Avenue (west of Dudley Avenue) for all redevelopment projects to encourage a fully active public realm. Retail entrances are required at the Boulevard Build-to Line.
- Retail uses are encouraged but not required along the frontage of Yonge Street north of the CN Rail corridor and the frontage of Steeles Avenue (east of Dudley Avenue). However, the ground floor for all buildings shall be designed with sufficient floor to ceiling heights to accommodate retail or other commercial uses.
- Residential buildings on local streets are required to have grade related entrances. Relatively continuous streetwall frontages with minimal interruptions for vehicular access are encouraged.

Grade Related Uses

Retail required at street level for all development.

Grade related residential units or entrance lobbies required.

Street related retail is encouraged but not required for other Yonge Street and Steeles Avenue frontages.

note: New streets conceptual only. Will require coordination with Town.

3.3 Built Form Principles

3.3.1 Introduction

Good urban places are composed of many buildings varied in type and size. New buildings should help shape the pedestrian realm, respect existing land uses and incorporate the most recent advances in sustainable building and sound community development principles.

The proposed built form for the Yonge-Steeles Corridor study area is predominately in mid-rise buildings, or those between 4 and 9 storeys in height. This building type will define the Yonge Street frontages of the redevelopment blocks and provide a transition towards the low-rise buildings adjacent to the existing residential neighbourhoods. High-rise buildings, those above 9 storeys, will be situated closer to Yonge Street, and separated a considerable distance from the existing low-rise buildings.

Markham does not currently have many precedents for the built form character proposed in this document, but this is rapidly changing throughout the Town as well as along many of the avenues and corridors in the Greater Toronto Area. Historically, the study area began as farmsteads with few buildings. As the former Thornhill Village flourished and Yonge Street's importance heightened, the area expanded to include commercial uses fronting Yonge Street and detached single-format buildings. With the expansion of higher-order transit along Yonge Street to service the growing demand throughout York Region, the built form must once again change to support intensification.

This section discusses the low-rise, mid-rise and high rise building types with general urban design guidelines for each. Additionally, this section describes how the buildings define and relate to the public realm for each type of street in the study area.

3.3.2 Low and Mid-Rise Buildings

Principle: Most of the redevelopment should be in low and mid-rise buildings that line the streets and other public spaces to give shape and a source of enclosure to the public realm.

Background

Good urban streets are defined by the buildings that surround them. Mid-rise buildings and the base of taller buildings compose the street wall that defines the block perimeter. Building height should reflect the scale and importance of each street.

The majority of the proposed redevelopment is mid-rise buildings from 4 to 9 storeys in height. These will accommodate residential units, commercial offices or a mix of uses including retail, and represent the "base" built form condition in support of intensification objectives and the creation of a successful, livable and amenable urban environment. The greatest concentration and tallest of the mid-rise buildings should be on Yonge Street, with the lower buildings extending down the east-west local streets.

On the Yonge Street frontage, particularly south of the CN Rail corridor, the buildings should collectively provide a relatively consistent and contiguous street edge that gives a strong architectural identity to this particular part of the broadly scaled and "longest" street. Continuity in the built-up edge of the blocks on Yonge Street will strengthen a sense of place and vitality for the pedestrian boulevard and support a viable retail environment.

On the east-west local streets and community parks, the mid-rise buildings should be somewhat lower and set back from the property lines to ensure a strong sense of enclosure for the street as well as good solar access. Similarly, on the community parks the mid-rise buildings should line and give definition to the edges of the public space without overshadowing them.

Dudley Avenue is the 'seam' between the redevelopment area and the adjacent single-family housing areas. On the west side of Dudley, a 'Buffer Area' extending 75 metres from the nearest residential properties has been defined (this is measured from the 'Relevant Residential Property Line' or 'RRPL'). Within this Buffer Area, a continuous line of parks is proposed along Dudley with low-rise buildings facing the parks no higher than 12 metres (approximately 3 to 4 storeys).

Beyond the Buffer Area—and an additional 50 metres from the RRPL—is the Transition Zone within which mid-rise buildings no higher than 25 metres (approximately 5 to 7 storeys) can be built. These buildings are required to step down where they adjoin the side streets, the parks, and the low-rise buildings.

Beyond the 125-metre Transition Zone, the maximum base building should be no higher than a maximum 35 metres (7 to 9 storeys). Setbacks and step backs will vary, depending on the building's proximity to Yonge Street.

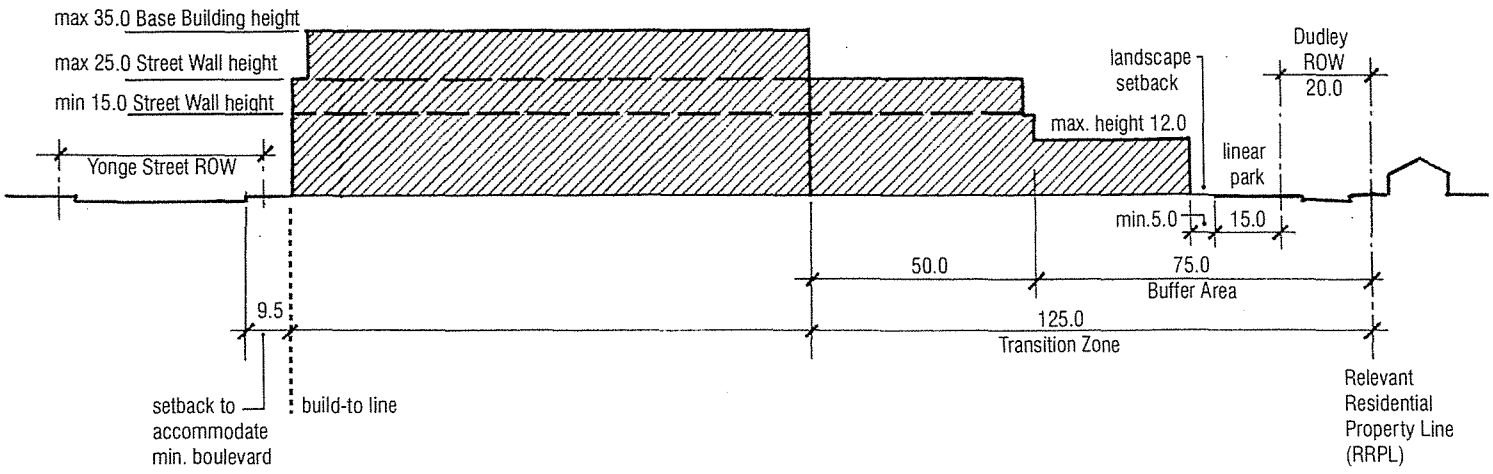
Guidelines

- Development within 75 metres from the RRPL—abutting the neighbouring low-density residential area and the Dudley Avenue linear park system—should be limited to a maximum height of 12 metres.
- Mid-rise development within the 125-metre Transition Zone and beyond the 75-metre Buffer Area should be limited to a maximum height of 25 metres with step backs at a maximum 16-metre high street wall.
- Mid-rise development beyond the 125-metre Transition Zone should be limited to a maximum height of 35 metres, with stepbacks of 2.5 metres at the maximum 16-metre high street wall and 25-metre high street edge building. Setbacks and step backs are similar to the local street built form guidelines (refer to Section 3.4.8).

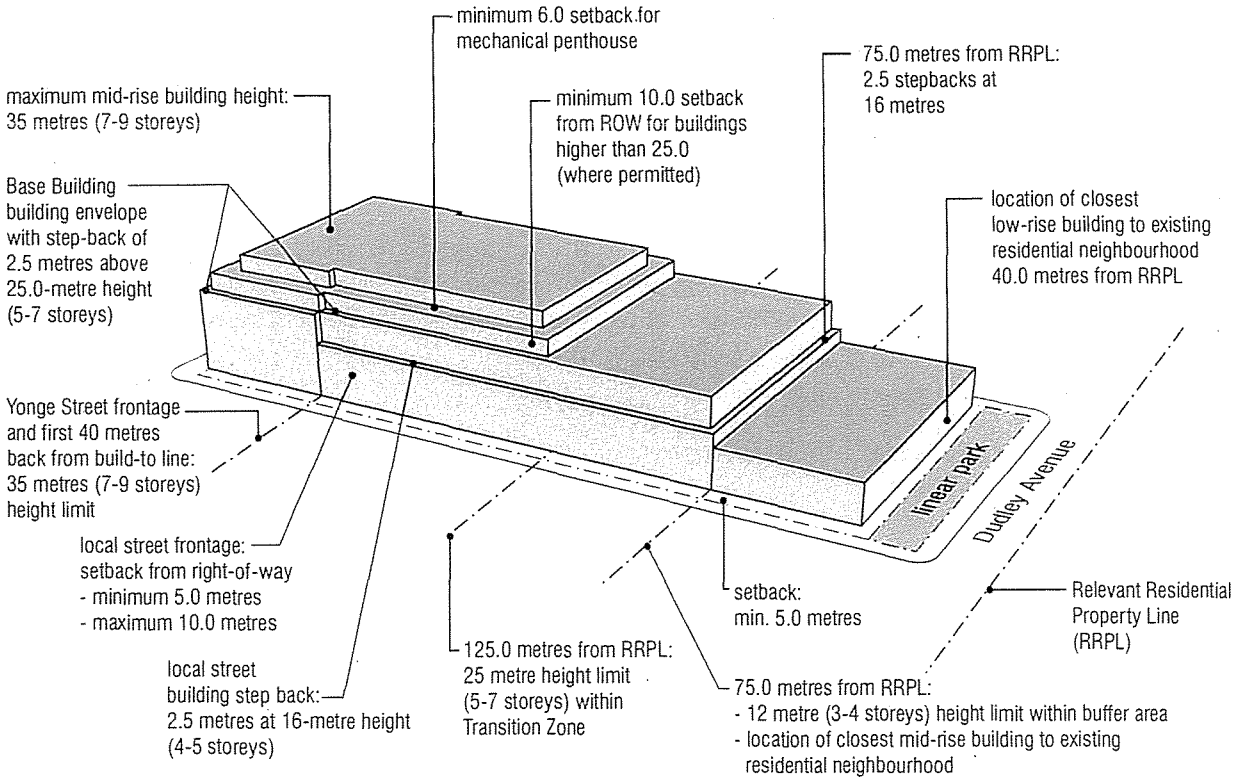
Mid-rise buildings that front the main streets will have generally have higher street walls with step backs at specific heights to reduce their bulk. Ground level frontages will include retail such as restaurants and shops to stimulate the pedestrian environment.

Mid-rise buildings that front the local streets will generally have lower street walls with greater step backs. Upper floors and higher buildings will set back further from the street to not overpower the more intimate residential setting. Residential units should have ground level entrances with well-defined, landscaped front yards.

- Development fronting on Yonge Street and the first 40 metres back from the build-to line should be limited to a maximum height of 35 metres inclusive of mechanical penthouse with a step-back of 2.5 metres at a maximum street wall height of 25 metres.
- The height of the building is measured to the top of the mechanical penthouse or other rooftop super-structure. Mechanical penthouses shall be setback a minimum 6.0 metres from the closest building face.



Building Envelope: Base Buildings



Mid-Rise Building Envelope
3-dimensional projection of the mid-rise building envelope for a typical development block:
View from the Dudley Linear Park frontage

3.3.3 High-rise Buildings: Height Limits

Principle: The tallest high-rise buildings should be located the furthest distance from the low-rise neighbourhoods and the heights should be graduated down towards the neighbourhoods.

Background

For the purpose of the built-form guidelines, "High-rise buildings" are defined as those exceeding 35 metres in height (9 to 10 storeys).

In recent years, high-rise buildings, predominantly in the form of towers, have become the preferred form of buildings of residential condominium developers. Controversy has surrounded this trend, particularly in already built-up urban areas where the form and potential impact of redevelopment are central concerns.

The redevelopment and intensification of the Yonge Steeles area must acknowledge and plan for the inclusion of high-rise buildings at the same time ensuring that high-rise buildings be designed as fully integrated parts of the urban fabric of new neighbourhoods.

Most of the built form, within the permitted densities, should be mid-rise buildings which directly relate to and frame the pedestrian environment of the streets and other public spaces. Any High-rise buildings which are proposed should be integrated with these mid-rise base buildings so as to further support the ground-level environment of the pedestrian.

The visual impact of high-rise buildings on the existing low-rise residential areas should be minimized. Height limits should be based on a transitional or "angular plane" that is the lowest towards the low-rise neighbourhoods and increases in height with the distance away from the existing low-rise area.

No High-rise buildings should be permitted in the Transition Zone bordering the residential neighbourhoods.

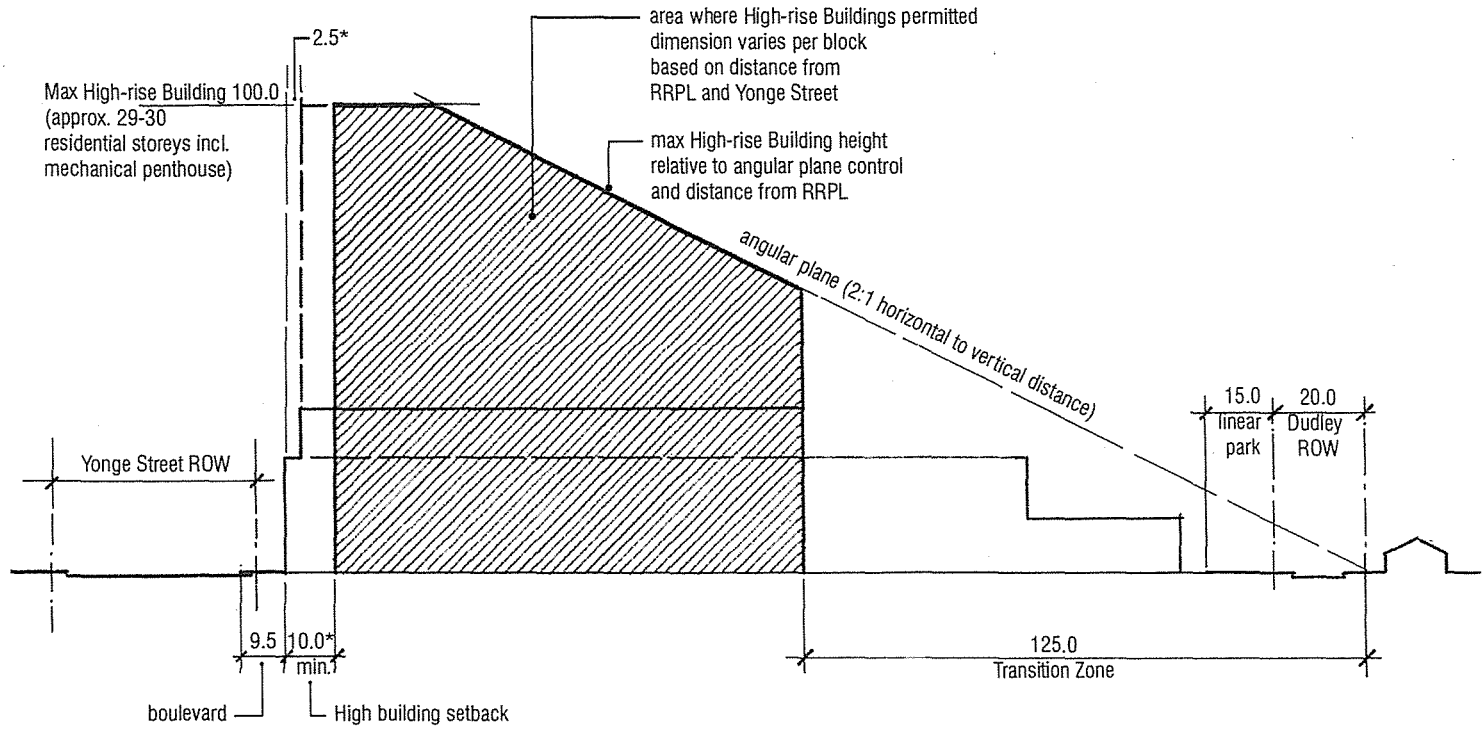
The height of high-rise buildings should be subject to angular control planes in order to reduce the visual impact and a sense of overwhelming the existing low-rise residential areas.

The angular plane should be projected from the nearest existing low-rise property (the Relevant Residential Property Line - RRPL) at a 2:1 slope where the height is half the horizontal distance. Thus, a building 150 metres from the RRPL could be no higher than 75 metres high (approximately 23-24 storeys).

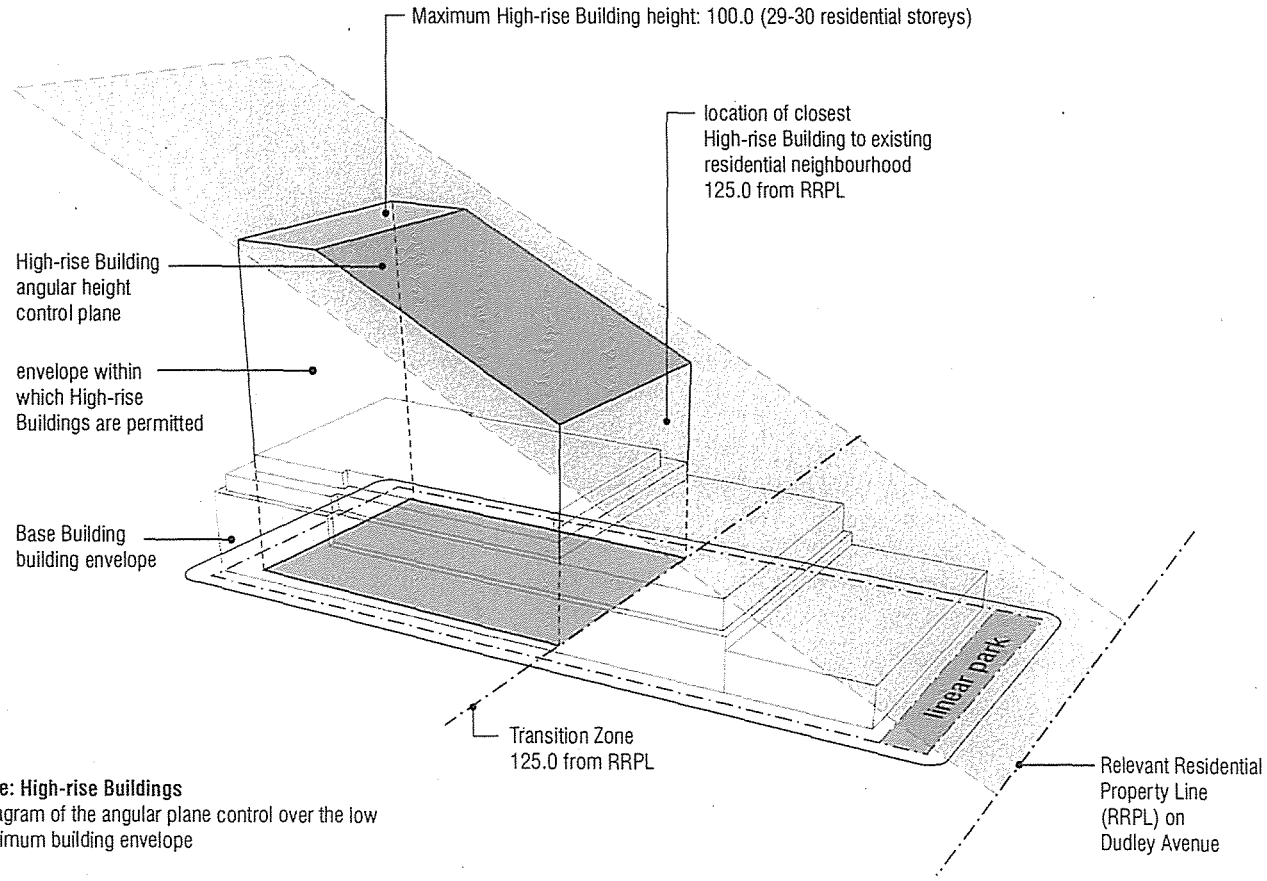
The diagrams on the facing page illustrate diagrammatically, in 2- and 3-dimensions, the Zone in which High-rise buildings may be sited, the angular plane and the absolute height limit of 100 metres—approximately 29 to 30 residential storeys.

Guidelines

- High-rise buildings are defined as those over 35 metres in height.
- The height of the building is measured to the top of the mechanical penthouse or other rooftop super-structure.
- No High-rise buildings will be permitted on sites within the Transition Zone.
- High-rise buildings are subject to an angular height control plane extended from the RRPL at ground level at an angle such that the vertical dimension (the maximum building height) is half the horizontal dimension from the RRPL (a 2:1 horizontal to vertical distance ratio).
- No building including the mechanical penthouse or other rooftop super-structure shall be higher than 100 metres above grade.
- To protect the Thornhill Heritage Conservation District, no building over 35 metres in height will be permitted within 125 metres of the District's southern boundary.



Building Envelope: High-rise Buildings



Building Envelope: High-rise Buildings
3-dimensional diagram of the angular plane control over the low and mid-rise maximum building envelope

3.3.4 High-rise Buildings: Other Controls

Principle: High-rise buildings should be subject to design standards that regulate their spacing as well as their girth (floor plate) relative to the height, in order to control their perceived bulk and the proportion of sky views.

Background

The height of high-rise buildings is only one of the dimensions that influences the ground level perception of their mass and bulk.

Much can be claimed for the singular tall slender tower that acts as a columnar landmark in an otherwise mid-rise area of a city. If, however, the one becomes many; the elegantly slender becomes bulky; and the spacing between them—the "sky view"—becomes restricted. The impact can be visually oppressive and overwhelming.

Basic design standards are required to control the number, spacing and proportion (width relative to height) in order to reduce the likelihood of the visual "overcrowding" of high-rise buildings.

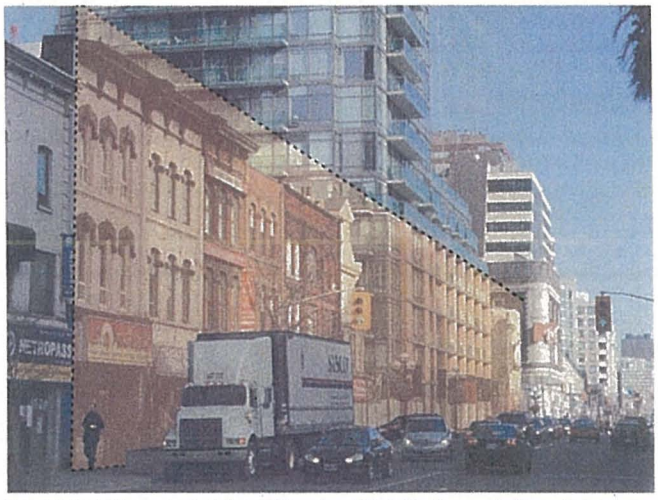
Buildings above the Base Buildings should be designed as towers, and articulated in a manner to reduce their perceived bulk.

Towers up to about 20 storeys will have less impact on sky views and particularly when combined with Base Buildings (up to 7 or 9 storeys) and can have a proportion of height to width of about 2:1 (approximately 1:1 above the Base Building height). The recommended proportion of a point tower is the height approximately 4 times the width of the floor plate.

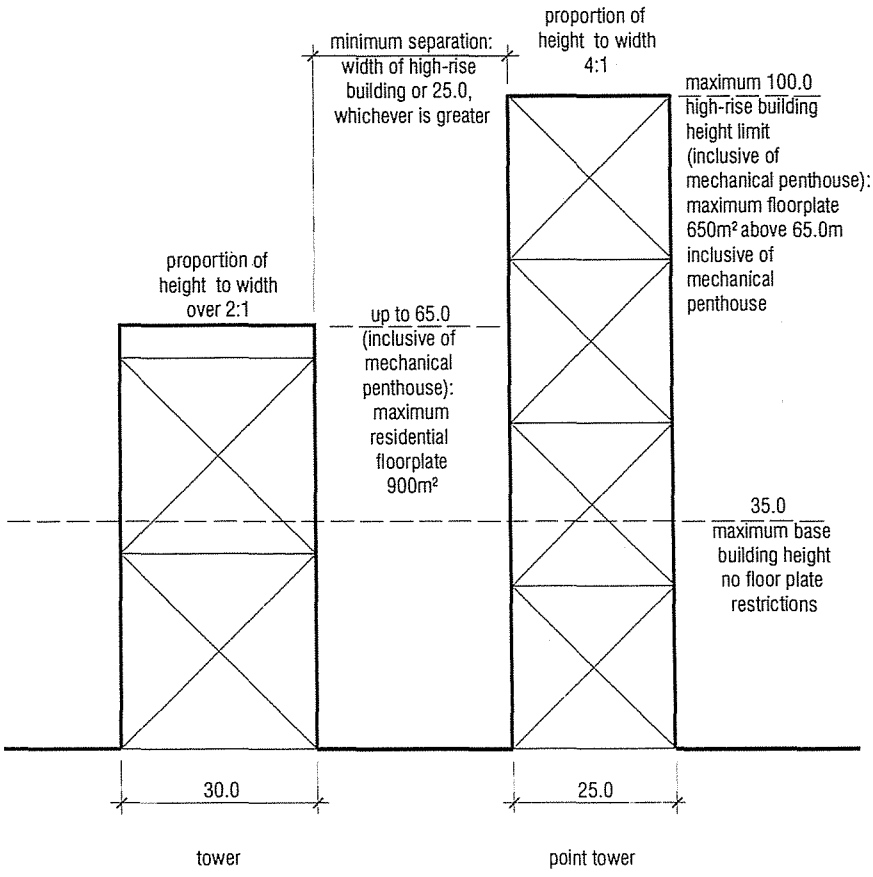
The spacing between high-rise buildings should be at least the same distance as they are wide.

Guidelines

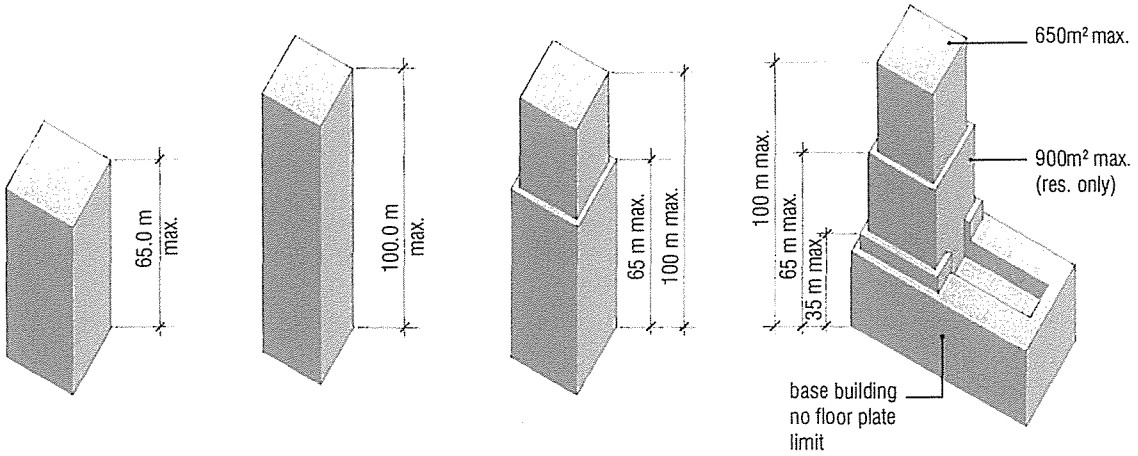
- No floor plate restrictions for buildings below the 35-metre maximum base building height.
- High-rise building floor plates for residential buildings shall be no greater than 900 square metres (gross floor area) up to maximum height of 65 metres.
- High-rise building floor plates shall be no greater than 650 square metres (gross floor area) above a height of 65 metres up to a maximum height of 100 metres.
- High-rise buildings should have articulated upper floors to reduce bulk and achieve a distinct skyline profile.
- High-rise buildings shall be separated by the width of the widest High-rise building or 25 metres, whichever is greater. Separation shall be measured perpendicularly to the building face of adjacent buildings (see High-rise Buildings: Basic Controls on following page).
- Residential units may wrap around the mechanical penthouse but must adhere to all built form guidelines.
- High-rise buildings with elongated floor plates should be oriented in a north-south alignment to reduce shadow impact.
- High-rise buildings should be located towards the south side of a block so that more of the shadow falls within the block rather than on the adjacent street.



The 18 Yorkville project at Yonge Street and Yorkville Avenue in Toronto is an example of a contemporary point tower. It clearly demonstrates how a high-rise building in combination with a mid-rise base building can fit in by strengthening the street wall, using a small floor plate to minimize shadows and present an elegant profile.



High-rise Buildings: Basic Controls - Heights, Floor Plates and Separation



tower
900 m²
max. floor plate
(res.only)

point tower
650 m²
max. floor plate

point tower with
varied floor plates
900 m² up to 65 m (res. only)
650 m² up to 100 m max.

point tower rising from
base building podium

High-rise Buildings: Basic Floor Plate Sizes and Possible Arrangements

3.4 The Streets: Built Form and Public Realm Guidelines

3.4.1 Introduction

The redevelopment study area is composed of a network of streets, each having distinct built-form and public realm characteristics. Both aspects of the street must work in tandem, supporting one another to create a complete urban place.

The built form follows the same basic principle as outlined previously within these guidelines: more intense building towards Yonge Street and transitioning down towards the existing low-density residential neighbourhoods. The buildings will shape and contain the public realm, the space between buildings will help define the character of the new neighbourhood, and redevelopment activities should improve the quality and character of the existing community.

This section discusses each street type within the study area, defining both built form and public realm guidelines for each. The streets include Yonge Street, Steeles Avenue, Dudley Avenue and the east-west local streets. The guidelines are intentionally non-prescriptive regarding architectural style and detailing to allow for the widest range of possible development.

3.4.2 Yonge Street: Built Form

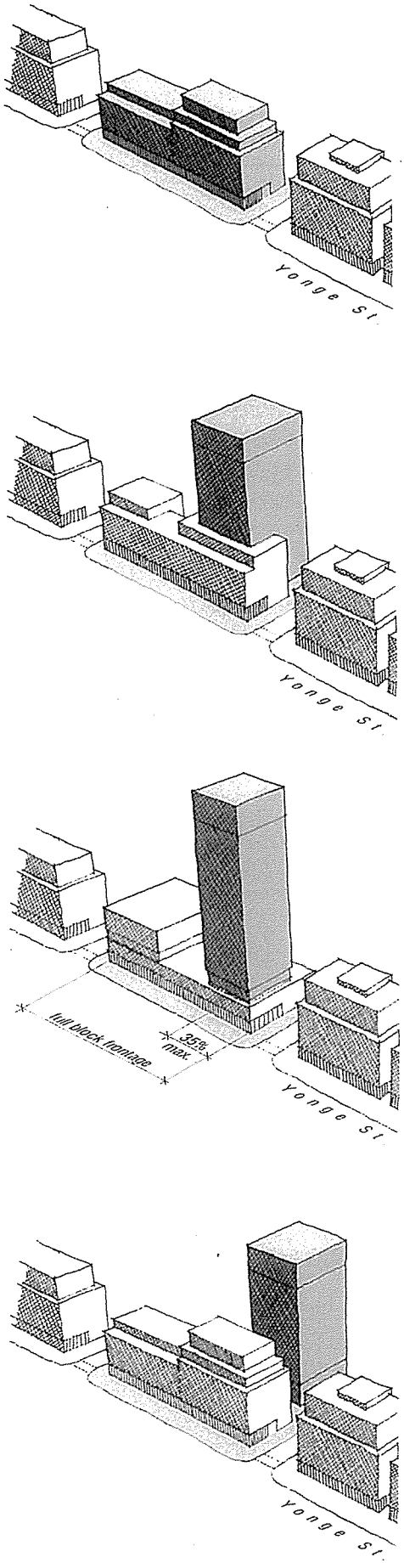
Principle: Yonge Street should have generally contiguous frontage of predominantly mid-rise buildings sited on a common build-to line. High-rise buildings should be set back from the frontage to maintain the street-wall profile.

Background

There should be a consistent pattern of street wall buildings along Yonge Street to provide spatial containment and reinforce its role as the pedestrian main street. The edges of the promenade should be lined with pedestrian scale mid-rise buildings that are tall enough to give a spatial edge to the street but low enough to avoid overpowering the pedestrian areas. On the frontages of the blocks between Steeles and the CN Rail bridge there should be contiguous storefronts along the full length of the frontages.

Guidelines

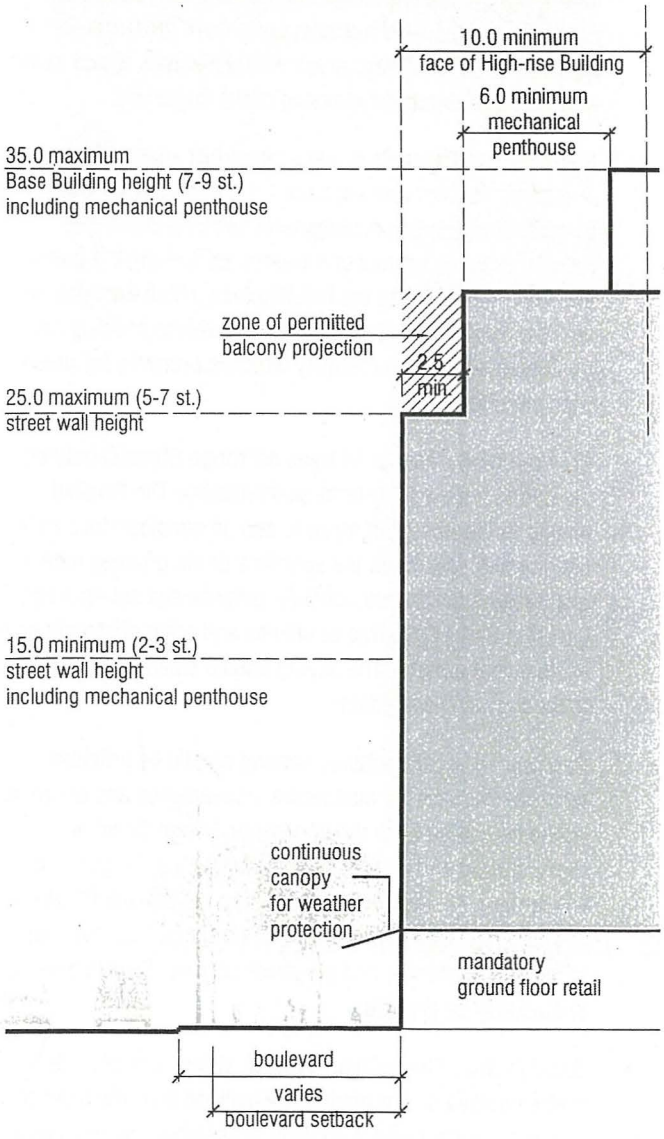
- A building setback is required to provide a 9.5 metre boulevard measured from the face of curb to the building face.
- South of the railway where street-related retail is required the setback is a mandatory build-to line. North of the railway the setback is considered a minimum setback requirement.
- The minimum height of streetwall buildings should be at least 15 metres up to a maximum of 25 metres.
- A step back of 2.5 metres is required above the 25-metre height.
- The maximum Base Building height shall be no greater than 35 metres inclusive of mechanical penthouse.
- The mechanical penthouse shall be setback a minimum of 6 metres from the closest building face.
- High-rise buildings shall be set back at least 10 metres from the face of the street wall.
- A high-rise building that occupies 35% or less of the Yonge Street frontage of the block may be sited a minimum of 2.5 metres from the build-to line.
- Continuous canopies extending at least 2.5 metres from the building face should be provided for weather protection.



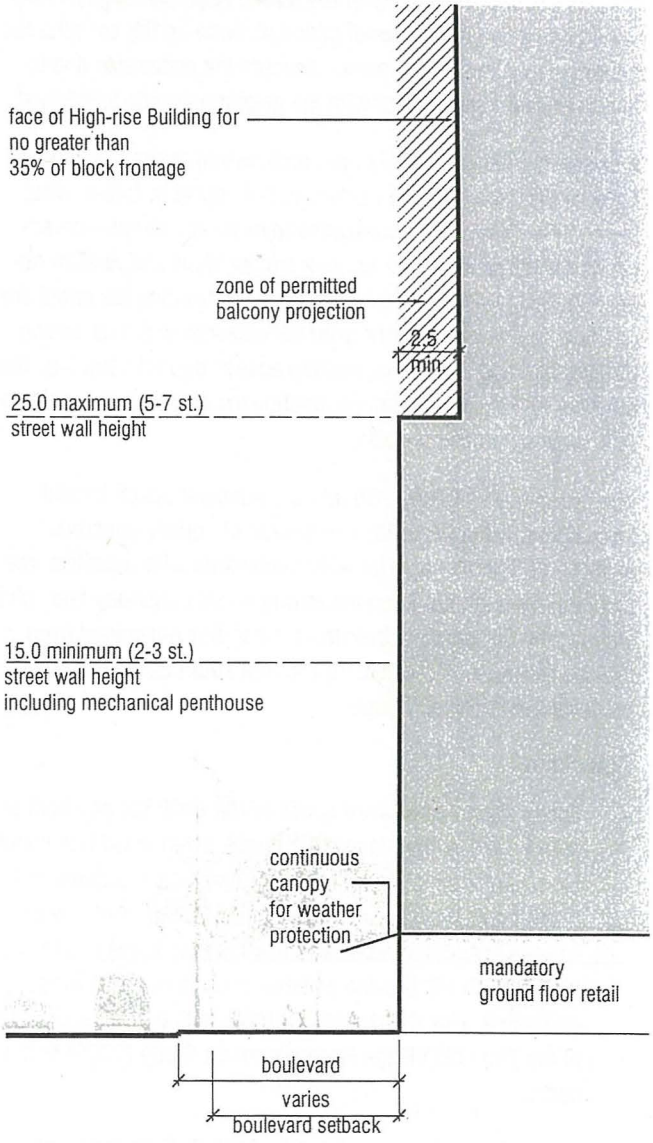
Potential Building Relationships with Yonge Street
top to bottom: street related base building: Set back from base building; relating to corner with shorter base building and minimum step-back: set back from Yonge Street with frontage addressing local street

Yonge Street's redeveloped character will have grade-related uses and a consistent street wall to comfortably enclose the pedestrian realm; high-rise buildings will punctuate the skyline without overwhelming it. The guidelines promote a built form similar to that of Church Street in Toronto, where the mix of old and new retains the same building tradition of facing the street.

The base buildings from block to block will collaborate to form the street wall. Well-defined heights and step-backs will ensure comfortable enclosure of the street, as these buildings do on College Street in Toronto.



Built Form - Yonge Street with High-rise Building set back from the Base Building frontage



Built Form - Yonge Street with High-Rise building addressing Yonge

3.4.3 Yonge Street: Public Realm

Principle: As the pedestrian focus for the present and future Thornhill communities, Yonge Street should have the principal promenades for the area. Pedestrians should feel at home and have the space and amenities for movement and socializing.

Background

Yonge Street has dual roles: it is the focal main street for the local residents and workers and a major traffic artery for the larger urban region. Both roles are important to the continuing success of Thornhill and the broader area.

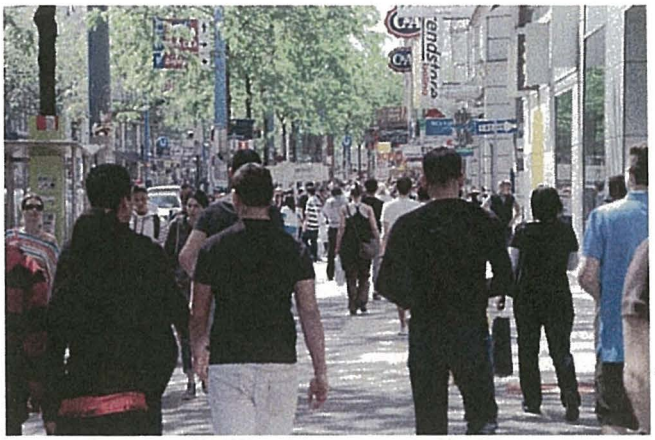
Until recently, high priority was placed on increasing road capacity to accommodate regional traffic growth and low priority was given to pedestrian amenity of the street. Now, with higher-order transit and associated intensification planned for the corridor, the opportunity arises to re-balance towards the pedestrian and to fully integrate Yonge Street with the neighbourhoods to the east.

Present-day Yonge Street is not conducive to pedestrian use. Most of the sidewalks are narrow and too close to fast-moving traffic. It is difficult for pedestrians to cross the street—crosswalks are infrequent, light-phases are too short and median refuges are inadequate. Most of the buildings fronting the street are car-oriented—set well back from the sidewalk with intervening parking lots and driveways, making access on foot daunting. The street is rarely a pedestrian destination except for transit riders on their way to somewhere else.

The broad scale of Yonge Street as a vehicular space should be matched with pedestrian boulevards of equally generous proportion. There should be wide boulevards with repetitive tree plantings throughout, to create strong visual continuity and cohesion for the full length of the street, extending northward from Steeles Avenue and connecting with the south end of the planned boulevard in Thornhill Village.

Guidelines

- ***Yonge Street Boulevard south of the Rail:*** Yonge Street between Steeles Avenue and the bridge over the CN Rail should have a sufficent building setback to provide a consistent 9.5 metre boulevard (between curb and building face) – wide enough to accommodate two rows of deciduous shade trees, which will provide a sense of enclosure and wind protection. This dimension is similar to that proposed as part of the Thornhill Village Redevelopment Study (2006) to the north.
- ***Yonge Street Boulevard north of the Rail:*** Yonge Street north of the CN Rail should have a right-of-way and building setback sufficient to provide a consistent 9.5 metre wide boulevard. Residential frontage could have greater setbacks and forecourt/ front-yard areas with deciduous shade trees to extend the vegetated massing of the boulevard.

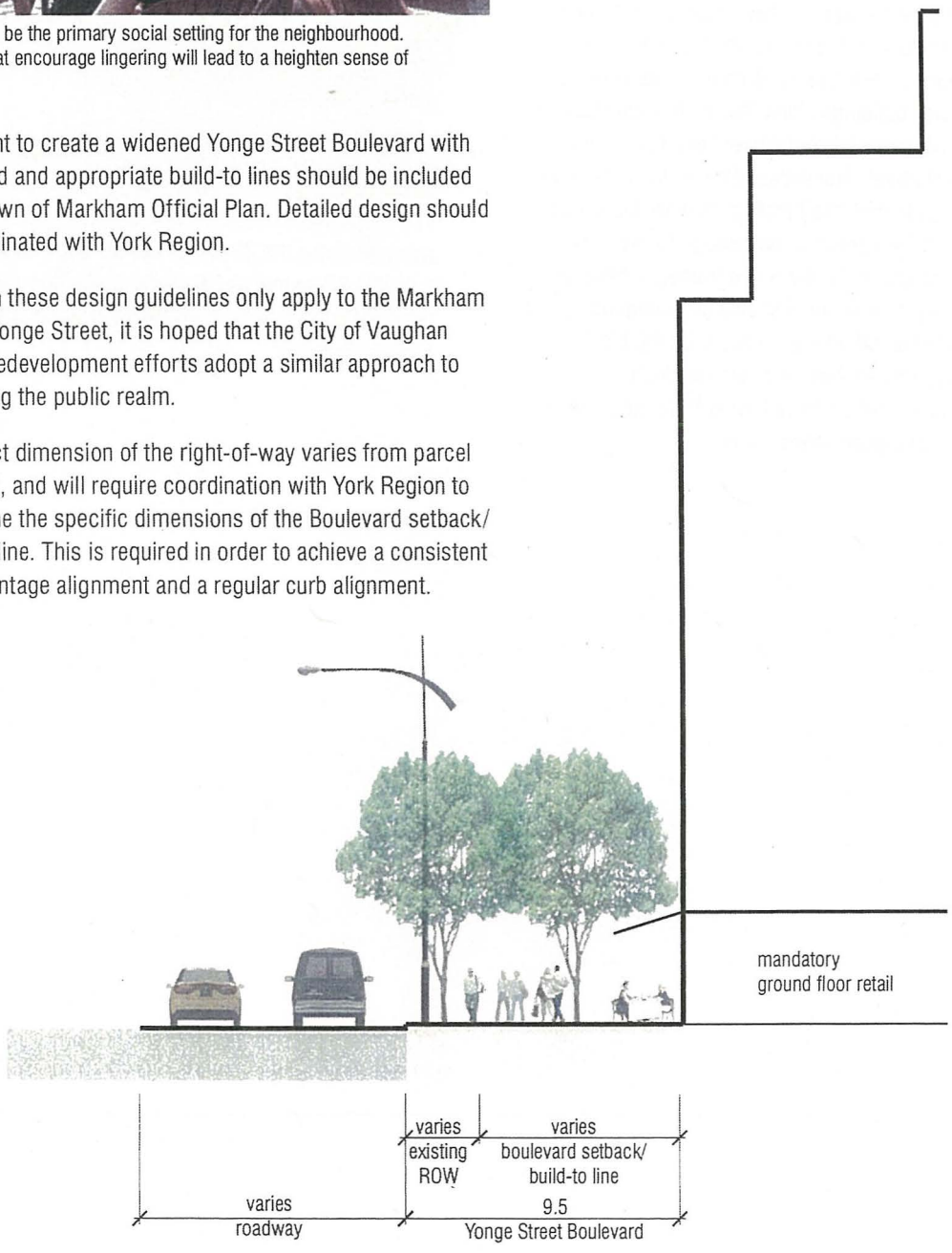


Yonge Street will be the main street for the neighbourhood. It will consist of generous walking surfaces, a comfortable scale of buildings, fine detailing and ample tree cover. A wide range of amenities and activities are welcome on the Boulevard, taking advantage of the people walking by while at the same time helping to activate the life between buildings.

- ***Street trees:*** The rows of trees should be spaced 4 metres apart with the first row set back 1.5 metres from the face of curb. This planting arrangement will help define two equal and parallel zones of 4 metres each along the promenades—one close to the building face which provides for window shopping, sidewalk cafes and merchandising and another, closer to the roadway which is primarily for pedestrian circulation.
- ***Tree planting details:*** All trees on Yonge Street should be planted to ensure long-term sustainability. The detailed design of the tree planting zone should consider the size of the planting space and the specifics of the growing medium. The design should also consider defense against road salt intrusion and a zone free of utilities and other obstructions to healthy root growth. The paving should extend from the curb to the face of the buildings.
- ***Parking:*** Off-peak curbside parking should be provided wherever feasible for customers' convenience and to provide added insulation from moving traffic. Yonge Street is a regional road and any proposed changes on Yonge Street will require the Town to work and coordinate with the Region of York on the specific design criteria for bus lay-bys, bus stops, bicycle lanes, and on-street parking. Bicycle parking should also be provided.
- ***Build-to line:*** The building setback at the back of the 9.5-metre boulevard is a mandatory build-to line. The build-to line would indent where publicly accessible squares, plazas or parkettes are also provided. The boulevard dimension is measured from the face of curb to the face of the building.

Yonge Street will be the primary social setting for the neighbourhood. Opportunities that encourage lingering will lead to a heighten sense of community.

- The intent to create a widened Yonge Street Boulevard with enhanced and appropriate build-to lines should be included in the Town of Markham Official Plan. Detailed design should be coordinated with York Region.
- Although these design guidelines only apply to the Markham side of Yonge Street, it is hoped that the City of Vaughan in their redevelopment efforts adopt a similar approach to improving the public realm.
- The exact dimension of the right-of-way varies from parcel to parcel, and will require coordination with York Region to determine the specific dimensions of the Boulevard setback/ build-to line. This is required in order to achieve a consistent retail frontage alignment and a regular curb alignment.



Public Realm: Yonge Street Boulevard

3.4.4 Steeles Avenue: Built Form

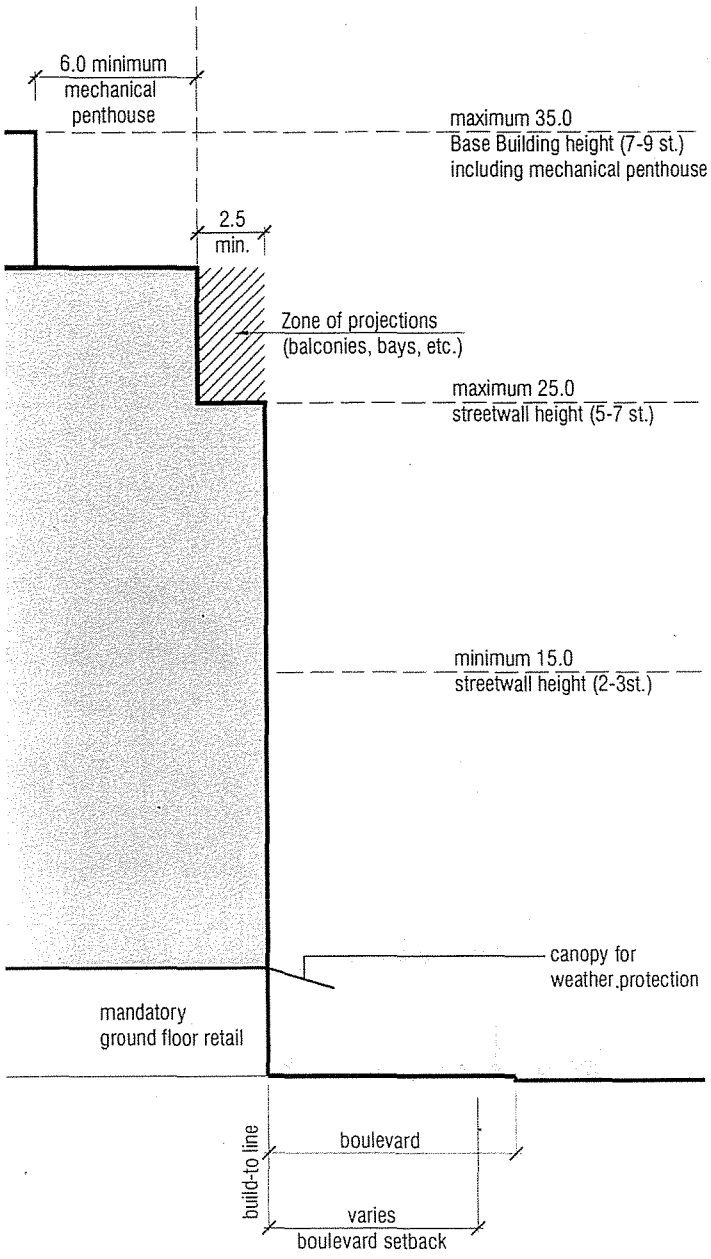
Principle: The boulevard widening and built form guidelines for the frontage of Yonge Street should turn the corner for the first block of Steeles Avenue. East of Dudley Avenue, mid-rise residential development with landscaped forecourts could set the pattern for further development of Steeles Avenue.

Background

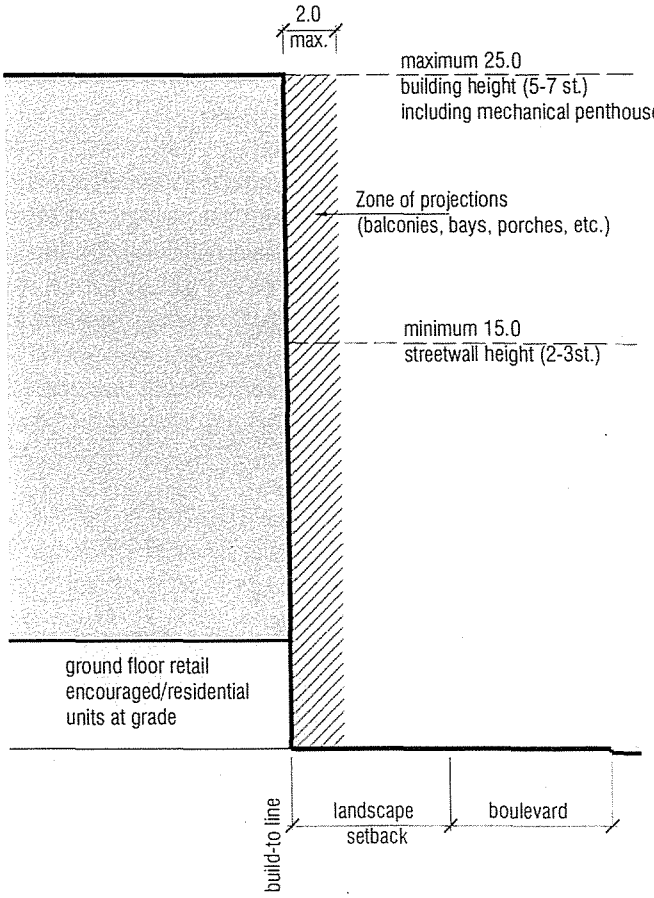
As Steeles and Yonge Street intersect, they should have a similar character and built form to signify this important gateway to Markham. As with Yonge Street, there should be a more consistent pattern of street wall buildings along Steeles Avenue close to the intersection to provide spatial containment and reinforce its role as a major regional street. The edges of the street should be lined with pedestrian scale mid-rise buildings that are tall enough to give a spatial edge to the street but low enough to avoid overpowering the pedestrian areas. On the prime frontages between Yonge Street and Dudley Avenue there should be contiguous retail storefronts along the full length of the frontage. On the block east of Dudley Avenue, Steeles Avenue where residential uses predominate, buildings should set back further from the street to allow for a more green and open streetscape.

Guidelines

- Between Yonge Street and Dudley Avenue, a setback is required to provide a 9.5 metre boulevard. The back of the boulevard is a mandatory build-to line.
- Between Yonge Street and Dudley Avenue, the built form and mandatory at-grade-retail will follow the same standards as Yonge Street (refer to Section 3.4.2).
- Between Dudley Avenue and Willowdale Boulevard, a setback is required to provide an improved boulevard (sidewalk and planted median) in combination with a building setback to provide a landscape setback. The reference for these setbacks must be determined first by any planned streetscape or roadway widening that may re-define the extent of the public right-of-way.
- Between Dudley Avenue and Willowdale Boulevard, the street wall height for new buildings should be 15 metres up to a maximum of 25 metres. A step back of 2.5 metres is required above the 25-metre height. The maximum building height is 35 metres. A 2.0-metre projection zone from the principal building face is permitted for balconies, porches, bays and stoops.



Built Form: Steeles Avenue - Yonge Street to Dudley Avenue



Built Form: Steeles Avenue - East of Dudley Avenue

3.4.5 Steeles Avenue: Public Realm

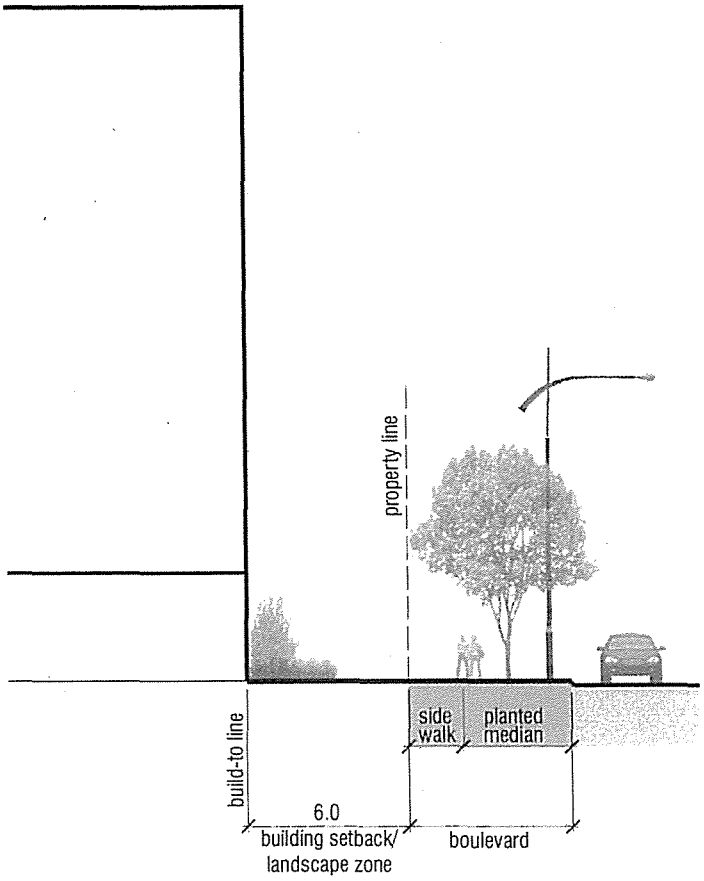
Principle: Steeles Avenue should have a spacious boulevard and urbane streetscape treatment similar to Yonge Street close to the intersection. The boulevard should transition to a landscape dominant treatment on the residential building frontages east of Dudley Avenue.

Background

Steeles Avenue is a major regional east-west corridor within York Region and the City of Toronto and is the southern boundary for the Town of Markham. Like Yonge Street, a higher priority has been placed on transportation needs rather than for other users. The broad scale of Steeles Avenue as a vehicular space should be matched with pedestrian boulevards of equally generous proportion. Although the study area only includes two blocks of Steeles Avenue, the northern public boulevard should be widened and improved for pedestrians and should set the tone for the rest of Steeles Avenue.

There should be wide boulevards with repetitive tree plantings to create strong visual continuity and cohesion. The Yonge Street Boulevard design should wrap the corner for the first Steeles block, with a residentially scaled design for the second block to the east. With redevelopment, individual access driveways from Steeles Avenue should be relocated to a mid-block lane and thereby improve both streetscape quality and safety for pedestrians and vehicles.

With multiple jurisdictions having influence over Steeles Avenue and its increasing importance as a transit corridor, it is strongly recommended that Toronto, in consultation with Markham and Vaughan, develop a comprehensive streetscape improvement master plan to better accommodate all uses.



Public Realm: Steeles Avenue East of Dudley Avenue

Guidelines

- ***Steeles Avenue west of Dudley Avenue:*** The Steeles Avenue right-of-way in the block between Yonge Street and Dudley Avenue should be combined with a boulevard setback to provide a consistent 9.5-metre wide boulevard, as on Yonge Street (refer to Section 3.4.3).
- ***Steeles Avenue east of Dudley Avenue:*** The Steeles Avenue right-of-way in the block between Dudley Avenue and Willowdale Boulevard should be combined with a setback to provide a generous boulevard (sidewalk and planted median) and combined with a 6.0-metre building setback to provide a landscape frontage zone.

3.4.6 Dudley Avenue: Built Form

Principle: Development on Dudley Avenue should consist of parkland and low-rise buildings that face the existing low-rise neighbourhoods.

Background

Dudley Avenue, parallel to Yonge Street and the eastern boundary for most of the redevelopment area, is a major neighbourhood connection. It will be where higher density redevelopment and the existing low-rise residential neighbourhood interface. It should have a character that symbolizes the opportunity that redevelopment can bring to the community, and provide an open and green amenity for new and old residents alike.

Dudley Avenue will be framed by linear park spaces at the end of each redevelopment block with two larger community parks, one each to the north and south of the CN rail corridor.

In a 75-metre Buffer Area, low rise buildings are permitted to face the western edge of the linear park. They should have a minimum setback from the park to building face (refer to Section 3.3.2).

Mid-rise buildings are permitted outside the Buffer Area to face the western edge of the larger community parks. They are subject to the 125-metre Transition Zone from the existing residential properties. Buildings that face Dudley Avenue must adhere to the Mid-Rise Buildings and the Local Streets Built Form Guidelines.

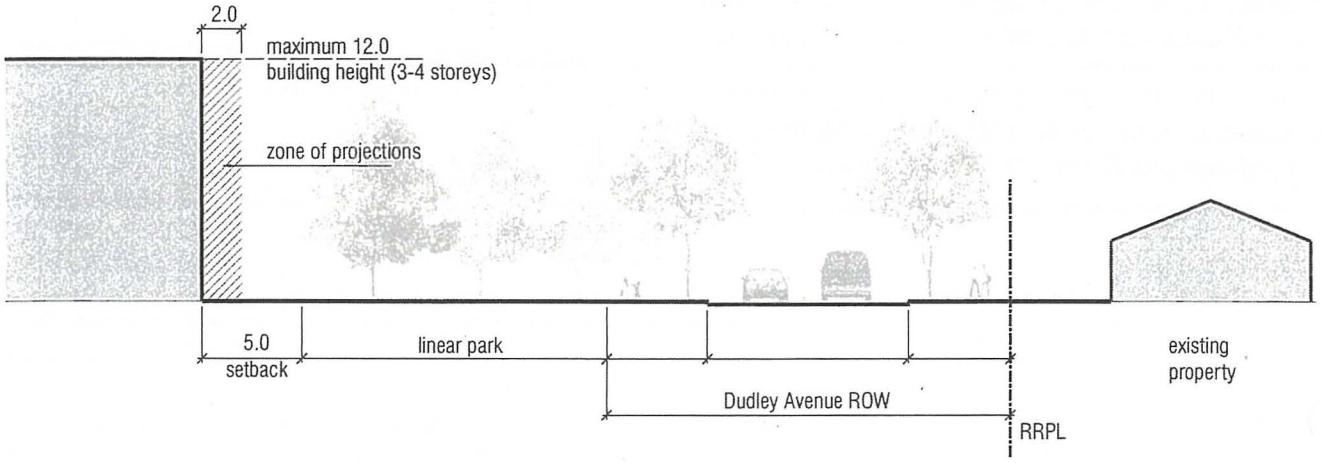
Buildings should front onto the park sidewalk. Residential units are encouraged to have grade related access, using the setback as a landscape zone that visually extends into the park

Guidelines

- No buildings are permitted within 40 metres of the Relevant Residential Property Line (RRPL). Refer to Section 3.2.3 Transition with Adjoining Neighbourhoods.
- Building setback requirements should be established in order to provide a minimum of 5 metres as a landscape zone between the building face and proposed public parks.
- The maximum height of buildings facing the proposed Dudley Avenue linear park and within the 75-metre Buffer Area should be restricted to 12 metres, inclusive of mechanical penthouse or other rooftop accessory elements. A 2.0-metre projection zone from the principal building face is permitted for balconies, porches, bays and stoops.
- The maximum height of buildings facing the proposed community parks, beyond the 75-metre Buffer Area yet within the 125-metre Transition Zone from the RRPL should be restricted to 25 metres, inclusive of mechanical penthouse or other rooftop accessory elements. The buildings in this area will adhere to the same design standards for building face, step backs and projections as the Local Streets (refer to Section 3.4.10).
- Buildings are required to have grade related entrances access from public sidewalks in the parks.
- No vehicle access will be permitted between the buildings and parks.
- No High-rise buildings are permitted within the 125-metre Transition Zone measured from of the RRPL.

Low-rise residential buildings will front the Dudley linear park and local streets within 75 metres of the existing residential neighbourhood. The building types will be residential in character and consist of townhouses, stacked townhouse and garden apartments. This townhouse development at Pape Avenue and Mortimer Street in Toronto's east end represents the scale and potential architectural quality outlined in these guidelines.

Although not common to have residential buildings front onto parks, this arrangement will present a special character to development along Dudley Avenue. Having porches, front doors, and gardens facing a public space other than a roadway will offer a unique condition. In Vancouver, townhouse condominiums in the False Creek neighbourhood are situated immediately on the City's primary promenade to take advantage of the views, not unlike the amenity offered by the proposed linear park system.



Built Form: Dudley Avenue with Buildings facing Linear Park

3.4.7 Dudley Avenue: Public Realm

Principle: Dudley Avenue and the parallel park system should provide a well-treed, green transition between the suburban single-family housing areas and the intensified redevelopment areas.

Dudley Avenue will have an asymmetrical cross-section with a linear park system bordering its western edge. It will have new sidewalks on both sides within the right-of-way as well as an equally dimensioned planted boulevard. It will also serve as a key north-south pedestrian and bicycle route parallel to Yonge Street.

Dudley Avenue will retain its existing 20-metre right-of-way. The curb-to-curb dimension should be wide enough to accommodate two through traffic lanes and one parking lane or on-street bicycle lanes. Boulevards on both sides should accommodate a sidewalk and planted boulevard with large caliper street trees between the curb and sidewalk. With the addition of the linear park system, a second row of street trees may be added to flank the western boulevard.

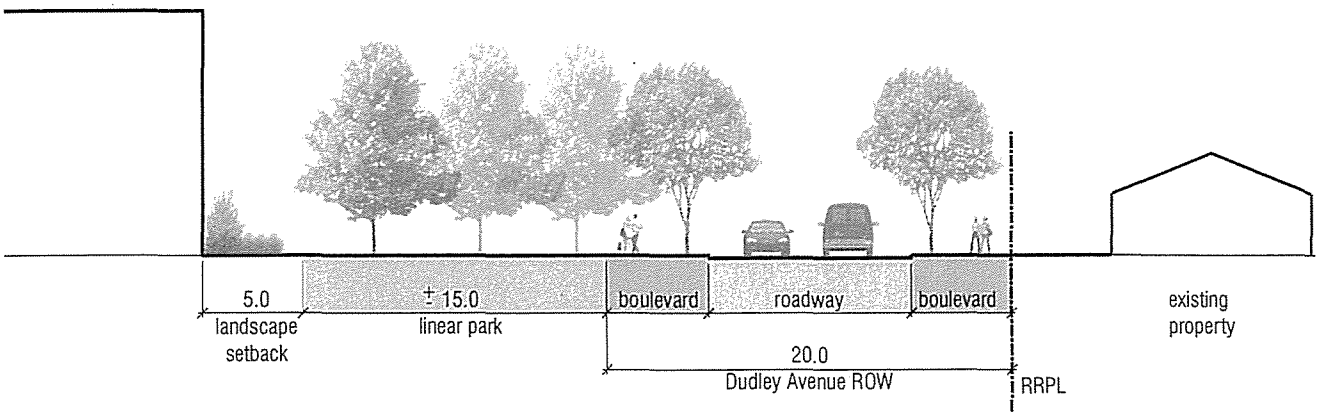
On blocks where parcels to complete the linear park are not attainable, easements should be acquired on the western side of Dudley to allow for the planting of a second row of street trees.

Two larger neighbourhood parks should be developed and distributed throughout the redevelopment area to further improve the open space allocation to an underserved community. These parks should be located at the eastern end of the Dudley Avenue blocks, one each to the north and south of the CN Rail corridor. A third publicly accessible open space will be developed as part of the larger development parcel north of Meadowview Avenue. See Section 3.2.8 Create Better Public Spaces and Parks for further reference.

The Dudley Avenue Linear Park will define the boundary between new development and the existing neighbourhood. It will provide a green north-south pedestrian and bicycle connection away from the busy traffic of Yonge Street. Although different in scale, it will serve a similar purpose as David Crombie Park along the Esplanade in Toronto's St. Lawrence neighbourhood.

Guidelines

- The Town should investigate opportunities to secure property to provide the Dudley Avenue Linear Park system and a north-south pedestrian/bicycle route.
- On existing developed sites, a sufficient easement is required to allow for the planting of a second row of large caliper deciduous street trees.
- On the larger redevelopment blocks immediately north and south of the railway, a publicly accessible easement—minimum 15 metres in width—is required to allow for a landscaped pedestrian and bicycle route to a replacement bridge over the rail corridor.



Public Realm: Dudley Avenue with Typical Linear Park

3.4.8 Local Streets: Built Form

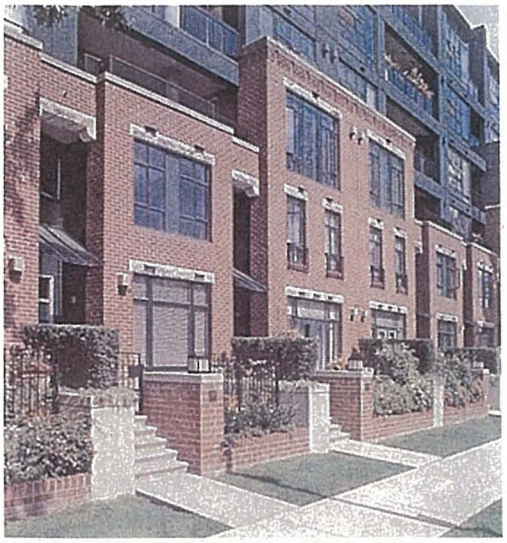
Principle: Local streets should have built-up frontages of predominantly mid-rise to low-rise residential buildings. High-rise buildings where permitted outside the Transition Zone should be set back from the frontage to maintain the street-wall profile.

Background

Local residential streets can provide a welcome change from the busy commercial oriented main street. If designed with the pedestrian in mind, they can offer an alternate walking or cycling route through a neighbourhood, one that is characterized by a greater amount of vegetation, more intimately scaled buildings and a sense of individual identities. Buildings should be designed to define and enclose the street, with front doors and porches to animate the street and foster a sense of community and safety.

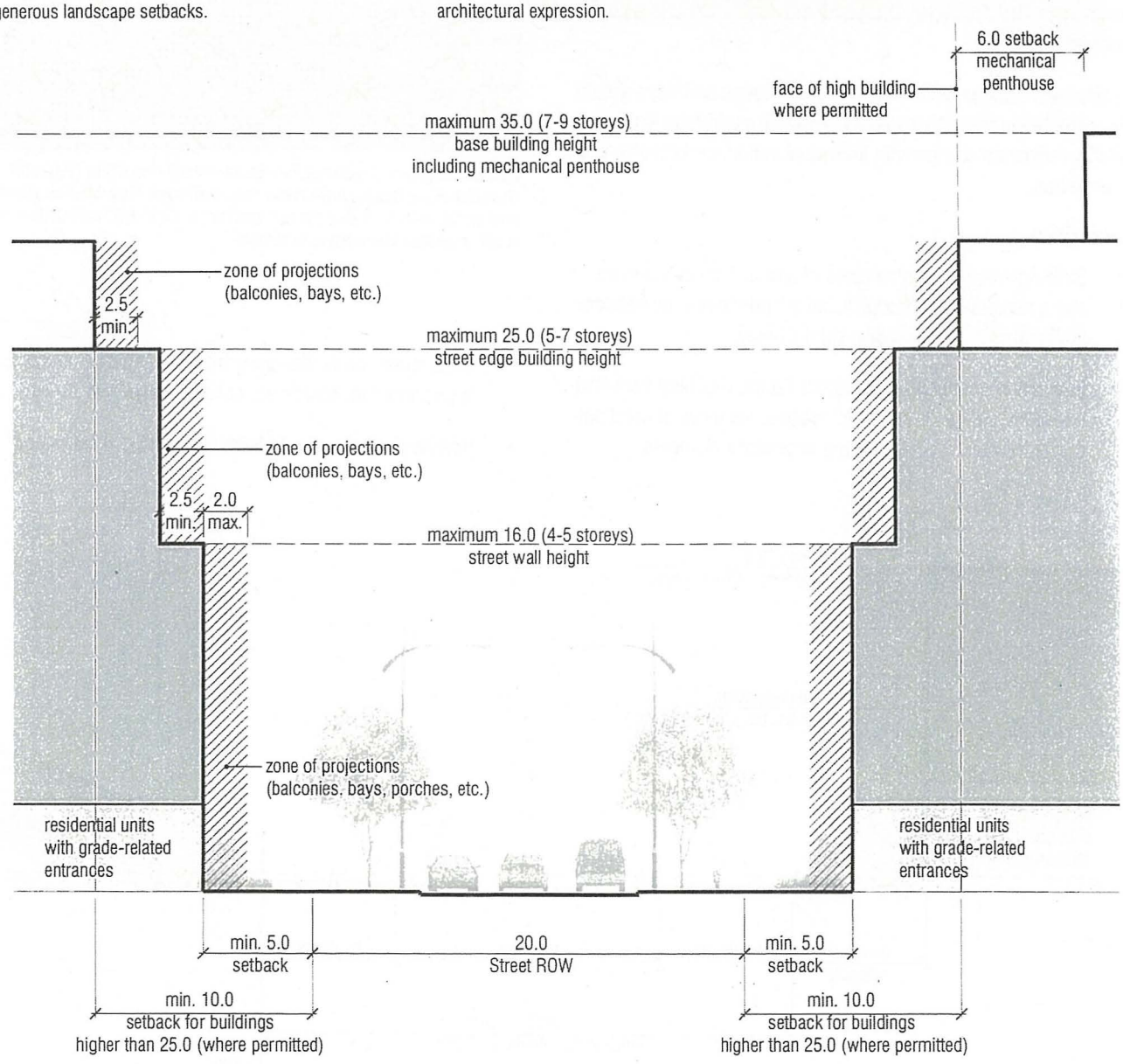
Guidelines

- A minimum 5-metre and maximum 10-metre building set-back is required to be developed as a front yard landscape zone between the building face and public right-of-way.
- The maximum street wall height of new buildings should be 16 metres.
- A 2.0-metre projection zone from the principal street wall face is permitted for balconies, porches, bays and stoops.
- A stepback of 2.5 metres is required above the 16-metre height up to a maximum street edge building of 25 metres inclusive of mechanical penthouse.
- A 2.5-metre balcony projection zone is permitted above the 16-metre height. This will encourage high quality residential design with individual building expression and articulation.
- The mechanical penthouse shall be setback a minimum of 6 metres from the closest building face.
- Buildings above a height of 25 metres to a maximum Base Building height of 35 metres are required to be set back a minimum of 10 metres from the public right-of-way.
- Where permitted, High-rise buildings are required to have a minimum setback of 10 metres from the right-of-way. (High-rise buildings are subject to the High-rise building guidelines, angular height control plane and Transition Zone defined in this document.)
- Residential units are encouraged to have grade related entrances on local streets.
- A continuous street frontage of at least two-thirds the length of the block is encouraged.



The local streets will be characterized by continuous frontages, a well-defined street wall, grade related entrances and generous landscape setbacks.

Projections—such as bays, balconies and stoops—away from the principal street wall face will provide variety and allow for individual architectural expression.



Built Form: Local Streets

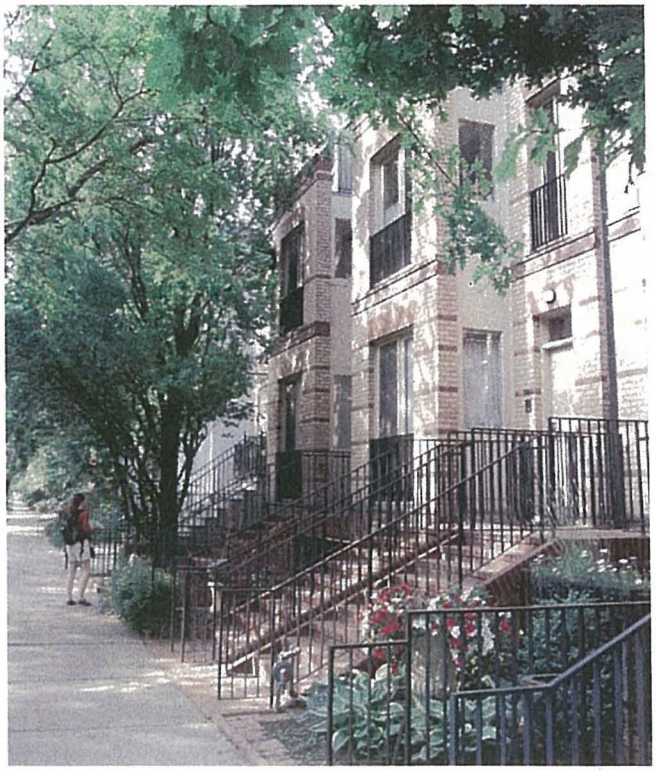
3.4.9 Local Street - Highland Park Boulevard East of Dudley Avenue: Built Form

Principle: Highland Park Boulevard east of Dudley Avenue should respect the scale and character of the existing low-density residential neighbourhood on the north side of the street.

Background

Highland Park Boulevard is the only east-west local street within the redevelopment area that extends east of Dudley Avenue. Due to its close proximity to the existing low-density residential neighbourhood and without a park buffer, the built form on the south side of this street should be limited to low-rise residential buildings. They should have landscaped front yards and grade access.

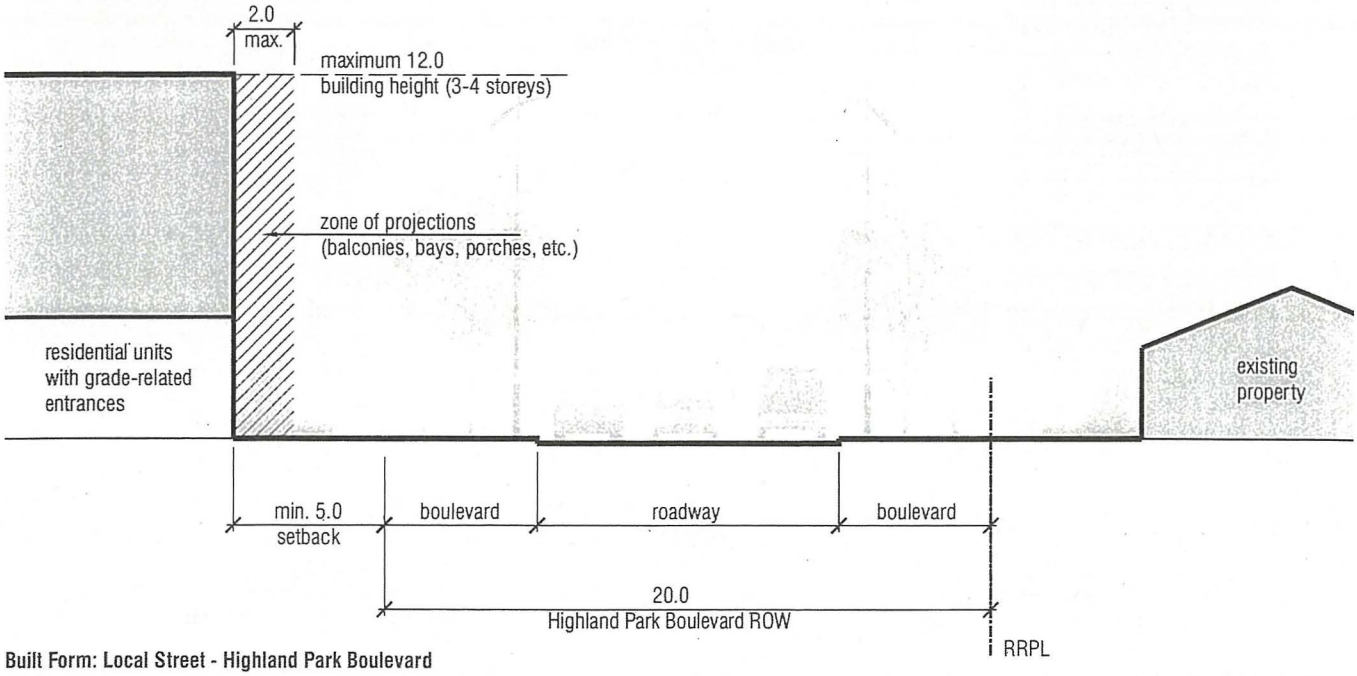
Projections such as balconies, porches, stoops and bays should be permitted in the setback areas. This will encourage high quality residential design with individual building expression and articulation.



New buildings facing Highland Park Boulevard will respect the residential character of the existing low-density neighbourhood. They will have generous front yards, entrances-at-grade and gracious scale as demonstrated by these Hazelton Avenue townhouses in Toronto.

Guidelines

- Building setback requirements of a minimum of 5 metres and a maximum of 10 metres as a landscape zone between the building face and public right-of-way.
- The maximum height of buildings facing Highland Park Boulevard should be limited to 12 metres, inclusive of mechanical penthouse or other rooftop accessory elements.
- A 2.0-metre projection zone from the principal building face is permitted for balconies, porches, bays and stoops.
- Residential units should have grade-related entrances.



Built Form: Local Street - Highland Park Boulevard

3.4.10 East-West Local Streets: Public Realm

Principle: The east-west local streets should be maintained and improved with the addition of wide sidewalks and large caliper trees in the boulevard verge. Continuity of the built-up edge but with variation in the dimension and the landscape treatment of the frontyard setbacks should be encouraged.

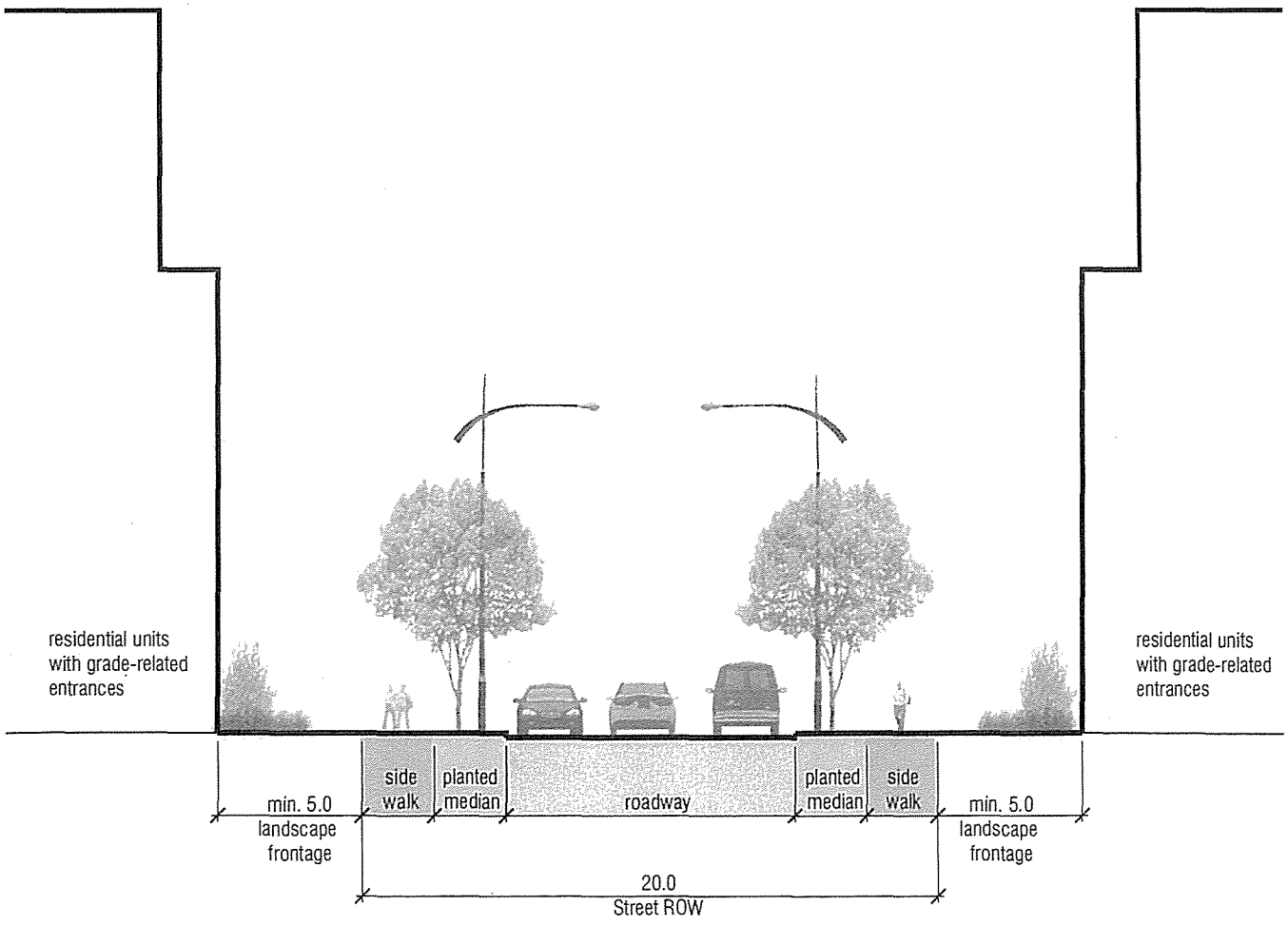
Background

The quality of the public realm of the local streets is critical to the success of the Yonge Steeles redevelopment area. They should be smaller and more intimate in scale than Yonge, become important components of the Town's pedestrian network and provide the setting for predominantly residential land uses.

The east-west local streets should retain their existing 20 metre rights-of-way. They should have a curb-to-curb dimension of sufficient width to accommodate two through travel lanes with one parking lane. The boulevards should consist of a planted median with large caliper street trees and an ample sidewalk. New buildings should be setback from the right-of-way, with opportunities for additional planting between the sidewalks and building face.

Guidelines

- The local streets will have a roadway with sidewalks and planted median on both sides. Specific details and dimensions are subject to future streetscape planning efforts.
- Building setback requirements will ensure a minimum 5-metre landscape frontage zone.



Public Realm: East-West Local Streets

3.5 Environmental Design and Sustainable Development

Principle: New development should improve the overall environmental quality of the Town of Markham and minimize ecological impacts.

Background

There are several opportunities to promote environmental sustainability on both private and public lands within the study area through the redevelopment process. Whether it is through more efficient site planning, pedestrian focused and transit oriented urban form, building materials, reduction of water usage and storm water runoff, or microclimatic amelioration, these techniques and more can influence the quality of life for residents, workers and visitors alike.

The Province of Ontario's recent smart growth planning initiative, *Places to Grow: Growth Plan for the Greater Golden Horseshoe (2006)*, promotes intensification with increased public transit use while reducing reliance on the automobile. Redevelopment of lower density areas into higher density, mixed-use walkable communities is central to meeting the objectives of the Plan.

The York Region Official Plan further supports smart growth by identifying Yonge Street as an intensification corridor with higher order transit improvements in either the form of a bus-rapid transit or subway extension. To take advantage of these planned improvements, redevelopment must occur to accommodate growth and support transit.

Where and how Markham can accommodate this future growth, in particular where people live and work, will help determine how effectively the transportation system can handle this growth. The more people who live, work and study in close proximity to public transit stations and corridors, the more likely they are to use the transit systems, and more transit riders means fewer vehicles competing for valuable road space.

Higher density redevelopment and a broader mix of vertically integrated land uses will better support proposed higher order transit improvements than the existing lower density residential neighbourhoods. Improved pedestrian environments and main street commercial revitalization will entice people out of their automobiles. New parks and open space will provide valuable amenity to existing and new residents.

Broad principles of environmental sustainability have permeated the municipal regulation of buildings, and many builders are voluntarily incorporating green materials and practices in their projects. Currently, the most advanced system for rating

The Verdale development will be part of Markham Centre— the largest LEED® rated project in North America—further promoting the Town's commitment to environmental design. *(The images above and the associated copyright and reproduction rights are owned by The Remington Group. Reproduction, use or modification of any of the images without the written consent of The Remington Group is strictly prohibited.)*

sustainability is the Canada Green Building Council's Leadership in Energy and Environmental Design (LEED®), an adaptation of a similar system from the United States. This is a rigorous voluntary assessment tool, on the cutting edge of environmental standards and processes. Practitioners and developers acknowledge the merits of sustainability and the increased marketing potential for incorporating environmentally responsible materials and processes in their projects.

All new buildings should incorporate leading environmental standards for design and construction processes. They should incorporate energy efficient, environmentally friendly materials, systems and processes such as locally produced or recycled building material, solar energy systems, heat recovery, geothermal energy, roof top gardens, zero ozone depletion refrigerants, thermally efficient glazing, high efficiency heating systems, passive cooling systems, zone-controlled lighting, heating and cooling, light reflective surfaces, waste control and life cycle cost consideration to the extent that such systems and processes are required and being implemented within the Town of Markham.

Building heights must ensure a high quality surrounding environment. Building design should minimize the impact of wind and shadow on adjacent neighbourhoods. Buildings should be articulated to intercept or diffuse wind at pedestrian levels. Buildings should be designed to minimize shadow on public areas such as streets and parks. Setbacks for high-rise buildings above the base building height should sufficiently mitigate negative wind down draft.

Increasing the amount of permeable surfaces in urban areas can reduce the demand on constrained infrastructure and minimize impacts on natural hydrological systems. Permeable pavements should be incorporated where possible. Street trees and other

landscape elements should be included in all redevelopment efforts to help regulate air temperature, intercept rainfall and minimize storm water runoff. Storm water should be retained on site where possible, with the inclusion of storm water retention ponds, cisterns and detention basins. Grey water should be used for irrigation where required and permitted for other non-potable uses.

Guidelines

- Require wind and shadow technical reports for all buildings higher than the 35-metre Base Building limit.
- All new buildings required to meet a minimum Canada Green Building Council's LEED® Silver standard for sustainable design and construction.
- Consider:
  - the adoption and phasing in of Town-wide green building and site development standards,
  - the adoption of minimum standards for on-site energy generation from renewable sources,
  - the adoption of standards for on-site storm water retention and release,
  - the creation of a green roof strategy for new development
  - the development of innovative techniques for stormwater management within the public rights-of-way

The recently completed headquarters for a software company on King Street East in downtown Toronto is the first LEED®-rated commercial building in Canada (targeting LEED® Silver). By applying sustainable building principles and techniques, the projected energy consumption and cost will be 30 to 50% of a comparable building of typical design. (source: SAS Canada)

Recent residential tower development in the GTA indicates a growing commitment by the building industry to sustainable design. The two projects above are currently under construction in different parts of Toronto—one downtown and one midtown—and are committed to a minimum LEED® Gold standard. (source: Minto Urban Communities.Inc.)

The green roof at Mountain Equipment Co-op in downtown Toronto is one of the flagship projects for the sustainable building movement in North America. All new development within the Yonge-Steeles study area could incorporate similar techniques to reduce runoff, reduce heating and cooling costs, improve local air quality and normalize local microclimate.

Portland Oregon's Green Streets project makes use of planting areas to help reduce runoff by increasing the amount of permeable surface, thus becoming an important part of the City's green infrastructure.
(source: www.sitephocus.com)

3.6 Demonstration Plan

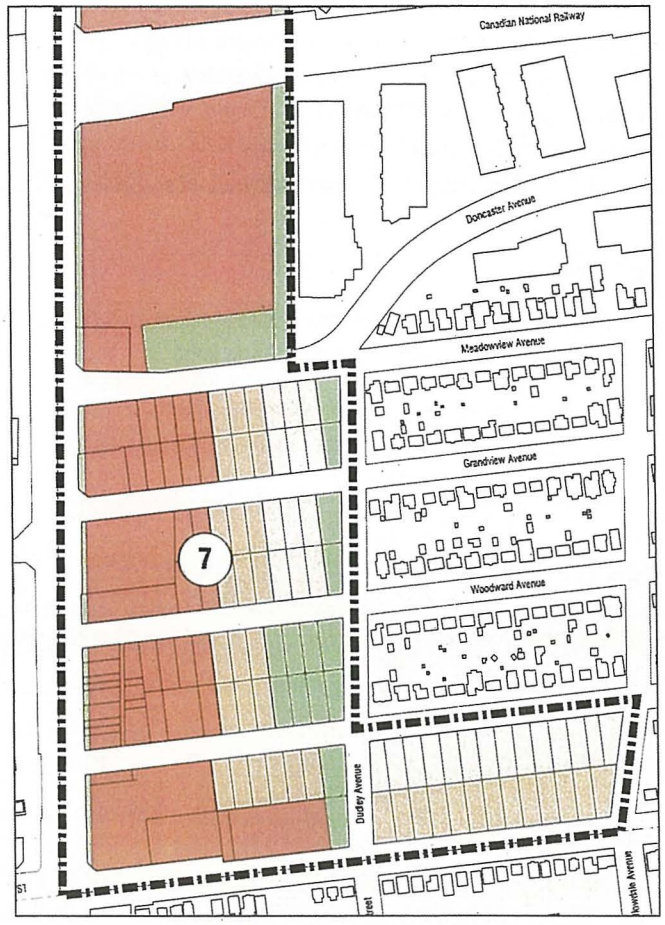
3.6.1 Built Form on a Typical Redevelopment Block

Demonstration massing models for a typical redevelopment (Block 7 framed by Yonge Street, Dudley Avenue, Grandview Avenue and Woodward Avenue) to illustrate the built-form possibilities that are consistent with the density, heights, massing and set-back policies of these urban design guidelines.

These demonstration models are illustrated:

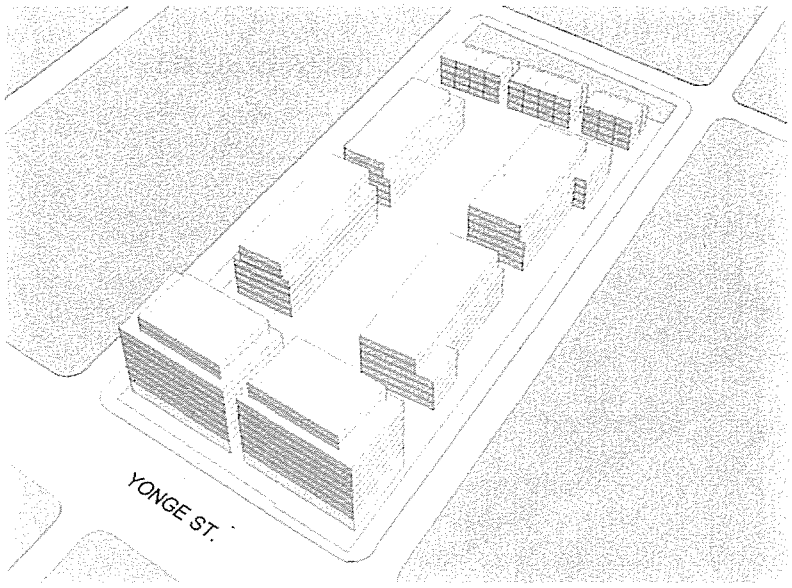
- A: The first assumes that the development of the block is entirely residential apart from the Yonge Street frontage that also includes the mandatory street related ground-floor retail.
- B and C: These models demonstrate two variations of block development that maximizes the residential commercial mixed-use Gross Floor Area (GFA) within the recommended density limits.

An important conclusion derived from these test demonstration models is that the built-form heights and massing controls including the 2:1 Angular Height Control Plane provide a high freedom of choice with regard to building types and forms of development that reflect the intensification densities. Furthermore, the built-form controls allow considerable flexibility for various redevelopment phasing and site planning scenarios.



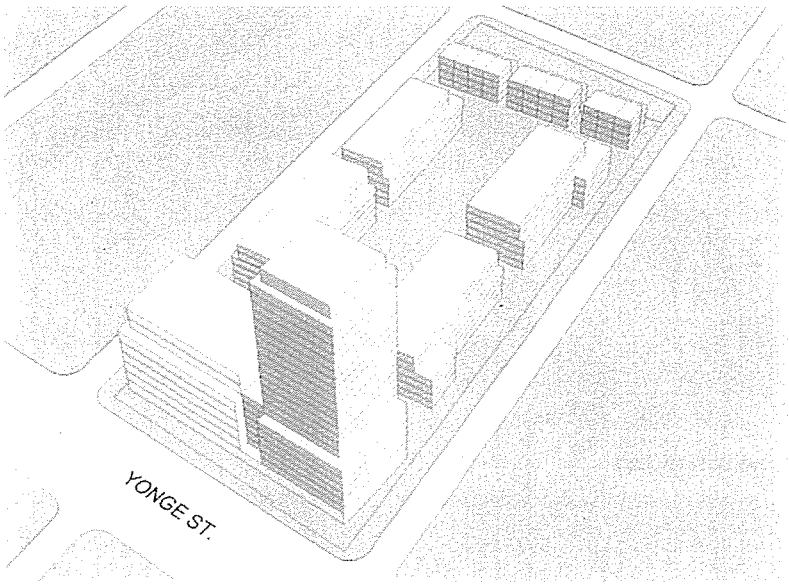
Demonstration A:
Maximizes residential densities

- Maximizes allowable residential density and includes mandatory retail on Yonge Street frontage
- low and mid-rise development only
- Yonge Street development: 9 storey residential buildings plus ground-floor retail (total: 10 storeys/35 metres in height)
- Local Streets development: 4 storey townhouses on linear park, 6 and 7 storey apartment buildings (with grade related units) on east-west streets
- Overall block densities (excluding linear park): Residential 2.28 FSI, Total residential and non-residential: 2.38 FSI



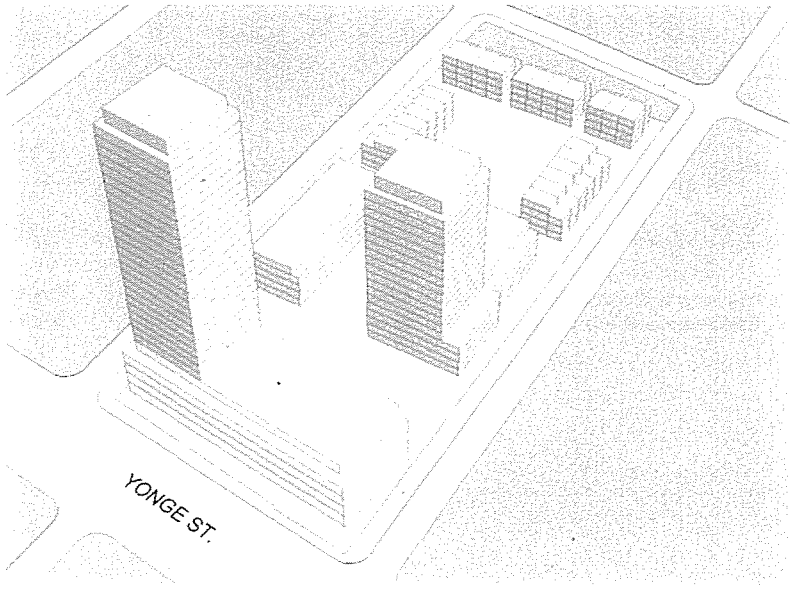
Demonstration B:
Maximizes allowable residential and non-residential densities

- Development of low-rise, mid-rise and one residential point tower
- Yonge Street development: 8 storey office building including ground floor retail and 23 storey residential point tower (625m² floor plate), including ground floor retail. (point tower is 7 storeys below maximum height permitted).
- Local Streets development: 4 storey townhouses on linear park, 6 and 7 storey apartment buildings (with grade related units) on east-west streets
- Overall block densities (excluding linear park): Residential 2.28 FSI, Total residential and non-residential: 2.83 FSI

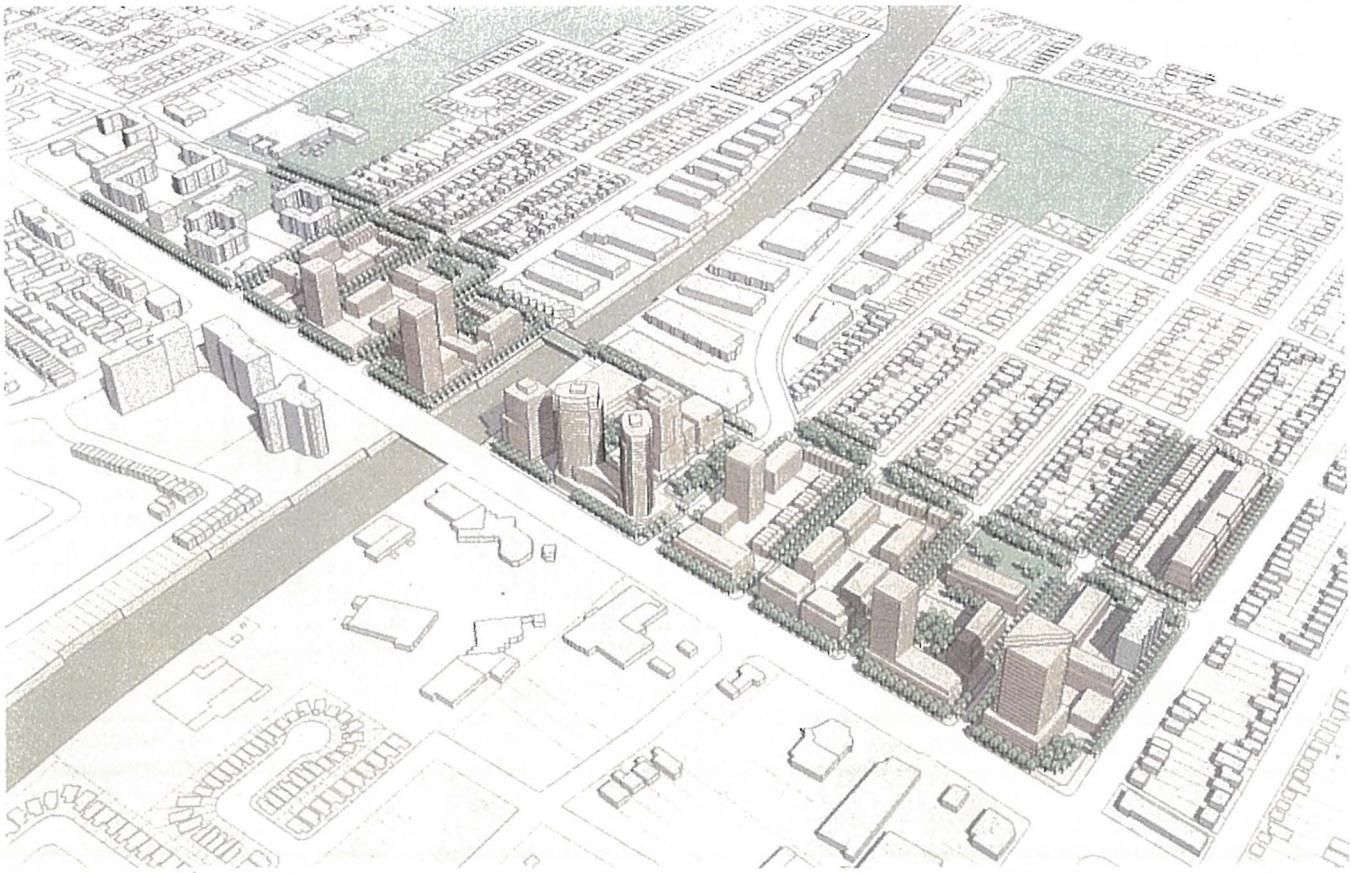


Demonstration C:
Maximizes allowable residential and non-residential densities with two point towers

- Yonge Street development: mixed use building, 5-storey commercial podium with retail to grade below a 25-storey residential point tower (625m² floor plate) to the full 100.0 metre height limit
- Local Streets development: 4 storey townhouses on linear park on east end of the block; 5-storey base buildings and 20-storey residential point tower (625 m² floor plate) - point tower is 4 storeys below angular height control plane.
- Overall block densities (excluding linear park): Residential 2.28 FSI, Total residential and non-residential: 2.83 FSI



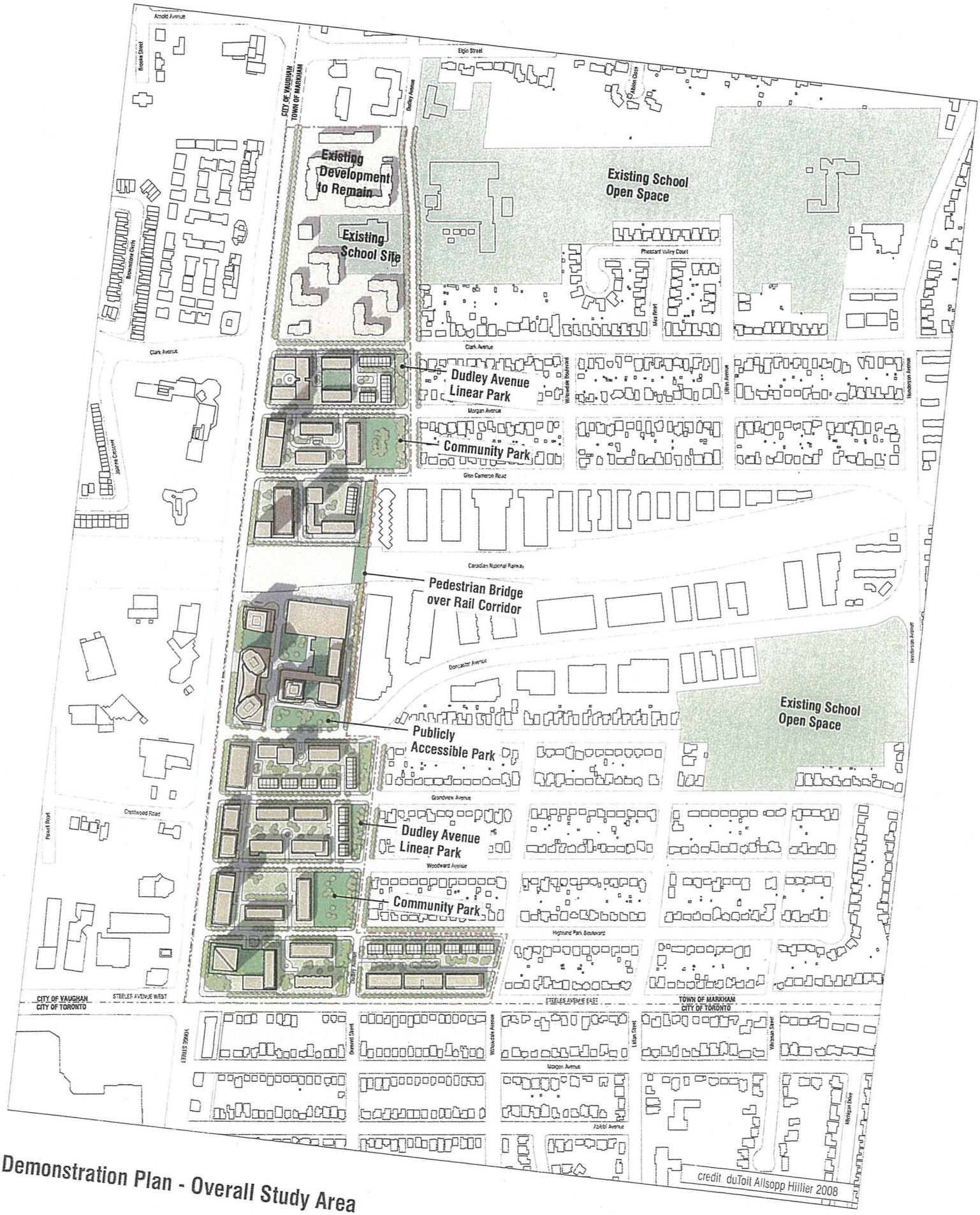
3.6.2 Yonge Steeles Redevelopment Area: Demonstration of Urban Design Guidelines



Overall Study Area

View towards the northwest with Dudley Linear Park between new development and existing residential neighbourhood

View north of the Yonge Steeles intersection with higher buildings fronting Yonge Street and lower buildings towards the existing neighbourhoods



Demonstration Plan - Overall Study Area