



MARKHAM ROAD MOUNT JOY

SECONDARY PLAN STUDY

Final Study Report
September 2023



counterpoint
ENGINEERING



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Submitted to: City of Markham

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1.0 Introduction

1.1 Study Purpose and Overview

SvN Architects and Planners (SvN) was retained by the City of Markham to lead a team of multi-disciplinary consultants, comprising of HDR Inc., Counterpoint Engineering, and Jonathan Tinney, to undertake a Study that will inform the development of a vision and comprehensive planning framework for the Markham Road - Mount Joy Secondary Plan (MRMJSP) Area. The City of Markham Official Plan 2014 identifies the need for a new Secondary Plan to be prepared for this area based on a land use objective to:

“provide for a mixed-use corridor that functions as a main street integrating a range of housing, employment, shopping and recreation opportunities, at transit supportive densities adjacent to the GO station, to serve the adjacent communities of Berzcy Village, Wismer Commons, Greensborough and Swan Lake”.

The purpose of the Study was to prepare a Demonstration Plan and Policy Guidance and Recommendations to inform the preparation of the MRMJSP. The Study integrated land use & urban design, transportation and municipal servicing considerations, to comprehensively plan for a sustainable and complete community.

The MRMJSP Area is currently characterized by large tracts of single-use lands. This pattern of development is not sustainable, nor will it serve a growing, transit and pedestrian-supportive community. The MRMJSP

presents a significant opportunity to leverage existing assets, including but not limited to the existing Mount Joy GO Station, the ‘Greenway’ System and Mount Joy Creek, the Mount Joy Business Park, the Markham Museum, surrounding neighbourhoods, parks and open spaces, and the adjacent Markham Village main street.

The Study established the planning and spatial conditions necessary to drive local real estate market conditions in order to spur public and private investment and promote collaboration to maximize opportunities for transit investment. This is necessary in order to ensure the creation of a sustainable, resilient, vibrant and complete transit-supportive community. This approach aligns with Provincial policy, which directs population and employment growth to Major Transit Station Areas (MTSAs).

The Study identified additional potential to transform Markham Road from a car-dependent, arterial road into an attractive, animated, vibrant street that will encourage active transportation and act as the spine for a new complete community. This transformation will be supported by the establishment of a new fine-grained street and block framework, which will introduce a network of connector and local streets, as well as active transportation connections and infrastructure. With these, the Study provides recommendations which set the stage for mixed-use development, a series of parks and open spaces, and new community facilities and infrastructure.

Multiple stakeholder and community consultation sessions were undertaken throughout the duration of the Study process at key milestones. This included engagement with City officials, reviewing agencies, area landowners, and the public. The consultation sessions initially presented background information on the Study Area associated with the MRMJSP Area, and solicited feedback in the development of a Vision and Guiding Principles that will guide the evolution and maturation of the MRMJSP Area from a car-dependent, arterial corridor to a more dynamic, mixed-use community. Following this, the engagement sessions resulted in valuable feedback into the development of the Demonstration Plan and Policy Guidance, discussed within this report.

As a City-led policy initiative, the Study referred to Metrolinx's 'Market Driven Strategy to Deliver Transit Infrastructure' (2018), in the review of opportunities for facilitating transit-supportive development in the MRMJSP Area. Along with this, the Study culminated in recommendations that will inform the development of the MRMJSP, and support city-building objectives into the future. The recommendations outlined herein address matters such as land use, transportation, civil servicing and phasing to appropriately sequence development to ensure alignment with infrastructure provision and support implementation of the vision for Markham Road and the MRMJSP Area as a whole.

1.2 Study Process

The Study was conducted over multiple phases as follows:

- » Phase 1: Project Kick-off and the establishment of a Project Management Plan; involving the preparation of a project schedule, work plan and the definition of the approach to Stakeholder and Community Consultation.
- » Phase 2: Background Review, Data Collection and Assessment; involving the development of an understanding of the existing conditions of the MRMJSP Area and its surrounding context based on three main components: land use and urban design, transportation, and municipal servicing.
- » Phase 3: Development of Vision, Guiding Principles, Demonstration Plan, Policy Guidance, and a series of virtual Design Charrettes and Community Information Sessions with stakeholders, agencies and the public. This phase culminated in the preparation of the Interim Report, available on the [project webpage](#), which provided a summary of all technical analysis and consultation undertaken in Phases 2 and 3.
- » Phase 4: Presentation to Markham's Development Services Committee and Community Consultation, including the refinement of the Demonstration Plan.
- » Phase 5: Preparation of Transportation and Municipal Services Analysis and Recommendations. This includes the development of final transportation and servicing reports that provided analysis and recommendations to support the Demonstration Plan and Policy Guidance.

- » Phase 6: Preparation of this Final Study Report, which serves as the culmination of Phases 1 through 6 of the Study. It summarizes all technical analysis and consultation undertaken throughout the course of the Study, and presents the final Vision, Guiding Principles, Demonstration Plan, and Policy Guidance and Recommendations to inform the preparation of the MRMJSP.

The Study provides policy recommendations to inform the development of the MRMJSP. It addresses matters such as land use, transportation, servicing and phasing to appropriately sequence development to ensure alignment with infrastructure provision and support implementation of the vision for the Markham Road corridor.

1.3 Secondary Plan Boundary & Study Area

The approximate boundary of the MRMJSP Area is identified within Section 9.3.7 of the Markham Official Plan 2014 (**Figure 1**). The MRMJSP Area is situated in the northeast portion of the City, just south of the northeastern limit of Markham's Urban Area. The MRMJSP Area is approximately 97 hectares in size. It is comprised of the lands along Markham Road between 16th Avenue and Major Mackenzie Drive East. The westerly limit is generally defined by the extent of the commercial properties on the west side of Markham Road. The easterly limit of the MRMJSP Area is generally defined by the Stouffville GO Rail Corridor.

The MRMJSP boundary identified within the Official Plan was referred to throughout the baseline conditions assessment work. Through the evolution and review of this work, the Metrolinx-owned parking lot east of the Stouffville GO Rail Corridor, on the south side of Bur Oak Avenue was deemed appropriate for inclusion within the MRMJSP. In addition to its potential for redevelopment, this property will provide a connection to the adjacent stable communities to the east, further supporting the creation of a complete community in this location.

As well, the MRMJSP Area was expanded to include a portion of private lands which had recently gone through development approvals, adjacent to Major Mackenzie Drive East. As such, this report will discuss and graphically depict these additional areas in Sections 6.0 and 7.0, when the Demonstration Plan and Policy Guidance are presented.

It is noted that the policy guidance included herein supersedes the policy guidance included within an Executive Summary presented to the City of Markham's Development information on June 26, 2023.

The MRMJSP Area currently contains a mix of residential, employment and retail land uses at a range of densities; a tributary of the Rouge River, Mount Joy Creek; and, the Mount Joy GO Station at Bur Oak Avenue and Markham Road (see **Figure 2**). The MRMJSP Area had a population of approximately 2,770 people and 2,380 jobs as of 2019.

For the purposes of the assessment of baseline conditions, the Study Area included lands beyond the defined boundaries of the MRMJSP. The easterly limit of the Study Area extends beyond the Stouffville GO Rail Corridor, into the westerly end of the Greensborough community. The Study Area extends southward and includes the Mount Joy Community Centre, Mount Joy Lake, Brother Andre Catholic Secondary School, and the northern limit of the Markham Village Heritage Conservation District (HCD). The westerly boundary of the Study Area is generally defined by the easterly end of the Wismer Commons community, as well as the Markham Museum lands that anchor the southern entry into the MRMJSP Area.

Although the lands north of Major Mackenzie Drive East were not within the urban boundary in initial phases of the Study, they were included in the Study Area for the purpose of assessing the feasibility of an additional GO station at Major Mackenzie Drive East.

As noted earlier, the Markham Village HCD abuts the MRMJSP Area to the south, and is a key community amenity and destination. The transition between the MRMJSP Area and the HCD presents a key placemaking opportunity, as such the Study utilized thoughtful consideration in the preparation of recommendations related to land use, built form and massing, public realm and streetscape design.

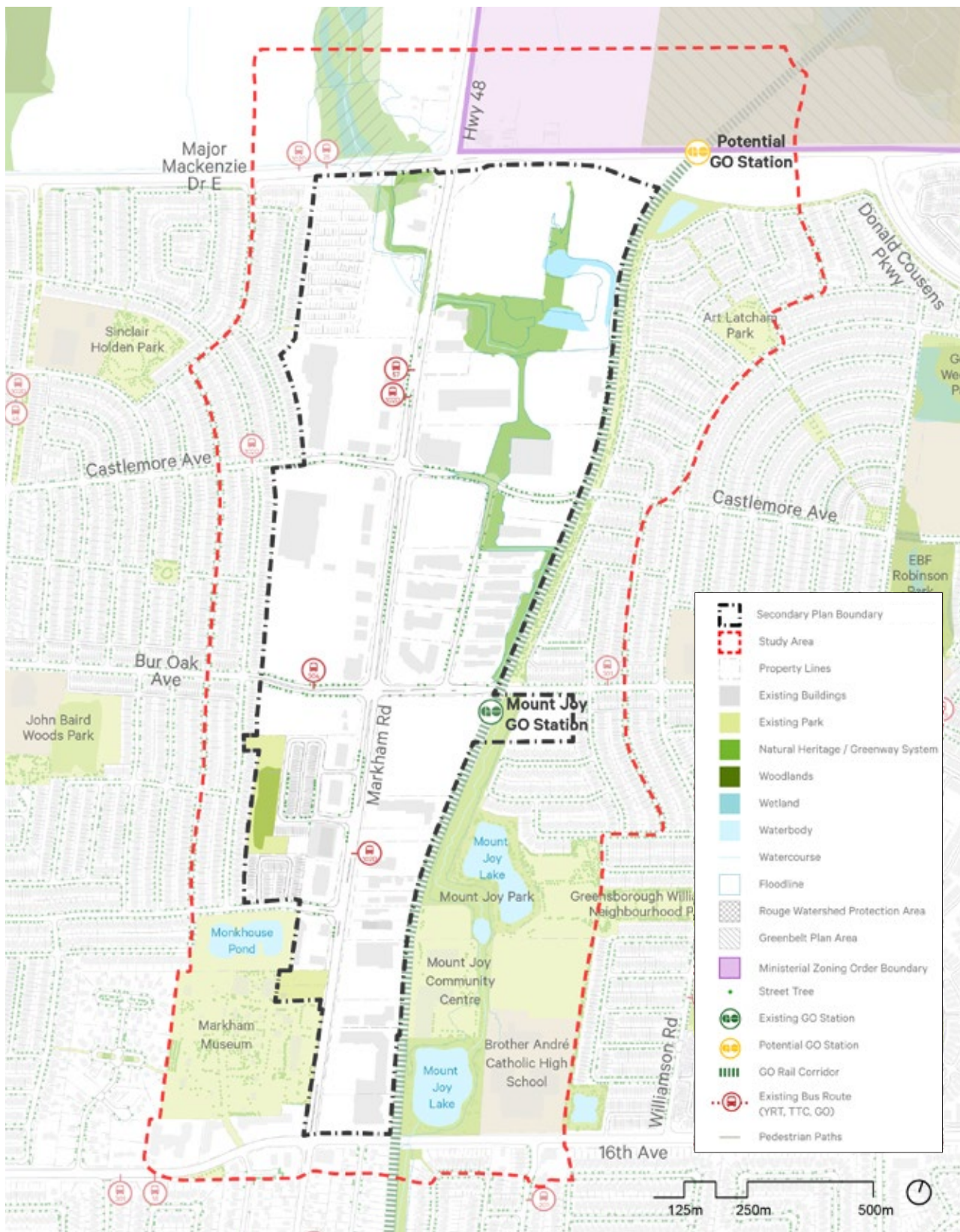


Figure 1: Study Area and MRMJSP Boundary

1.4 Report Purpose and Structure

The purpose of this Final Study Report is to present all technical analysis and consultation undertaken throughout the course of the Study from Phases 1 through 6, and discuss the final Vision, Guiding Principles, Demonstration Plan, and Policy Guidance and Recommendations to inform the preparation of MRMJSP.

The Report includes the following sections:

- » Section 1: Introduces the Study, the Study Area and the report purpose;
- » Section 2: Provides an overview of the existing policy framework, a description of previous and current studies, as well as policy updates which informed the development of recommendations;
- » Section 3: Provides an assessment of the existing conditions, including land use and urban design, transportation and municipal servicing;
- » Section 4: Provides a summary of consultation and engagement efforts undertaken throughout the course of the Study;
- » Section 5: Presents the final Vision and Guiding Principles for the MRMJSP Area;
- » Section 6: Reviews the final Demonstration Plan for the MRMJSP Area, and outlines the assumptions applied;
- » Section 7: Provides Policy Guidance and Recommendations to inform the preparation of the MRMJSP; and
- » Section 8: Identifies next steps following the completion of the Study process.

2.0 Policy Context

2.1 Provincial Policy Statement, 2020

The Provincial Policy Statement (PPS) provides Provincial direction on matters related to land use planning. Section 3 of the Planning Act requires that decisions affecting planning matters “shall be consistent with” the Provincial Policy Statement. The PPS includes direction on building strong communities through efficient development and land use patterns that incorporate densities that minimize land consumption and infrastructure requirements. The PPS encourages an appropriate mix and range of employment and housing and promotes healthy and active communities through the planning of public spaces, recreation, parks, trails and open space. The PPS directs that land uses within settlement areas are to be transit-supportive where transit is planned, currently exists, or in areas where transit may be developed in the future. The PPS encourages the direction of intensification within settlement areas in order to make efficient use of existing resources and servicing capacity, to minimize environmental impacts, and to support active transportation and transit use.

Policies within the PPS encourage the collocation of higher densities with transit infrastructure and services, in order to reduce the length and number of vehicular trips. Generally, the PPS is supportive of the improvement of transit and active transportation facilities. The MRMJSP is envisioned to provide higher densities in proximity to the Mount Joy GO Station in order to meet these objectives. The Study recommends that the MRMJSP regard Major Mackenzie Drive East as a rapid transit corridor as well. It is recommended that the MRMJSP has regard for land use, density and

built form where higher order transit is in proximity, so as to provide the most efficient and supportive land use strategy.

2.2 A Place to Grow, 2020

The Growth Plan for the Greater Golden Horseshoe (Growth Plan) establishes a framework for the development of the Greater Toronto and Hamilton Area, also known as the Greater Golden Horseshoe (GGH).

The Growth Plan recognizes transit as a first priority for major transportation investments. It sets out a regional vision for transit, and seeks to align transit with growth and development by directing growth to MTSAs, along priority transit corridors, and other strategic growth areas. The Growth Plan requires municipalities to complete detailed plans for MTSAs along priority transit corridors to support planned transit service improvements. Municipalities may also identify additional MTSAs beyond the priority transit corridors in the Growth Plan.

The Growth Plan also requires single- and upper-tier municipalities (in consultation with lower-tier municipalities), to map employment areas in their official plans. The Growth Plan stipulates that employment areas may be incorporated into official plans by amendment at any time, and it mandates that single and upper tier municipalities have authority over employment land conversion requests, to non-employment uses.

2.3 Greenbelt Plan, 2017

The Greenbelt Plan, together with the Growth Plan, the Niagara Escarpment Plan, and the Oak Ridges Moraine Conservation Plan, establishes a land use planning framework for the GGH that supports a thriving economy, a clean and healthy environment and social equity. The Greenbelt Plan identifies areas to be protected from urbanization for the long-term, including agricultural lands and lands containing ecological and hydrological features.

A portion of the lands on the northeast side of Major Mackenzie Drive East and Markham Road, surrounding the Stouffville GO Rail Corridor, is designated 'Protected Countryside' under the Greenbelt Plan, and is within the Natural Heritage System overlay. The Greenbelt Plan does not support intensification within lands designated 'Protected Countryside', or within the Natural Heritage System. These designations are particularly relevant in the preliminary feasibility review of the additional GO Rail Station, subject to future study, at Major Mackenzie Drive East, as discussed in **Section 3.3.2**. Under the current policy framework, the Greenbelt Plan would permit development of infrastructure such as a transit station, or associated parking lot, subject to criteria which including completion of an Environmental Assessment. It is however noted that provincial policy does not currently permit a settlement area boundary expansion into the Greenbelt.

It is important to note that the lands northeast of Major Mackenzie Drive East and the Stouffville GO Rail Corridor are identified as being within the 600 metre wide Little Rouge Creek Corridor, as per Policy 3.2.7 of the Greenbelt Plan. This corridor has been identified as the main ecological link between Lake Ontario and

the southerly boundary of the Oak Ridges Moraine. The Little Rouge Creek Corridor is designated as a 'Special Management Site' in the Rouge North Management Plan (RNMP).

The policies within the RNMP stipulate that a continuous forested corridor of at least 400 metres in width must be maintained around Little Rouge Creek, and only compatible uses would be permitted in the outer 200 metres of the corridor. These include limited parking facilities associated directly with the open space uses related to the Rouge Park North. The Rouge North Management Plan specifically notes trail heads, interpretive or visitor centers and appropriate recreational uses. Overall, the adjacent uses must not result in an increase in isolation of vegetation units within the corridor, and the loss of interior forest conditions would not be supported.

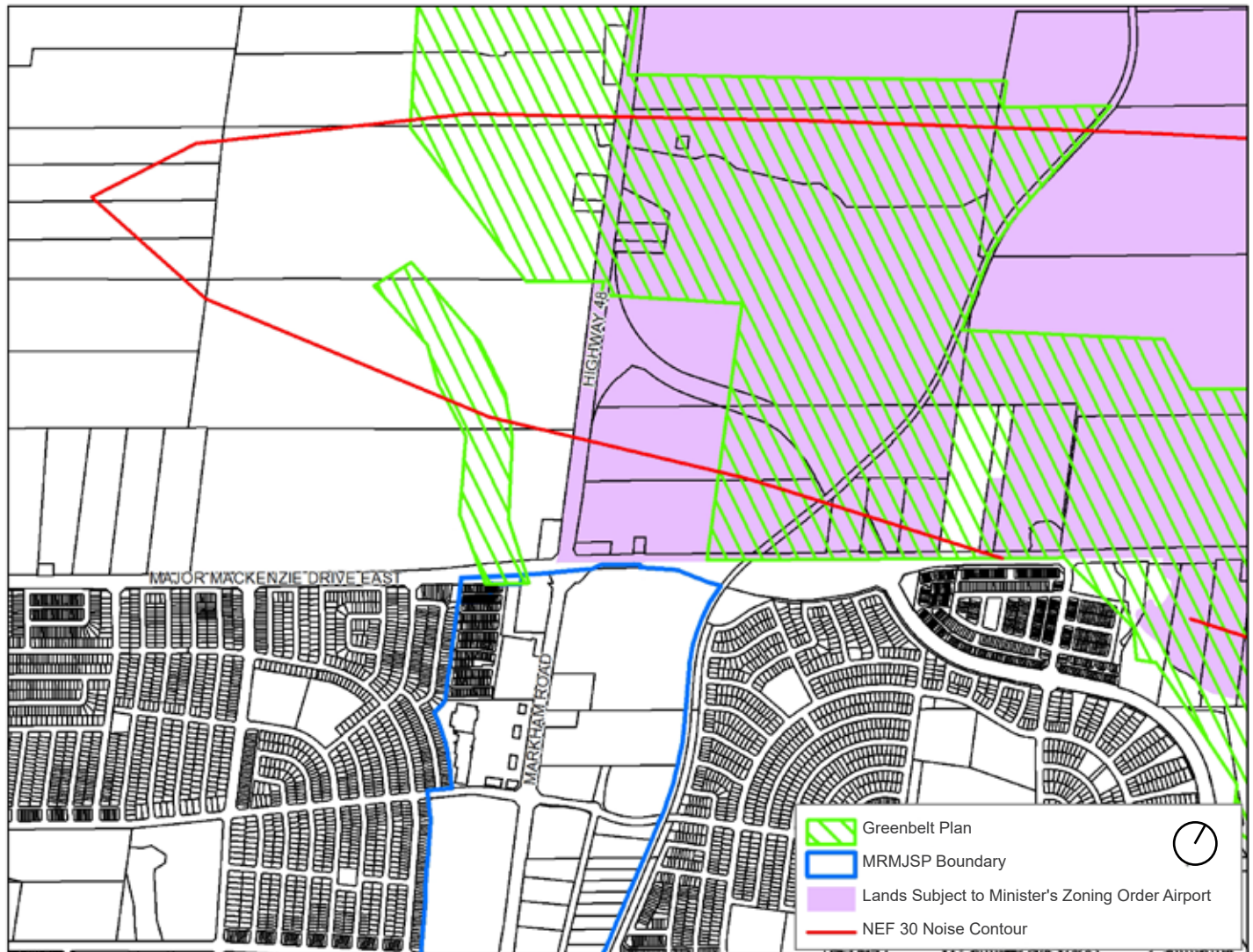


Figure 2: Location of MRMJSP Area with relation to Greenbelt Plan Area and MZO (O.Reg 104/72)

These policies have particular relevance in the consideration of infrastructure siting in proximity to the Little Rouge Creek Corridor. The suitability and appropriateness of locating an additional GO Station, its associated infrastructure, and accessory uses in this location will require consideration on a site-specific basis.

In addition to the above, Mount Joy Creek is identified as an Urban River Valley in the Greenbelt Plan. The majority of the Mount Joy Creek lands are currently in private ownership, and the policies of the Urban River Valley designation apply only to publicly owned lands along valley corridors. The intent of the Greenbelt Plan is to provide protection for river valleys that exist in an

urban context, and to encourage municipalities to protect and enhance the environmental functions that natural features provide. Furthermore, the Greenbelt Plan directs that the intent for Urban River Valleys is to provide the setting for a network of recreational, cultural and tourist amenities and infrastructure, which are needed to support urban areas. It is noted that the Greenbelt Plan supports and encourages connections such as multi-use trails within the Urban River Valleys that would help integrate the Greenbelt into an Urban Context.

Through the development process, it is expected that valleylands will be conveyed into public ownership in order to facilitate this vision. **Figure 4** demonstrates the

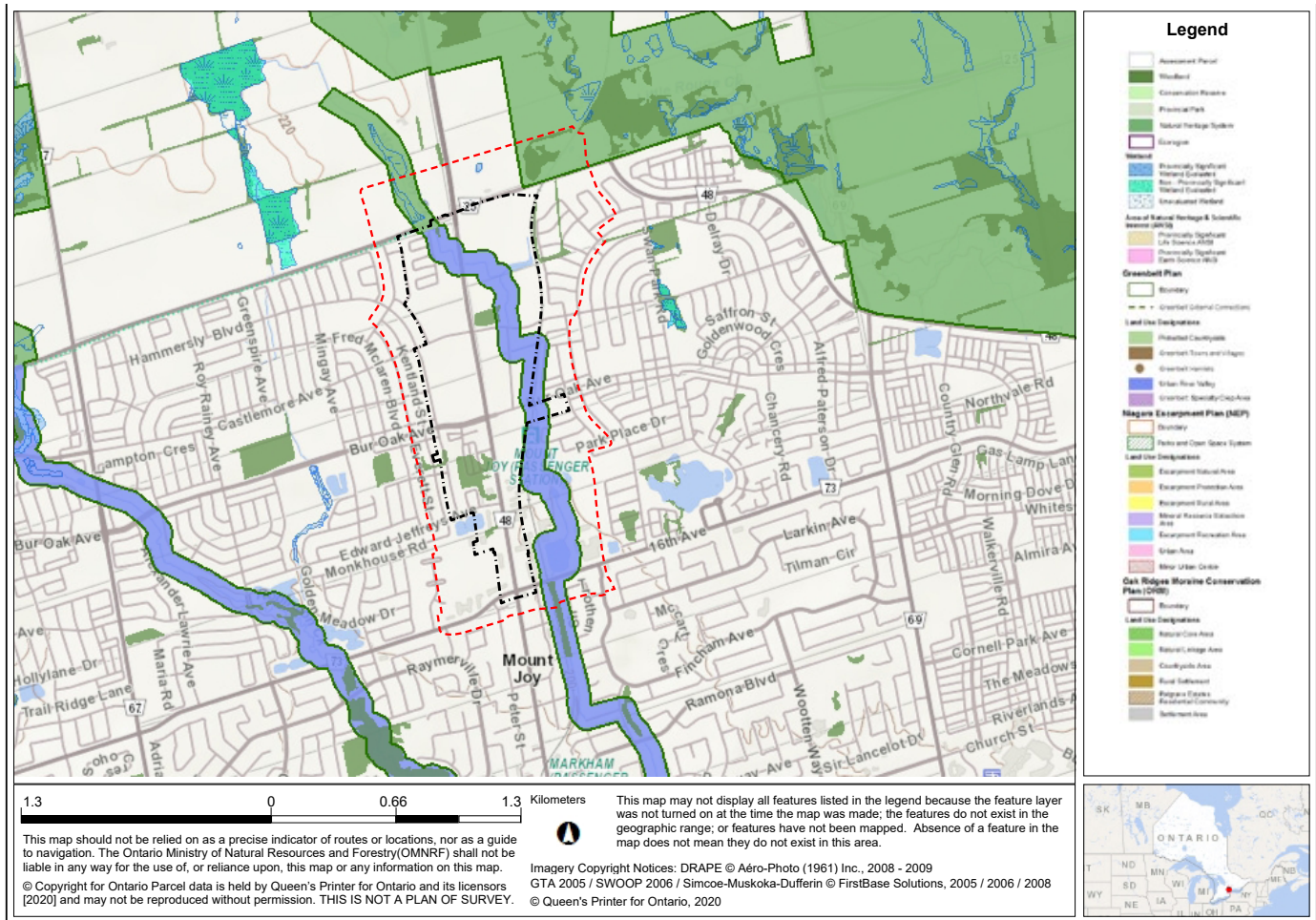


Figure 3: Mount Joy Creek Urban River Valley in relation to MRMJSP Area

conceptual location of the valley corridor associated with Mount Joy Creek, which traverses the Study Area in a north-south direction. Site-specific assessments and confirmation with the appropriate approval authority are required to confirm the exact extent of the valley system.

2.4 Ministerial Zoning Order (MZO) (O. Reg. 104/72)

A portion of the lands within the Study Area are subject to a Ministerial Zoning Order (MZO), which aims to protect and regulate lands pertaining to the proposed Pickering Airport. The lands subject to the Order are generally located to the northeast of Major Mackenzie Drive East and Markham Road, and are therefore outside of the MRMJSP Area itself. **Figure 3** depicts the location of the MRMJSP Area in relation to the MZO boundary.

The PPS includes policy direction to protect airport lands from incompatible uses and prohibits new residential development within areas above the 30 Noise Exposure Forecast (NEF)/Noise Exposure Projection (NEP).

The MZO implements the PPS direction and restricts permitted uses to agricultural uses, existing single detached dwellings, and the continuation of uses permitted as of the time of the issuance of the MZO in 1972. It should be noted that the MZO does permit new infrastructure, that could consider the GO Rail Station subject to further study at Major Mackenzie Drive East, however an amendment would be required for other uses that are not permitted.

2.5 York Region Official Plan, 2022

As per Map 1 – Regional Structure of the York Region Official 2022 (YROP), The MRMJSP is located within the ‘Urban Area’ (see **Figure 4**). Policies within the YROP state that a significant portion of the Region’s planned growth will be accommodated within the ‘Urban Area’. An intensification strategy is set out in the YROP, which directs intensification to a hierarchy of locations starting with ‘Regional Centres’, followed by MTSAs associated with subway stations, other MTSAs, ‘Regional Corridors’ outside of MTSAs, and ‘local centres’ and ‘local corridors’. The intent of the strategy is to direct the highest levels of intensification to areas that are well-served by infrastructure, in order to make efficient use of existing resources and promote compact development.

The YROP includes specific direction regarding the development of secondary plans for lands within ‘Local Corridors’, including criteria that promote the consideration of historic corridor function and revitalization of main street areas; the establishment of a range of residential and commercial land uses and specific urban design criteria that encourage a continuous building form adjacent to the street right-of-way (ROW), and pedestrian activity. The Study considered these policies in the development of the policy guidance and recommendations that will inform the MRMJSP.

Major Mackenzie Drive East is identified as a Regional Rapid Transit Corridor by the YROP, and Markham Road is identified as a Local Corridor. The Study recommends that the MRMJSP Area will be developed in a consistent fashion with the Region’s intensification strategy. While it is acknowledged that the highest densities will be directed to the ‘Regional Centres’, such as Markham

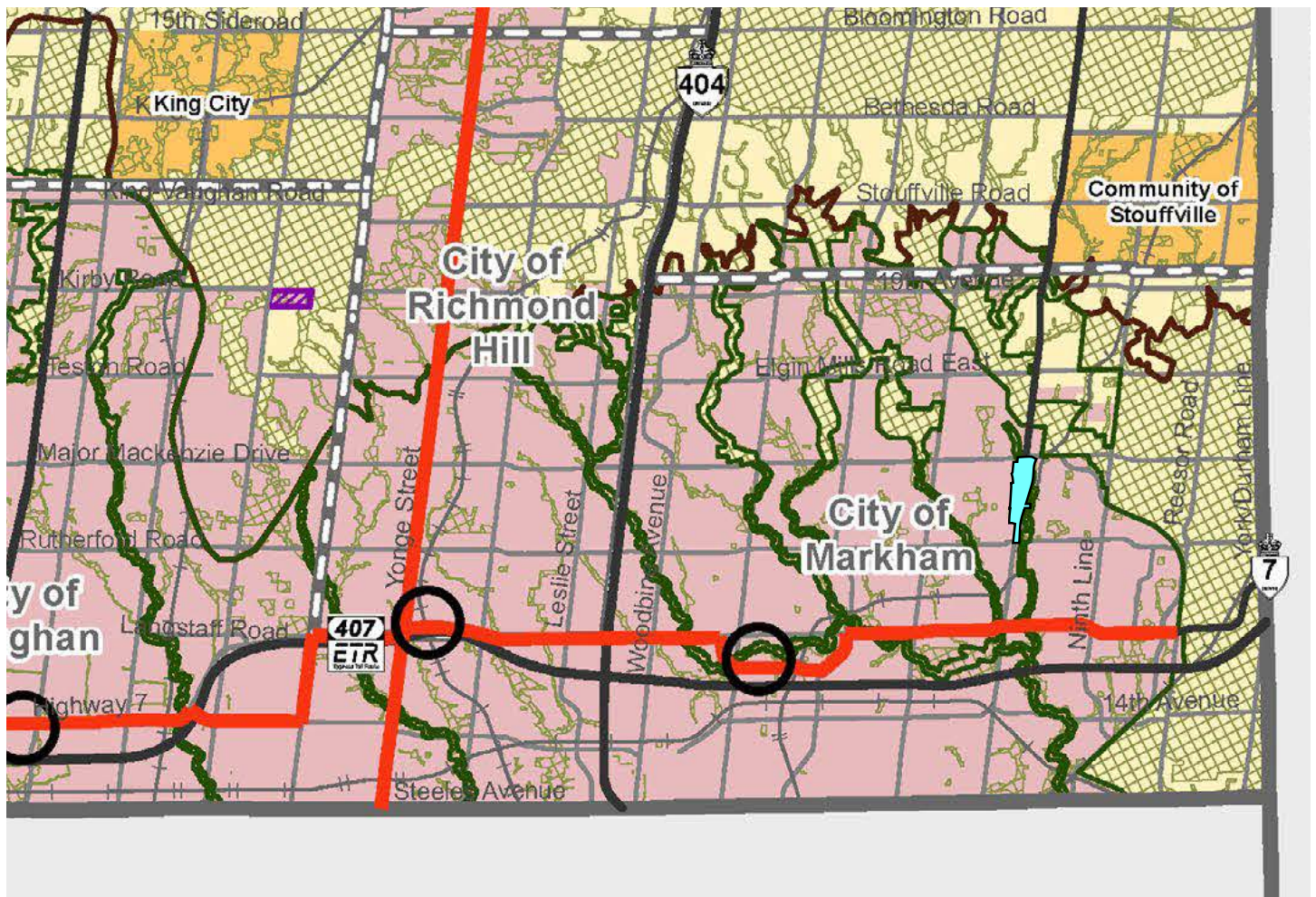
Centre, development in the MRMJSP Area will be planned to accommodate growth as well, but at a smaller scale than ‘Regional Centres’.

The YROP directs that Local Official Plans identify strategic growth areas on Local Corridors in proximity to transit. Furthermore, it directs that ‘Local Corridors’ and should be identified along future rapid transit corridors within York Region. As Major Mackenzie Drive East is a Regional Rapid Transit Corridor, the Study recommends that policies within the MRMJSP acknowledge Major Mackenzie Drive East as an important spine for intensification.

Regarding Natural Heritage, the YROP directs that secondary plans incorporate the Regional Greenlands System, and include policies that will bolster and encourage the long-term protection of natural heritage features, systematically. This Study regarded Mount Joy Creek and its valley corridor, and thus the recommendations and policy guidance included herein encourage connections between existing natural features to improve their ecological functions.

Similarly, the YROP contains policies encouraging that cultural heritage resources be identified within secondary plans, and any significant resources be conserved. The Demonstration Plan and associated policy guidance identify all heritage resources inventoried to date, given their significance to the evolution of the MRMJSP Area, and direct for the continued preservation of cultural heritage resources.

With respect to housing and affordability, the YROP contains strong policies that require secondary plans to achieve a mix and range of housing types within each level of affordability. YROP Policy 2.3.41 states that within each local municipality, a minimum 35% of new



- MRMJSP Boundary
 - Regional Centre
 - Regional Corridor
 - Urban Area
 - Towns and Villages
 - Agricultural System
 - Regional Greenlands System
 - Subject to Minister's Order February 3, 2015 and special provision policy 5.3.6
- Greenbelt Plan**
- Greenbelt Plan Boundary
- Oak Ridges Moraine Conservation Plan**
- Oak Ridges Moraine Conservation Plan Boundary
- Provincial Highways**
- Existing
- Municipal Boundaries**
- Regional Municipal Boundary
 - Local Municipal Boundary

Figure 4: MRMJSP Area location in relation to York Region's Urban Structure

housing units in Regional Centres and MTSAs should be affordable in each local municipality. Policy 2.3.40 states that outside of Regional Centres and MTSAs, a minimum 25 per cent of new housing units should be affordable, within each local municipality. Furthermore, the YROP directs that affordable housing units should include a mix and range of types, lot sizes, unit sizes and tenures to provide opportunity for all household types, including larger families, seniors, and residents with special needs. These policies informed recommendations related to the provision of affordable housing within and outside of the Mount Joy MTSA, within the MRMJSP Area. See **Subsection 71.8** for more information.

2.5.1 Mount Joy GO Station MTSA

As required by the Growth Plan 2020, the YROP includes policies that direct local municipalities to delineate, set minimum density targets and establish policies to guide development in MTSAs in their official plans. A total of 23 MTSAs have been identified and delineated in Markham, including one at the Mount Joy GO Station. All of these are defined as “Protected Major Transit Station Areas”, which would allow local municipalities to apply Inclusionary Zoning (IZ) as a tool to facilitate affordable housing units in new residential developments. The Mount Joy MTSA is identified as PMTSA 18, per Appendix 2 of the YROP. A large portion of the MRMJSP Area is located within the Mount Joy GO Station MTSA delineation (see **Figure 5**). The existing density of the Mount Joy GO Station MTSA is 70 people and jobs per hectare, and the minimum density target identified for PMTSA 18 is 200 people and jobs per hectare. As the YROP is now approved and in effect, the City of Markham will undertake a conformity exercise to reflect the policies in the YROP. It is also noted that the YROP identifies the GO Rail Station subject to further study at Major Mackenzie Drive East, though no MTSA is currently set out in this location. In accordance with the Growth Plan new MTSAs can only be approved through an MCR.

2.5.2 Planning for Employment

In accordance with the Growth Plan, 2020, the YROP delineates employment areas in Map 1A – Land Use Designations. The YROP includes policies directing local municipalities to identify and protect employment areas, consistent with the policies of the Province and the Region. The Mount Joy Business Park, which is located within the MRMJSP Area and designated as ‘Service Employment’ in the City of Markham Official Plan 2014, is not designated as employment lands under the YROP. It is our understanding that the Business Park was not included as the Region determined these lands were not of regional significance due to their size and location. Through the development of the MRMJSP, the City of Markham will determine the appropriate level of protection and amount of employment land needed, including within the Mount Joy Business Park, to support a complete community in the MRMJSP Area. More information is provided in **Section 3.2.2.1**.

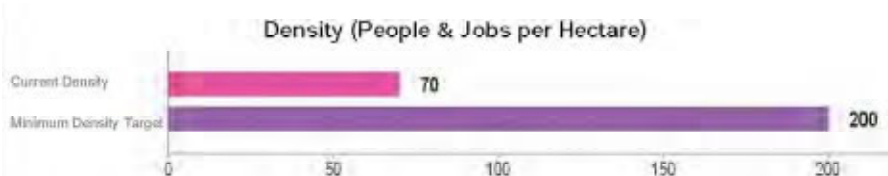
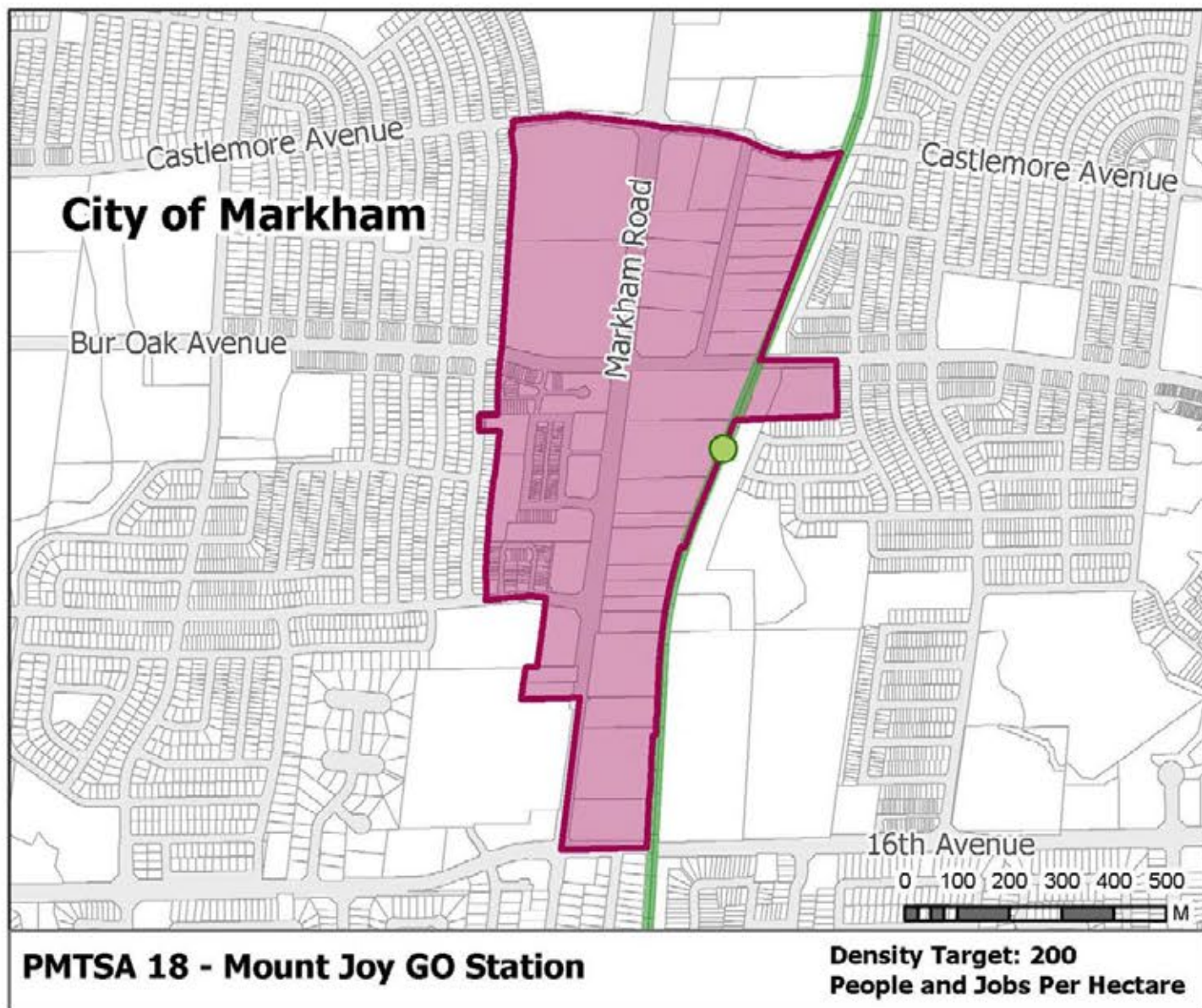


Figure 5: Mount Joy GO Station Major Transit Station Area

2.6 City of Markham Official Plan, 2014

The City of Markham's Official Plan 2014 (OP) identifies the MRMJSP Area in the Chapter 9 Area and Site Specific Policies (see **Figure 6**). Specifically, Policy 9.3.7.1 identifies the need for a new Secondary Plan for the corridor based on the following land use objective:

“to provide for a mixed-use corridor that functions as a main street integrating a range of housing, employment, shopping and recreation opportunities, at transit supportive densities adjacent to the GO station, to serve the adjacent communities of Berzcy Village, Wismer Commons, Greensborough and Swan Lake”.

OP Policy 10.1.2.2 outlines the requirements for the preparation of new secondary plans, which was referred to in the preparation of this Study. Policy 10.1.2.2 directs that new Secondary Plans include provisions for the following components, among others:

- » Housing Supply and Affordability
- » Natural & Cultural Heritage
- » Recreational & Open Space
- » Community Infrastructure & Services,
- » Sustainable Transportation Design
- » Urban Design Guidelines
- » Supply and Diversity of Employment Lands
- » Phasing of Development, etc.

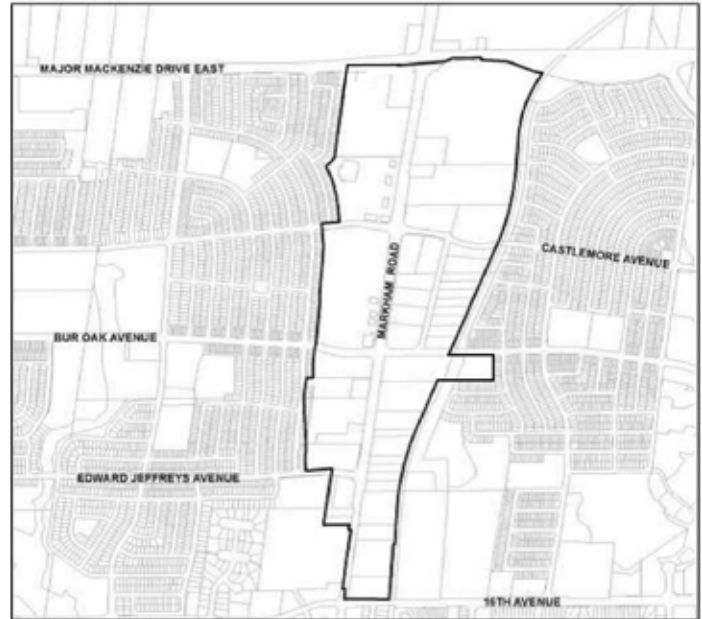


Figure 6: MRMJSP Boundary per OP policy 9.3.7



In the broader municipal policy context, the lands within the MRMJSP Area are currently identified as a Local Corridor and Intensification Area in the OP. Local Corridors are intended to accommodate growth at a smaller scale than Regional Centres or Corridors. As mentioned above, the YROP identifies a MTSA associated with the Mount Joy GO Station, which directs intensification to this area.

The MRMJSP Area is identified in the Markham OP as a Mixed Use Neighbourhood Area in Map 1 – Markham Structure of the OP. These lands are envisioned to accommodate a portion of the forecasted population and employment growth to 2031, where the future planning of neighbourhood and employment areas and mixed-use neighbourhoods will focus on intensification of centres and corridors served by rapid transit. Based on the OP, Markham is forecasted to grow to 420,000 residents and 240,000 jobs by 2031. However, revised minimum population and employment targets have been released as part of the Growth Plan 2020, which now provides forecasts to the 2051 Planning Horizon. The YROP incorporates new growth forecasts for each local municipality based on the Growth Plan forecasts. It allocates a minimum 618,000 people and 302,200 jobs to Markham by 2051.

The ‘Mixed Use High Rise’ and ‘Mixed Use Mid Rise’ designations are prominent throughout the MRMJSP Area, followed by ‘Residential Mid-Rise’, ‘Service Employment’, and ‘Greenway’, which pertains to the Mount Joy Creek valleylands. Through the Study, strategic locations for density and mixed uses, as well as open space and institutional uses were identified, including policy recommendations to guide these uses to achieve the vision for the area and ensure that the appropriate balance between residential and employment uses is achieved. Overall, the Study recommends that the Mount Joy GO Station MTSA will

focus an increased amount of development to the area as currently envisioned in the OP. Refer to **Section 7.1** for more information in this regard.

With respect to natural heritage, the OP encourages secondary plans to incorporate the protection and enhancement of the Greenway System and Natural Heritage Network. Mount Joy Creek, its associated valleylands, and any contiguous vegetation, are significant natural features within the MRMJSP Area. The Study process included the review of Mount Joy Creek and its valleylands, as well as additional features. Policy recommendations have been prepared to guide the improvement of natural heritage features and their long-term protection. See **Section 7.1.2** for more information.

Further to this, the current floodplain modelling for the Rouge River Watershed anticipates that Mount Joy Creek will flood during Regional Storm events in certain sections. The OP contains policies that restrict development on lands subject to natural hazards such as flooding and erosion in accordance with provincial policies and Conservation Authority regulations. The Study included an evaluation of the existing floodplain, and recommendations have been prepared with respect to floodplain mitigation. See **Section 6.5.3** for more information.

The OP directs that stormwater management facilities be developed based on best practices, and that sufficient servicing capacity be available in the context of urban development. The Study makes recommendations that the MRMJSP incorporate policies that will ensure sufficient servicing capacity is available prior to undertaking significant intensification efforts, and that it is done so in a way that is sustainable, based on green building innovations (e.g., low impact development), and considers impacts on adjacent natural systems.

The Study Area contains several community resources of cultural significance, including three places of worship and four individually designated heritage buildings. The Markham Museum is within the MRMJSP Area, and the Markham Village HCD is located directly to the south. The OP contains policies which support the protection of cultural heritage resources, and the identification of new cultural heritage resources. The Study recommends that the MRMJSP encourages the re-use of existing buildings in order to celebrate the history and evolution of the MRMJSP Area.

The OP contains additional policies regarding community facilities and services. As the MRMJSP Area intensifies, existing facilities within its vicinity, such as the Mount Joy Community Centre, will likely see a growing user demand. As such, there will be a need for the integrated planning of community infrastructure and services, particularly to serve new dense mixed-use neighbourhoods. The Study recommends that the MRMJSP identify existing community resources and direct that new recreational, cultural, and institutional facilities be facilitated to meet growing demands.

The redevelopment of the MRMJSP Area, with significant densities expected in close proximity to transit, presents an important opportunity to support the implementation of the OP's affordable housing goals. Furthermore, opportunities exist to implement the recommendations identified in Housing Choices: Markham's Affordable and Rental Housing Strategy, which includes a suite of actions to increase the supply of affordable and purpose-built rental housing, including for seniors, one of which is to and develop an IZ bylaw for MTSAs.

The OP designates the Mount Joy Business Park as 'Service Employment', which stipulates that these lands be protected for current and future employment uses., The OP states that these lands can be considered for conversion to non-employment uses through a Municipal Comprehensive Review. In line with the land use designation under the YROP, the Study makes recommendations for the Mount Joy Business Park under **Sections 6.4.6** and **7.1.4**. The Study has reviewed the Mount Joy MTSA employment targets set out in the YROP, and formulated recommendations that support the development of a mixed-use, transit-supportive community.

The OP directs that progressive urban design and sustainable development standards be incorporated into new secondary plans as they are developed. The Study reviewed best practices within York Region and within similar jurisdictions, and integrates policy recommendations that encourage the creation of vibrant and dense communities that are geared towards the enjoyment of pedestrians at the street level.

Overall, transit investments will drive the impetus of directing density to the MRMJSP Area, in line with OP direction. As it develops, the transportation system will include mobility options for all users, and encourage a modal split that emphasizes active transportation and public transportation use. The Study considered the travel needs of pedestrians, cyclists and transit riders, as well as those of motorists. Improvements were identified to the road network as well as opportunities for future improvements and connections.

2.7 Other Relevant Plans, Programs and Studies

2.7.1 Markham's Integrated Leisure Master Plan

Approved by Markham Council on November 13, 2019, the Integrated Leisure Master Plan (ILMP) documents the City's parks, recreation, arts & culture and library facilities and services. It identifies current needs, service improvements and future facility provision strategies. As the City grows and intensifies, the intent of the ILMP is to ensure that facilities and services that address the needs of the public coincide with the pace of development.

2.7.2 Housing Choices: Markham's Affordable and Rental Housing Strategy

Housing Choices: Markham's Affordable and Rental Housing Strategy was adopted by Markham Council in July 2021, with the objective of addressing housing affordability in the City of Markham. The Strategy includes a vision, three goals and 35 actions to address housing gaps and needs in Markham. One of the actions included the implementation of IZ. Through the passing of the YROP 2022, it was determined that IZ would be applied within Protected MTSAs. However, at this time the City of Markham has not yet completed its conformity exercise with the YROP, to set out the implementation strategy associated with IZ. The policy recommendations included herein seek to implement the strategy and increase the supply of affordable and purpose-built rental housing within the MRMJSP.

2.7.3 Metrolinx's Market Driven Transit Oriented Development Strategy, 2018

In order to realize transit-supportive communities in line with provincial directives, Metrolinx adopted a new Market Driven Strategy in December 2018 for the implementation of transit infrastructure. The strategy leverages the value

of Metrolinx's transit network, service and real estate portfolio, and opens up the possibility of public and private collaboration for funding and developing transit infrastructure in response to local real estate market conditions and/or the local need for additional transit.

The process is typically initiated by third parties including municipalities, private developers, and landowners. As part of this process, Metrolinx will commit to engaging with proponents, with a single point of contact. Metrolinx will conduct high-level screenings of proposals, and if sufficient potential for transit-supportive development can be demonstrated, the decision will be made to proceed. When a third party funds and delivers Metrolinx infrastructure, the agency secures a full capital offset to the delivery of New Stations or Station Reallocations.

This strategy in itself is a significant driver of change, and provides an opportunity to achieve transit-supportive development on lands owned by Metrolinx, some of which are directly adjacent to the Mount Joy GO Station. These lands are currently underutilized, and due to their size and extensive frontage along Markham Road, provide for a significant redevelopment opportunity.

As noted in earlier sections, the portion of the MRMJSP Area centred on the Mount Joy GO Station lands is delineated as an intensification area in the Markham OP, and is also largely within a MTSA as set out by the YROP. As such, the Mount Joy GO Station will be a focus for intensified pedestrian and transit-supportive development, including higher density, mixed-use developments that are connected, next to or within a short walk of transit stations and transit stops.

It is anticipated that any redevelopment of the Mount Joy GO Station lands will be achieved through partnerships with Metrolinx, and third-party proponents, as per Metrolinx's Market Driven Transit Oriented Development Strategy.

Furthermore, this strategy will be considered in the assessment of the GO Rail Station subject to further study at Major Mackenzie Drive East.

2.7.4 Toronto and Region Conservation Authority Living City Policies and Regulation

The Living City Policies (LCP) for planning and development in the watersheds of Toronto and Region Conservation Authority (TRCA) guides the implementation of TRCA's legislated and delegated roles and responsibilities in the planning and development approvals process.

The purpose of the LCP is to guide TRCA review of planning applications and environmental assessments; provide the basis for approving permit applications; inform TRCA's advocacy role in the planning and development process, and assist to enable partners and stakeholders contributions to building more liveable cities.

Ontario Regulation 166/06 under the Conservation Authorities Act, as well as the LCP, provide regulatory authority to the TRCA to prohibit, regulate or require permission for:

- » The development of land in the event that it may affect the control of flooding, erosion, dynamic beaches, pollution, or the conservation of land; and,
- » The manipulation of existing rivers, creeks, streams and watercourses in the event that it may change or interfere with a wetland.

2.7.5 The City of Markham's Parkland Acquisition Study and Parks Plan

The City of Markham initiated a Parkland Acquisition Study to inform the City's new Parkland Dedication Bylaw, necessitated by Bill 197 – the COVID-19 Economic Recovery Act, 2020 ("Bill 197"). The Study establishes

the City's current parkland supply, future parkland needs and a strategy to acquire parkland to meet Markham's anticipated growth. The Study was received by Council in September 2022.

The City's Parks Plan, delivered through the Study, maintains the need to continue to secure 1.2 hectare of parkland per 1,000 people on a citywide basis, consistent with Section 4.3.5 of the OP. The Parks Plan also identifies the need to establish an appropriate parkland provision target of 0.4 hectare per 1,000 people of land within intensification areas, in recognition that the City's parkland dedication rate within intensification areas will also need to provide for the acquisition of some additional parkland outside of the Intensification Area to maintain the citywide provision target. The Parks Plan identifies the MRMJSP Area as an Intensification Area, therefore the reduced parkland provision would be applicable.

Additional information on the provision of parkland is provided within **Section 6.4.2**.

3.0 Existing Conditions Assessment

3.1 Overview

The following section provides an overview of the existing conditions within the Study Area from a land use and urban design, transportation, and municipal servicing context. Insights on the evolution of the MRMJSP and its Study Area, and its current characteristics, informed the formulation of the Vision and Guiding Principles that guided the Study, as well as the Demonstration Plan and Policy Guidance provided within the latter sections of this report.

3.2 Land Use and Urban Design

3.2.1 Natural Heritage

Mount Joy Creek is a significant natural heritage resource within the MRMJSP Area.

The MRMJSP Area is located at the northern limit of York Region's urban boundary and is bordered to the north by agricultural and open space lands. A portion of the MRMJSP Area is located within a Highly Vulnerable Aquifer area, per Appendix I of the Markham OP.

Mount Joy Creek, a tributary to the Rouge River flows through the MRMJSP Area, and is a significant natural heritage feature particularly north of Castlemore Avenue.

In its current condition, the creek flows through a combination of open channel and piped systems from north of Major Mackenzie Drive East, to Mount Joy Lake, and ultimately joins with the Rouge River south of Highway 7. It enters the north limit of the Study Area, crossing Major Mackenzie Drive East via a culvert located west of Markham Road. It continues south as an open channel before entering another piped section to cross to the east side of Markham Road. From here, the Creek is conveyed through alternating open channel and piped sections eastward, eventually turning south and piped under Castlemore Avenue. The piped Creek continues south under Anderson Avenue through the north portion of the Mount Joy Business Park, and then turns east in an open channel toward the rail corridor, flowing south from there along the eastern boundary of the MRMJSP Area to Mount Joy Lake.

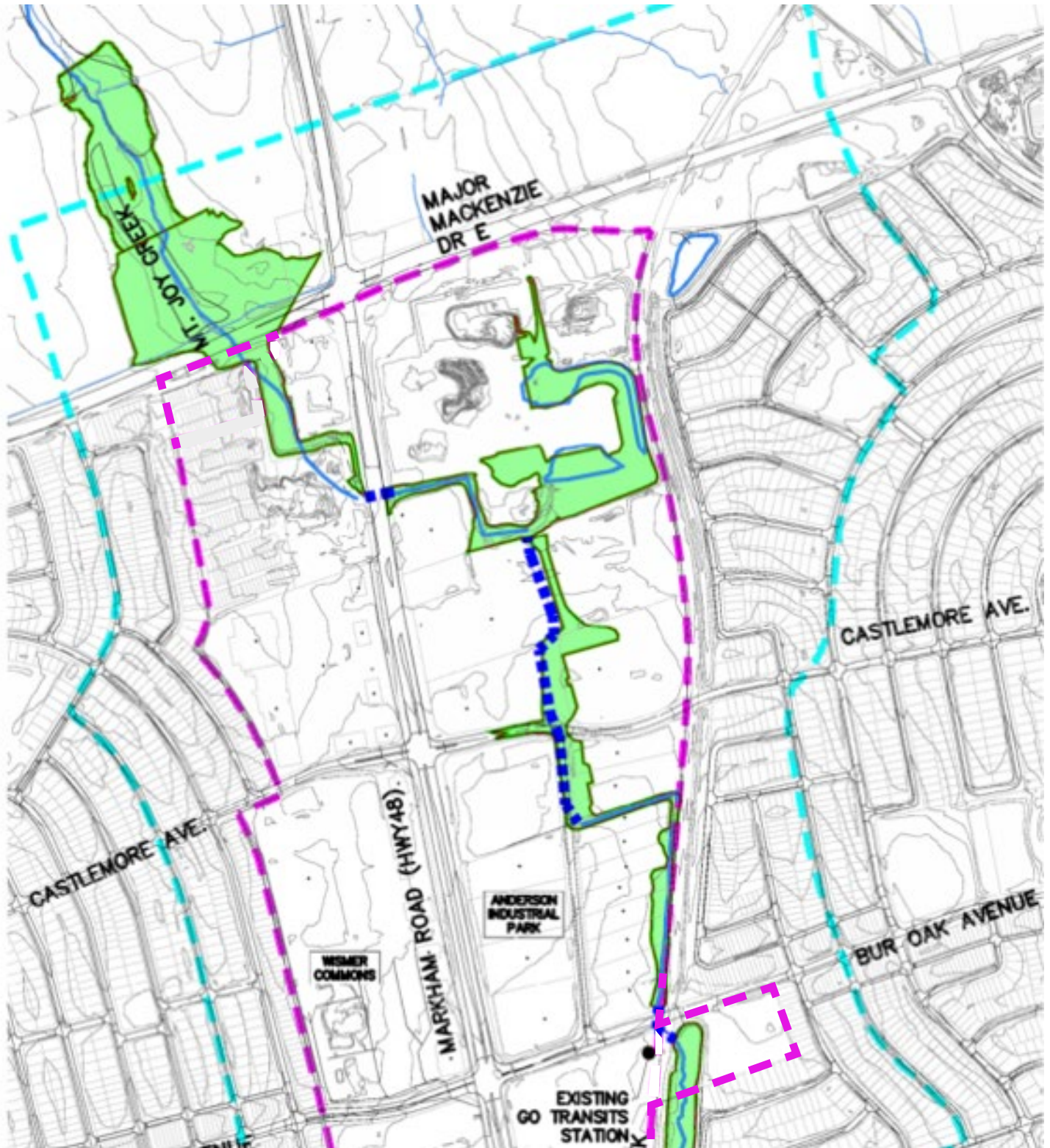


Figure 7: Mount Joy Creek alignment and current floodplain based on OP 2014



Legend

- Enclosed Section of Watercourse
- Floodplain

Based on the creek's current alignment, it is evident that the natural configuration of the watercourse has been heavily altered, and that no part of the creek flows in its original configuration. Interference with the watercourse by way of fill placement, piping and realignment has resulted in a displacement in the natural flow of surface water. This, coupled with undersized culverts has resulted in localized modelled flood spilling. Of relevant concern is the advent of climate change, which overtime can cause more frequent and more intense flooding events, which in turn may exacerbate the flooding conditions of the creek and result in bank erosion.

The TRCA regulates lands subject to flooding and erosion related to watercourses within its jurisdiction, which includes the Rouge River Watershed. Over time, some portions of Mount Joy Creek have been re-naturalized through ongoing development activity, as supported by the TRCA and the City of Markham. An opportunity exists to further re-naturalize the creek and its valley corridor, particularly the piped sections. The benefits of this are multifold, including the bolstering of aquatic and terrestrial habitat; decreased downstream flooding through the elimination of choke points and the increase in floodwater storage capacity; removal of pollution; reduced maintenance costs; and general aesthetics and placemaking opportunities. **Section 6.5.3** provides information about the evaluation of five (5) options to realign the Creek in order to enhance its environmental functions and alleviate existing flooding on surrounding lands. It is expected that any re-naturalized portions of Mount Joy Creek will be conveyed into public ownership for their long-term protection, to comprehensively bolster the natural system within the MRMJSP Area, and to protect private lands from flooding and erosion.

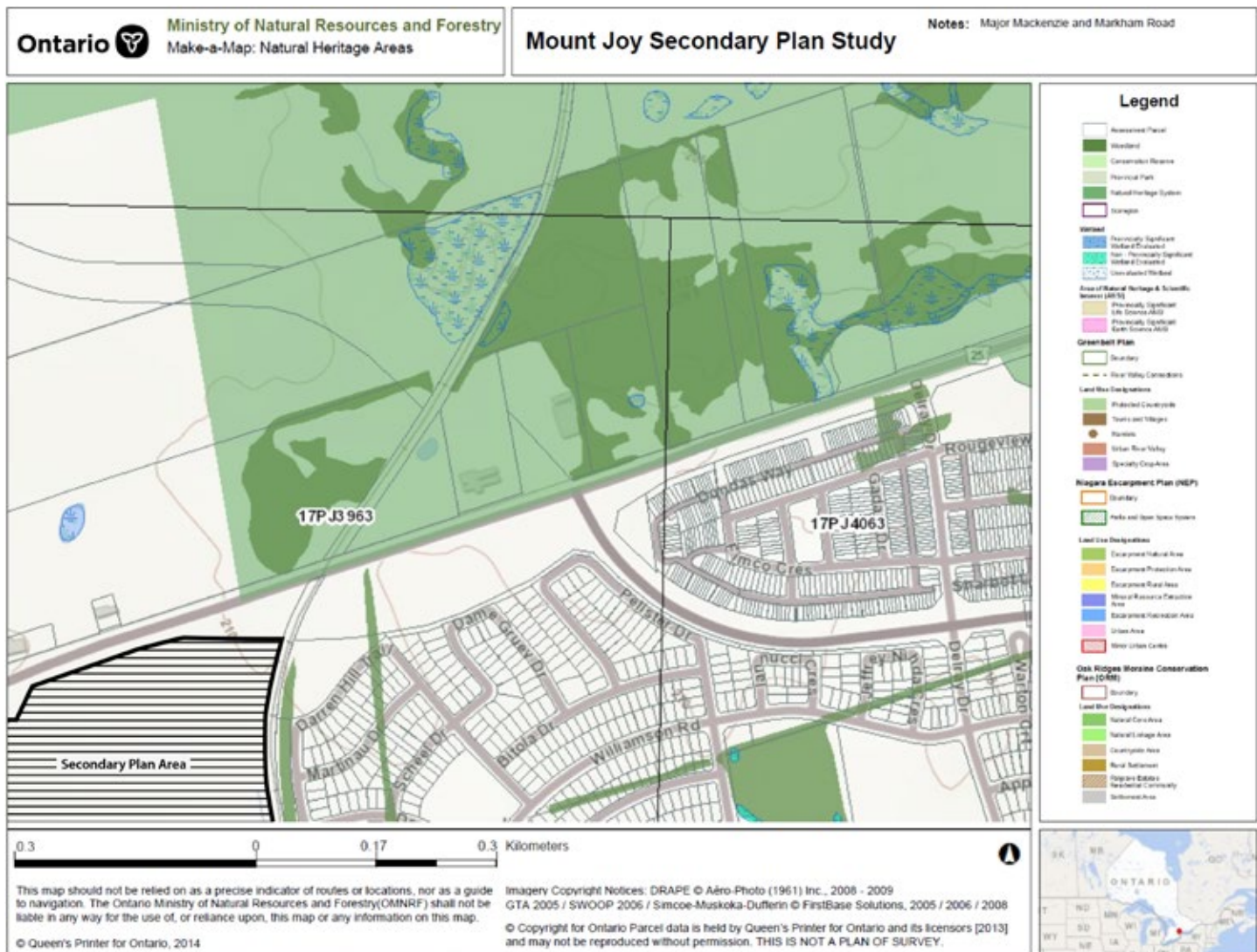


Figure 8: Mapped Natural Heritage Features to the Northeast of the MRMJSP Area

In addition to Mount Joy Creek, the Study Area contains several woodlands, which are disjointed from each other and thus provide minimal opportunity for wildlife movement. A preliminary review of Ministry of Natural Resources & Forestry screening mapping (**Figure 8**) has shown the presence of some natural heritage features to the north of the MRMJSP Area; several wetlands and

some woodlands are present within the Greenbelt lands north of Major Mackenzie Drive East. Based on this mapping, the Study Area does not contain any Areas of Natural and Scientific Interest (ANSI). It is anticipated that the presence of natural features will be confirmed through site-specific assessments, as required through the development process

3.2.2 Land Use

The MRMJSP Area is characterized by a range of commercial, residential, and employment uses in low density built forms, as well as large vacant parcels. The variety of retail and other serviced-based businesses located throughout the corridor serve a large portion of east Markham's population. The MRMJSP Area is however evolving through infill development and redevelopment at significantly higher densities.

These offer direct to consumer or business-to-business services (e.g., automotive supply, small engine repair and small-scale manufacturing). A number of retail and personal service- focused activities are also present, such as several gyms, home renovations suppliers, and veterinarian services. The remaining ~1720 jobs are distributed across the MRMJSP Area.

3.2.2.1 Employment Uses

Employment Lands

As of 2019, the City of Markham was home to approximately 179,000 jobs, including approximately 2,380 within the MRMJSP Area. Within this area, the Mount Joy Business Park contains approximately 5 hectares of land, which are designated 'Service Employment' in the City of Markham OP. These lands encompass the blocks bounded by Castlemore Avenue to the North, the Stouffville GO Rail Corridor to the east, Bur Oak Avenue to the south, and Anderson Avenue to the west. The area is situated within a five-minute walking radius of Mount Joy GO Station, and is the primary focus of industrial and service commercial activity within the MRMJSP Area.

Based on Employment Survey data obtained in 2019, the Mount Joy Business Park contains approximately 19 businesses and 160 jobs. An additional 67 businesses and 494 jobs are located on adjacent and surrounding lands currently zoned for industrial and service commercial activities, similar to those found in the Mount Joy Business Park. This broader 10 hectare area contains employment uses broadly defined as Production, Distribution and Repair (PDR) functions.

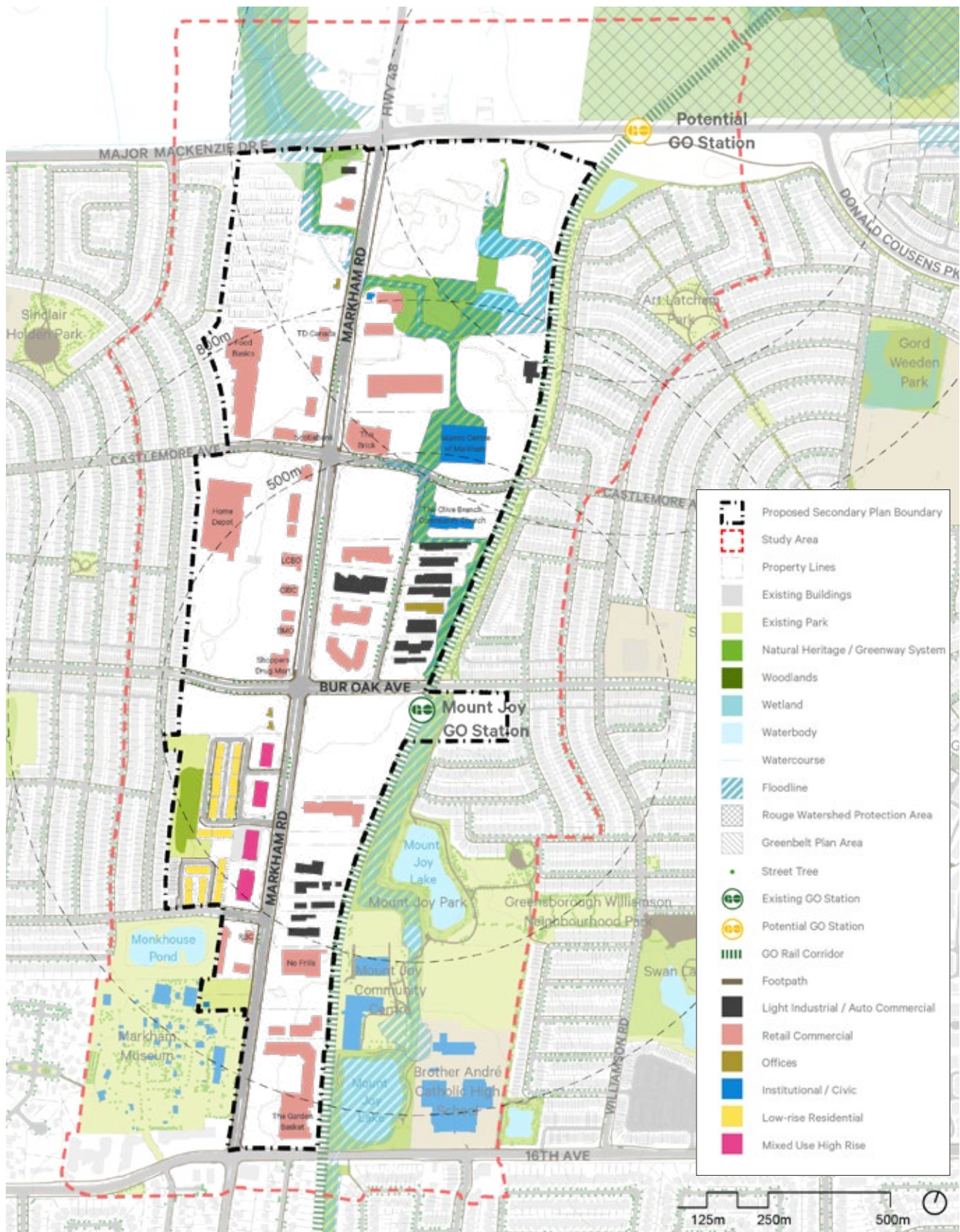


Figure 9: Existing land uses



Figure 10: Mount Joy Business Park and 77 Anderson Avenue

Employment Lands Conversion Request

A request was submitted to York Region to re-designate the employment lands at 77 Anderson Avenue within the Mount Joy Business Park from 'Service Employment' to allow for a high-density, mixed-use (residential above retail) development. The parcel is 0.45 hectares in size, which constitutes about 10% of the Business Park's area. As noted in the Interim Report, York Region did not identify the Business Park in the draft Employment Area mapping, developed through the Municipal Comprehensive Review process, which resulted in the approval of the YROP 2022. The Mount Joy Business Park is not designated 'Employment Area' in the YROP, and as such, York Region has left the re-designation of this parcel to the discretion of the City of Markham.

The Mount Joy Business Park is currently one of only a few business parks within the City that continue to focus on smaller-scale industrial and service commercial (PDR) activities. As such, the Business Park has value in supporting the overall business ecosystem.

The modest scale of the Mount Joy Business Park represents an opportunity to test case a more flexible approach to employment development in Markham. Emulating policies being explored and tested in other comparable jurisdictions and building on the Mount Joy Business Park's location adjacent to the Mount Joy GO Station, there is an opportunity to support revitalization and intensification of the employment uses in the park through the addition of other uses, such as a broader range of complementary employment uses and potentially residential uses, in a structured way. See **Sections 6.4.6** and **7.1.4** for more information about the recommended designation and uses that apply to the entire Business Park.

Retail Floor Space

A wide range of population-serving uses and jobs (e.g., grocery, banking, pharmacy, home improvement, restaurants, health care, veterinary care, automotive repair, etc.) are found in commercial establishments throughout the MRMJSP Area, which cater to the needs of the local population, as well as residents from the surrounding Berzcy Village, Wismer Commons, Greensborough, and Markham Village communities. A key objective of the Study is to plan for a complete community with mix and intensity of uses, including retail and service uses, as these uses will continue to be needed over the long-term, particularly as the area intensifies.

The most significant concentration of retail floor space is provided within three large-format retail centres located along Markham Road, proximate to the Castlemore Avenue and Bur Oak Avenue intersections. These centres are anchored by major local and national chain retailers such as Home Depot, Food Basics, Pet Smart, The Brick, Long and McQuade and the LCBO.

Further south, retail space is concentrated in a number of strip retail plazas featuring smaller retail units with a strong focus on convenience food and beverage, and personal service uses. These centres tend to be located further south closer to Markham Road's intersection with 16th Avenue. Interspersed amongst the larger centres are a number of smaller, stand-alone retail structures focused to a large degree on automotive activities. A number of businesses also occupy space within newly developed mixed-use projects occupying street-facing podium space in newer condominium and apartment developments. Much of this space is home to a range of medical and peri-medical services.

A number of retail businesses within the MRMJSP Area also occupy space within and adjacent to the Mount Joy Business Park. Businesses within this area tend more toward automotive and personal service business types.

Table 1 provides a summary of retail floor space by major retail category within the Secondary Plan Area.

Merchandise Type	Existing Floor Space (in square metres)
General Merchandise	5,240
Automotive Goods	2,980
Home Improvement Goods	6,320
Grocery and Convenience	15,305
Personal Services	7,916
Restaurant and Liquor	3,890
Total	41,651

Table 1: Current Secondary Plan Area Retail Floor Space Inventory

Approximately 41,650 square metres of retail floor space currently provides for a significant share of the existing retail spending within the primary and secondary trade areas within which the MRMJSP Area is located. These trade areas are illustrated in **Figure 11**.



Figure 11: Primary and Secondary Trade Area Map



Competing Retail Centres

While the MRMJSP Area currently includes a large supply of retail floor space, several other nearby locations provide more significant concentrations and act as more regionally-focused retail anchors. These include:

- » Markham Main Street 1.5 kilometre to the south;
- » Markville 4.0 kilometre to the southwest (which comprises a 100,000 square metre shopping centre, and approximately
- » 40,000 square metres of ancillary retail in the surrounding area);
- » Boxgrove 3 kilometres to the southeast (which comprises a 36,000 square metre Smart Centres development anchored by Wal-Mart); and
- » A community-scale shopping centre at the corner of McCowan and Bur Oak Avenue.

Given the scale, number and proximity of these competing retail concentrations, it is expected that these centres will accommodate a significant share of future retail spending by new residents in the Secondary Plan Area. Retail spending within the Secondary Plan is anticipated to come primarily from the future residents of the MRMJSP Area itself as well as the neighbourhoods surrounding it - an area roughly defined by Major Mackenzie Drive East to the north, 16th Avenue to the south, McCowan Road to the west and Donald Cousens Parkway to the east. Some spending on retail services within the MRMJSP Area is anticipated to also come from neighbourhoods extending further west toward Bridle Walk and south to the Bullock Drive/ Parkway Avenue. A recommendation for an appropriate amount of retail space within the MRMJSP Area will ultimately be informed through the preparation of revised population and employment yields. See **Section 7.1.3** for more information about the recommended footprint of retail floor space for the MRMJSP Area.

3.2.2.2 Residential Uses and Recent Development Activity

Markham's estimated population in 2019 was 347,800 people, of which approximately 2,770 lived in the MRMJSP Area. In comparison to the established low rise communities to the east and west, the residential buildings in the MRMJSP Area are more recent developments, compact and higher in density. These residential buildings are concentrated on the west side of Markham Road between Bur Oak Avenue and Edward Jeffreys Avenue. They comprise four mixed-use high-rise residential towers ranging from 14 to 20 storeys that front onto Markham Road, as well as a townhouse development west of the towers, which provides a transition in density towards Wismer Commons to the west.

The location of these relatively recent and dense developments in proximity to the Mount Joy GO Station, west of Markham Road, realize the policy goal of transit-supportive development in proximity to existing transit infrastructure.

Even more high-density development is anticipated throughout the MRMJSP Area based on several recently approved applications for townhomes, some of which are under construction, and high-rise buildings, as well as applications contemplating even more high-rise developments that are currently under review. These applications are a testimony to the area's potential to redevelop at transit support densities, and to the growing market interest in the MRMJSP Area.

3.2.2.3 Notable Locations within the Study Area

As stated earlier in the report, a portion of the lands north of Major Mackenzie Drive East within the Study Area are located within the Greenbelt Plan Area and the Rouge Watershed Protection Area, and are also subject to a Minister's Zoning Order (O. Reg. 104/72) to protect the proposed Pickering Airport lands. A portion of these lands are also agricultural lands outside of the Greenbelt Plan Area and built boundary, known informally as the 'whitebelt'. As such, the north end of the Study Area currently maintains a predominantly rural character which includes farmland and sporadic commercial uses. As well, this area is characterized by the presence of several wetlands and natural heritage features, which have been identified within available mapping from the Ministry of Natural Resources and Forestry.

Note that a significant portion of Markham's whitebelt lands were brought into the Urban Boundary with the approval of the YROP 2022. Map 1B of the YROP identifies the lands northwest of Major Mackenzie Drive East and Markham Road, and some lands northeast of this intersection, as New Community Area. Of additional relevance is the anticipated extension of Donald Cousens Parkway to Highway 48 (Markham Road becomes Highway 48 north of Major Mackenzie Drive East). The extension further west of Highway 48 remains under study by the Region and the City. The feasibility of an additional GO station at Major Mackenzie Drive East on the Stouffville GO Rail Corridor was also explored, as discussed in **Section 3.3.2**.

The area south of 16th Avenue takes on a very different form and character than that of the MRMJSP Area as well. The Markham Road and 16th Avenue intersection marks the northern end of the Markham Village HCD. As Markham Road progresses south of the MRMJSP Area, the area's historic past becomes evident in the 1-2 storey residential homes built in the Ontario Vernacular, High Victorian, and Queen Anne styles, and in the well-maintained commercial buildings primarily in the two storey Ontario Vernacular style. The block and lot sizes south of the MRMJSP Area, within the Markham Village HCD are significantly smaller and rectilinear. A strong pedestrian realm is formed by shallow setbacks, mature tree canopies, and continuous frontage along the majority of Markham Road in this area.

3.2.3 Built Form

3.2.3.1 Block Patterns

The MRMJSP Area is characterized by large blocks, some in excess of 500.0 metre lengths with depths of over 200.0 metres. Ideally, blocks should be no greater than 150.0 metres in either dimension to be considered walkable. Consequently, the large block configuration creates an environment that is not conducive to alternative travel modes to the automobile. To depict the scale of these blocks, **Figure 12** illustrates how they compare to the blocks within the adjacent Markham Village HCD and the Cornell Community to the southeast. Both communities were designed to be walkable, and while one pre-dates the automobile, the other was designed deliberately to lessen the reliance on the automobile and encourage walkability.



MRMJSP Area
Current Site

Markham Village HCD
MRMJSP Boundary overlaid in red

Cornell Secondary Plan
MRMJSP Boundary overlaid in red

Figure 12: Block Size Comparison of MRMJSP Area vs. Cornell and Markham Village HCD

3.2.3.2 Built Form Configuration

Development along the Markham Road corridor is characterized by inconsistent setbacks, large gaps between buildings, expansive surface parking areas, and varying forms of low-rise commercial buildings. A cohesive urban design vision for the Markham Road and Major Mackenzie Drive East corridors is therefore needed within the MRMJSP policy framework.

The four mixed-use high rise towers on the west side of Markham Road, south of Bur Oak Avenue, are not integrated well with the public realm. While these buildings are appropriate in their overall scale and density, they fall short of providing for a walkable, pedestrian experience at the street level. For the development of future design guidelines, the following observations were noted regarding this initial example of transit-supportive development in the MRMJSP Area:

- » Poorly designed retail space further hindered by a disconnect from the streetscape, lack of enclosure, and an inactive ground plane;
- » » Lack of inviting pedestrian amenity such as weather protective awnings; adequate and clearly delineated pathways between buildings and to the street; seating; wayfinding; and, street trees and landscaping; and
- » The front yard surface parking, its configuration and vehicular access points, in concert with the fence lines, excessive gaps between buildings, and overall massing reinforce the current vehicular-oriented and fragmented retail pattern along Markham Road.

To create a vibrant and inviting main street experience from the current context, far greater attention will need to be paid to both the art and science of placemaking.

At minimum, considerations include:

- » Prioritizing transit and the pedestrian with respect to convenience, safety, comfort, and visual interest;
- » A human-scaled experience with attention to proportion, design, details and material qualities perceivable at the speed of walking;
- » Reinforcing the sense of a contiguous place through visual continuity and consistency, perceivable edges to the area and proportional street enclosure; and
- » Ensuring a critical mass of people and activity, appeal for a diversity of interests and in all seasons.

3.2.4 Community Infrastructure & Facilities

Although the MRMJSP Area is adjacent to several community amenities including Markham Museum, Mount Joy Lake Park, and Mount Joy Community Centre, existing connections and access to them are limited. Additional community amenities (e.g., schools) will be needed to accommodate population growth in the MRMJSP Area.

Several community amenities are located in the southern half of the Study Area. The intersection of 16th Avenue and Markham Road contains a strong civic and heritage presence, with a concentration of key landmarks. Most significant are the historic site of the Markham Museum, the Mount Joy Community Centre, and several educational institutions all of which serve as important destinations immediately outside the Secondary Plan Area. Mount Joy Lake Park and the Mount Joy Community Centre are co-located with Brother Andre Catholic High School, east of the rail corridor. Together, these features form part of a larger 'campus' of community-oriented functions which also link the Greensborough Williamson Neighbourhood Park to Swan Lake Park further to the east.

Additionally, there are two places of worship (the Islamic Centre of Markham and the Olive Branch Community Church) located on either side of Castlemore Avenue, just west of the rail corridor. An additional place of worship, the Ci En Buddhist Temple, is located southeast of Markham Road and Bur Oak Avenue.

Though the Study Area contains a number of amenities, the vast block sizes accompanied with large tracts of surface parking make them difficult to access by non-vehicular travel modes. As well, the large assembly of amenities and open spaces north of 16th Avenue and east of the rail corridor abut nearly half of the length of the entire MRMJSP Area, however access to these amenity areas is limited to 16th Avenue due to a lack of pedestrian crossings over or under the rail corridor.

These elements hinder the quality of the pedestrian experience, discouraging users to walk to their destinations and linger in the neighbourhood. Many of the amenities concentrated in the south of the MRMJSP Area are blocked by physical and visual barriers, such as fencing and the landscaped berm around the rail corridor. While these design features provide safety benefits as well as noise and visual attenuation for the residential neighbourhoods to the east of the MRMJSP Area, they also limit connectivity to local community assets.

Although a diverse range of amenities is present within and in proximity to the MRMJSP Area, and the key challenge rests on improving connectivity and accessibility to them, additional community amenities will be needed to keep pace with population growth. There are currently no elementary schools within the

MRMJSP Area, and the schools in the neighbouring Wismer Commons and Greensborough communities are at capacity.

Based on the most recent development yields (presented in **Section 6.2.2**), and conversations with the York District Public School Board and the York District Catholic School Board, the Study has determined that a minimum of two public elementary school sites should be planned for within the MRMJSP Area.

In addition, the closest public library, the Markham Village Library, is located about 2 kilometres away from the southern end of the MRMJSP Area at Markham Road and Highway 7. While the Mount Joy Community Centre offers an arena and indoor and outdoor soccer fields and is located within the Study Area, the closest community centres with a broader range of recreational programming are located at the Centennial Community Centre at McCowan Road and Bullock Drive to the southwest and the Cornell Community Centre at Bur Oak Avenue and Highway 7 to the southeast.

The need for new community amenities was assessed through the Study, however did not meet the necessary population thresholds established in the ILMP, and therefore no additional community amenities have been recommended. However, it is recommended that co-location opportunities be explored in the future to site community amenities within the immediate blocks surrounding the Mount Joy GO Station, to serve as a catalyst for development/redevelopment.

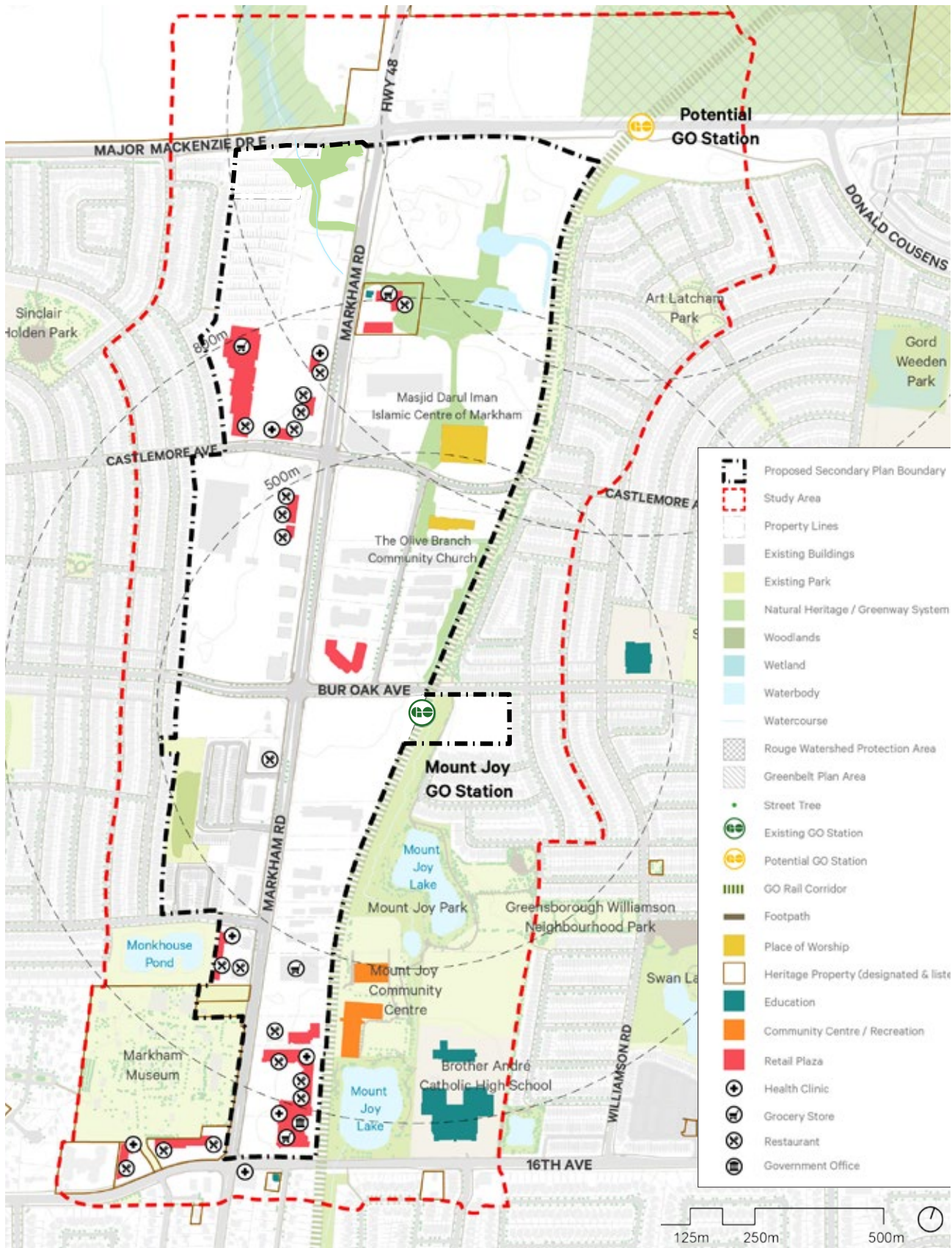


Figure 13: Community Amenities within the MRMJSP Area and Study Area

3.2.5 Cultural Heritage

Few cultural heritage resources remain within the MRMJSP Area.

The MRMJSP Area contains a number of cultural heritage resources, specifically the following buildings designated under Part IV (Individual) of the Ontario Heritage Act:

- » **The Raymer-Wambold House (9404 Markham Road)** – This house was built in 1915 and is one of a series of heritage buildings that once formed a cluster at the north end of the Mount Joy Village community. It was relocated to the nearby Markham Heritage Estates in 1991 and is owned by the City.
- » **The Albert Wideman House (226 Edward Jeffreys Avenue)** – This house dates back to 1899 and was relocated from its original address at 9462 Highway 48.
- » **The William Read House (9899 Markham Road)** – Built in 1840, this house remains within its original context. It was restored and incorporated into a commercial redevelopment on the property, and acts as an important reminder of the community's historic roots.
- » **The William Clarry House (9900 Markham Road/12 Imperial College Lane)** – This house was built in 1855 and is situated on land that is currently undergoing redevelopment. A request by the new landowner to demolish the heritage property due to its poor physical condition resulting from years of neglect was approved by Council, subject to conditions, in January 2021. The conditions include financial compensation, an interpretative plaque, and the construction of a parkette on the lot at the owner's expense.

As mentioned earlier, Markham's OP contains policies which support the protection of cultural heritage resources, as well as the identification of new cultural

heritage resources. However, it is understood that under exceptional circumstances where it is not feasible to retain heritage resources in their original context due to competing development constraints and infrastructure needs, and where it is less preferable to retain the façade of a building or only a portion of it, there are options available to allow for the relocation of heritage resources, for their preservation in other locations within the City.

3.2.6 Parks and Open Space

The existing parks and open spaces within and adjacent to the MRMJSP Area are mostly passive and inaccessible.

The MRMJSP Area currently has two parks. Pottery Park, located to the north of the Markham Museum along Markham Road, is 0.5 hectare (5,000 square metres) in size and meets the definition of a Neighbourhood Park under **Section 4.3.2.2** of the OP. These are parks that are intended to serve park users generally within a 5-minute walking distance (approximately 400 metres). A second 0.33 hectare (3300 square metres) park is located by Battista Perri Drive, south of Bur Oak Avenue. It was recently constructed and named Robert Spindloe Park. This park also meets the definition of a Neighbourhood Park.

Based on the MRMJSP Area's existing population of 2,770, both of these parks constitute a current parkland distribution of 0.0003 hectare (3 square metres) of parkland per resident. Section 4.3.5 of the OP sets out a minimum target of 1.2 hectares (12,000 square metres) of City Parks per 1000 persons, or 12 square metres per person. Therefore, it can be concluded that the MRMJSP Area is currently deficient in parkland. It is also noted that with the forthcoming intensification target to achieve 200 people and jobs per hectare within the MTSA area alone, the need for parkland in this area will also grow and should be regarded in line with OP targets.

While the MRMJSP Area itself does not contain many parks and open spaces, there are amenities in and around the Study Area that are associated with open spaces, parkland, and recreational uses. These amenities were assessed to demonstrate the existing pedestrian access from the MRMJSP Area, to nearby open spaces and recreational opportunities. A cursory review of the available parks and open spaces has shown that three Neighbourhood Parks exist within the Study Area; Mount Joy Park (2.2 ha); Greensborough Williamson Neighbourhood Park (1.5 ha); and Art Latcham Park (1.0 ha). Official Plan Policy 4.3.2.2 iii) indicates that Neighbourhood Parks such as these intend to serve users within a 5-minute walk, or a 400 metre radius, therefore this radius was applied to all nearby parks with consideration of existing pedestrian amenities such as trails and sidewalks. **Figure 14** demonstrates that while these parks appear to be walkable to the Secondary Plan Area, the Stouffville GO Rail Corridor provides a significant barrier to connectivity and walkability. This effectively prevents convenient and direct foot-access to existing significant open space and recreational opportunities in the vicinity of the MRMJSP Area such as Mount Joy Community Centre, Mount Joy Lake, and the various Neighbourhood Parks located to the east.

Figure 14 demonstrates that with the utilization of existing connections such as trails and sidewalks, the south-west portion of the MRMJSP Area has the most walkable access to existing amenities, including the Markham Museum, which contains a historic village on a 25 acre site and Monkhouse Pond which is just north of the Museum. Lands in the southeast of the MRMJSP Area also benefit from foot access to Mount Joy Lake Park, which includes various outdoor sports fields (i.e., the Mount Joy Turf Field), and the Mount Joy Community Centre.

Overall, the natural and open space amenities within and adjacent to the MRMJSP Area remain mostly passive and inaccessible. While a significant portion of open space amenities are located at the southeast end of the Study Area, the Stouffville GO Rail Corridor and its landscaped buffer limit direct and convenient access to and from the MRMJSP Area.

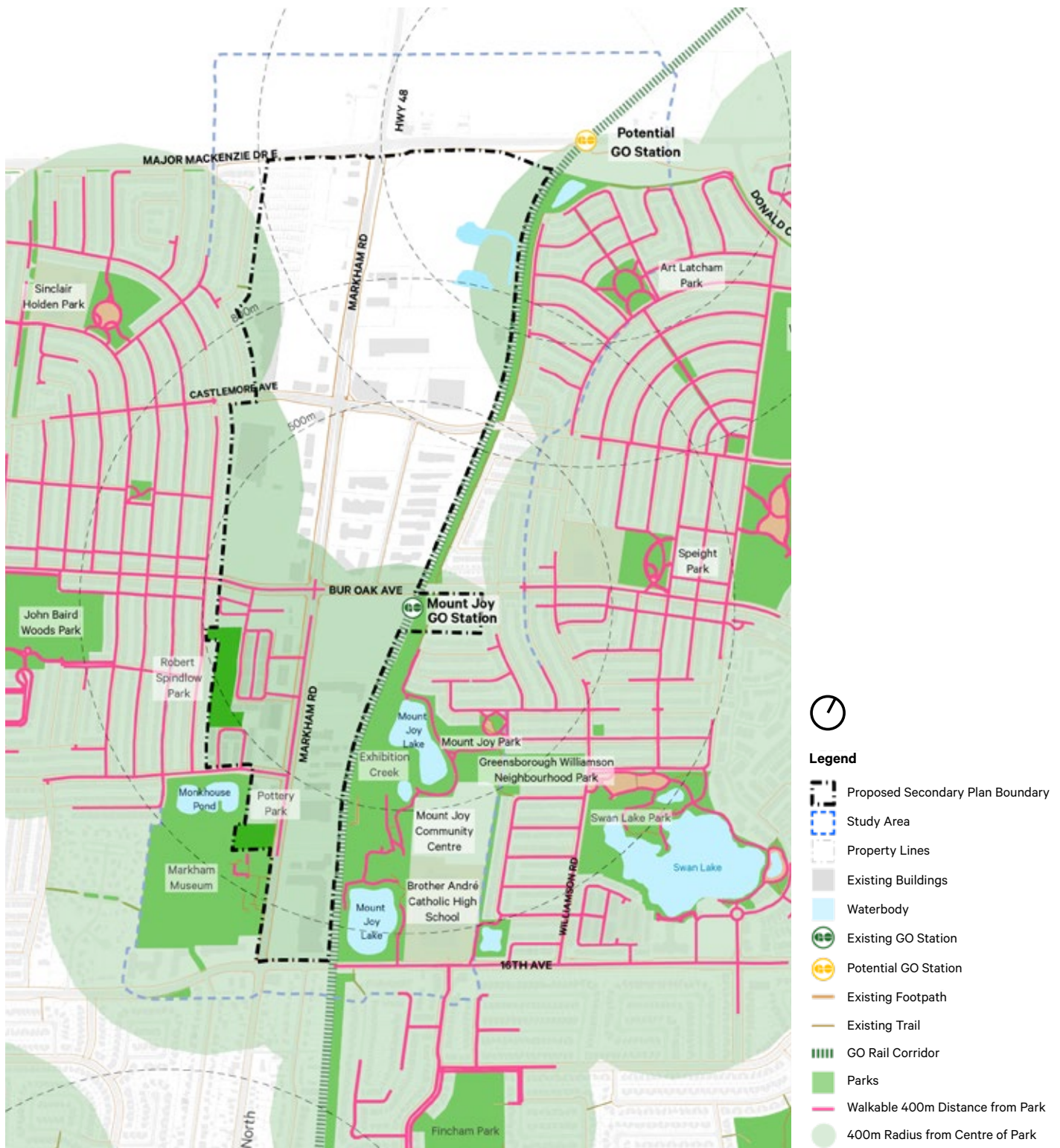


Figure 14: Existing Walkable Neighbourhood Parks within MRMJSP Area and Study Area

3.2.7 Affordable Housing

There are no purpose-built rental or affordable housing units within or proximate to the MRMJSP Area.

Currently, the housing stock within the MRMJSP Area and the census tracts that make up the adjacent Berczy Village, Wismer Commons, Greensborough and Swan Lake areas is dominated by market ownership housing units. The vast majority of existing households (93%) owned their home based on 2016 census data. The 7% of households that did rent, did so in the secondary rental market as CMHC’s inventory showed no purpose-built rental units within the four census tracts that make up the Study Area. There are also no non-market or subsidized units currently within the Study Area.

The OP (Policy 4.1.3.2 and Definitions 11.2) defines affordable housing as:

In the case of ownership housing, the least expensive of:

- » Housing for which the purchase price results in annual accommodation costs not exceeding 30% of gross annual household income for low- and moderate-income households; or
- » Housing for which the purchase price is at least 10% below the average purchase price for a resale unit in the regional market area;

In the case of rental housing, the least expensive of:

- » A unit for which the rent does not exceed 30% of gross annual household income for low- and moderate-income households; or
- » A unit for which the rent is at or below the average market rent of a unit in the regional market area.

As shown in **Table 2**, a sizable share of current Study Area households report housing costs that exceed 30% of household income. Approximately 34% of owner households and 51% of renter households spend more than this threshold on housing. As seen elsewhere in the GTA, home ownership costs in Markham have been increasing and trend higher than many other areas of the GTA; Markham’s median home price in October 2020 was \$1.01 million compared to a median for the GTA of \$890,000. Overall, there is a need as well as opportunities to plan for and diversify the housing stock and tenure types across the MRMJSP Area.

Total Owner Households	9,845
Total Renter Households	725
Total Households in Subsidized Housing	0
Owners Spending More than 30% in Shelter	33.50%
Renters Spending More than 30% in Shelter	50.50%

Table 2: Household Type and Shelter Costs (MRMJSP Area and Surrounding Neighbourhoods of Berczy Village, Wismer Commons, Greensborough and Swan Lake, 2016) Source: StatsCan

3.2.8 Summary of Challenges and Opportunities

Recent and ongoing development activity within the future MRMJSP Area has shown that in relation to the stable residential areas to the east and west, the MRMJSP Area has been the focus of proposals for intensification. Commercial and employment uses currently prevail throughout the MRMJSP Area, but a demand for residential and mixed-used redevelopment has been gaining momentum. Proposals have included residential uses in more compact, denser forms, and an employment land conversion request to facilitate additional residential uses in proximity to the Mount Joy GO Station.

Based on Markham's Affordable and Rental Housing Strategy, an affordable home for moderate income households is one priced at a maximum of \$480,723, and an affordable home for low income households is priced at a maximum of \$246,509. On average, affordable rents are no more than \$1,541 per month. Given low existing rental housing availability, and no affordable housing stock within the MRMJSP Area, there is an opportunity to introduce more diverse housing via both new types and tenures to broaden the range of options for future residents. At the same time, the development of the MRMJSP provides an opportunity to implement policies that work to achieve the affordable housing targets in the OP through the use of Inclusionary Zoning, as identified in **Section 2.5.1** and **2.7.2** and recommended in **Section 7.1.8**.

Based on its current function and form, Markham Road has the potential to be transformed into a main street that would define and reinforce a hierarchy of distinct places in its transition from the Markham Village HCD to the south, to existing and future destinations within the MRMJSP Area and to the north. Markham Road has the potential to tie together existing and future developments, along with activity nodes and open spaces.

As well, given the proximity of significant community infrastructure, there are opportunities to leverage them in the endeavour of placemaking. For example, there are opportunities to connect community facilities to the east of the MRMJSP Area by way of pedestrian crossings over the rail line, or diversifying uses associated with the nearby Markham Museum. As the future of Mount Joy Creek is considered, there is also significant potential in leveraging it as a significant green link throughout the MRMJSP Area. In the exploration of daylighting and realignment options for the Creek, there are also opportunities to investigate options for extending the local recreational trail network, ultimately tying together a network of open spaces.

Some of the challenges include the prevalence of physical barriers, by way of the Stouffville GO Rail Corridor, which prevents the ease of east-west movement of pedestrians between the MRMJSP Area and the community amenities that exist to the east of the rail corridor, such as the Mount Joy Community Centre and Mount Joy Lake Park. In its current format, Markham Road detracts from the pedestrian experience given the great distances between signalized intersections, relative vehicular speed, and high traffic volumes. Gaps along the streetscape as well as the prevalence of extensive surface parking lots mean little frontage "activation", with a lack of continuous commercial uses that open directly to the footpath. In generally this contributes to a sparse public realm. In relation to the current condition of Mount Joy Creek, it does not bring any value as a placemaking feature and instead has left private flood-encumbered lands vacant. Furthermore, a challenge for consideration is the potential for overburdening existing community amenities surrounding the MRMJSP Area. As such, redevelopment will need to consider the introduction of additional amenities for equitable distribution across existing and future area residents.

3.3 Transportation

3.3.1 Existing Transportation System

Car travel remains the dominant mode-share within the MRMJSP Area

HDR prepared an assessment of the existing Transportation Conditions within the Study Area. The assessment included a review of the policy context, background studies, land use patterns, travel trends, street network, transit network, cycling and pedestrian networks, and identified gaps and opportunities to inform the development of land use and transportation network scenarios.

Provincial, regional, and local municipal policy and transportation plans were reviewed, including the Metrolinx Regional Transportation Plan (2018), York Region Transportation Master Plan (2022), and the City of Markham's Active Transportation Master Plan (2021). Key improvements identified in these documents include two-way all-day GO service to Mount Joy GO station, a GO Rail Station subject to further study at Major Mackenzie Drive East as discussed in **Section 7.2.2**, rapid transit on Major Mackenzie Drive, active transportation improvements and a grade separation of Major Mackenzie Drive at the Stouffville GO Rail Corridor, and active transportation improvements along 16th Avenue. The City's Strategic Plan, Building Markham's Future Together: Strategic Plan (2020-2023), also highlights the need to support major growth areas such as transit stations areas by implementing first and last mile solutions and expanding the road safety program.

A detailed review of the current transportation network was conducted to document the current street network, pedestrian and bicycle facilities, transit services, street jurisdiction and right-of-way widths, and intersection controls. A level of service analysis was also conducted for each mode of travel to understand traffic operations and collision history, pedestrian and cyclist comfort and connectivity, local and regional transit service and ridership, and current parking policies.

Based on this review, several opportunities were identified to inform an integrated development and transportation concept:

1. Improve active transportation connectivity
2. Build a fine-grained grid street network
3. Transform Markham Road into more of a Complete Street for all modes to align with the changing land use context fronting onto Markham Road.
4. Plan for a future transit and mobility hub (including a potential GO Station) at Major Mackenzie Drive East.

3.3.1.1 Travel Trends

An assessment of the existing travel trends to the Study Area was undertaken, based on 2016 statistics gathered through the Transportation Tomorrow Survey, which is typically conducted by the University of Toronto every 5 years. The survey asks respondents what the travel patterns and modes used are on a typical fall weekday, for themselves and members of their households. The results are depicted in **Figure 15**

Given the commercial nature of the MRMJSP Area and the residential nature of surrounding communities within the Study Area, the majority of trips were made in order to return back home, or to a residential area.

In 2016, 82% of trips made were auto-oriented. **Figure 16** illustrates the historical mode share for daily trips destined to the Study Area. The mode share shows that the Study Area is auto-oriented as the majority of trips are made by the automobile. However, there has been a steady decrease in the auto mode share over the last ten years. The combined auto share, including drivers and passengers, was nearly 90% in 2006. In 2016, this combined auto share was 82%, reflecting an 8% decrease. This has resulted in an increase in both transit and active modes. Walking and cycling mode share doubled between 2006 and 2016, while the transit modal split has increased by 50% in the same time period.

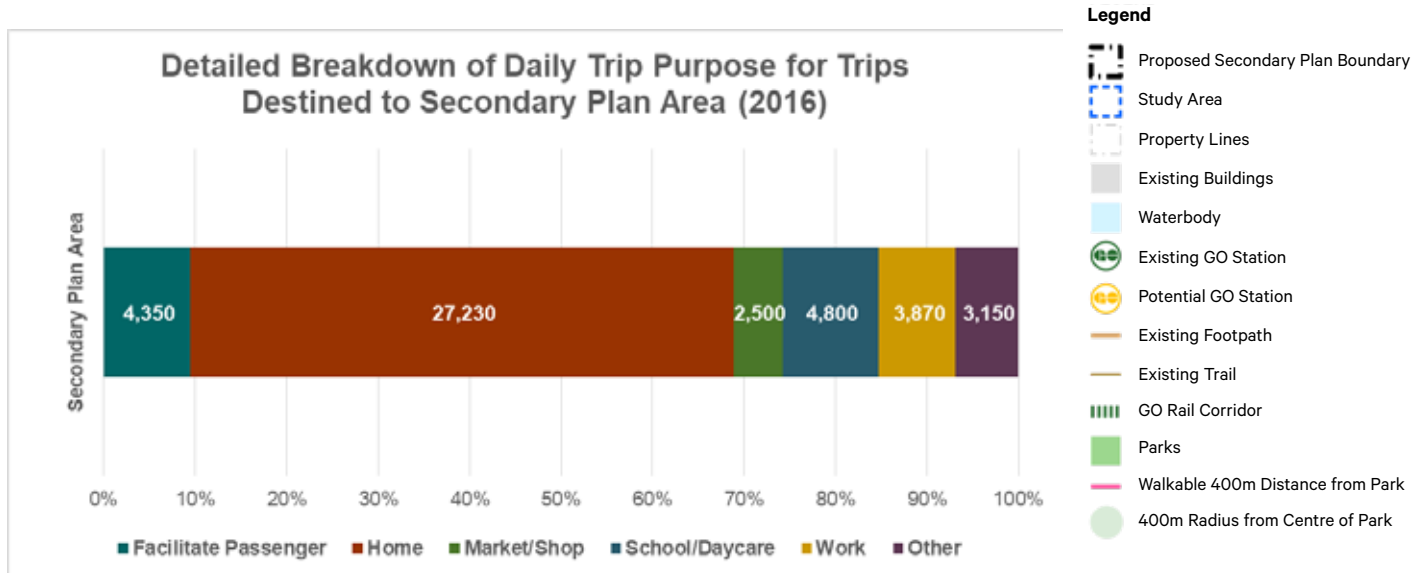


Figure 15: Purpose of Daily Trips Destined to Study Area (2016)

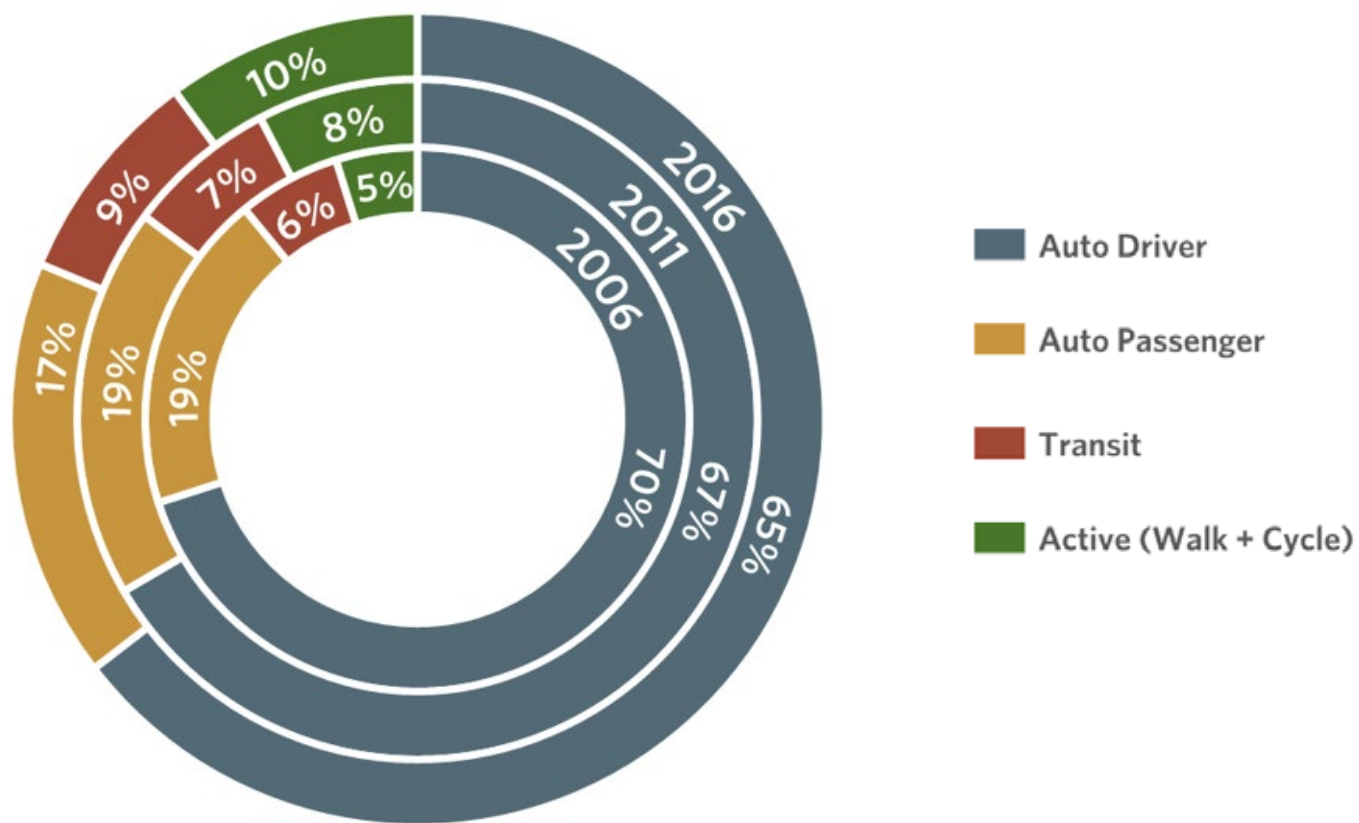


Figure 16: Historical Mode Share of Daily Trips Destined to the Study Area

3.3.1.2 Road Network Patterns

An assessment of the existing Street Network, within and surrounding the Study Area was undertaken. The MRMJSP Area is supported by a network of Regional Roads, major collector roads, minor collector roads, and local roads. Markham Road is a major collector road which traverses the entire Study Area, in a North-South direction. It provides local access and a connection between Main Street to the south and Highway 48 to the north. At Major Mackenzie Drive East Markham Road becomes Highway 48, which is a Provincial Highway that provides connections to northern York Region, including the Town of Whitchurch- Stouffville, Town of East Gwillimbury, and the Town of Georgina. Major Mackenzie Drive East and 16th Avenue are the two major east-west Regional Roads within the Study Area and provide connections to the City of Richmond Hill and Highway 404 in the west and Durham Region to the east.

3.3.1.3 Active Transportation

In consideration of the broader Study Area, it can be concluded that lands outside of the MRMJSP Area are generally well served by pedestrian infrastructure. Within the MRMJSP Area, collector and major arterial roads have sidewalks on both sides and local residential streets have a sidewalk on one side. Gaps within the MRMJSP Area are attributed to the large commercial blocks and undeveloped lots located along Markham Road, which lead to limited continuous north-south and east-west streets, as well as the Stouffville GO Rail Corridor, which provides for a physical barrier to connectivity, between the MRMJSP Area and the residential communities to the east.

From a street connectivity perspective, it has been found that the Study Area has a total of 29 intersections

over approximately 185 hectares, resulting in an intersection density of 0.15. This score is less than the desired threshold noted in the Growth Plan, and can be attributed to the lack of east-west connections as a result of the rail corridor and large commercial blocks along Markham Road.

The existing cycling network within and surrounding the Study Area was found to be discontinuous, offering limited east-west connectivity. Major Mackenzie Drive East currently provides the only continuous east-west cycling route within the Study Area. For the north-south routes, there are two continuous options, including Markham Road and the multi-use trail to the west of the Stouffville GO Rail Corridor. Within the MRMJSP Area, there are no designated cycling facilities within the commercial areas. As a result, cyclists were observed to cut through the privately-owned surface parking areas, where there is limited visibility.

Regarding road safety, Markham's Development Services Committee (DSC) received an update report by the City of Markham's Engineering Department on May 16, 2022, regarding the City's Road Safety Strategic Plan. Recommendations were made that Staff collaborate with York Region to develop a Road Safety Strategy Plan, and report back at key milestones during the development of the combined Strategy. The report builds upon work previously completed by Staff, including an approach, which was received by DSC in March of 2019. During this meeting, members of DSC reviewed opportunities to adopt "Vision Zero" principles with the goal of completing a road safety plan from 2021-2022. The intent of the principles was to eliminate traffic fatalities and severe injuries to vulnerable users, including pedestrians and cyclists. It was determined that a fundamental shift in attitude was needed regarding how the safety of all road users was considered, and that vulnerable road

users should be prioritized over the efficient movement of motorized vehicles. The Study identified opportunities to integrate Vision Zero principles, where appropriate.

In general, east-west movement through the Study Area was found to be limited by a lack of at-grade railway crossings east of Markham Road and grade separation would improve the level of service and safety for all modes of travel. Refer to **Section 6.3.1.2** for recommendations regarding grade separation.

3.3.1.4 Transit

The transit network servicing the MRMJSP Area was reviewed as part of HDR's transportation conditions assessment. Two major transit providers serve the MRMJSP Area: GO Transit, and York Region Transit (YRT), which provides 8 separate bus routes within the MRMJSP Area. GO Transit operates two routes that serve the Mount Joy GO Station: Route 54 (407 East) and Route 70-71 (Stouffville).

Mount Joy GO Station, as per Metrolinx's 2016 Station Access Plan (SAP), served approximately 1,425 daily riders where 61% of users drove and parked. Its associated parking facilities have 1,333 spaces at 81-90% utilization. It is noted that based on more recent data, the Mount Joy GO Station served over 2,100 daily riders in 2019.

The following rail service is provided to and from the station:

- » 14 trains per weekday southbound to Union station every 30 minutes peak service, every 60 minutes 9:30am to 3:30pm. Hourly 9:30pm–11:30pm.
- » 13 trains per weekday northbound to Mount Joy Station from Union Station hourly 11:08am to 4:05pm. 30 minute or better on-peak service from 5:15pm to 7:30pm, final train at 8:11pm.

The transport mode of access for passengers accessing Mount Joy GO Station is provided in **Table 3**.

Transport Mode of Access	2015 Mode Share	2015 Ridership (Daily)	2017 Mode Share	2017 Ridership ² (Daily)	2019 Mode Share ³	2019 Ridership (Daily)
Walk	15%	210	23%	420	23%	512
Local Transit	5%	71	4%	71	4%	86
Pick up/drop off	15%	210	20%	360	20%	483
Drive and Park	61%	862	48%	854	48%	1040
Carpool Passengers	5%	71	5%	84	5%	102
Total	100%	1,425	100%	1,790	100%	2,180

Notes: (1) Daily rider estimate from 2016 SAP - Planned GO rail service, station access and infrastructure implementation will have an impact on: the rate and timing of ridership growth to reach 2031 forecast, and the rate and timing of recommended parking growth beyond 2021. (2) Daily rider estimate, 2017 Origin-Destination Survey. (3) Daily rider estimate, 2019 Presto Data. Mode share based on 2017 data. (4) Micro-transit / flexible / on-demand services are not available at Mount Joy Station to date.

Table 3: Historic Daily Ridership at Mount Joy GO Station by Access Mode



Figure 17: MRMJSP Local Surface Transit Routes (Final Transportation Report, 2023)

3.3.2 GO Rail Station subject to further study at Major Mackenzie Drive East

An additional GO Station at Major Mackenzie Drive East may assist with phased transit-supportive development within the Mount Joy GO Station Area, by supporting growth locally, diverting commuter vehicle traffic, and reducing traffic congestion into the MRMJSP Area.

A GO Station Feasibility Review was conducted at the northern end of the MRMJSP Area, for a potential site located generally at Major Mackenzie Drive East just east of Markham Road at the Stouffville GO Rail Corridor. This is the location of the additional GO Rail Station, subject to future study, at Major Mackenzie Drive East. The review found several benefits to the station including:

- » Supports key growth areas in the City of Markham including the MRMJSP area and the North Markham Future Urban Area, where prior study may not have account for the full scale of development anticipated in those areas
- » Offloads Mount Joy GO Station, providing opportunity for additional intensification at the north end of MRMJSP area, and keeping vehicular park and ride traffic at the fringe of the urban area.
- » Creates opportunity for a transit / mobility hub at the north end of the MRMJSP area, supporting York Region transit plans for Rapid Transit on Major Mackenzie Drive

The need for the station is anticipated between 2031 and 2041 to align with planned infrastructure improvements, transit service and new development in the MRMSJSP study area and growth throughout Markham including the North Markham Future Urban Area.

It is noted that the feasibility review of the GO Station at Major Mackenzie Drive East preceded the release of the 2022 York Region Official Plan, which brought some lands north of Major Mackenzie Drive East into the Urban Boundary.

Please see the Transportation Report prepared by HDR Inc. for more information

3.3.2.1 York Region Transportation Master Plan 2022

The 2022 York Region Transportation Master Plan (TMP) identifies eleven new potential GO stations, which will be needed in the long-term to support increased GO ridership forecasts, to a planning horizon of 2051. Regional growth is anticipated to influence Ridership forecasts, which will necessitate additional stations. A new station at the junction of Major Mackenzie Drive East and the Stouffville GO Rail Corridor was included within the TMP, which recognized the potential for this station to act as a key transit hub in east Markham, connecting GO Transit rail and bus services, the future Major Mackenzie Viva BRT extension which is planned to connect to Jane Street in the City of Vaughan, and local YRT bus services.

In addition to the Viva extension, Frequent Transit Network (FTN) corridors are identified along multiple routes, which also connect to the GO Station subject to further study at Major Mackenzie Drive East. The FTN adjacent to the area includes the Donald Cousens Parkway which would connect the MRMJSP Area to the Cornell community. The FTN is planned to provide service every 15 minutes or better throughout the day. The grid network also provides for easy transfers and direct service throughout York Region.



Figure 18: 2051 York Region Proposed Transit Network

3.3.2.2 Potential Ridership Estimates

In order to determine preliminary ridership estimates for the GO Rail Station subject to further study at Major Mackenzie Drive East, potential diversion from Mount Joy GO station is considered relative to Metrolinx's ridership forecasts.

The Mount Joy GO Station currently serves over 2,100 daily riders, based on 2019 data from Presto card usage. Metrolinx's 2016 Station Access Plan estimates that, by 2031, the Mount Joy GO Station may serve 4,000-8000 passengers per day. Based on this projected demand. HDR reviewed a range of outcomes for ridership estimates, which considered two drivers of demand; the Mount Joy GO Station parking capacity, and the diversion of existing and projected future Mount Joy GO Station ridership demand. In the more conservative scenario, it was assumed that parking facilities were to be retained by the Mount Joy GO Station, allowing riders to continue to park at the station. In the second scenario, it was assumed that the existing parking facilities were to redevelop, which would

then divert "park and ride" trips to the potential GO station. In the former scenario, 600 trips were generated, and in the latter, 1,547 trips; a number within the same range of the three recently approved stations that were assessed for comparison.

HDR's analysis noted that the station has potential to serve existing nearby neighbourhoods, as well as future residents within the MRMJSP Area and more broadly in Markham's north east. The YROP identifies lands north of Major Mackenzie Drive East on both sides of Highway 48, outside the Greenbelt, for inclusion in the urban boundary as Community Area to accommodate growth to 2051. While the lands will be subject to phasing policies to guide growth and development, it is anticipated they will drive further growth in north east Markham and influence the relevance of the GO Rail Station subject to further study at Major Mackenzie Drive East.

3.3.2.3 Policy Framework

While the existing land use policy framework pertaining to the north side of Major Mackenzie Drive East would permit the development of a transit station, subject to criteria, it prohibits settlement area boundary expansions into the Greenbelt. There is also an MZO that applies to the lands east of Highway 48 and north of Major Mackenzie Drive East that restricts urban uses to protect for the future Pickering Airport. There is some opportunity for potentially siting transit infrastructure west of the Greenbelt lands, though consideration will need to be made for the impacts to the Little Rouge Corridor lands. While it is recommended that the lands north of Major Mackenzie Drive East continue to be protected for a potential GO station, a station platform on the south side of Major Mackenzie Drive East cannot be ruled out at this time, particularly if a public-private partnership can be implemented to assist in funding the improvements.

Pending review by City staff, it may be feasible to partner with a landowner to facilitate transit-supportive development adjacent to the rail corridor and leverage Metrolinx's Market-Driven Strategy to facilitate construction of a new GO station, or a part of the related infrastructure, in this location. Siting the station partly on the south side would ensure that the station is within the MRMJSP boundary, and provide the opportunity to locate some of the station amenities closer to existing and planned development. Parking for the GO station and development could be realized below grade, subject to assessments by the relevant review bodies, or to the north of Major Mackenzie Drive East, subject to the completion of an Environmental Assessment.

The provision of parking in this location will allow for the phased transit supportive development of the Mount Joy GO Station to the south.

3.3.3 Summary of Challenges and Opportunities

From a transportation perspective, the Mount Joy GO Station is currently surrounded by commercial/ retail developments and all are scaled to a low-density context and are therefore underutilized. The prevalence of large blocks, expansive surface parking lots and limited pedestrian and cyclist connectivity continues to optimize travel for the private automobile along Markham Road. An absence of a supporting street network has resulted in vehicular traffic being concentrated along Markham Road, which has resulted in traffic congestion at 16th Avenue, as the road narrows into the southern Markham Village HCD. The lack of connectivity for active travel modes combined with high traffic volumes and a lack of safe crossing points provides for a barrier to walkability.

However, as the low-rise building stock within the MRMJSP Area ages, and as redevelopment proceeds, significant opportunities exist to provide for future improvements that will address the noted challenges. For example, there are opportunities to increase active transportation connectivity throughout the MRMJSP Area by way of adding cycling facilities to existing streets, by improving existing facilities by way of separation from vehicular traffic, and introducing new protected bike lanes and multi- use trails. As redevelopment advances, there is an opportunity to introduce a fine-grain street network into the MRMJSP Area, to break up the large blocks that currently exist. Markham Road itself can be re- imagined as a complete street that would accommodate all travel modes. As relating to the Mount Joy GO Station, a significant opportunity exists to facilitate new transit-supportive development, anchored around the station itself.

In addition to this, the opportunity exists to locate an additional transit and mobility hub through a potential additional GO station at Major Mackenzie Drive East.

The location has been identified as a potential transit hub which will connect GO riders with the planned Viva BRT expansion along Major Mackenzie Drive East and local YRT transportation routes. An additional station may meet projected ridership needs as related to Regional growth projections, and offload “park and ride” commuters that be diverted from the future Mount Joy GO Station MTSA. Furthermore, this location may also support an EcoMobility Hub- a concept whereby multiple shared mobility modes are provided in order to provide “first and last mile” connections. The concept integrates more sustainable mobility options, such as an on-street carshare station, or an integrated bike share and bus stop.

While there are several options possible for the siting of the infrastructure related to the station, it is recommended that the north side of Major Mackenzie continue to be protected for a potential future location of the station and/or its related infrastructure. Furthermore, it is noted that some of the lands north of Major Mackenzie Drive East on both sides of Highway 48, are identified in the YROP as within the urban boundary.

The recommended next steps to guide the City, Region and Metrolinx in their assessment of an additional station include continuing to protect for a GO Rail Station on the north and south side of Major Mackenzie Drive East, and undertaking required studies per Metrolinx’s market-driven strategy. These will include the preparation of detailed Ridership Modelling and an Initial Business Case, in coordination with Metrolinx. A positive outcome in the Initial Business Case will be required to advance the planning associated with this potential GO station.

If the GO Rail Station proceeds beyond the Initial Business Case, an Environmental Impact Study (EIS) will be required to assess impacts on the Greenbelt Plan Area and the Rouge Watershed Protection Area. The

EIS would outline how the construction of the station and its associated infrastructure would avoid/minimize impacts to the adjacent Natural Heritage System. Policy conformity will need to be addressed at the later detailed design phase, and may include locating elements outside of the Greenbelt Plan Area and the Rouge Watershed Protection Area.

In undertaking this work, the City of Markham may wish to seek out partnerships with private landowners as the proponent driving either the ridership forecasts or the Initial Business Case. Inputs from the City of Markham will be required for these studies, and will be refined through the Secondary Plan process.

3.4 Municipal Servicing

3.4.1 Existing Municipal System Report

Counterpoint Engineering prepared a detailed municipal servicing analysis to examine the existing state of the Study Area's watermains, sanitary sewers and stormwater infrastructure, and to determine the type, location and extent of municipal servicing improvements that would be required to accommodate future development within the MRMJSP Area.

3.4.2 Water Distribution System

Under existing conditions, the water main pressure nodes all generally fall within the acceptable ranges as outlined by the City's criteria.

The MRMJSP Area is serviced through a network of City of Markham watermain infrastructure that was installed over time as the area developed. The system is interconnected and services the existing developments along Markham Road, the Wismer Commons neighbourhood to the west, Mount Joy Business Park, and the Greensborough neighbourhood to the east.

The City of Markham's watermain model was updated by Counterpoint Engineering to include recent developments and development applications that are under review within the MRMJSP Area, additional Planning data provided by the City of Markham, and updated system inputs from York Region, in order to determine whether any constraints exist. Based on the results of the model, all the pressure nodes in the MRMJSP Area fall within the acceptable range as outlined by the City of Markham's criteria.

The existing infrastructure within the Study Area is well connected to the external residential areas to the east and west, as well as the existing large transmission watermains along Markham Road. The interconnections between these systems, and the external developments provides adequate redundancy in the existing system to allow for unforeseen and/or operational isolation periods. This redundancy was further evaluated in the ultimate condition.

3.4.3 Sanitary Sewer System

Preliminary assessments have shown that the downstream sanitary capacity is constrained in wet weather flow conditions for the east drainage area.

The MRMJSP Area is comprised of two separate sanitary drainage catchments. Each catchment is a tributary to the York Durham Sanitary Sewer (YDSS) and connects to the YDSS trunk sewer in separate locations south of the Study Area. The east drainage area conveys flows from properties along the east side of Markham Road from 16th Avenue to just north of Edward Jeffreys Avenue, from a section on the west side of Markham Road immediately north of 16th Avenue consisting of the Markham Museum property, and the commercial developments fronting 16th Avenue and Markham Road. Based on the baseline analysis, it was determined that in wet weather conditions the existing east drainage system experiences some surcharging based on the City of Markham's criteria for both the 25-year and 100-year design storm events. However, this surcharging occurs within valleylands, and thus likely will not impact existing development, or the redevelopment of adjacent lands overtime. To this end, further analysis by the City of Markham will be required to determine the implications for intensification/ redevelopment of areas that continue to contribute to this catchment.

The existing west drainage area conveys flows from both the east and west sides of Markham Road, and a portion of the Wismer Commons community to the west. Properties on the west side of Markham Road from Major Mackenzie Drive East south to the north limit of the Markham Museum property are conveyed south through a 300 millimetre to 525 millimetre sanitary system which conveys flows west along Edward Jeffreys Avenue and ultimately connects to the YDSS at 16th Avenue west of Markham Road. The properties on the east side of Markham Road from just north of Edward Jeffreys Avenue to Major Mackenzie Drive East, including the Mount Joy Business Park, are conveyed through the recently constructed 350 millimetre sanitary system which crosses Markham Road north of Edward Jeffreys Avenue and connects to the 525 millimetre sanitary sewer on Edward Jeffreys Avenue. Based on a preliminary assessment, the western sanitary drainage system is operating without constraints, in both the dry and wet weather existing conditions.

3.4.4 Stormwater Management System

[Mount Joy Creek currently floods adjacent properties, limiting their development potential.](#)

The MRMJSP Area is serviced through three separate stormwater management (SWM) ponds, Pond #11 Mount Joy Pond and Pond #69 on the east side of Markham Road, Pond #93 on the west side of Markham Road. A Storm Trunk Sewer along the west limit of Markham Road conveys 100-year flows to Pond #93 and Mount Joy Creek conveys flows to Mount Joy Pond (Pond #11). Counterpoint's review of the current SWM servicing system found that the enclosed portion of Mount Joy Creek north of the Anderson Avenue outlet

is undersized, and that the open channel portion is inconsistent. These serve as a source of backwater, which result in the flooding of properties north of Castlemore Avenue and east of Markham Road. Based on the available TRCA floodplain mapping at the time of initial assessment, properties between Castlemore Avenue and Bur Oak Avenue within the Mount Joy Business Park are also impacted by flooding. The runoff from these properties also drain uncontrolled and untreated into Mount Joy Creek. Counterpoint's assessment also concluded that some of the commercial lands adjacent Markham Road and Mount Joy Creek currently have no stormwater management controls. Collectively, these impacts are to be addressed as part of redevelopment proposals.

Through ongoing development applications in the area, restoration work has been completed and/or approved for the northern segment of the Creek (i.e., south of Major Mackenzie Drive on the 9900 Markham Road lands to just east of Markham Road on the 9999 Markham Road lands). It is noted that as properties redevelop individually, or as a developer's group, proponents will need to work with the TRCA to establish appropriate limits of development to accommodate Mount Joy Creek and the associated floodplain.

The TRCA has indicated that there is currently no approved floodplain model available for the section of Mount Joy Creek through the MRMJSP Area. An Environmental Assessment was undertaken for the extension of Anderson Avenue between Castlemore Avenue and Major Mackenzie Drive East, which included an assessment of the existing floodplain conditions. This work was undertaken by Masongsong Associates Engineering Limited.

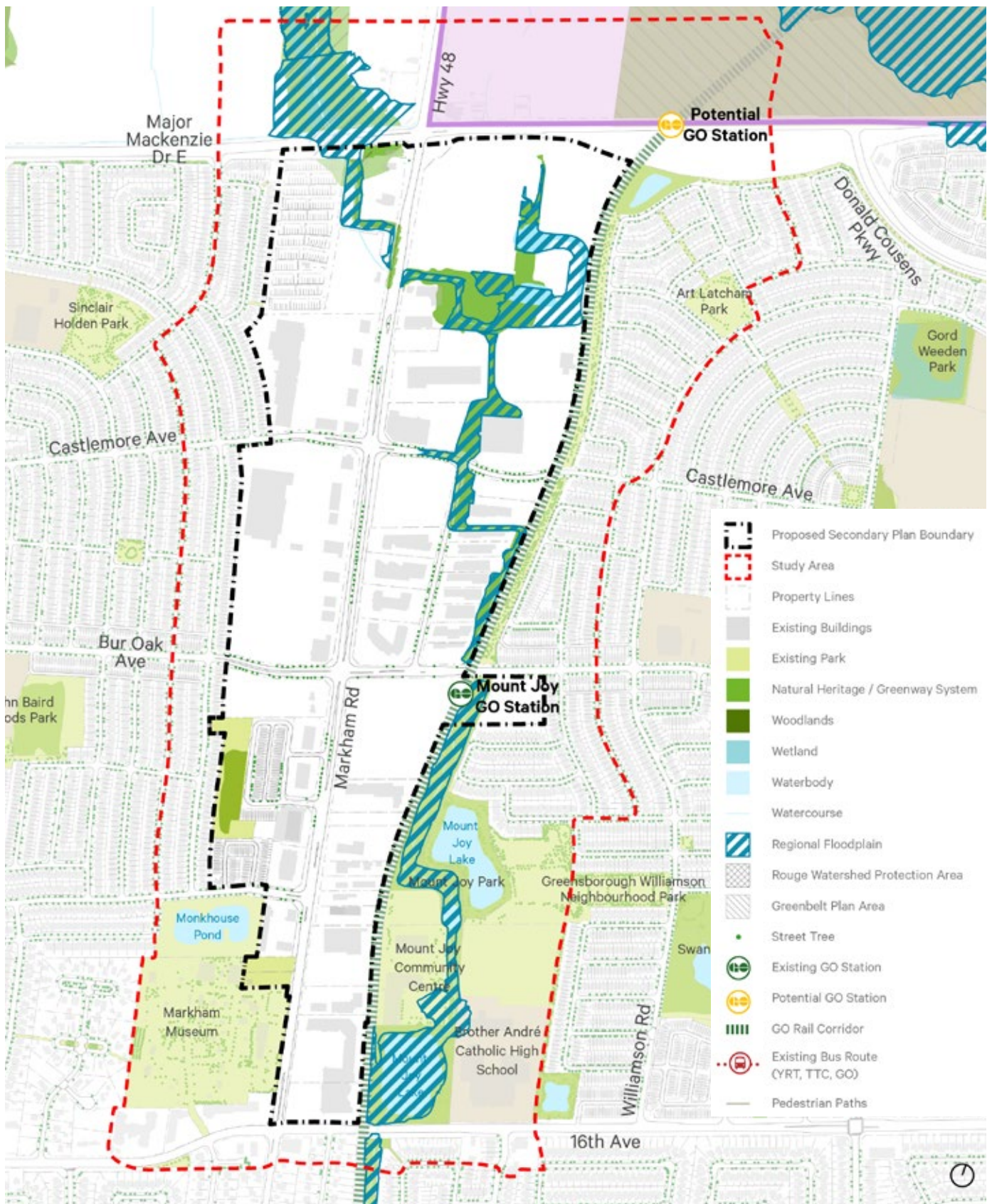


Figure 19: Current Extent of Regional Floodplain

All development applications will be required to be compliant with the Conservation Authorities Act, and to demonstrate consistency with the Provincial Policy Statement, which directs new development to areas with safe access, and outside of flooding and erosion hazards. In addition, TRCA will ensure developments are protected from flooding in accordance with their Regulation and policies, and current floodplain mapping.

3.4.5 Summary of Challenges and Opportunities

Servicing challenges within the MRMJSP Area are primarily related to the existing condition of Mount Joy Creek, as during major storm events the Creek will be prone to flooding which will impact the development potential of adjacent properties. As well, some of the commercial properties within the Mount Joy Business Park and adjacent to the Stouffville GO Rail Corridor currently drain uncontrolled and untreated runoff into Mount Joy Creek. With regards to the existing storm runoff conveyance system, preliminary assessments during the existing conditions phase had shown that the downstream sanitary capacity is constrained in wet weather flow conditions for the east drainage area, which will need to be addressed in tandem with future development throughout the MRMJSP Area.

Opportunities are available to upgrade the existing sanitary system capacity, realign and reconfigure Mount Joy Creek, upgrade storm sewer infrastructure, potentially retrofit existing stormwater management ponds to address stormwater management needs, and introduce block level controls and new LID measures to address stormwater management needs in more sustainable ways.

4.0 Consultation and Engagement

4.1 Overview

A consultation and engagement plan was developed to generate broad awareness and participation in the Study process among City Council, stakeholders and the public, and to obtain feedback to inform the development of the Vision, Guiding Principles, Demonstration Plan, and Policy Guidance and Recommendations.

The following chapter provides an overview of the public and stakeholders consultation events, which were held throughout the course of the Study process, and summarizes key themes that emerged through the feedback received.

4.2 Overview of Consultation Events

The following table summarizes all public and stakeholder consultation events, including the event name, date, purpose and description. Due to physical distancing requirements in response to the COVID-19 pandemic, all public and stakeholder engagement sessions were held online, via Zoom. Community Information Sessions were also live-streamed on “YouTube”.

Consultation Event	Date	Purpose and Description
Development Services Committee	December 9, 2019	» Introduce the Study and outline next steps to members of City Council. The meeting included an overview of the Study purpose, components, process and timelines, as well as the draft Vision, an overview of previous studies completed to date, existing site and spatial conditions, key considerations, and the consultant team. For more information, please refer to the Development Services Committee Meeting Minutes from December 9, 2019.
Design Charrette Day 1 / Markham Sub-Committee Meeting	July 29, 2020	» Virtual tour through the Study Area, and technical presentation of baseline conditions with multiple opportunities for feedback and discussion. A total of 85 participants were in attendance. For more information, please refer to the Markham Sub-Committee Meeting video recording from July 29, 2020.
Community Information Session #1	July 29, 2020	» Mirrored Design Charrette Day 1 on July 20, 2020. A total of 65 participants, including Regional and Municipal Staff, Public Agency Staff landowners and interested members of the public were in attendance. This Session was livestreamed on YouTube. For more information, please refer to the Community Information Session video recording from July 29, 2020.

Design Charrette Day 2 / Markham Sub-Committee Meeting	August 5, 2020	» Technical presentation of the draft Vision and Guiding Principles, as well as emerging Framework Elements. Live-edit of the draft Vision, followed by live-draw exercise to visually depict comments to the emerging Framework Elements. A total of 90 participants were in attendance. For more information, please refer to the Markham Sub-Committee Meeting video recording from August 5, 2020.
Design Charrette Day 3 / Markham Sub-Committee Meeting	August 24, 2020	» Continuation of discussion from previous Design Charrette / Markham Sub-Committee Meeting on August 5, 2020. A total of 65 participants were in attendance. For more information, please refer to the Markham Sub-Committee Meeting video recording from August 24, 2020.
Community Information Session #2	September 26, 2020	» Mirrored Design Charrette Days 2 and 3. A total of 45 participants, including Regional and Municipal Staff, Public Agency Staff, landowners and interested members of the public were in attendance. This Session was livestreamed on YouTube. For more information, please refer to the Community Information Session video recording from September 26, 2020.
Special Development Services Committee Meeting	December 15, 2020	» Present the refined Vision and Guiding Principles based on feedback obtained through the Multi-Day Charrette, in addition to the draft Demonstration Plan, associated Framework Elements, draft Policy Guidance and Recommendations. For more information, please refer to the Special Development Services Committee Meeting minutes and video recording from December 15, 2020.
Development Services Committee Meeting	April 21, 2021	» Present the Interim Report, and seek direction to consult the public and stakeholders on its contents. A flythrough of the 3D model of the draft Demonstration Plan was also presented. For more information, please refer to the Development Services Committee Meeting minutes and video recording from April 2, 2021.

Community Information Session #3	June 3, 2021	» Present the Interim Report, and obtain feedback from the public using a variety of interactive formats (e.g. polls, plenary discussions and live drawing). A total of 50 participants, including Regional and Municipal Staff, Public Agency Staff, landowners and interested members of the public were in attendance. This Session was livestreamed on YouTube For more information, please refer to the Community Information Session video recording from June 3, 2021.
Stakeholder Meeting	June 16, 2021	» Provide landowners and developers in the MRMJSP Area the opportunity to ask questions of clarification and comment on the Interim Report and draft Demonstration Plan.
Development Services Committee Meeting	July 11, 2022	» Provide an update on the findings from the technical modelling and analysis completed to-date, and review the key revisions made to the Draft Demonstration Plan. For more information, please refer to the Development Services Committee Meeting Minutes and video recording from July 11, 2022.
Development Services Committee Meeting	June 26, 2023	» Present an additional update on the findings from the technical modelling, as well as the final Demonstration Plan and associated Policy Guidance. For more information, please refer to the Development Services Committee Meeting Minutes and video recording from June 26, 2023.

Table 4: Summary of Consultation Activities

4.3 Key Themes - What We Heard

The following section summarizes key feedback obtained through all public and stakeholder consultation events.

4.3.1 Multi-Day Design Charrette / Community Information Session #1 and #2 - July 2020 to September 26, 2020

The Multi-Day Design Charrette provided the consultant team with a significant amount of feedback with respect to the Vision, Guiding Principles, and emerging frameworks elements. The feedback received was divided into several key themes described below.

Transportation and Mobility

- » Some members of the Markham Sub-Committee made inquiries regarding the realignment of Major Mackenzie Drive East and the GO Rail Station subject to further study at Major Mackenzie Drive East;
- » From all stakeholder groups there were a range of opinions expressed with respect to the provision of on-street parking along Markham Road;
- » General support was expressed that some on-street parking should be provided for retail uses, though the form (parallel vs. diagonal), location and amount was to be subject to further review;
- » Support was expressed from some residents, landowners and members of the Sub-Committee for the creation of a pedestrian friendly Main Street atmosphere with patios and cycling facilities;
- » Some members of the public supported the provision of protected cycling facilities on Markham Road, while landowners suggested the consultant team explore the opportunity to move cycling facilities to parallel streets;
- » Some members of the Markham Sub-Committee highlighted the importance of a station at Major Mackenzie Drive East, and the need to limit surface parking at transit stations;
- » There was interest from some members of the Markham Sub-Committee and the public around the notion of treating the GO line as a subway line with more frequent service and connectivity through Markham and to consider first and last mile connections;
- » From all stakeholder groups there were concerns expressed with respect to safety, crossing, separation of travel modes, and intersections with frequent collisions. Suggestions were made to explore traffic calming measures;
- » Some members of the Markham Sub-Committee expressed concerns with the Markham Road cross-section. Considerations were requested with respect to the road width, parking provisions, number of travel lanes, High Occupancy Vehicle lanes, dedicated transit lanes, closeness of the buildings to the street, etc.;
- » Some members of the Markham Sub-Committee were interested in knowing the modal-split of existing condominium residents in the vicinity of the Mount Joy GO Station, in order to determine the mode-shift from vehicle use to transit use;
- » Some members of the Markham Sub-Committee expressed concern regarding the potential impact of southbound traffic on the Markham Village, south of 16th Avenue; and,
- » There were a range of opinions regarding the creation of a finer grain local road network.

Mount Joy Creek, Parks and Open Space

- » Some members of the Markham Sub-Committee inquired about maintenance costs related to an open channel option for re-configuring Mount Joy Creek;

- » There were a range of opinions regarding the preferred alignment and configuration of Mount Joy Creek. Some support was expressed for daylighting Mount Joy Creek, with the recognition that a piped option also provides flexibility, however more technical information on the feasibility of each option was deemed to be required;
- » Some members of the public and landowners expressed support for making the lands immediately west of the rail corridor attractive and an opportunity to connect with existing green space system;
- » Some landowners expressed a preference for parks to be illustrated conceptually, support for parkettes, and requested that consideration be made to strata parks or that alternative parkland provisions apply within the MRMJSP Area; and,
- » Some members of the public supported the provision of parkland and highlighted the need for more parkland particularly given the ongoing pandemic.

Environment

- » Some members of the public expressed an interest in knowing what environmental considerations will be included in the MRMJSP and stressed the importance of limiting the fragmentation of natural space. Emphasis was made on the protection of wildlife.

Infrastructure and Community Services

- » Some members of the Markham Sub-Committee expressed concern regarding the need to address flooding in the MRMJSP Area, with particular consideration for the lands at 1300 Castlemore Avenue;
- » Some members of the Markham Sub-Committee and landowners expressed interest in the idea

of co-locating schools within the podium of buildings and the location of community services near GO Stations in order to create rail integrated communities;

- » Interest was expressed regarding the co-location of community services, and questions were raised whether community partners were consulted; and,
- » Some landowners suggested that infrastructure phasing be considered as part of the vision for the MRMJSP Area. There were also inquiries about current servicing capacities that would affect the timing of development.

Employment

- » Some members of the Markham Sub-Committee inquired how the Mount Joy Business Park could be incorporated into mixed use areas;
- » Some members of the Markham Sub-Committee requested greater statistical analysis of the Mount Joy Business Park and expressed that the MRMJSP should be setting a goal for the number of jobs; and,
- » Some members of the public noted that the area should provide higher-paying employment options, not just retail-based jobs.

Retail

- » Some members of the Markham Sub-Committee stressed the importance of experiential retail and to carefully consider the types of retail uses needed to animate the street;
- » Some members of the Markham Sub-Committee expressed the need for improvements along retail frontages and the opportunity presented within the servicing easement along the west side of Markham Road; and,
- » Some members of the public inquired regarding the balance of varying scales of retail.

Housing

- » Some landowners expressed that deeper consideration should be made for development projects in “the pipeline”, to consider different treatments for different districts, and to ensure the sufficient provision of both housing and jobs; and,
- » Some members of the public suggested that consideration should be made for the provision of affordable housing for seniors, disabled and low-income households, and balance affordability with the provision of permanent housing options.

Placemaking

- » Some members of the Markham Sub-Committee provided thoughts on the appropriate location and form of the gateways within the Secondary Plan Area, suggestions included closer to the rail corridor, connections over the tracks or a vertical community garden in the Greenbelt; and,
- » Some members of the Markham Sub-Committee and the public both expressed that the station areas should be destinations; places to work, live and play.

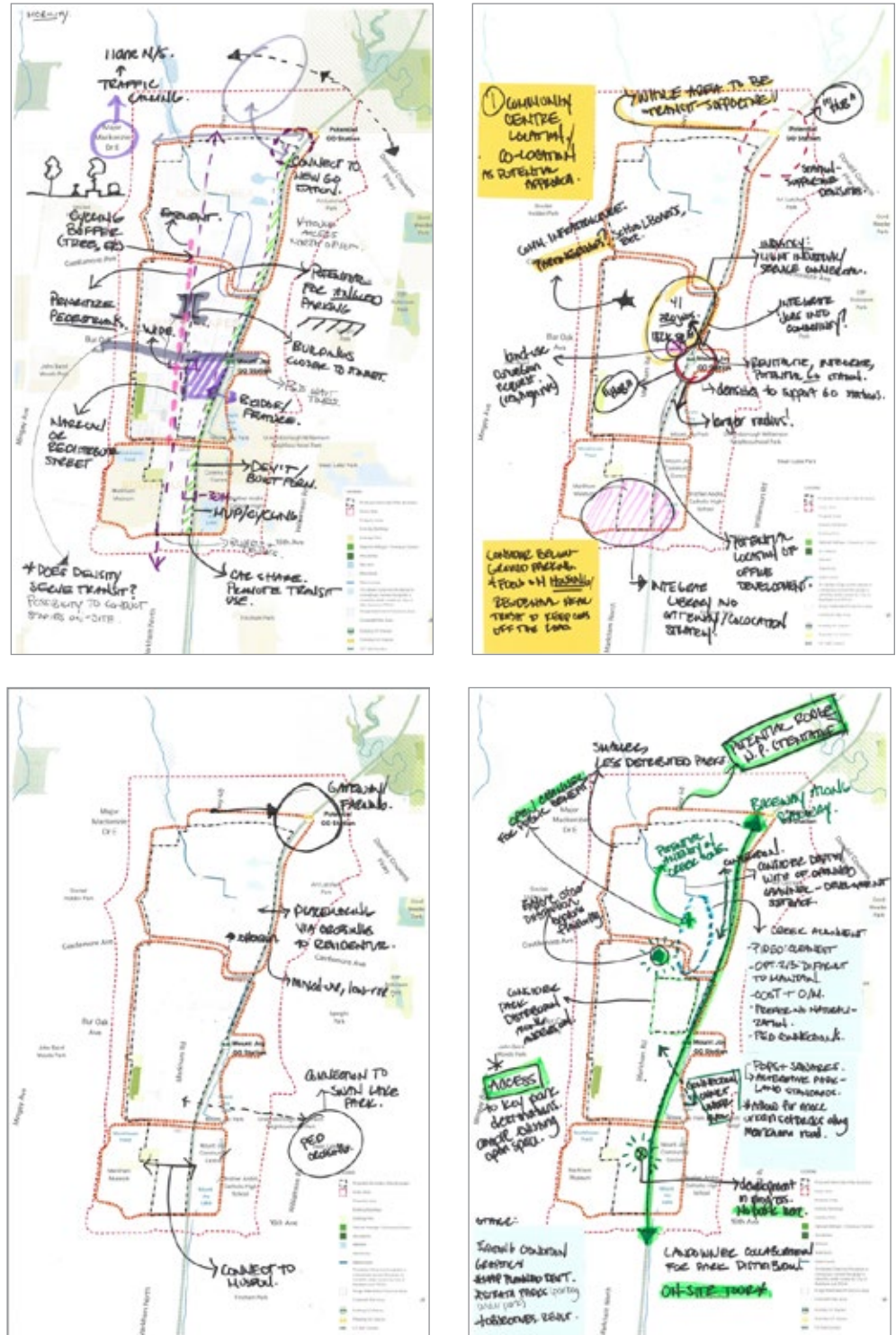


Figure 20: Visioning Exercise

4.3.2 Community Information Session #3 – June 3, 2021

The Community Information Session provided the consultant team with a significant amount of feedback with respect to the framework elements and draft Demonstration Plan. The feedback received was divided into several key themes described below.

Transportation and Mobility

- » Some members of Council raised questions regarding the potential impact of electrification along the Stouffville GO Rail Corridor on the adjacent proposed multi-use trail;
- » Some landowners expressed a preference to align the proposed pedestrian connection in the South Precinct with the extension of Edward Jeffreys Avenue, so as to serve as a prominent visual terminus and enhance its connection to the surrounding community;
- » Some members of Council expressed a preference for the inclusion of on-street parking along the length of Markham Road;
- » Some residents expressed a preference for prioritizing space for pedestrians and cyclists within the boulevard of Markham Road;
- » Some residents expressed a preference for prioritizing public transit infrastructure within the roadway of Markham Road;
- » Some residents expressed a range of opinions regarding the preferred number of vehicle lanes within the roadway of Markham Road, as well as the overall right-of-way width;
- » Some members of Council inquired as to whether Markham Road would be designed to incorporate landscaped medians;

- » Some members of Council expressed a desire for Markham Road to serve as an animated and vibrant destination, providing reference to Queen Street in Niagara-on-the-Lake;
- » Some landowners expressed the potential benefit of including a cross-section for proposed Local Street 7, in order to assist the public in understanding the desired interface between the road and the adjacent multi-use trail, landscape buffer, stormwater channel, and rail corridor; and,
- » Some members of Council expressed the importance of accommodating for the inclusion of autonomous vehicles and shuttles, as a component of broader first / last – mile solutions.

Mount Joy Creek, Parks and Open Space

- » Some members of Council expressed a desire for the provision of pedestrian trail connections between the proposed multi-use trail and Mount Joy Creek;
- » Some members of Council expressed the need to consider programmatic opportunities within and adjacent to Mount Joy Creek;
- » Some landowners expressed a preference for distributing parks and open spaces more evenly throughout the community;
- » Some landowners expressed concern regarding the 30 metre width of the open space buffer adjacent to the Stouffville GO Rail Corridor, and the opportunity for development to occur within it; and,
- » Some members of Council expressed the need for more parks and open spaces.

Environment

- » Some members of Council expressed the need for environmental sustainability and resiliency measures, including the introduction of a district energy system to serve the community, with a priority placed on future development surrounding Mount Joy GO Station.

Infrastructure and Community Services

- » Some members of Council expressed the need for a central garbage collection system within the community;
- » Some residents expressed a preference for more pedestrian and bicycle infrastructure;
- » Some members of Council expressed concern regarding the absence of a central Community Recreation Centre and Library, and the opportunity to locate these uses on the surface parking lot immediately east of the Stouffville GO Rail Corridor, noting the location of the adjacent Mount Joy Community Centre is not central to the community, and that its programming is limited;
- » Some members of Council, as well as landowners, expressed the need for the potential elementary school to be multi-storey and vertically integrated into a mixed-use development;
- » Some members of Council questioned the location of the potential elementary school; and,
- » Some landowners expressed a preference for distributing community services and infrastructure more evenly throughout the community.

Employment

- » Some participants expressed general agreement regarding the proposed mix and disposition of uses, including employment.

Retail

- » Some members of Council, and participants, expressed the need to protect large-format retail uses through redevelopment along either side of Markham Road, with particular emphasis given to those located on the east side of Markham Road, north of 16th Avenue;
- » Some members of Council expressed the need to ensure the provision of convenience and neighbourhood-based commercial uses, throughout the community;
- » Some participants expressed general agreement regarding the proposed mix and disposition of uses, including retail uses; and,
- » Some participants expressed concern regarding the potential height and density of development, including mixed-use buildings containing retail functions.

Housing

- » Some participants expressed general agreement regarding the proposed mix and disposition of uses, including housing;
- » Some participants expressed concern regarding the potential height and density of development, including housing.

Placemaking

- » Some members of Council expressed the need for the Study Area to serve as a living, breathing, walkable and complete community; and,
- » Some landowners expressed the potential opportunity for the intersection of Markham Road and Edward Jeffreys Avenue to serve as a prominent gateway to the community.

4.3.3 Stakeholder Meeting – June 16, 2021

- » The Stakeholder Meeting provided the consultant team with a significant amount of feedback with respect to the framework elements and draft Demonstration Plan. The feedback received was divided into several key themes described below.

Transportation and Mobility

- » Some stakeholders requested the City of Markham prepare a cross-section for Minor Collector Street 6 and Local Street 7;
- » Some stakeholders noted the relative proximity of Local Street 7 to the adjacent Stouffville GO Rail Corridor, and inquired as to whether York Region or Metrolinx had provided input;
- » Some stakeholders expressed a preference to align the proposed pedestrian connection over or under the Stouffville GO Rail Corridor in the South Precinct with the extension of Edward Jeffreys Avenue, so as to serve as a prominent visual terminus and enhance its connection to the surrounding community;
- » Some stakeholders expressed the need for the transportation network to be designed to promote modal shift and change human behavior;
- » Some stakeholders suggested lowering parking rates to further support behaviour change and mode shifts in transportation;
- » Some stakeholders expressed support for Markham Road to be transformed into a pedestrian and cyclist-friendly street, and inquired about the impacts to vehicular traffic and parking ratios;
- » Some stakeholders noted that while downtown Niagara-on-the-Lake and Orangeville are desirable examples of what Markham Road can achieve, it is important to understand that the context of the community is different; and,

- » Some stakeholders expressed concern regarding deep setback requirements along the length of Markham Road, and suggested the City refer to the segment of Yonge Street in North York Centre as an example.

Mount Joy Creek, Parks and Open Space

- » Some stakeholders suggested privately-owned publicly accessible open spaces (POPS) and stratified parks as opportunities to serve as part of the broader parks, open spaces and public realm strategy for the MRMJSP Area;
- » Some stakeholders expressed an opportunity for the City of Markham to introduce Development Charge credits and unique parkland dedication rates for POPS and stratified parks;
- » Some stakeholders inquired as to the location of the proposed piped portion of Mount Joy Creek in relation to planned townhouse developments in the North Precinct; and,
- » Some stakeholders expressed concern regarding the impact of the potential park and recommended option to realign Mount Joy Creek, specifically the open channel, on the lands north of Castlemore Avenue and east of Markham Road.

Infrastructure and Community Services

- » Some stakeholders expressed concern regarding the high water table in the North Precinct, in particular, and the potential impact it may have on underground parking;
- » Some stakeholders inquired about the viability and potential impact of raising Major Mackenzie Drive East as part of an overall road-rail grade separation plan on future development in the North Precinct;
- » Some stakeholders noted that some Local Streets illustrated on the draft Demonstration Plan will be

privately owned and maintained and in relation to this inquired how public access to the MUP in the North Precinct, a portion of which is located on private lands, will be addressed;

- » Some stakeholders expressed concern regarding the impact of the potential school site on the development potential of privately owned lands;
- » Some stakeholders expressed support for the potential school to be vertically integrated, reflecting more of an urban concept;
- » Some stakeholders inquired which school boards identified a need for new facilities within the community;
- » Some stakeholders inquired about the type and extent of planned infrastructure upgrades at Mount Joy GO Station; and,
- » » Some stakeholders expressed an opportunity for a parking within the 30 metre Stouffville GO Rail Corridor buffer to be stratified.

Employment

- » Some stakeholders expressed concern regarding the proposed heights identified for some buildings in relation to other buildings with higher proposed heights within the Mount Joy Business Park, as illustrated in the draft Demonstration Plan.

Retail

- » Some stakeholders inquired about the City of Markham's policy intentions regarding the provision of single storey retail uses as an interim condition.

Placemaking

- » Some stakeholders expressed the potential opportunity for the intersection of Markham Road and Edward Jeffreys Avenue to serve as a prominent gateway to the community.

Implementation

- » Some stakeholders inquired about the City of Markham's intention in establishing one or multiple Landowner Group(s); and,
- » Some stakeholders inquired as to how cost-sharing agreements would be developed with respect to Markham Road and Mount Joy Creek.

5.0 Vision and Guiding Principles

5.1 Overview

The land use objective for the Markham Road – Mount Joy MRMJSP Area as outlined in Policy 9.3.7.1 of the Official Plan 2014 is to provide for:

“a mixed-use local corridor that functions as a main street integrating a range of housing, employment, shopping and recreation opportunities, at transit-supportive densities adjacent to the GO station, to serve the adjacent communities of Berczy Village, Wismer Commons, Greensborough and Swan Lake.”

In order to achieve this objective the consultant team, with the support of City Staff, delved into a robust background review, data collection and assessment of the existing conditions of the MRMJSP Area and its surrounding context. This review also included a detailed look at the policy framework, and best practices and precedents for sustaining transit-supportive communities. It is this process that led to the draft Vision, which in turn informed the development of Guiding Principles for the MRMJSP Area. The Vision and Guiding Principles were further refined based on feedback received throughout the consultation process.

5.2 Vision

A refined Vision based on the work completed to date through the MRMJSP Study has been prepared to set the stage for a complete Markham Road – Mount Joy community, and inform the planning parameters needed to ensure growth can be realized, commensurate with mobility, housing and community amenities.

The refined Vision is as follows:

The Markham Road – Mount Joy MRMJSP Area will evolve into a walkable, compact, and vibrant mixed-use community. It will also function as a gateway, main street, workplace, and social and cultural hub serving this community and the surrounding communities of Berczy Village, Wismer Commons, Greensborough, Swan Lake, and Markham Village.

To do so, a range and mix of housing, including affordable and rental housing, employment, shopping and recreation opportunities will be integrated and provided at transit-supportive densities that are compatible with the established low-rise residential neighborhoods. The greatest intensity of development and activity will be near rapid transit stations, complemented by animated parks, schools, community and recreation facilities, and other amenities. All these elements are tied together and enriched with a vibrant public realm that drive the appeal, livability, resilience and distinct sense of place of the Markham Road – Mount Joy Area.

5.3 Guiding Principles

Informed by the baseline analysis, Vision and comments received, we have prepared six Guiding Principles for the MRMJSP. These principles provide a framework for the development of a vibrant mixed-use community woven into the transportation system.

1. Protecting and Enhancing the Natural Environment;
2. Building Compact and Complete, Rail-Integrated Communities;
3. Increasing Mobility Options;
4. Maintaining a Vibrant and Competitive Economy;
5. Adopting Green Infrastructure and Development Standards; and,
6. Facilitating Public Input and Long-Range Planning and Implementation.

Protecting and Enhancing the Natural Environment

- a. To delineate an effective ‘Greenway’ System associated with Mount Joy Creek as one of the main organizing elements of the community, with the objective of protecting and enhancing the features, functions and water resources associated with the natural heritage network;
- b. To integrate the ‘Greenway’ System and associated natural heritage features into planned communities in a manner that protects and bolsters natural features through design; and,
- c. To develop new communities to be safe from flooding and to be resilient from the effects of climate change.



Figure 21: Protecting and Enhancing the Natural Environment



Figure 22: Productive Landscape, Ecological Park, France



Figure 23: Urban Bioswales, Portland

Building Compact and Complete, Rail-Integrated Communities

- a. To redefine Markham Road from 16th Avenue to Major Mackenzie Drive East as a main street that provides for the daily needs of residents, businesses and visitors;
- b. To protect for the provision of an appropriate range and diversity of community infrastructure and facilities, within walking distance of existing and future residents and visitors;
- c. To promote the health and wellbeing of residents and visitors, through active living, access to the natural environment, local food and connection to a vibrant, inclusive and caring community;
- d. To encourage an efficient use of land at transit-supportive densities and with good urban form that reinforces a coherent urban structure through coordinated and appropriately scaled infill development;
- e. To provide for a range of housing types and tenures, including affordable and rental housing options, and shared housing, and to provide opportunities to age in place; and,
- f. To create a sense of community identity through the establishment of a high-quality public realm, placemaking and a high standard of urban design (distinctive built form, streetscapes, parks and open space, landmarks and views, public art, etc.), ensuring the community is designed to be accessible by all, regardless of age or physical ability.



Figure 24: Building Compact and Complete Rail Integrated Communities



Figure 25: Shoppers World Redevelopment, Brampton



Figure 26: Mount Pleasant Community Centre, Vancouver

Increasing Mobility Options

- To enhance the existing transportation network to emphasize walking, cycling and transit as increasingly viable and attractive alternatives to the automobile;
- To improve access and circulation, as well as parking amenities that will allow people to easily visit the Markham Road – Mount Joy area;
- To plan for transit improvements to connect to, and enhance, existing transit infrastructure and amenities; and,
- To balance public rights-of-way for multi-modal use, with adequate allocation of space and functional design that ensure the safety of all users.



Figure 27: Increasing Mobility Options



Figure 28: Micro-Mobility Station

Maintaining a Vibrant and Competitive Economy

- To plan for employment opportunities that serve the community and that are accessible by transit and active transportation, including live/work opportunities;
- To plan for appropriate scale of retail and community-serving uses to support an active, locally-serving retail area;
- To maintain employment uses within the Mount Joy Business Park, by enhancing the competitiveness of existing employment lands by providing opportunities for new and innovative business types to grow and flourish; and,
- To provide flexibility in built form and land uses to foster economic growth and versatility in land use policy to support a range of employment uses within mixed-use areas.



Figure 29: Maintaining a Vibrant and Competitive Economy

Adopting Green Infrastructure and Development Standards

- a. To identify best management practices and approaches to stormwater management systems/facilities, floodplain management, water and wastewater systems, and the transportation network to maximize water and energy conservation and climate change resilience at the community level;
- b. To identify best management practices for green buildings to reduce demands on energy, water and waste systems; and,
- c. To incorporate infrastructure for transportation powered by renewable energy (i.e., electric vehicle plug-in stations).



Figure 30: Adopting Green Infrastructure and Development Standards



Figure 31: Wellesley Rekai Centre for Long-Term Care, Toronto



Figure 32: Facilitating Public Input and Long-Range Planning and Implementation

6.0 Demonstration Plan

6.1 Overview

This report presents the Demonstration Plan, and forms the basis for the Policy Guidance and Recommendations to inform the preparation of the MRMJSP. The Demonstration Plan is in keeping with the Vision and Guiding Principles. It has been informed by the findings of the baseline conditions assessment, as well as consultation with City of Markham, stakeholders and the public. It emerged out of an interactive process of review and evaluation, and is premised on a set of land use and built form assumptions that are supported by the transportation and servicing technical work and a set of development yields. It is built on a set of framework elements, inclusive of natural heritage, public realm and open space, street hierarchy, precincts, gateways and placemaking opportunities, land use and built form, and phasing. Finally, it contemplates the expansion of the MRMJSP Area to incorporate the existing surface parking lot, located east of Mount Joy GO Station, on the south side of Bur Oak Avenue, and east of the Stouffville GO Rail Corridor, along with private lands which had recently gone through development approvals, adjacent to Major Mackenzie Drive East.

A previous version of the Demonstration Plan was presented to DSC along with the Interim Report, in December 2020. Since then, changes have been incorporated into the Demonstration Plan, including but not limited to:

- » An expansion of MRMJSP Area as described above;
- » Changes in land use, mainly from mixed use high rise to residential high rise along Markham Road, as well as changes to density and heights in areas that have been revised in line with emerging direction for current development applications;

- » An increase in parkland commensurate with the ratio of parkland to residents and jobs;
- » Transitions in built form, height and density and height peaks around the existing and potential station areas; and
- » The introduction of an additional school site based on revised population projections and based on discussions with school boards.

The key structuring elements of the Demonstration Plan include, but are not limited to:

- » Transformation of the Markham Road Corridor into a pedestrian-oriented boulevard and mixed-use main street destination;
- » Addressing overall connectivity between the MRMJSP Area and neighbouring communities;
- » Expansion of the existing collector road network through the extension of Anderson Avenue and Edward Jeffreys Avenue, and the introduction of additional Minor Collector Streets and local roads;
- » Prioritization of at-grade retail frontages along the length of Markham Road, between Castlemore Avenue to the north and 16th Avenue to the south;
- » Establishment of active at-grade frontages along the length of Markham Road, Castlemore Avenue, Bur Oak Avenue, and Anderson Avenue;
- » Establishment of three distinct precincts inclusive of the North, Central and South Precincts;
- » Establishment of a Mixed Use Node comprising of the Mount Joy GO Station lands, within the Central Precinct;

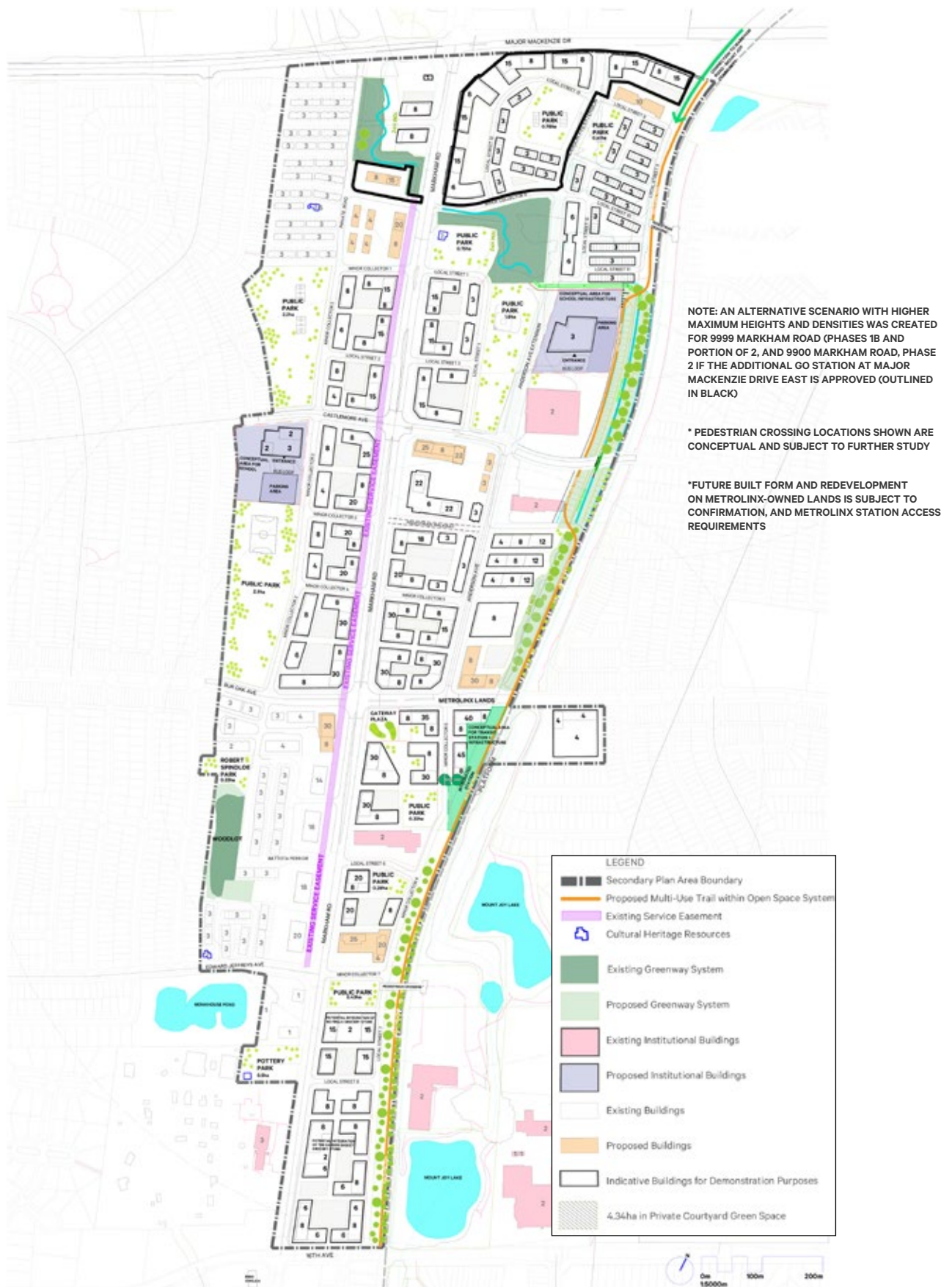


Figure 33: Demonstration Plan

- » Transition in height and density to Markham Village south of 16th Avenue;
- » Incorporation of a Mixed Use Employment Hub within the Central Precinct, overlapping with the GO Station Mixed Use Node overlay;
- » Creation of an integrated network of parks and open spaces;
- » Restoration and enhancement of the 'Greenway' System, and re-alignment of Mount Joy Creek;
- » Clustering of community services, infrastructure and facilities;
- » Clustering and mixing of commercial, employment and residential uses;
- » Establishment of an active transportation network, inclusive of protected cycling facilities, multi-use trail, Green Streets and Pedestrian Connections, and pedestrian crossings;
- » Connection to a GO Rail Station subject to further study at Major Mackenzie Drive East; and,
- » Creation of a retail priority area in the south precinct on the east side of Markham Road north of 16th Avenue.

Note that any changes or refinements to the densities or land uses contemplated in the Demonstration Plan may necessitate a review of the transportation and servicing technical work.

6.2 Population and Employment

6.2.1 Land Use and Built Form Assumptions and Standards

The Demonstration Plan is informed by a set of land use and built form assumptions and standards, governing building and block dimensions, tower floor plate dimensions, and tower separation distances. Specifically, the Demonstration Plan incorporates maximum building dimensions of 22 metres (depth) by 60 metres (frontage), maximum tower floor plate dimensions of 800 square metres, minimum tower separation distances of 30 metres, and maximum block dimensions of 80 metres (depth) by 100 metres (length). Additional information about the land use designations is provided within **Section 6.4.5**

6.2.2 Development Yields

The Demonstration Plan incorporates an estimate of the people and jobs resulting from the full build-out of the MRMJSP Area. In order to calculate this estimate, a set of assumptions was used, consistent with those utilized for the purposes of preparing the City of Markham Development Charges Study (2018), as shown in **Table 5**.

Based on these assumptions, the Demonstration Plan is anticipated to achieve a minimum targeted buildout of ~33,000 residents and ~6,000 jobs. A breakdown of the mix and number of residential units, and employment by type is provided in **Tables 6** and **7**.

These yields have served as inputs into the technical modelling and analysis, which is described in the following section.

Population Assumptions

- Population growth assumptions were estimated by applying an average of:
- » 3.84 people per single and semi-detached unit;
 - » 2.94 people per townhouse or multiplex unit; and,
 - » 1.69 people per small apartment unit (less than 65 square meters); and
 - » 2.00 people per apartment unit. (equal to or greater than 65 square meters).

Employment Assumptions

- Employment growth assumptions were estimated by applying an average of:
- » **Retail** - 40.0m² per employee;
 - » **Mixed-Use Retail** - 40.0m² per employee (up to a maximum of 60,000–75,000m² of total floor space);
 - » **Institutional** - 66.7m² per employee;
 - » **Industrial Employment Land** - 80.0m² per employee; and,
 - » **Office** - 20.0 m² per employee.

Table 5: Population and Employment Assumptions

Land Use	Residential Units	GFA (sq.m.)	Population Yields
Mixed Use High Rise	5,322	468,366	10,643
Mixed Use High Rise (TOD)	1,873	168,593	3,747
Mixed Use Mid Rise	691	62,228	1,383
Residential High Rise	1,725	155,249	3,450
Residential Mid Rise	3,615	325,361	10,628
Mixed Use Employment Priority	197	17,751	394
Existing Units	1087	NA	2,548
Total	14,510	1,197,548	32,793

Table 6: Population Yields by Residential Units

Employment by Type	GFA(sq.m.)	Job Yields
Mixed-Used Retail	119,627	2,991
Office	49,558	2,478
Community/Institutional	50,407	377
Industrial	17,751	222
Total	237,343	6,608

Table 7: Job Yields by Employment Type

6.3 Technical Modelling and Analysis

6.3.1 Transportation Analysis and Recommendations

As a follow up to HDR's report of the existing transportation conditions within Study Area, HDR also prepared an Analysis and Recommendations Report, to inform the preparation of the MRMJSP from a transportation perspective. The work was undertaken with specific consideration given to the demonstration plan, development yields, and other considerations including the GO Rail Station subject to further study at Major Mackenzie Drive East and the potential Markham Road cross-section.

6.3.1.1 Future Transportation Scenario Analysis

Based on the yields anticipated in the demonstration plan consisting of ~33,000 people and over 6,000 jobs and a fine-grained grid street network, a detailed analysis was conducted to identify critical infrastructure and service requirements including the street network, intersection controls, lane configurations, and transit services.

Several scenarios were tested including low and high non-auto mode shares, two and four-lanes on Markham Road, and with and without the additional GO station at Major Mackenzie Drive East. The analysis found firstly that achieving a significant shift away from existing low non-auto mode shares is critical to future mobility of the Study Area. Prioritizing walking, cycling and transit access are critical outcomes of the land use and transportation plan. Secondly, a two-lane Markham Road is operationally feasible and an important factor in achieving the high non-auto mode share target. Finally, the additional GO Rail Station subject to additional Study at Major Mackenzie Drive East will assist in reducing traffic congestion surrounding the Mount Joy GO Station.

6.3.1.2 Transportation Recommendations

Based on the findings of the detailed transportation analysis, a set of transportation recommendations were prepared to inform the MRMJSP.

Road Classification and Street Right-of-Way Widths

As per the City of Markham Official Plan, one of the key goals in street design is to “create roadway and associated right-of-way designs that better balance mobility needs between modes, increase safety for all users and result in streets that contribute to the vibrancy and attractiveness of the urban communities they serve.

Incorporating the traffic, active transportation and transit recommendations, street cross-section guidance for major collector, minor collector and local roads are identified.

Key recommendations include:

- » Creating roadway and associated right-of-way designs that better balance mobility needs between modes, increase safety for all users and result in streets that contribute to the vibrancy and attractiveness of the MRMJSP Area;
- » Transforming Markham Road into a place for people, rather than a high capacity arterial for automobiles similar to Main Street Markham, south of 16th Avenue by separating vehicular through-traffic from local traffic, providing dedicated space for pedestrians and cyclists, and modifying the existing cross-section from four vehicle thru-traffic lanes to two;
- » Implementing a 26 metre right-of-way on Bur Oak Avenue, with protected cycling lanes subject to further study to understand impacts beyond the MRMJSP Area;

- » Implementing 23 metre right-of-way widths for Minor Collector Roads including Castlemore Avenue, Edward Jeffreys Avenue, and new roads proposed in the Demonstration Plan, which incorporate two traffic lanes in each direction, a 2.5 metre parking lane on one side, and separated cycling facilities or a multi-use pathway on both sides of the street; and,
- » Implementing 18.5 metre right-of-way widths on Local Roads, with sidewalks on both sides of the street.

Intersection Lane Configurations and Controls

A detailed analysis of intersection operations was conducted using Synchro software to identify lane configuration recommendations. Signal warrant analysis was conducted as per Ontario Traffic Manual Book 12: Traffic Signals (OTM Book 12), using the estimated future peak hour traffic volumes to inform intersection controls.

Key recommendations include:

- » Providing one through lane northbound and southbound on Markham Road, between Major Mackenzie Drive East and 16th Avenue, with dedicated left-turns and shared through-right turn movements with one exception:
 - » At the intersection of 16th Avenue and Markham Road consider dedicated northbound and southbound right-turn lanes;
- » Considering dedicated northbound and southbound right-turn lanes at the intersection of 16th Avenue and Markham Road;
- » Providing right-in right-out access at the new north-south road east of Markham Road and 16th Avenue; and,
- » Providing nine new signalized intersections throughout the MRMJSP Area, in addition to the six signalized intersections that currently exist.

Transit Network

To understand transit service requirements for the Study Area, transit trips generated by the MRMJSP Area for the high non-auto mode share scenario were distributed to each transit route proportionally based on the total boarding and alighting of stops within the MRMJSP Area, including YRT, TTC and GO train services which currently serve the study area.

Key recommendations include:

- » Introducing 15 to 20 minute service on Major Mackenzie Drive East (east of Markham Road), Markham Road, Bur Oak Avenue and 16th Avenue;
- » Introducing 10 minute rapid transit service on Major Mackenzie East (west of Markham Road);
- » Consolidating the Bur Oak Express with Route 18;
- » Modifying Route 41 (Markham Local) and Route 301 (Markham Express) to on-demand service;
- » Additional coordination with York Region Transit, to discuss future transit plans to support growth in the MRMJSP Area; and,
- » Additional coordination with Metrolinx, to identify any potential issues due to the projected growth of the MRMJSP Area and other intensification areas along the Stouffville GO corridor.

Major Mackenzie GO Station

As noted, the Major Mackenzie GO Station would benefit the development of the MRMJSP Area by providing a secondary major transit hub at the northern boundary and relieve park and ride traffic at the Mount Joy GO Station.

Key recommendations include:

- » Following the completion of the MRMJSP, City staff should engage in further discussions with Metrolinx to undertake ridership forecasting analysis and ultimately an Initial Business Case (IBC) analysis. A positive outcome in the IBC will then be required to advance the planning for the GO Rail Station subject to further study at Major Mackenzie Drive East; and,
- » Seeking out partnership(s) with private landowners as the proponent driving either or both of the ridership forecasts and the IBC could be the City of Markham or a private entity which would be required to fund the Metrolinx studies noted.

Active Transportation

The recommended fine-grained grid street network provides greater connectivity for active transportation. Accommodating high quality pedestrian and cycling facilities requires right-of-way protection based on street functional classification. Key opportunities to address major barriers are also identified.

Key recommendations include:

- » Providing sidewalks on both sides of all public roadways, including major collector roads, minor collector roads and local roads;
- » Providing protected, separated cycling facilities, where feasible, designed for cyclists of all ages and abilities; and,

- » Providing two new active transportation connections across the railway, to improve connectivity.

EcoMobility Hubs

EcoMobility Hubs are multi-modal one-stop hubs to facilitate smart and easy access to mobility services such as car sharing, ride sharing and bike sharing. These hubs may vary in scale from MTSA's to smaller-scale community-based hubs. Depending on the scale, the hub may include bus stops, dedicated car share parking spaces with charging stations, parking lay-bys for ride sharing, bike share stations, comfortable and safe waiting areas with displays for real-time data for all modes, benches, open space, free Wi-Fi, wayfinding information, and retail support.

Key recommendations include:

- » Providing transit station EcoMobility Hubs at Mount Joy GO Station and the GO Rail Station subject to further study at Major Mackenzie Drive East;
- » Providing bike share EcoMobility Hubs at key intersections throughout, and adjacent to, the MRMJSP Area; and,
- » The hubs may be located within existing unused street right-of-way, within a municipally owned park or open space, or integrated on publicly accessible private lands within a development, subject to landowner agreements.

Road-Rail Grade Separations

With Metrolinx's plans for 15-minute, all-day two-way GO train service, grade separations of the existing level crossings of Castlemore Avenue, Bur Oak Avenue and 16th Avenue will greatly reduce the risk of collisions between trains and roadway users. Transport Canada guidance recommends that a grade separation is considered based upon the total cross-product of the number of trains and roadway users anticipated in the future, called an exposure index.

Key recommendations include:

- » Recognizing the benefits of grade separations, protect for Metrolinx's required 30 metre setback of driveways or roadways from the rail corridor on Castlemore Avenue, Bur Oak Avenue and 16th Avenue; and
- » Engaging Metrolinx and York Region to discuss further study required to initiate grade separation projects recognizing the increased exposure index at the existing level crossings due to the intensification of the MRMJSP Area.

6.3.1.3 Implementation Considerations

To support the implementation of the MRMJSP land use, infrastructure and services, a few implementation considerations were identified.

A Phased Approach to Lane Reductions on Markham Road

As development occurs and as the parallel collector system is created, reducing traffic lanes on Markham Road will become viable because there are more opportunities to access local developments through network disaggregation. It is noted that only one

southbound through-lane exists today at 16th Avenue, and similarly only one northbound through-lane exists today at Major Mackenzie Drive.

In addition to development and the addition of the fine-grid road network, improvements to transit service are equally critical to providing more mobility options for new and existing residents and visitors to the area. Metrolinx's planned improvements to the Stouffville GO line for frequent (15 minute) all-day two-way GO service up to Mount Joy GO station are another important trigger.

Finally, it is noted that the existing section of Markham Road was rebuilt only eight years ago, and its lifecycle will likely last another 30 years. As such, the recommended solutions in this report focus on minimizing significant additional construction overall by maintaining existing curbs, and repurposing curb lanes using temporary solutions such as planter boxes.

Providing More Mobility Options on Day-One

Having mobility options beyond private automobile ownership in place on day-one is an important consideration to achieve the assumed non-auto mode shares which form the basis of this study. We recommend undertaking immediate pilot projects, particularly while public health restrictions remain in place to test community acceptance of reallocating road space towards bicycle infrastructure, particularly on Bur Oak Avenue in addition to Markham Road.

Introducing an On-Demand Micro-Transit Shuttle for Mount Joy GO Station

Many short distance trips drive to Mount Joy GO Station originating in the surrounding neighbourhoods may switch to transit if an accessible and convenient option is provided. An on-demand transit shuttle could effectively replace some park and ride trips by providing a convenient service particularly in areas where conventional transit service is not viable, such as the low density residential areas east and west of Mount Joy GO station. The recommended EcoMobility Hubs provide an additional opportunity to consolidate pick-up drop-off locations at central locations within neighbourhoods, while also providing bike share access as another option.

Aligning Transportation Infrastructure Improvements with Development

The implementation of the infrastructure elements of the transportation network should be aligned with development. An implementation map which identifies key connections such as the collector road network adjacent to a development block provide direction to private land owners to deliver critical infrastructure pieces as part of the development process.

For more information see the Transportation Report prepared by HDR Inc.

6.3.2 Municipal Servicing Analysis and Recommendations

Building on the municipal servicing analysis completed in earlier phases of the Study, Counterpoint Engineering prepared a Municipal Servicing Report, dated September 2023, that reviewed the emerging demonstration plan, incorporated the development yields in the assessment of the existing servicing systems, and discussed other

considerations including the GO Rail Station subject to further study at Major Mackenzie Drive East and the preferred alignment for Mount Joy Creek. The report identified recommended improvements to municipal watermain, sanitary and stormwater infrastructure to accommodate anticipated growth within the MRMJSP Area. Please see the Municipal Servicing Report prepared by Counterpoint Engineering for more information.

It is noted that the September 2023 Municipal Servicing Report is to be read in tandem with this Final Study report. Some conclusions and recommendations pertaining to servicing, that are included within this report, may be superseded by those included within the Municipal Servicing Report.

6.3.2.1 Watermains

The watermain analysis incorporated a review of the City's InfoWater model for the MRMJSP Area. The existing model was stripped and re-built utilizing planning data provided by the City of Markham, and updated supply information provided by York Region. New diurnal curves were created such that the multipliers during minimum hour maximum day and peak hour matched the City's criteria. For the purposes of the study, the updated existing conditions model should be considered as the actual existing conditions plus all approved development applications.

To establish the analysis of the Demonstration Plan Scenario 1, the City of Markham Engineering Design Criteria were applied to an updated InfoWater model, which was analyzed under the proposed conditions and under three redundancy scenarios as confirmed by the City of Markham.

6.3.2.2 Sanitary System

A review of the existing sanitary system was completed through the development of a system drainage area plan, design sheets and assessment through the City's InfoWorks model. The drainage area plans, and design sheets were prepared based on as-recorded drawings, GIS information, and development application information as provided by the City of Markham. For the purpose of the study, the updated existing conditions design sheets, area plans, and InfoWorks model should be considered as the actual existing conditions plus all approved development conditions.

In order to establish projected sanitary flows, the City of Markham Engineering Design Criteria were applied to the original proposed Demonstration Plan scenarios. The updated existing conditions drainage plans, design sheets and InfoWorks models were used in combination to assess potential constraints within the overall system as a result of the proposed Demonstration Plan Scenario 1 and to identify recommended strategies for servicing the MRMJSP Area. The existing conditions model has not been updated to assess the impacts of the 2023 Demonstration Plans. Projected populations from the current Scenario 1 Demonstration Plan were utilized for the post development analysis. The City of Markham Design Criteria and design sheets were utilized to size the proposed new infrastructure, while the InfoWorks model was used to assess the proposed, existing and downstream trunk capacity based on City of Markham criteria. The methodology uses 11 new InfoWorks model profiles to cover the variation of peak factors along the proposed Markham Road Trunk sewer. The calibrated I&I values have been accepted for existing condition, and an infiltration allowance of 0.26 L/s/ha has been applied for new developments.

In addition to the City of Markham criteria, York Region was consulted regarding the opportunity to connect to the existing deep YDSS along 16th Avenue, and the resulting recommendations incorporate their development requirements.

6.3.2.3 Stormwater Management System

A review of the existing stormwater management systems for the MRMJSP Area was completed through the development of an overall system model, drainage area plans, and design sheets. The drainage area plans and design sheets were prepared based on as-recorded drawings, GIS information, and development application information as provided by the City of Markham. To establish the potential impacts of the Demonstration Plan, design criteria were established through consultation with the City of Markham and TRCA staff. Quantity control criteria was further established through review of existing reports for Pond 93 (Pond 6) and Pond 11 (Mount Joy Pond) as well as modelling of the proposed Demonstration Plan to ensure that there was no net increase in contributing flows based on the original pond designs from the MRMJSP Study Area. The overall pond drainage areas were assessed using the TRCA 6-hour AES model, which the Development Blocks were assessed independently using the City of Markham's 3 hour AES storm.

6.3.2.4 Municipal Servicing Recommendations

Based on the findings of the detailed municipal servicing analysis, a set of municipal servicing recommendations were prepared to inform the MRMJSP.

Watermains

An infrastructure network of 300mm watermains is proposed to service the Mount Joy MRMJSP Area's new public road network and Development Blocks. The proposed infrastructure will provide the Mount Joy MRMJSP Area with both Fire Protection and Domestic water needs. The network will be connected to the existing City of Markham infrastructure, supplied by York Region.

Key recommendations include:

- » Increasing approximately 100 metres of the existing 150 millimetre watermain along Castlemore Avenue, east of the Metrolinx Corridor, to 300 millimetres prior to intensification along Castlemore Avenue;
- » Installing infrastructure as private developments proceed and new right-of-ways are required. As part of the required Functional Servicing Report proponents should be required to evaluate the existing system and proposed watermain addition with each application; and,
- » City of Markham to ensure the planning model is kept up to date as applications proceed and York Region is consulted on the system operations as developments proceed.

Sanitary

As described in **Subsection 3.4.3**, the sanitary infrastructure within the MRMJSP Area conveys wastewater flows through local infrastructure and trunk sewers to the larger YDSS in two locations, 16th Avenue

west of Markham Road, and Highway 7 east of Markham Road. The larger YDSS is operated by York Region. New infrastructure along proposed public roads, existing local sewer replacements, and a combination of both are required to accommodate the full build out of the Mount Joy MRMJSP Area.

Key recommendations include:

- » Installing flow monitoring within the existing West drainage system to confirm design flows. It is estimated that the existing system can accommodate approximately 9,000 additional people, or 3,033 residential units based on design criteria. However, flow monitoring should be installed to determine the appropriate threshold as actual flows may differ from design flows. This may allow for the City to accommodate further growth before needing to invest in the preferred ultimate solution;
- » Completion of an EA to finalize the preferred Sanitary Servicing Option through evaluation of the proposed servicing alternatives based on operational and approved requirements. Both options will result in an overall improvement to the existing level of service for the downstream East drainage boundary. The potential diversion of the existing east drainage boundary to the 16th Avenue YDSS will reduce the contributing flows to the east catchment which is experiencing surcharging in the existing conditions. This reduction does not eliminate the surcharging and it is recommended that the City of Markham study the necessary improvements to the overall eastern drainage boundary;
- » Consideration for the design and construction of the east-west portion of Option 1 along 16th Avenue as an interim intercept for the easting East catchment. It could later be extended, as Option 1, north along Markham Road to facilitate the full build-out or

remain in place and western outlet improvements could be made as outlined in Option 2. This portion is required prior to any intensification within the east catchment;

- » Replacement of existing pipes within the MRMJSP Area where flows exceed 85% of capacity. In many cases a conservative approach to oversizing has been taken in the design to provide an allowance for the potential of increased density over the development horizon of the MRMJSP Area; and,
- » Consideration for future development north of Major Mackenzie Drive East should be considered in the final detailed design of Option 1. It is recommended that any subsequent development processes for these lands be required to model the proposed servicing solutions in order to confirm downstream capacity and/or upgrades required.

Stormwater

As described in **Subsection 3.4.4**, the MRMJSP Area is serviced by two existing Stormwater Management Facilities, as well as Mount Joy Creek. Internal to the site storm sewers convey minor system drainage to one of the two ponds for the majority of the site area, while the remaining areas drain to various portion of Mount Joy Creek uncontrolled. Stormwater management for the site has been evaluated to provide a control of contributing flows to the existing ponds through on-site storage at the development block level consistent with intensification development.

Key recommendations include:

- » Requiring proponents to meet a series of design criteria for Water Quality, Quantity Control, Water Balance, and Erosion Control for all future developments;

- » Undertaking additional analysis of the Mount Joy Creek realignment and floodplain as either a development group for the portion east of Markham Road, to the southern limit of the Olive Branch Community Church, and as independent development applications process for the developments south of the Olive Branch Community Church north of Bur Oak Avenue. This analysis is to have consideration for the current TRCA floodplain mapping and requirements;
- » Ensuring local storm sewers are upgrade, prior to development in key locations, to eliminate existing and future surcharging conditions, and control of 100-year flows from entering Markham Road;
- » Evaluating and maintaining existing ponds, as required, to ensure they continue to operate as per their original design intent;
- » Exploring opportunities to upgrade existing stormwater management facilities, including additional quantity and quality controls;
- » Assess geotechnical aspects regarding: the safety and stability of proposed servicing works; overall grading strategy; stability of SWM ponds, and the channel cross-section as part of the detailed design approvals; and,
- » Explore innovative stormwater management solutions and retrofit opportunities at the Block-level Detailed Design approval stage, in order to improve overall stormwater management functions.

Mount Joy Creek

As described in **Subsection 3.4.4**, Mount Joy Creek traverses the MRMJSP Area from Northwest to Southeast through a variety of open channel and enclosed pipe sections. The Demonstration Plan proposes re-aligning a significant portion of the open channel adjacent the rail corridor with a short-enclosed section traversing from west to east near the north limit of the MRMJSP Area.

Key recommendations include:

- » Ensuring that development applications within the Mount Joy Creek regulated area incorporate a detailed channel and floodplain assessment and approval through consultation with the TRCA and their updated Mount Joy Creek model; and
- » Developers east of Markham Road to the south limit of the Olive Branch Community Centre are anticipated to enter into a Developers Group to facilitate the relocation of the existing Mount Joy Channel to the east limit of the MRMJSP.

Please see the Civil Servicing Report prepared by Counterpoint Engineering for more information.

6.4 Framework Elements

The following section incorporates an overview and description of the six key framework elements that form the basis of the demonstration plan. The framework elements emerged through the assessment of baseline conditions and visioning exercise:

- » Natural Heritage;
- » Public Realm and Open Space;
- » Street Hierarchy and Development Blocks;
- » Precincts, Gateways and Placemaking Opportunities;
- » Land Uses; and,
- » Phasing.

Each subsection includes a summation of key components and statistics, as well as supporting plans, annotations and precedent images.



Figure 34: Scarborough Highland Creek Valley, Toronto

6.4.1 Natural Heritage

The Demonstration Plan incorporates a connected 'Natural Heritage System', based on a recommended alignment to re-configure Mount Joy Creek. The lands designated 'Greenway' will occupy an area of ~5.8 hectares of the MRMJSP Area. The designation will follow the alignment of Mount Joy Creek and its associated valley corridor. In addition to the existing open and daylight channel configuration west of Anderson Avenue and Markham Road, this is envisioned to traverse east of Anderson Avenue, in a piped configuration, before continuing south adjacent to the Stouffville GO Rail Corridor, in an open and daylight channel configuration. Other retained natural heritage features include the existing Hammersely Woodland by Battista Perri Drive.

Refer **Section 6.5.3** for more information on the recommended Mount Joy Creek alignment, and **Section 7.1.2** for policy directions pertaining to Natural Heritage.



Figure 35: Mount Joy Creek, Markham

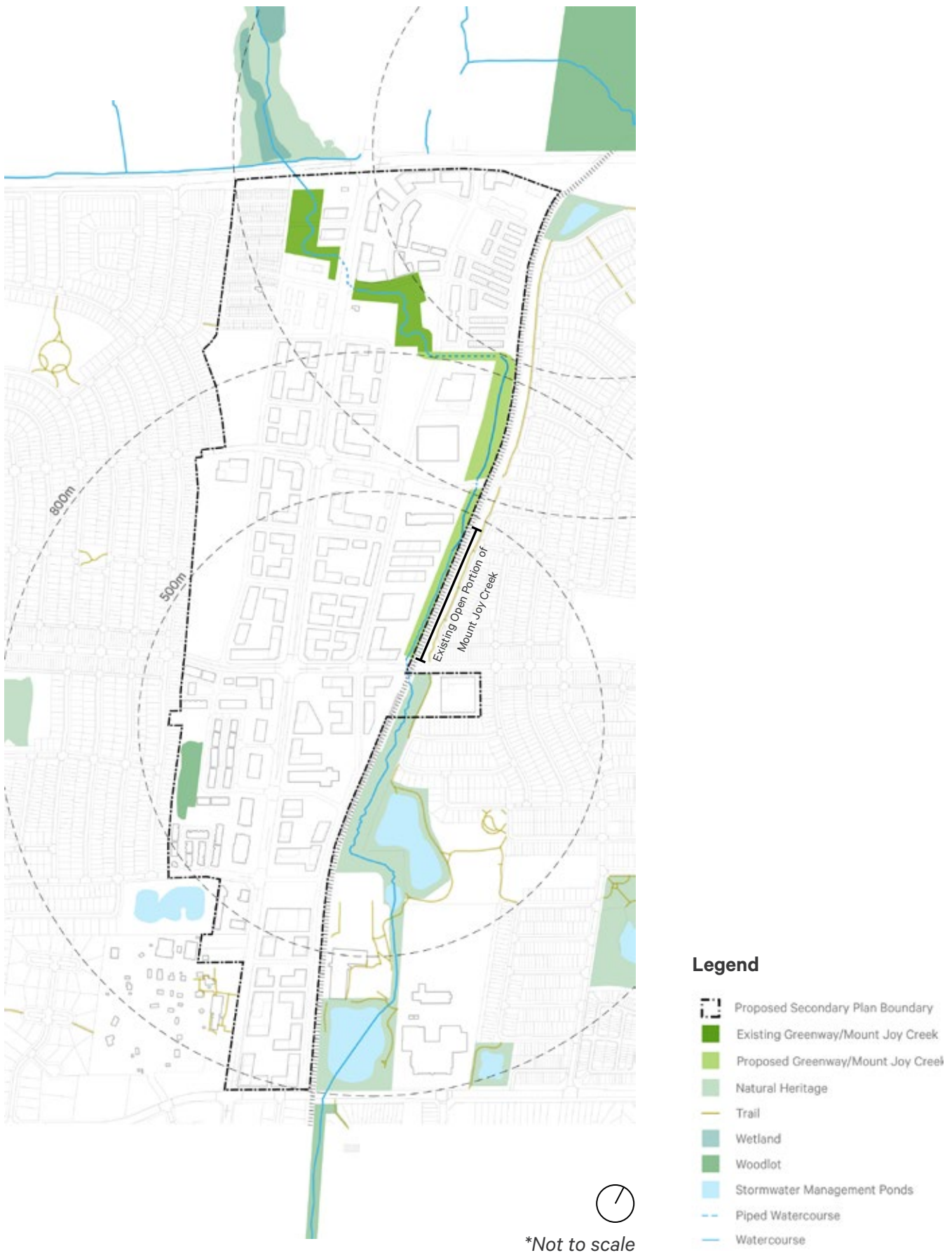


Figure 36: Framework Plan - Natural Heritage

6.4.2 Public Realm and Open Space

The Demonstration Plan incorporates a hierarchy of public realm and open space features. A minimum of nine (9) new public parks will be distributed throughout the MRMJSP Area. Along with Pottery Park (0.5 hectares) and Robert Spindloe Park (0.33), the total parkland within the MRMJSP Area is 10.63 hectares, or 106,300 square metres. Based on the anticipated minimum population of ~33,000 people within the MRMJSP Area, a minimum parkland provision of 0.32 hectares per 1000 people is anticipated. This equates to 3.2 square metres of parkland per person.

Given that the MRMJSP Area is considered an Intensification Area per the City's Parkland Acquisition Study and Parks Plan, the minimum target of parkland per person would be 4 square metres per person, or 0.4 hectares per 1,000 people. This would equate to a total of 12.8 hectares or 128,000 square metres of parkland.

The parks provide for a variety of active and passive recreational uses. A public realm network of complementary spaces (e.g., courtyards, pocket parks, plazas and flexible spaces) will augment the public park system, providing amenity to residents and site visitors alike.

A network of six (6) Green Streets and Pedestrian Connections are proposed along existing and new streets within the MRMJSP Area, including Markham Road, Anderson Avenue / Minor Collector Street 6, Castlemore Avenue, Bur Oak Avenue, Edward Jeffreys Avenue, and Minor Collector Street 2. Green Streets and Pedestrian Connections include generous boulevard widths, inclusive of wide sidewalks and continuous tree planting and landscape zones. In addition to fulfilling the City of Markham's 30% canopy coverage target as

articulated in the City of Markham Trees for Tomorrow Program, the Green Streets and Pedestrian Connections will provide an environmental and connectivity function. They will incorporate generous landscaping, either within the (redesigned, in the case of existing streets) right-of-way and/or in enhanced landscape on private setbacks, with the intent to establish contiguous opportunities to provide shade canopy, stormwater runoff mitigation, filtration and absorption, as well as pedestrian focused linkages between parks, open spaces, natural heritage features, community infrastructure, and key destinations. It is noted that alternative road cross-sections will be developed at a later stage to inform the design of Green Streets.

A network of mid-block connections, combined with two (2) new pedestrian crossings over or under the Stouffville GO Rail Corridor, new protected cycling facilities and a ~2.5 kilometre multi-use trail will provide the fine-grain connectivity and promotion of active transportation critical for the sustained growth of the MRMJSP Area. Refer to **Section 7.1.7** for policy directions pertaining to Public Realm and Open Spaces.



Figure 37: Segre River Active Transportation Bridge, Spain



Figure 38: Fulton Street, San Francisco



Figure 39: Framework Plan - Public Realm and Open Space

6.4.3 Street Hierarchy

The Demonstration Plan incorporates a fine grain network of Arterial, Collector and Local Streets, which provides more direct connections for all modes of travel and more route options for vehicular movement to be re-directed away from Markham Road. This will allow the corridor to transition into a beautiful, vibrant and mixed-use main street. The Demonstration Plan indicates how new streets and a series of connections should be introduced to create logical and direct connections between adjacent blocks - an enhanced public realm framework built to the scale of people which supports new frontage opportunities and facilitates pedestrian site access.

This, combined with the introduction of protected cycling facilities, multi-use trail and mid-block connections, will encourage active transportation for trips within and in close proximity to the MRMJSP Area, and comfortable and convenient access to transit for longer distance trips. In total, the Demonstration Plan contemplates 8 new Collector Streets, 13 new Local Streets, and 11 new signalized intersections (subject to further analysis). Refer to **Section 7.1.7** for policy directions pertaining to Street Hierarchy and Development Blocks.



**Not to scale*

Figure 40: Figure Ground (Existing)



**Not to scale*

Figure 41: Figure Ground (Potential)

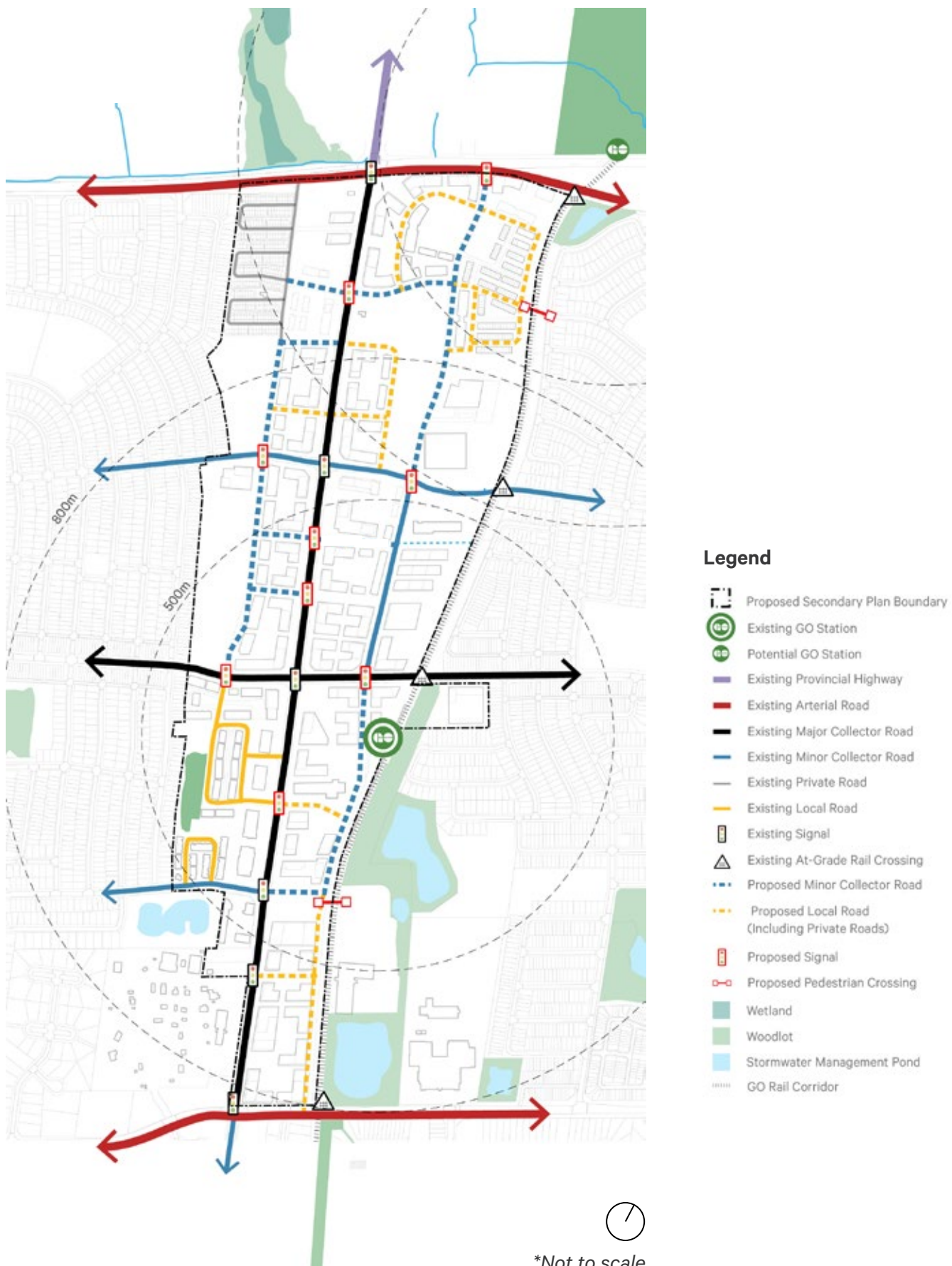


Figure 42: Framework Plan - Street Hierarchy

6.4.4 Precincts, Gateways and Placemaking Opportunities

The Demonstration Plan establishes three (3) neighbourhood precincts, which respond to their unique context, built form considerations and land use mix, while maintaining a sense of cohesion and shared identity throughout the MRMJSP Area. Each Precinct incorporates new public parks and open spaces, new streets, as well as segments of the new multi-use trail.

North Precinct

The North Precinct is generally bounded by Major Mackenzie Drive East to the north, the Stouffville GO Rail Corridor to the east, Castlemore Avenue to the south, and the Wismer Commons neighbourhood to the west. It will include a direct connection to the GO Rail Station subject to further study at Major Mackenzie Drive East from the lands immediately south of Major Mackenzie Drive East. As noted earlier, it is recommended that lands located immediately north of Major Mackenzie Drive East, as well as lands spanning the width of the right-of-way, be subject to protection for the potential GO Station and associated infrastructure, and that consideration be given to integrated this infrastructure with future development. The North Precinct also includes the re-aligned and reconfigured 'Greenway' and Mount Joy Creek, a pedestrian crossing, and a new school site with the potential to integrate the school within the base of a larger mixed-use development. The specific siting of the pedestrian crossing will be the subject of further study, and will be determined based on the availability of land on the east side of the rail corridor to establish a bridge footing and landing.

Central Precinct

The Central Precinct is generally bounded by Castlemore Avenue to the north, the Stouffville GO Rail Corridor to the east, Edward Jeffreys Avenue to the south, and the Wismer Commons neighbourhood to the west. The Central Precinct contains the GO Station Mixed Use Node at the Mount Joy GO Station. The Mixed Use Node includes a gateway plaza framed by active podiums, as well as a linear pedestrian mews that leads to a new park and transit plaza, and associated transit infrastructure including a new station that may be integrated into the podium of a mixed-use building. The Central Precinct also includes a Mixed Use Employment Hub, which will incorporate a range of clean and technology-based light industrial, manufacturing and distribution facilities which can co-exist harmoniously alongside commercial, office and residential uses on upper storeys of vertically-integrated mixed-use buildings, as well as in adjacent and separate buildings. The Mixed Use Employment Hub will augment and integrate with adjacent and surrounding mixed use developments along Markham Road and within the GO Station Mixed Use Node.

South Precinct

The South Precinct is generally bounded by Edward Jeffreys Avenue to the north, the Stouffville GO Rail Corridor to the east, 16th Avenue to the south, and the Wismer Commons neighbourhood to the west. It includes a fine-grain retail environment inclusive of community-based retail uses that serve residents inside and outside the MRMJSP Area. A pedestrian crossing with the potential to connect the MRMJSP Area to Mount Joy Community Centre and Park is also proposed. The specific siting of the pedestrian crossing will need to be the subject of a future study.

Gateways and Placemaking Opportunities

The Demonstration Plan incorporates two gateways, which bookend the northern and southern extents of the MRMJSP Area. They represent major points of entry and exit along Markham Road, at Major Mackenzie Drive East and 16th Avenue, respectively, as well as significant opportunities for landmark developments, open space treatments, public art, wayfinding and other placemaking initiatives. They signify transitions between the MRMJSP Area and Rouge National Urban Park and the Greenbelt to the north, as well as the Markham Village to the south.

Finally, The Demonstration Plan identifies other significant placemaking opportunities at key intersections along Castlemore Avenue, Bur Oak Avenue, and Markham Road. Refer to **Section 7.1.4** for policy directions pertaining to Precincts, and **Section 7.1.7** for policy directions pertaining to Gateways and Placemaking Opportunities.

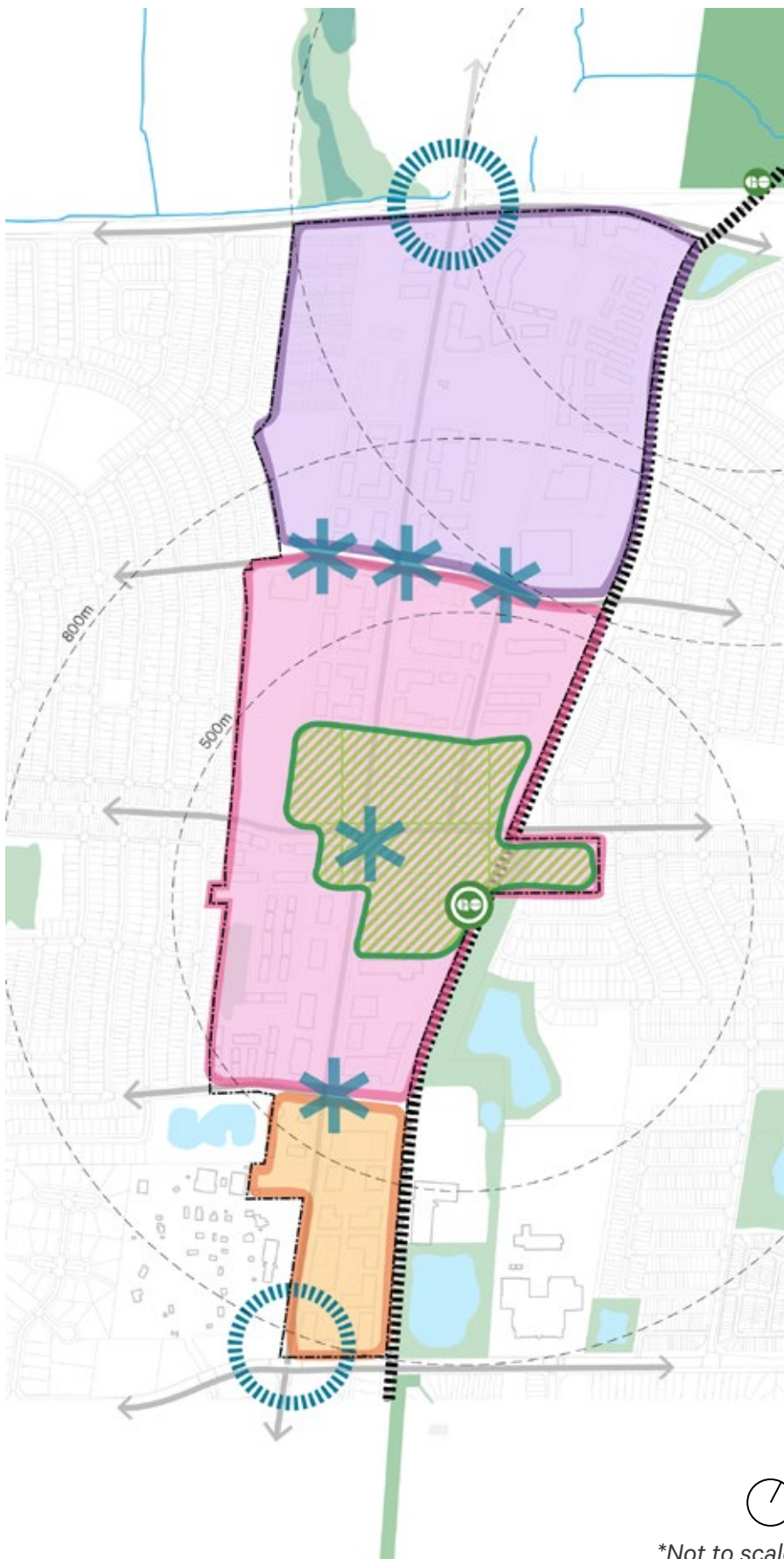


Figure 43: Framework Plan - Precincts, Gateways and Placemaking Opportunities

6.4.5 Land Use and Built Form

The Demonstration Plan anticipates that the MRMJSP Area will develop into a destination comprised of a complete and transit-supportive mixed-use community. Primary height and density peaks will surround the existing Mount Joy GO Station Area and the Station Area associated with the GO Rail Station subject to further study at Major Mackenzie Drive East. These will transition downward to secondary height and density peaks, which span the length of Markham Road, between Major Mackenzie Drive East to the north and Minor Collector Street 7 to the south. Downward transitions will occur between the primary and secondary height and density peaks, to adjacent and surrounding areas of the North, Central and South Precincts, as well as the Greensborough Neighbourhood to the east, Wismer Commons Neighbourhood to the west, and Markham Village to the south.

It is important to note that the building heights surrounding the GO Rail Station subject to further study at Major Mackenzie Drive East will be commensurate with, and dependent upon, the integration of a new GO Station. Refer to **Section 7.1.4** for more information on the range of building heights envisioned adjacent to and surrounding the additional GO Rail Station subject to further study at Major Mackenzie Drive East. Metrolinx's Market Driven Strategy applies to both the existing and potential GO Station Areas at Mount Joy and Major Mackenzie Drive East. Future study will be needed for each area, in accordance with Metrolinx's policy directions.

The Demonstration Plan incorporates a general estimate of density and land area, attributed to each land use designation, resulting from the full build-out of the MRMJSP Area. In order to determine these forecasts, a set of assumptions were used, consistent with those utilized for the purposes of preparing the City of Markham Development Charges Study (2018). Based

on these assumptions, density and land area forecasts include:

- » **'Mixed Use High Rise (TOD)'** – Maximum 7.5 FSI / 37,465 square metres;
- » **'Mixed Use High Rise'** – Maximum 7.0 FSI / 105,063 square metres;
- » **'Mixed Use Mid Rise'** – Maximum 3.0 FSI / 36,876 square metres;
- » **'Residential High Rise'** – Maximum 3.5 FSI / 65,714 square metres;
- » **'Residential Mid Rise'** – Maximum 3.0 FSI / 144, 605 square metres;
- » **'Mixed Use Employment Priority'** – Maximum 3.5 FSI / 12,680 square metres; and,
- » **'Community / Institutional'** – Maximum 1.0 FSI / 67,210 square metres.

These densities are subject to revisions, in parallel with the transportation and municipal servicing modelling and analysis.

* Note, an estimate for density and land area requirements was provided for Community and Institutional Uses, as assumptions attributed with this use are not captured in the City of Markham Development Charges Study (2018).

Refer to **Section 7.1.3** for policy directions pertaining to land use and built form.



Figure 44: Mixed Use Employment Priority

6.4.6 Land Use Designations

Eight main land-use designations are proposed for integration into the MRMJSP, in addition to one overlay. These are as follows:

'Mixed Use High Rise'

Lands designated 'Mixed Use High Rise' are priority locations for development where the greatest levels of intensification are intended to take place within the MRMJSP. This designation applies to lands along both sides of Markham Road between Edward Jeffreys Avenue to Castlemore Avenue. This designation anticipates a maximum of 30-45 storeys of height. The tallest buildings will be located within the Mount Joy GO Station Mixed Use Node, with heights transitioning downward along Markham Road. Additionally, the tallest buildings are anticipated to be located adjacent to the Mount Joy GO Station, and, upon approval, adjacent to the GO Station subject to additional study at Major Mackenzie Drive East. Development within this designation is intended to contribute to attractive, liveable, high density urban environments with a full mix of uses and range of building types, adjacent to existing and planned transit facilities.

'Mixed Use Mid Rise'

Within the MRMJSP Area, lands designated 'Mixed Use Mid Rise' will be located primarily in the south, along Markham Road, between local street 8 and 16th Avenue. The intent of this designation will be to provide a transition in heights down to Markham Village to the south, and to retain neighbourhood commercial uses such as supermarkets, specialty grocery, hardware, clothing and electronics stores. A maximum of 8 storeys in height is anticipated on lands with this designation.

'Residential High Rise'

The 'Residential High Rise' designation applies to certain lands on both sides of Markham Road north of Castlemore Avenue. Maximum heights of 15-20 storeys are anticipated, in order to provide a transition from denser development on lands south of Castlemore Avenue along Markham Road closer to the Mount Joy GO Station.

'Residential Mid Rise'

The 'Residential Mid Rise' designation is intended to accommodate medium density residential development. Lands with this designation are generally located east and west of Markham Road and are characterized primarily by mid-rise residential buildings, with maximum heights 3 to 8 storeys. A range of housing types of envisioned within this designation, as it will provide a further transition towards the low-rise stable communities to the east and west.

'Mixed Use Employment Priority'

Lands designated 'Mixed Use Employment Priority' are located directly north of the Mount Joy GO Station, east of Anderson Avenue between Bur Oak Avenue and Castlemore Avenue. Buildings with maximum heights of 30 storeys are envisioned within this designation. Envisioned uses include a range of light industrial and manufacturing uses, street-related retail and service uses, as well as commercial, office and residential uses on upper-storeys of vertically integrated mixed-use buildings.

'Community / Institutional'

The 'Community/Institutional' designation applies to lands that are intended to create a complete community through the accommodation of community facilities and infrastructure such as schools and places of worship, with a maximum building height of 3 storeys.

'Parks & Open Space'

The 'Parks & Open Space' designation applies to lands that are intended to provide residents with recreational and leisure opportunities at various scales. Maximum heights are not set here as intensification is not anticipated on lands with this designation.

'Greenway System'

The 'Greenway' designation within the MRMJSP Area contains Mount Joy Creek, its valley corridor, and associated buffer lands. Lands with this designation are intended to protect natural heritage and hydrologic features while supporting natural heritage enhancement opportunities, protection of wildlife habitat, passive recreation uses and nature appreciation.

Retail Priority Overlay

The 'Retail Priority' overlay applies to lands designated "Mixed Use Mid Rise", along portions of Markham Road, 16th Avenue, and Minor Collector Road 6, as well as throughout the Mount Joy GO Station Mixed Use Node. Lands with this overlay will prioritize at-grade retail uses, in order to maintain and expand the existing retail and service uses that meet the needs of residents and visitors to the MRMJSP Area.



Figure 45: Framework Plan - Land Use and Built Form

6.4.7 Phasing

The Demonstration Plan anticipates that development within the MRMJSP Area will occur in multiple phases. In particular, it is anticipated that:

- » Recently approved projects and active planning applications will develop in the short term (3 to 5 years) to medium term (5 to 10 years);
- » The Mount Joy GO Station Area, and larger consolidated and underutilized properties, will redevelop over the short term (3 to 5 years) to medium term (5 to 10 years); and,
- » Smaller, fragmented and well-utilized properties or encumbered sites will redevelop and infill over the long term (15 to 25 years).

Refer to **Section 7.4** for policy directions pertaining to development phasing.



Figure 46: Framework Plan - Phasing

6.5 Other Planning and Design Considerations

The following section provides an overview of other planning and design considerations, which informed the preparation of the Demonstration Plan.

Specifically, this section addresses planning and design considerations associated with the existing and potential GO Stations, the redesign of Markham Road, and the realignment and reconfiguration of the 'Greenway' and Mount Joy Creek.

6.5.1 Existing and Potential GO Stations

Based on the findings of the baseline conditions assessment, it has been determined that a second GO Station at Major Mackenzie Drive East is not a requirement to facilitate the redevelopment of the existing Mount Joy GO Station. However, the GO Rail Station subject to further study at Major Mackenzie Drive East would have several benefits to the MRMJSP Area including:

- » The potential to re-divert parking needs from the Mount Joy GO Station to the potential GO Station;
- » Improving access to future electrified and high frequency GO rail services, which will facilitate closer station stop spacing;
- » Accommodating additional commuter-sheds to the west, north and east of the potential station; and,
- » Improving the overall transit service and network connectivity throughout York Region and the Greater Toronto Area through an additional interface between the GO rail and Viva transit services.

For these reasons, it is recommended that protections be put in place to accommodate the GO Rail Station subject to further study at Major Mackenzie Drive East, to the north of Major Mackenzie Drive East. Refer to **Table 8** for more information pertaining to the evaluation process associated with the feasibility of this GO Station.

Through the development of the Demonstration Plan, particular attention was paid to ensuring the establishment of a framework, which better facilitates partnerships between Metrolinx and future development partners to respond to the Province's Market Driven TOCC Strategy. This is necessary in order to realize:

- » densities consistent with achieving transit-supportive development objectives;
- » enhanced public realm features including special paving materials, furnishings, ornamental planting, pedestrian-scale lighting, public art and wayfinding signage; and,
- » multi-modal connectivity in place of the existing expanse of surface parking that dominates the Mount Joy GO Station site today.

Protections should be in place to allow for the location of the potential GO Station platform to occur on the north side of Major Mackenzie Drive East, with connections south to the MRMJSP Area, facilitated by the future realignment and grade separation of Major Mackenzie Drive East. Locating the platform north and/or south of Major Mackenzie Drive East would be made possible through a partnership with private landowners and Metrolinx, as per the Metrolinx December 2018 strategy for public and private collaboration. However, the lands to the north of Major Mackenzie Drive East are currently subject to 'Greenway' and 'Countryside' land use designations. Therefore, consideration for a new GO Station, and associated transit-supportive development, will necessitate a broader analysis of the

needs and implications for urban expansion and further engagement with York Region, Metrolinx, commenting agencies, and stakeholders to determine feasibility from a land economics, market and business perspective.

Through the introduction of transit-supportive development, the existing and potential GO Stations should incorporate transit plazas, generous public boulevards, and a combination of street-based and lay-by passenger pick-up and drop-off (PPUDO) facilities, to minimize the impacts of station-based pedestrian and vehicular traffic. The stations should also incorporate EcoMobility Hubs, which support first and last mile commuting needs and promote transit ridership by providing convenient and dedicated access to parking and charging infrastructure associated with a variety of small-scale mobility options including bicycles, e-bikes, and e-scooters in proximity to higher-order transit

Category	Objective	Criteria	Measure/Metric	Performance
Strategic/ Economic Planning	Connectivity and Ridership Drivers	How many trips will start and end at this station?	600-1,500+ daily riders projected by 2031 which aligns with other new, approved stations.	<input checked="" type="checkbox"/> Positive
		Does the station connect to other higher order transit modes and have potential to improve network and/or corridor service?	Multiple planned transit routes at this location including Major Mackenzie Viva service. Potential future transit hub at edge of urban boundary. Major Mackenzie Viva corridor.	<input checked="" type="checkbox"/> Positive
		Does the station connect to key destinations?	Improves connection to North Markham FUA, northern part of MRMJSP study area, northern part of Greensborough community and other communities along Major Mackenzie Drive.	<input checked="" type="checkbox"/> Positive
	Travel Time Savings	What are the time savings associated with the new station?	Improved access for new development balances out impacts to Stouffville customers.	<input type="checkbox"/> Neutral
	Potential for Surrounding Area Land Value Uplift	How well situated is the station in relationship to future market demand?	Market demand in Markham is strong – the station will uplift land value in the northern part of the MRMJSP area.	<input checked="" type="checkbox"/> Positive
Financial/ Technical	Affordability	What is the cost to construct the station?	Greenfield station should have relatively lower costs, but the following potential issues could increase costs: » Environmental mitigation requirements » Operational solutions » Trackwork depending on platform location	<input type="checkbox"/> Neutral
	Ease of construction	Can the required facilities be constructed in this location?	» Limited site constraints today will allow for staging of construction required.	<input checked="" type="checkbox"/> Positive

Table 8: Potential GO Station Evaluation Matrix

6.5.2 Markham Road

Markham Road is anticipated to transform into a vibrant mixed-use main street. The detailed redesign and redevelopment of Markham Road, between Major Mackenzie Drive East to the north and 16th Avenue to the south, would be subject to a Municipal Class Environmental Assessment and/or a Streetscape Design Study. Implementation would be achieved through development charges or capital investments, although streetscape improvements within the public boulevard could be realized on a site-specific basis, through the phasing of private development.

Markham Road is envisioned to maintain a minimum 36 metre right-of-way width, inclusive of the central roadway and adjacent boulevards, between Major Mackenzie Drive East to the north and Edward Jeffreys Avenue to the south. South of Edward Jeffreys Avenue, the right-of-way width is envisioned to taper, in order to establish a desirable and appropriate transition between the remainder of the MRMJSP Area to the north, and the Markham Village HCD to the south. As confirmed by HDR's Transportation Report it is anticipated that the "main street" transformation of Markham Road will not increase traffic congestion in Markham Village. The transformation of the MRMJSP Area into a pedestrian-oriented community will facilitate the use of active transportation for short trips, and encourage the use of planned and existing transit services for long trips. As such, it is anticipated that the mode shift from current automobile-oriented travel modes could help mitigate any traffic congestion within Markham Village in the future.

By 2031, in the interim condition, Markham Road is anticipated to facilitate High Occupancy Vehicle (HOV) travel along its curb lanes during peak periods,

prioritizing more efficient vehicular movement as development moves forward along the corridor. Subject to the completion of the appropriate Study, a future vision for the boulevard may also include Multi-Use Pathways within the right of way, to be phased in as redevelopment occurs and additional right of way allowances become available.

In 2051, in its final condition, Markham Road is envisioned to incorporate the following boulevard elements, subject to further study and design through a Municipal Class Environmental Assessment and/or Streetscape Design Study:

- » Protected cycling facilities;
- » Sidewalks; and,
- » Landscaping and street furnishings.

Within the roadway, it is recommended that Markham Road incorporate the following roadway elements, subject to further study and design through a Municipal Class Environmental Assessment and/or Streetscape Design Study:

- » A central median and turning lane;
- » A maximum of 2 central travel lanes (1 in each direction, subject to further analysis); and,
- » A maximum of 2 curbside vehicle lanes (1 in each direction), allocated to bus queue jump lanes at intersections and on-street parking in-between).

it is anticipated that the curb lanes along Markham Road will include on-street parking and bus queue jump lanes. 3.0-metre wide active transportation corridors on either side of the street are proposed, intended to facilitate multi-use pathways which may be re-built to facilitate sidewalks with separate cycle tracks, to be confirmed

through future studies. Buffered spaces for landscaping will also be included.

Outside of the municipal right-of-way, it is recommended that developments fronting onto either side of Markham Road incorporate generous setbacks (maximum 5.0 metres) to accommodate flexibility for spill-over uses, while balancing the need to frame the street proportionately with built form to create a desirable and appropriate sense of scale and enclosure. Where applicable, properties fronting onto the west side of Markham Road should utilize the existing easement (maximum 10 metres) for these purposes.

Figures 47 and **48** on the following pages contain conceptual cross-sections of Markham Road as it exists today and how it could be transformed through the changes discussed above.

The cost of transforming and maintaining Markham Road, and considerations for the interim and ultimate design, will be addressed through the noted subsequent Environmental Assessment and/or Streetscape Design process.

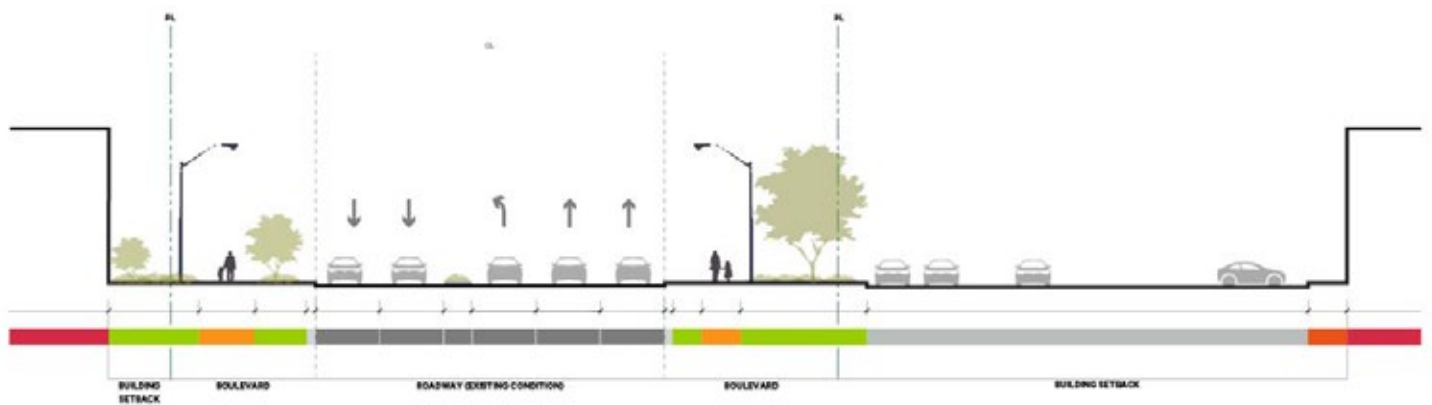


Figure 47: Existing Markham Road Cross-Section Typical Right-of-Way

(Subject to Revision)

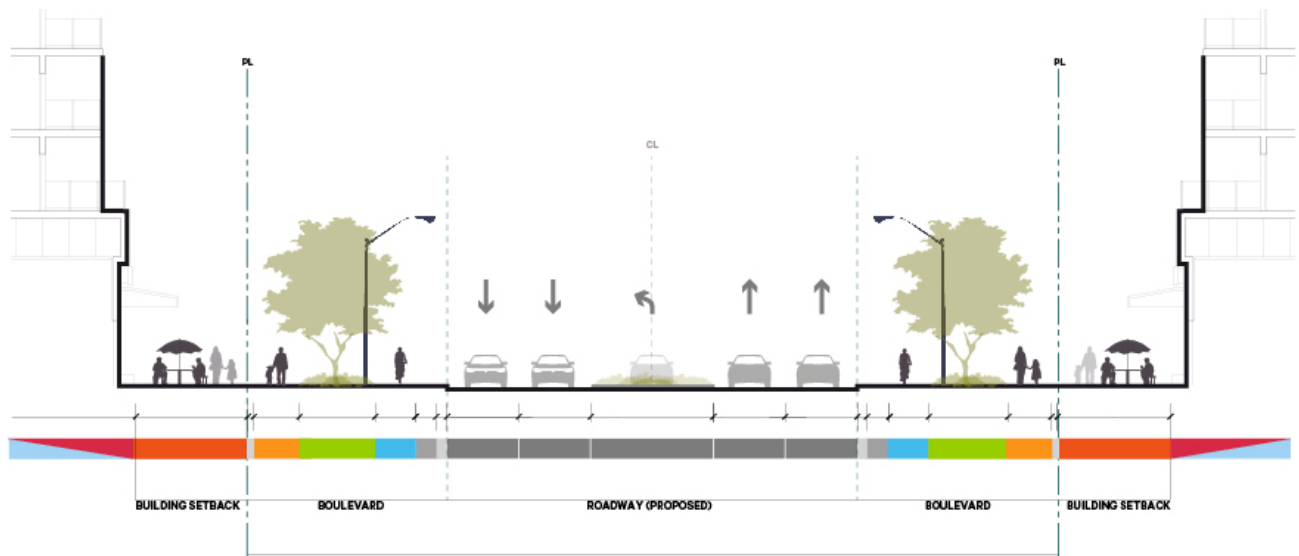


Figure 48: Potential Markham Road Cross-Section Typical Right-of-Way

(Subject to Revision)

6.5.3 Mount Joy Creek Realignment

In order to address existing flooding concerns in the North Precinct, and to investigate options for bolstering the 'Greenway' System, an assessment was undertaken of five options to reconfigure Mount Joy Creek. An evaluation matrix was developed in partnership with the City of Markham and the TRCA, which included four main considerations: Technical, Natural Environment, Social Environment, and Financial. The five options are described as follows:

- » **Option 1** – Enclosed System along the Proposed and Existing Anderson Avenue Alignment;
- » **Option 2** – Open Channel Adjacent the Proposed and Existing Anderson Avenue Alignment;
- » **Option 3** – Open Channel Along the Westernmost Limit of the Rail Corridor;
- » **Option 4** – Piped System Adjacent the Rail Corridor; and,
- » **Option 5** – Hybrid Enclosed / Open System Adjacent the Rail Corridor.

Overall, Option 5 was determined to perform the best across all categories, and is therefore recommended for inclusion in the Demonstration Plan. While all options are designed to convey the Regional Flood event, Option 5 is constructible, conveys the Regional Flood event, produces no net increase in the enclosed section of the channel, and benefits from existing grading conditions along the Rail ROW, which would allow for a deeper channel design when compared to the channel option along Anderson Avenue. This option will generally improve and/or restore terrestrial, fish, and riparian habitats in relation to the piped options, however a break in connectivity is present along the east-west piped portion. Overall this option still provides a net ecological gain as compared to the existing condition. From an urban design and placemaking perspective,

the opportunity exists to co-locate a multi-use trail to the west of the channel, as the path and the channel would be within the 30 metre rail ROW, and would not be developable in any case. It is noted that impacts on the existing land uses, and an acquisition strategy for the channel lands is yet to be determined. From cost perspective, this option presents moderate land acquisition impacts in relation to the piped options, and maintenance costs are expected to be lower overall in relation to the piped options.



Figure 49: Option 5: Hybrid Enclosed / Open System Adjacent the Rail Corridor



The alternate options are depicted in **Figures 50** through **53** below. Cumulatively these options did not rate as well as the preferred alignment, and each had at least one subcategory which demonstrated a prohibitive element in relation to the preferred option. Refer to **Table 9** for more information pertaining to the evaluation process associated with the Mount Joy Creek Realignment.



Figure 50: Option 1: Enclosed System along the Proposed and Existing Anderson Avenue Alignment.






Figure 51: Option 2: Open Channel Adjacent the Proposed and Existing Anderson Avenue Alignment

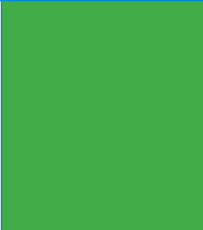




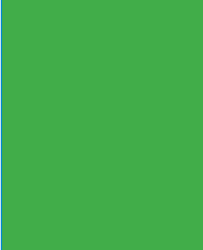




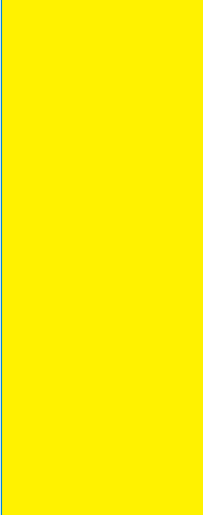






Figure 52: Option 3: Open Channel Along the Proposed and Existing Anderson Avenue Alignment



Figure 53: Option 4: Piped System Adjacent the Proposed and Existing Anderson Avenue Alignment

	Strongly Agree/improves existing condition
	Neutral/minimum or no improvement
	Strongly disagree/does not improve existing condition

Criteria (- Key Subcriteria)	Indicators	Option-1	Option-2	Option-3	Option-4	Option-5	Comments
		Enclosed system along the proposed and existing Anderson Avenue alignment	Open channel adjacent the proposed and existing Anderson Avenue alignment	Open channel along the west limit of the Rail Corridor	Piped Section Along Rail Corridor	Hybrid Enclosed / Open system adjacent the Rail Corridor	
Technical							
» Convey Regional flow & eliminate existing flooding	Can the option be designed to fully convey the Regional flow?						All options have been designed to convey the Regional event either inside the piped system or open channel
» Option can be designed	What are the challenges in terms of designing the option (i.e., grading channel width, embankment along the GO Rail, etc.)?						All options can be designed and will require City of Markham, TRCA, and DFO approvals.
» Option can be constructed	What are the challenges in terms of constructing the option (utilities, access/easement, disruption to traffic, etc.)?						Options along/ adjacent Anderson Avenue are more restricted for implementation based on current development uses and building locations. The rail corridor provides a less encumbered route and also provides less future servicing interference.

Criteria (- Key Subcriteria)	Indicators	Option-1	Option-2	Option-3	Option-4	Option-5	Comments
		Enclosed system along the proposed and existing Anderson Avenue alignment	Open channel adjacent the proposed and existing Anderson Avenue alignment	Open channel along the west limit of the Rail Corridor	Piped Section Along Rail Corridor	Hybrid Enclosed / Open system adjacent the Rail Corridor	
Natural Environmental							
» Impact on Wildlife Habitat	Does the option maintain (i.e., does not change), improve, or degrade significant terrestrial and aquatic wildlife habitat (e.g., impacts such encroachment, reduction of area, fragmentation/ connectivity of features, and on Species at Risk)?	No significant change, system remains enclosed.	Terrestrial and riparian habitat will be restored in relation to piped option	Terrestrial and riparian habitat will be restored in relation to piped option	No significant change, system remains enclosed.	Terrestrial and riparian habitat will be restored in relation to piped option	
» Impact on Fish Habitat	Does the option maintain (i.e., does not change), improve, or degrade significant fish habitat (e.g., impacts such encroachment, reduction of area, fragmentation/ connectivity of features, and on Species at Risk)?	No significant change, system remains enclosed.	Some fish habitat will be restored. Quality of habitat will be limited due to existing poor connectivity upstream and downstream of study area.	Some fish habitat will be restored. Quality of habitat will be limited due to existing poor connectivity upstream and downstream of study area.	No significant change, system remains enclosed.	Some fish habitat will be restored. Quality of habitat will be limited due to existing poor connectivity upstream and downstream of study area.	

Criteria (- Key Subcriteria)	Indicators	Option-1	Option-2	Option-3	Option-4	Option-5	Comments
		Enclosed system along the proposed and existing Anderson Avenue alignment	Open channel adjacent the proposed and existing Anderson Avenue alignment	Open channel along the west limit of the Rail Corridor	Piped Section Along Rail Corridor	Hybrid Enclosed / Open system adjacent the Rail Corridor	
» Impact on overall terrestrial system	Does the option maintain, improve, or degrade the terrestrial system? Does the option result in missed opportunities to develop ecological connectivity?	No significant change, system remains enclosed. Ecological connectivity not enhanced.	Terrestrial system and connectivity significantly improved	Terrestrial system and connectivity significantly improved	No significant change, system remains enclosed. Ecological connectivity not enhanced.	Terrestrial system and connectivity improved but 190m enclosed section at top of study area would be a break in connectivity	
» Impact on Surface Water / Ground Water Quantity and Quality	What is the degree of interference with water quality, thermal regime or baseflow caused by the option?	No significant change, system remains enclosed.	Water quality will be improved through filtration of surface water through vegetation and soils of watercourse. Understanding thermal impacts would require in depth study.	Water quality will be improved through filtration of surface water through vegetation and soils of watercourse. Understanding thermal impacts would require in depth study.	No significant change, system remains enclosed.	Water quality will be improved through filtration of surface water through vegetation and soils of watercourse. Understanding thermal impacts would require in depth study.	
Social Environment							
» Create resilient communities and infrastructure with consideration given to climate change	Does the option incorporate infrastructure that provides resiliency from the effects of climate change?	Provides less flexibility, greater cost in adjustments.	Provides greater flexibility, less cost in adjustments. Natural environment, wetlands, vegetation mitigate climate change, and support erosion control.	Provides greater flexibility, less cost in adjustments. Natural environment, wetlands, vegetation mitigate climate change, and support erosion control.	Provides less flexibility, greater cost in adjustments.	Provides greater flexibility, less cost in adjustments. Natural environment, wetlands, vegetation mitigate climate change, and support erosion control.	Piped infrastructure provides less flexibility, greater cost in adjustments. Natural environment, wetlands, vegetation mitigate climate change, and support erosion control.

Criteria (- Key Subcriteria)	Indicators	Option-1	Option-2	Option-3	Option-4	Option-5	Comments
		Enclosed system along the proposed and existing Anderson Avenue alignment	Open channel adjacent the proposed and existing Anderson Avenue alignment	Open channel along the west limit of the Rail Corridor	Piped Section Along Rail Corridor	Hybrid Enclosed / Open system adjacent the Rail Corridor	
» Impact on Land Use	Does the option impact the land use objective for the local corridor to become a complete community that integrates a range of uses (e.g., housing, employment, retail, etc.) at transit supportive densities?	<ul style="list-style-type: none"> » Optimizes the availability of developable land. » Removes flood restrictions from adjacent properties (buildings and surface parking). 	<ul style="list-style-type: none"> » Reduces the availability of developable land. » Impacts the viability of existing adjacent uses (buildings and surface parking). 	<ul style="list-style-type: none"> » Reduces the availability of developable land. » Impacts the viability of existing adjacent uses (surface parking). 	<ul style="list-style-type: none"> » Optimizes the availability of developable land. » Removes flood restrictions from adjacent properties. » Impacts the viability of existing adjacent uses (surface parking). 	<ul style="list-style-type: none"> » Reduces the availability of developable land. » Impacts the viability of existing adjacent uses (surface parking). 	All options remove flood restrictions from adjacent sites due to infrastructure sizing feasibility. Impacts on existing uses are currently unknown as land acquisition strategy is to be determined (ie conveyance vs. expropriation). There are existing uses and buildings in vicinity of proposed channel options which may be impacted, in relation to piped options.
» Impact on community active transportation connectivity	Does the option improve opportunities for active transportation in the community?	Need to provide safe pedestrian and cycling paths along Anderson Avenue	» Bridge is feasible over creek to facilitate pedestrian connection between co-located park and community infrastructure and facilities.	» Opportunity to provide multi-use path along alignment. Bridge is feasible over creek to facilitate continuity of multi-use trail.	» Opportunity to provide multi-use path along alignment.	» Opportunity to provide multi-use path along alignment.	

Criteria (- Key Subcriteria)	Indicators	Option-1	Option-2	Option-3	Option-4	Option-5	Comments
		Enclosed system along the proposed and existing Anderson Avenue alignment	Open channel adjacent the proposed and existing Anderson Avenue alignment	Open channel along the west limit of the Rail Corridor	Piped Section Along Rail Corridor	Hybrid Enclosed / Open system adjacent the Rail Corridor	
» Impact on Urban Design	Does the option maintain, improve or reduce public infrastructure and amenities (e.g., parkland and open space)? Does the option maintain, improve or reduce access and visibility to Mount Joy Creek and maximize the value and benefit of recently completed upstream improvements and investment?	<ul style="list-style-type: none"> » Maintains continuity of street and block design, as well as building orientation and siting. » Does not E27of existing Greenway System and Natural Heritage Network. » Conceals Mount Joy Creek, which precludes placemaking and co-location opportunities surrounding an opened channel (outside of Hazard lands + buffers). » Optimizes the size, functionalize and programming capability of the public park." 	<ul style="list-style-type: none"> » Establishes prominent public realm and open space feature which, combined with public park, serves as a central defining feature of a new mixed use community. » Limits the size, functionalize and programming capability of the public park. » Provides opportunities for active and passive recreation, respite, education, and placemaking. » TRCA has indicated support for siting parks/ open space by channel, (outside of hazard + buffer) to ensure private development is outside of Regulated Area. » Establishes co-location opportunities with park, community facilities and infrastructure. » Maintains integrity of existing Greenway System and Natural Heritage Network. » Establishes an interconnected system of parks and open spaces which, together with the Greenway System and other amenities, contributes to the connectivity of new mixed use communities (OP). 	<ul style="list-style-type: none"> » Establishes prominent public realm and open space feature which, combined with the Multi-Use Pathway, provides opportunities for active and passive recreation, respite, education, and placemaking. » Optimizes the size, functionalize and programming capability of the public park. » TRCA has indicated support for siting parks/ open space by channel, (outside of hazard + buffer) to ensure private development is outside of Regulated Area. » Establishes co-location opportunities with park, community facilities and infrastructure. » Maintains integrity of existing Greenway System and Natural Heritage Network. » Establishes an interconnected system of parks and open spaces which, together with the Greenway System and other amenities, contributes to the connectivity of new mixed use communities (OP). 	<ul style="list-style-type: none"> » Maintains continuity of street and block design, as well as building orientation and siting. » Does not maintain the integrity of existing Greenway System and Natural Heritage Network. » Conceals Mount Joy Creek, which precludes placemaking and co-location opportunities surrounding an opened channel (outside of Hazard lands + buffers). » Optimizes the size, functionalize and programming capability of the public park. 	<ul style="list-style-type: none"> » Establishes prominent public realm and open space feature which, combined with the Multi-Use Pathway, provides opportunities for active and passive recreation, respite, education, and placemaking. » Optimizes the size, functionalize and programming capability of the public park. » TRCA has indicated support for siting parks/ open space by channel, (outside of hazard + buffer) to ensure private development is outside of Regulated Area. » Establishes co-location opportunities with park, community facilities and infrastructure. » Maintains integrity of existing Greenway System and Natural Heritage Network. » Establishes an interconnected system of parks and open spaces which, together with the Greenway System and other amenities, contributes to the connectivity of new mixed use communities (OP). 	

Criteria (- Key Subcriteria)	Indicators	Option-1	Option-2	Option-3	Option-4	Option-5	Comments
		Enclosed system along the proposed and existing Anderson Avenue alignment	Open channel adjacent the proposed and existing Anderson Avenue alignment	Open channel along the west limit of the Rail Corridor	Piped Section Along Rail Corridor	Hybrid Enclosed / Open system adjacent the Rail Corridor	
Financial							
Lifecycle costs (replacement & O&M)	What is the estimated cost to maintain and replace components of each option (e.g., pipes, bridges, etc.)?						
Cost of Construction	What is the estimated total cost for each option?						
Cost of Land Acquisition	What is the estimated total cost for each option?						

Notes:

1. Use assumption to evaluate some criteria (e.g., land cost), and ensure the same assumption is used for all options to ensure consistency in the evaluation.
2. List all of the assumptions used in the evaluation for review.

Table 9: Markham Road - Mount Joy Secondary Plan Study Evaluation Matrix for Mount Joy Creek Realignment Options

7.0 Policy Guidance and Recommendations

Building upon the Vision, Guiding Principles, and Demonstration Plan, the following section establishes Policy Guidance and Recommendations, pertaining to land use, urban design, transportation, municipal servicing, and implementation, to inform the preparation of the MRMJSP.

An earlier iteration of the policy guidance was included within an Executive Summary document presented to the City of Markham's Development information on June 26, 2023, to accompany the Final Demonstration Plan. The policy guidance included within this Section supersedes the earlier policy guidance.

7.1 Land Use and Urban Design

The following section summarizes key land use and urban design Policy Guidance and Recommendations, to inform the preparation of the MRMJSP. Specifically, direction is provided with respect to sustainability and resiliency, natural heritage, land use and built form, precincts, community infrastructure and facilities, cultural heritage, public realm, market and real estate, and affordable housing.

7.1.1 Sustainability and Resiliency

- » It is recommended that the MRMJSP be planned to:
 - » Incorporate strategies to evaluate, prepare for, mitigate and adapt to climate change, as well as acute shocks (e.g. flash floods) and chronic stressors (e.g. undersized stormwater management infrastructure), with consideration for public health and safety, infrastructure and food security, and emergency services;
 - » Consider automated vacuum waste collection (AVAC);

- » Encourage development proponents to incorporate sustainable design features and to meet or exceed the minimum scores for the City's Sustainability Metrics Program;
- » Achieve the goals and objectives of the City of Markham Municipal Energy Plan by:
 - » Encouraging the design of net zero ready buildings;
 - » Incorporating solar photovoltaic infrastructure;
 - » Designing all residential and non-residential buildings to be Electric Vehicle ready;
 - » Embody biophilic design principles, increasing connectivity between building residents and occupants with the natural environment; and;
 - » Apply a sustainability and resiliency-based lens to the application and enforcement of relevant policies pertaining to natural heritage, land use and built form, community infrastructure and facilities, cultural heritage, public realm, affordable and rental housing, transportation, and municipal servicing.



Figure 54: Ecological Flood Control, Houtan Park, Shanghai

7.1.2 Natural Heritage

Greenway and Mount Joy Creek System

- » It is recommended that the MRMJSP be planned to:
 - » Minimize risk to human health, safety and property associated with Flooding and Erosion;
 - » Incorporate appropriate buffers from hazard lands and Natural Heritage Features;
 - » Implement the recommended alignment (Option 5) to reconfigure Mount Joy Creek to remove the flood hazard;
 - » Protect and enhance a connected 'Greenway' System, including the partial daylighting of Mount Joy Creek;
 - » Encourage the identification of trails, where appropriate, in the Greenway System;
 - » Provide a 3.5 metre vegetation buffer along the railway corridor to protect for electrification;
 - » Enhance tree planting and natural cover in the Greenway System and Open Space System (e.g., along the multi-use trail and realigned Mount Joy Creek)
 - » Protect and improve existing aquatic and terrestrial habitat, and encourage the establishment of new habitat, where possible; and,
 - » Require a landowners group and agreements to share the cost of implementing the Mount Joy Creek realignment, which should serve as a pre-requisite to development on lands located east of Anderson Avenue.

Woodlands, Wetlands and Waterbodies

- » It is recommended that the MRMJSP be planned to:
 - » Reinforce the role of woodlands and wetlands as a significant natural heritage resource for residents of, and visitors to, the MRMJSP Area.

7.1.3 Land Use and Built Form

Land Use

- » It is recommended that the MRMJSP be planned to:
 - » Ensure compatibility with the character and pattern of adjacent and surrounding development within the MRMJSP Area;
 - » Contribute to a complete community with a full range of housing, including affordable and rental housing, employment, services and amenities to meet the daily needs of people of all ages, abilities and incomes;
 - » Encourage age friendly development including for seniors and accessibility;
 - » Achieve an appropriate mix of commercial, employment and institutional uses, including art galleries, banquet halls, business offices, fitness centres, financial institutions, hotels, clean industrial uses, medical offices, personal service shops, places of worship, recreational establishments, restaurants, retail stores, commercial schools, trade and convention centres, and veterinary clinics;
 - » Achieve an appropriate mix of residential uses, including townhouse dwellings and apartment dwellings;

- » Support the existing Mount Joy GO Station site and potential Major Mackenzie GO Station site as transit trip origins and destinations;
- » Implement integrated, transit-supportive communities which support redevelopment through the establishment of partnerships between landowners, the City of Markham, and Metrolinx, as part of the Metrolinx Market Driven Transit-Oriented Community Strategy;
- » Encourage a high quality of urban design;
- » Promote the creation of 15-minute neighbourhoods, through the strategic location, integration and disposition of residential uses, neighbourhood and convenience-based commercial uses, employment uses, parks and open spaces, and community infrastructure and facilities;
- » Protect and consider incentivization to support a broader range of employment uses in the Mount Joy Business Park;
- » Size retail uses appropriately in the MRMJSP Area to support the needs of residents within the trade area currently served by this portion of Markham Road. Based on the scale of future population growth expected within this trade area, it is recommended that a range of between 125,000 and 150,000 square metres of retail floor space be permitted within the MRMJSP Area;
- » Ensure that employment uses within mixed use areas:
 - » Support retail and office commercial employment-generating activities; and,
 - » Utilize upper storeys as flexible space, allowing for a range of office employment to support potential office development without specifically designating or preserving upper storey spaces solely for office uses.
- » Prioritize employment uses at-grade, with a continuous rhythm of active frontages designed with flexibility in mind to accommodate for changing needs, along either side of Anderson Avenue, between the pedestrian walkway and public park to the north, and Bur Oak Avenue to the south;
- » Prioritize retail uses at-grade, with a continuous rhythm of active frontages oriented toward public streets;



Figure 55: Community and Institutional Uses



Figure 56: Height Transitions Achieved through stepbacks

- » Prioritize a fine-grain of retail uses at-grade, with active frontages designed in the following locations:
 - » Along either side of Markham Road, between Castlemore Avenue to the north and 16th Avenue to the south;
 - » Along either side of Minor Collector Street 6, between Bur Oak Avenue to the north, and Local Street 6 to the south; and,
 - » Along either side of the Pedestrian Mews, between Markham Road to the northwest and the Mount Joy GO Station Site to the southeast.
- » Focus building layouts for large-format retail uses along the east side of Markham Road, between 16th Avenue and Edward Jeffreys Avenue, to support its role as a local and regional hub of commercial activity.

Height, Massing and Density

- » It is recommended that the MRMJSP be planned to:
 - » Achieve a minimum of 200 residents and jobs combined per hectare within the Mount Joy GO Station MTSA;
 - » Achieve a minimum targeted build-out of ~33,000 residents and ~6,000 jobs ;
 - » Achieve building heights that fit within the emerging context and that allow for new development to contribute to the overall population and employment targets;
 - » Establish appropriate height and density peaks and transitions throughout the MRMJSP Area, including:
 - » Primary height and density peaks surrounding the existing Mount Joy and potential Major Mackenzie GO Station Areas;
 - » Secondary height and density peaks along the length of Markham Road, between Major Mackenzie Drive East to the north and Minor Collector 7 Street to the south; and,
- » Downward transitions between the primary and secondary height peaks to adjacent and surrounding areas of the North, Central and South Precincts, as well as the Greensborough Neighbourhood to the east, Wismer Commons Neighbourhood to the west, and Markham Village to the south;
- » Incorporate podiums, which are massed to define street edges, creating a consistent street wall, providing an appropriate presence at street level, and promoting the creation of private courtyards in the centre of development blocks; Incorporate upper-storey stepbacks between podiums and towers;
- » Incorporate upper-storey stepbacks between podiums and towers;
- » Maintain maximum tower floor plates of 800m²;
- » Maintain minimum tower separation distances of 30 to 35 metres, offsetting the location of towers, where possible;
- » Maintain significant views and vistas, and reinforce the prominence of visual termini;
- » Ensure access to sky views and from the minimal shadow impacts on public and private streets, Public Parks, Open Spaces, Community Facilities, and adjacent neighbourhoods;
- » Ensure adequate buffers are provided between the Stouffville GO Rail Corridor, and adjacent residential and sensitive non-residential uses, such as commercial and office uses; and,
- » Encourage comprehensive planning and development of the required crash wall within the buffer associated with the Stouffville GO Rail Corridor.

7.1.4 Precincts

General

- » It is recommended that the MRMJSP be planned to:
 - » Incorporate three Precincts associated with the North, Central and South Neighbourhoods, and the Mount Joy GO Station Mixed Use Node overlay;
 - » Ensure that each Precinct responds to its unique context, built form considerations and land use mix, while maintaining a sense of cohesion and shared identity across the MRMJSP Area; and,
 - » Contribute toward the establishment of a unique sense of place.

North Precinct

- » It is recommended that the MRMJSP be planned to:
 - » Achieve maximum interim building heights of 15 storeys inside the potential Major Mackenzie GO Station Area, to be increased to 40 storeys, following approval of the GO Station; and,
 - » Provide a downward transition in height and density to:
 - » Greensborough neighbourhood to the east;
 - » Wismer Commons neighbourhood to the west; and,
 - » Lands containing the Public Park and Community Infrastructure and Facilities to the south.

GO Rail Station Subject to Further Study at Major Mackenzie Drive East

- » It is recommended that the Major Mackenzie GO Station Area be planned to:

- » Accommodate for the potential to locate the station platform along either the north or south sides of Major Mackenzie Drive East, as well as across the width of the right-of-way;
- » Include north / south connections to the potential Major Mackenzie GO Station and associated transit plaza and multi-use trail, under Major Mackenzie Drive East. Development on the south side of Major Mackenzie Drive East should be planned to support transit-supportive densities, infrastructure investments, and ridership;
- » Promote three-dimensional placemaking, with a pedestrian realm occupying multiple levels above grade, establishing layers of program and activity within the Station Site;
- » Incorporate a range of compatible neighbourhood and convenience-based commercial uses at-grade. These could include such uses as a grocery store, child care facility, postal service, medical clinic, dental clinic and pharmacy;
- » Incorporate an appropriate range of residential and non-residential uses on upper storeys;
- » Incorporate multiple tiers of occupancy, with a variety of tenures inclusive of age, ability and income;
- » Be subject to landowner agreements, which facilitate private-sector funding associated with the design and construction of the Major Mackenzie GO Station and associated infrastructure;
- » Implement an integrated, transit-supportive community which support redevelopment through the establishment of partnerships between landowners, the City of Markham, and Metrolinx, as part of the Metrolinx Market Driven Transit-Oriented Community Strategy; and,
- » Consolidate parking in below-grade structures.



Figure 57: North Precinct



Figure 58: Garrison Point Bridge, Toronto

Central Precinct

- » It is recommended that the Central Precinct be planned to:
 - » Concentrate the greatest heights and densities within the GO Station Mixed-Use Node, on the lands bounded by:
 - » Minor Collector Street 4 and Local Street 5 to the north;
 - » Stouffville GO Rail Corridor to the east;
 - » Edward Jeffreys Avenue to the south; and,
 - » Minor Collector Street 2 to the west.
 - » Provide a downward transition in height and density to:
 - » The North Precinct to the north, with particular emphasis given to the lands containing the Public Park, and Community Infrastructure and Facilities to the north;
 - » Greensborough neighbourhood to the east;
 - » Portions of the Central Precinct, which fall outside of the GO Station Mixed-Use Node, to the south; and,
 - » Wismer Commons neighbourhood to the west.
 - » Achieve minimum building heights of 3 storeys;
 - » Achieve maximum building heights of 45 storeys inside of the GO Station Mixed-Use Node;
 - » Achieve maximum building heights of 20 storeys outside of the GO Station Mixed-Use Node; and
 - » Consider maximum building heights of 25 storeys at the gateway intersections of Markham Road and Edward Jeffreys Avenue, and Markham Road and Castlemore Avenue.

Mixed Use Employment Hub

- » It is recommended that the Mixed Use Employment Hub be planned to:
 - » Establish an appropriate mix of active industrial and service commercial uses at-grade, comprising a minimum 80% of gross floor area;
 - » Require at-grade building designs that accommodate appropriate industrial height ceilings of 5.5m or greater, commercial loading docks, ventilation, power, proper separation and potential mezzanine space to support active productive activities on the ground floor;
 - » Encourage buildings which are specific by design, with the flexibility to accommodate for changes and adaptations in use over time;
 - » Incorporate incubator spaces, live-work spaces, small office and studio spaces, a variety of communal and co-working spaces and a range of small, moderate and large maker spaces to promote entrepreneurship, innovation and opportunity on upper levels;
 - » Provide for a range of clean and technology-based light industrial, manufacturing and distribution facilities which can co-exist harmoniously alongside commercial, office and residential uses on upper storeys of vertically-integrated mixed-use buildings, as well as in adjacent and separate buildings;
 - » Incorporate enhanced public realm treatments along the length of Anderson Avenue;
 - » Provide direct connections to the 'Greenway' System, and associated multi-use trail, located along the length of the Stouffville GO Rail Corridor; and,
 - » Prohibit standalone residential uses and residential uses at-grade.



Figure 59: Central Precinct



Figure 60: Signal Creative Community, Toronto

GO Station Mixed Use Node Overlay

- » It is recommended that the GO Station Mixed Use Node Overlay be planned to:
 - » Concentrate the greatest heights and densities on top of, and adjacent to, the GO Station site;
 - » Incorporate a Public Gateway Plaza at the southeast corner of Markham Road and Bur Oak Avenue, and a diagonal Pedestrian Mews extending from the Public Gateway Plaza to a Public Park and the Station Site and adjacent Transit Plaza;
 - » Establish a continuous mid-rise street wall condition along the length of the Pedestrian Mews, with taller building elements set back to create an appropriate and desirable scale of development;
 - » Ensure all buildings fronting onto the Pedestrian Mews incorporate pedestrian weather- protection elements at-grade, such as awnings or canopies;
 - » Incorporate enhanced public realm treatments along the length of Markham Road, Bur Oak Avenue, Minor Collector Street 6, and the Pedestrian Mews;
 - » Provide direct connections to the Transit Plaza, and associated multi-use trail, located along the length of the Stouffville GO Rail Corridor;
 - » Promote three-dimensional placemaking, with a pedestrian realm occupying multiple levels above grade, establishing layers of program and activity within the Station Site;
 - » Incorporate a range of compatible neighbourhood and convenience-based commercial uses at-grade. These could include such uses as a grocery store, child care facility, postal service, medical clinic, dental clinic and pharmacy;
 - » Incorporate an appropriate range of residential and non-residential uses on upper storeys;

- » Incorporate multiple tiers of occupancy, with a variety of tenures inclusive of age, ability and income;
- » Implement an integrated, transit-supportive community which supports redevelopment through the establishment of partnerships between landowners, the City of Markham, and Metrolinx, as part of the Metrolinx Market Driven Transit-Oriented Community Strategy; and,
- » Consolidate parking in below-grade structures.

South Precinct

- » It is recommended that the South Precinct be planned to:
 - » Achieve minimum building heights of 3 storeys;
 - » Achieve maximum building heights of 15 storeys;
 - » Provide a downward transition in height and density to:
 - » Greensborough neighbourhood to the east;
 - » Wismer Commons neighbourhood to the west; and,
 - » Markham Village HCD to the south.
 - » Incorporate a fine grain of development along the length of Markham Road;
 - » Incorporate neighbourhood and convenience based commercial uses at-grade along Markham Road;
 - » Explore opportunities to expand community infrastructure and facilities and programs at, and adjacent to, the Markham Museum Site and Mount Joy Community Centre;
 - » Enhance connectivity and access to the Markham Museum site and Mount Joy Park and Community Centre;
 - » Serve as a northward extension of the Markham Village main street; and,
 - » Explore options to integrate the GO Station parking lot east of the railway corridor.



Figure 61: South Precinct



Figure 62: Cross Roads Regional Shopping District, Vancouver

7.1.5 Community Infrastructure & Facilities

General

- » It is recommended that the MRMJSP be planned to:
 - » Accommodate a variety of social, educational, cultural and recreational amenity spaces, and a variety of services, courses, programs and activities; and,
 - » Address the City of Markham's Places of Worship Site Reservation Policy, as referenced in the 2014 Official Plan.

Schools

- » It is recommended that the MRMJSP be planned to:
 - » Establish a 3.5 to 4.0 acre School site in the North Precinct, generally between the Anderson Avenue Extension and the Stouffville Go Rail Corridor, and south of Local Street 11, to serve the needs of existing and future residents;
 - » Co-locate the School with a Public Park, and adjacent combined piped and open channel associated with the 'Greenway' and Mount Joy Creek System;
 - » » Establish a 3.5 to 4.0 acre School site in the Central Precinct southwest of Castlemore Avenue and Minor Collector 2, to serve the needs of existing and future residents;
 - » Co-locate the School with the Public Park located west of Markham Road and north of Bur Oak Avenue; and,
 - » Encourage the development of mixed use school sites, integrated with private development, where appropriate.



Figure 63: Park Lawn GO Station Redevelopment, Toronto

7.1.6 Cultural Heritage

Cultural Heritage

- » It is recommended that the MRMJSP be planned to:
 - » Conserve, respect and, enhance cultural heritage features, elements and landscapes where they exist within and adjacent to the MRMJSP Area;
 - » Explore alternatives, including but not limited to the partial retention of cultural heritage resources, to retain as much of the cultural heritage resource in situ as possible, in circumstances where it is not feasible to maintain and conserve the cultural heritage resource in its entirety;
 - » Explore relocation of cultural heritage resources as a last resort option, only where all other alternatives have been deemed undesirable or not feasible;
 - » Ensure visual access to Designated Heritage Properties from adjacent Streets, Parks and Open Spaces;
 - » Integrate cultural heritage features within future development, where appropriate; and,
 - » Enhance cultural identity and opportunities for expression and interpretive learning through public art, informational plaques, and other initiatives.

7.1.7 Public Realm

Street Network

- » It is recommended that the MRMJSP be planned to:
 - » Introduce a fine grain street network, inclusive of new Minor Collector Streets and Local Streets which are safe, comfortable and accessible, and which promote walking and cycling;
 - » Provide logical and direct connections between adjacent blocks, through a combination of signalized and non-signalized intersections, and on-demand mid-block pedestrian crossings;
 - » Introduce a network of mid-block pedestrian connections and crossings, which facilitate; and,
 - » Establish a seamless interface between ground floor uses and the adjacent boulevard, in order to enliven and animate the MRMJSP Area, and promote casual surveillance.

Markham Road

- » It is recommended that Markham Road be planned to:
 - » Transform into a vibrant and animated main street that supports a complete community, through the introduction of transit infrastructure, and the rebalancing of space dedicated to roadway and public realm elements;
 - » Establish a continuous mid-rise street wall condition, with taller building elements set back to create an appropriate and desirable scale of development;
 - » Introduce a unique streetscape and public realm design standard for Markham Road;
 - » Ensure all buildings incorporate pedestrian weather-protection elements at-grade, such as awnings or canopies;

- » Incorporate generous front yard setbacks, on either side of Markham Road, to facilitate the provision of a flexible spill-out zone associated with ground floor commercial uses, to be utilized as an extension of interior commercial space for the purposes of outdoor seating, presentation or sales space, which reads as an extension of the public sidewalk;
- » Within the easement, utilize the space on the west side of Markham Road, to facilitate the provision of an expanded flexible spill-out zone associated with ground-floor commercial space for the purposes of outdoor seating, presentation or sales space, which reads as an extension of the public sidewalk;
- » Provide for generous boulevards on either side of Markham Road, between the roadway and adjacent flexible spill-out zones, inclusive of generous landscaping, sidewalks, and protected cycling facilities; and,
- » Increase the number of signalized intersections, and provide signalized crossings at regular intervals, between Major Mackenzie Drive East to the north, and Edward Jeffreys Avenue to the south.

Green Streets and Pedestrian Connections

- » It is recommended that the MRMJSP be planned to:
 - » Establish an inter-connected network of Green Streets and Pedestrian Connections, which include generous boulevard widths, wide sidewalks and continuous tree planting and landscape zones;
 - » Utilize Green Streets and Pedestrian Connections as a means of establishing linkages between Parks, Open Spaces, major streets, the Mount Joy GO Station Area, and the potential Major Mackenzie GO Station Area through a combination of on-street and off-street pathways, as well as pedestrian crossings; and,
 - » Subject to agreement from Metrolinx, incorporate two pedestrian crossings over or under the Stouffville GO Rail Corridor, including:
 - » One pedestrian bridge, situated at the eastern termination of Local Street 10, in the North Precinct; and,
 - » One pedestrian bridge, situated at the eastern termination of Minor Collector Road 7, in the South Precinct.

Gateways and Placemaking Opportunities

- » It is recommended that the MRMJSP be planned to:
 - » Include Gateways at the intersection of Major Mackenzie Drive East and Markham Road, as well as the intersection of 16th Avenue and Markham Road;
 - » Include Placemaking opportunities throughout the MRMJSP Area, characterized by major intersection and landmark features;
 - » Ensure that buildings and public realm features at Gateway locations make a significant architectural contribution to the character and identity of the MRMJSP Area, while respecting the immediate context and creating a distinct built form, appearance or landmark feature;

- » Ensure that buildings and public realm features at Gateway locations respond to their prominent location, framing and orienting views toward adjacent streets, Public Parks and Open Spaces;
- » Ensure the planning and design of Gateway locations is consistent with the recommendations of the Gateway Master Plan; and,
- » Promote the creation of EcoMobility Hubs of activity at Gateway and Placemaking opportunity locations, inclusive of an appropriate mix of uses, public art, wayfinding elements, open spaces, and other placemaking features.



Figure 64: Active Frontage, Richmond, Greater Vancouver

Parks, Open Spaces and Multi-Use Trail

- » It is recommended that the Secondary Plan be planned to:
 - » Establish a minimum 1.5 hectare public park in the North Precinct, situated on the west side of Anderson Avenue, between the 'Greenway' and Mount Joy Creek to the north, Local Street 1 and Markham Road to the west, and Castlemore Avenue to the south. Integrate the Public park with the adjacent naturalized and piped watercourse associated with Mount Joy Creek. Provide a dedicated pedestrian crossing, across Anderson Avenue, between the Public Park and Potential School Site;
 - » Establish a minimum 0.75 hectare public park in the North Precinct, situated on the west side of Anderson Avenue, between Local Street 13 to the north and Minor Collector Street 8 to the south;
 - » Establish a minimum 0.4 hectare public park in the North Precinct, situated on the east side of Anderson Avenue, between Local Street 9 and Local Street 10;
 - » Establish a minimum 0.75 hectare public park in the North Precinct, situated on the north side of Local Street 1, between Markham Road and Mount Joy Creek;
 - » Establish a minimum 2.0 hectare public park in the North Precinct, situated on the west side of Minor Collector Street 2, between Castlemore Avenue and Minor Collector Street 1;
 - » Establish a minimum 3.0 hectare Public Park in the Central Precinct, situated on the west side of Minor Collector Street 2, between Castlemore Avenue to the north and Local Street 5 to the south;
 - » Establish a minimum 0.3 hectare Public Park in the South Precinct, situated at the southeastern termination of the Pedestrian Mews, between Minor Collector Street 6 to the east and Local Street 6 to the south;
 - » Establish a minimum 0.2 hectare Public Park in the South Precinct, situated on the south side of Local Street 6, between Markham Road and Minor Collector Street 6;
 - » Establish a minimum 0.3 hectare Public Park in the South Precinct, situated on the south side of Minor Collector Street 7, between Markham Road and Local Street 7;
 - » Establish a multi-use trail, situated along the west side of the Stouffville GO Rail Corridor, between Major Mackenzie Drive East to 16th Avenue. Design the multi-use trail to serve a range of users during all seasons, including but not limited to pedestrians, cyclists, and mobility devices. The multi-use trail should be coordinated with Regional ROW requirements where applicable,



Figure 65: Bio-Retention Garden, Fairford Parkette, Toronto



Figure 66: Flexible Programs, Churchill Square, Edmonton

- » Incorporate a Public Parks and Open Space network, comprised primarily of Neighbourhood Parks, which provides for a variety of active and passive recreational uses, which are designed to optimize use of space, while meeting the needs of both existing and future residents, workers and visitors;
- » Incorporate protected cycling facilities within the Markham Road boulevards, between Major Mackenzie Drive East and 16th Avenue;
- » Establish direct and unobstructed active transportation connections between existing and planned protected cycling facilities and the multi-use trail, where appropriate;
- » Contribute to a net increase in the City of Markham's tree canopy to support achieving the 30% in the City's Trees for Tomorrow Program; and,
- » Apply Crime Prevention Through Environmental Design (CPTED) principles, including natural surveillance, natural access control, territorial reinforcement, maintenance and target hardening into the design of all Parks, Open spaces and Multi-Use Pathways to promote safety and casual surveillance.

7.1.8 Affordable and Rental Housing

- » It is recommended that the MRMJSP be planned to:
 - » Support the City of Markham's Draft Affordable and Rental Housing Strategy, by encouraging a range of housing and tenure types within the MRMJSP Area, including:
 - » A range of unit types, including apartments, townhouses and other housing forms;
 - » A diversity of unit sizes, including accommodations for singles, couples, families, and other housing arrangements;
 - » Encourage inclusion of 35% affordable housing within the Mount Joy GO Station



Figure 67: Multi-Use Pathways, North Point, Cambridge



Figure 68: Publicly Accessible Pocket Park, McGill Parkette, Toronto

MTSA, and 25% across the rest of the MRMJSP Area in accordance with Policies 2.3.40 and 2.3.41 in the York Regional Official Plan;

- » Encourage inclusion of 35% affordable housing within a MTSA associated the GO Rail Station subject to future study at Major Mackenzie Drive East, at the time of its approval, in accordance with Policy 2.3.41 in the York Regional Official Plan;
- » Require affordable housing within the MTSA area in accordance with Regulation 232/18 of the Planning Act, following the adoption of Inclusionary Zoning policies within the YROP and Markham OP;
- » Encourage quick implementation of Inclusionary Zoning in MTSA's;

- » Consider minor increases in heights, at the discretion of the City, and subject to appropriate studies to permit affordable housing;
- » Encourage the City, at its discretion, to provide incentives to support the provision of affordable units, and
- » Encourage development proponents to seek partnerships with affordable housing providers to include units in proposed developments

7.2 Transportation

The following section summarizes key transportation Policy Guidance and Recommendations to inform the preparation of the MRMJSP. Specifically, direction is provided with respect to the transportation network, mobility services, curbside management, the additional GO Rail Station, subject to future study, at Major Mackenzie Drive East, and the multi-modal transportation demand forecasting framework and assumptions.

7.2.1 Transportation Network, Mobility Services and Curbside Management

Transportation Network

- » It is recommended that the MRMJSP be planned to:
 - » Provide alternative north-south routes to Markham Road, and expand the transportation network along either side of Markham Road;
 - » Design Local Streets to maintain lower travel speeds;
 - » Incorporate an active transportation network that seamlessly connects destinations and communities, including:
 - » The Mount Joy and potential Major Mackenzie GO Station Sites;
 - » The 'Greenway' System;
 - » Parks and Open Spaces; and
 - » The future School sites.
- » Incorporate an active transportation network that seamlessly connects the MRMJSP Area to:
 - » Future potential trail systems along Little Rouge Creek Valley Corridor to the north;
 - » Greensborough neighbourhood to the east;
 - » Markham Village HCD to the south; and
 - » Wismer Commons neighbourhood to the west;
- » Promote the separation of transportation modes to enhance safety and accessibility, through the introduction of new protected bike lanes, as well as multi-use trails and pathways;
- » Encourage the development of an integrated rail safety barrier between the MRMJSP Area and the Stouffville GO Rail Corridor;
- » Consider road rail grade separations, where appropriate, through redevelopment of lands adjacent to the Stouffville GO Rail Corridor;



Figure 69: Photovoltaic Panel Array

- » Incorporate transit plazas, generous public boulevards, and a combination of street-based and lay-by passenger pick-up and drop-off (PPUDO) facilities, to distribute and minimize the impacts of station-based pedestrian and vehicular traffic;
 - » Incorporate transit plazas, generous public boulevards, and a combination of street-based and lay-by passenger pick-up and drop-off (PPUDO) facilities, to distribute and minimize the impacts of station-based pedestrian and vehicular traffic;
 - » Incorporate EcoMobility Hubs, which provide convenient and dedicated access to parking and charging infrastructure associated with a variety of small-scale mobility options including bicycles, e-bikes, and e-scooters in proximity to higher-order transit; and,
 - » Incorporate Vision Zero principles, which apply an ethical, responsible, and safety-based lens to the design and implementation of streetscapes and the public realm, in order to prevent collisions and minimize the risk of resulting injuries and death to vulnerable users, including pedestrians and cyclists.
- » It is recommended that Markham Road be planned to:
- » Redirect vehicular movement through the creation of a fine-grained parallel street network;
 - » Reduce its existing four vehicle thru-traffic lanes to two;
 - » Maintain a minimum 36 metre right-of-way width, inclusive of the central roadway and adjacent boulevards, between Major Mackenzie Drive East to the north and Edward Jeffreys Avenue to the south; and,



Figure 70: EV Charging Station, Arlington

- » Taper south of Edward Jeffreys Avenue in order to establish a desirable and appropriate transition between the MRMJSP Area and the Markham Village HCD.

Parking

- » It is recommended that the MRMJSP be planned to:
 - » Provide electric vehicle charging stations in parking lots;
 - » Integrate progressive parking standards which reduce minimum parking requirements, accommodate car-sharing and compact vehicle formats; and,
 - » Provide underground parking facilities which are designed for planned obsolescence, adaptive re-use and repurposing.

7.2.2 GO Rail Station Subject to Further Study at Major Mackenzie Drive East

- » It is recommended that:
 - » An Initial Business Case, per Metrolinx's Market Driven Strategy, be initiated to support a station in this location;
 - » The City seek partners to develop the new station;

- » Support and require transit supportive densities on the south side of Major Mackenzie Drive in the MRMJSP Area;
- » If a new station is approved by Metrolinx, that it be identified as an additional MTSA by York Region for inclusion in the YROP and Markham OP; and,
- » Until such a time that the GO Station at Major Mackenzie Drive East is approved and the associated MTSA boundaries are established, density be focused within the Mount Joy GO Station MTSA.

- » Provide water quality, quantity, water balance and erosion controls for key hydrologic features; and,
- » Utilize Low Impact Development Infrastructure to provide overall stormwater management functions for the area.

7.3 Municipal Servicing

The following section summarizes key municipal servicing Policy Guidance and Recommendations, to inform the preparation of the MRMJSP. Specifically, direction is provided with respect to water and wastewater, source water protection, and stormwater management.

7.3.1 Water and Wastewater

- » It is recommended that the MRMJSP be planned to:
 - » Ensure all servicing and utility infrastructure complies with City of Markham, York Region and TRCA standards, and that adequate servicing is available to support the intensification that is envisioned within the MRMJSP Area.

7.3.2 Stormwater Management

- » It is recommended that the MRMJSP be planned to:
 - » Comply with the City of Markham and TRCA stormwater management criteria;
 - » Protect water quality and aquatic wildlife;

7.4 Phasing and Implementation

The following section summarizes key phasing and implementation Policy Guidance and Recommendations, to inform the preparation of the MRMJSP. Specifically, direction is provided with respect to the coordination of development, existing lawful uses, conveyance of lands, landowner agreements, development phasing plans, zoning, future studies, and other considerations.

7.4.1 Coordination of Development

- » It is recommended that:
 - » Development be coordinated to ensure that growth is supported by the appropriate level of infrastructure, services, and facilities;
 - » Each development block be planned comprehensively. In some cases, this may require coordination between multiple landowners;
 - » Applicants be required to demonstrate, to the satisfaction of the City, that development achieves the intended land use, built form, density and other provisions of the MRMJSP; and;
 - » The sequencing and phasing of development be based on the timing and implementation of recommended infrastructure upgrades or implementation of new infrastructure.

7.4.2 Existing Lawful Uses

- » It is recommended that:
 - » Land uses, buildings and structures which legally exist prior to the adoption of the Secondary Plan, be permitted to continue. However, they are ultimately intended to be redeveloped in conformity with the MRMJSP;
 - » Enlargements, extensions, additions and alterations of existing lawful buildings and structures be permitted without amendment to the MRMJSP; and,
 - » Replacement and repair of existing lawful buildings and structures be permitted without amendment to the MRMJSP.

7.4.3 Conveyance of Lands

- » It is recommended that:
 - » As a condition of development approval, where lands have been identified as being required for public benefit, or are necessary for the securement of infrastructure, community facilities or parkland, such lands be dedicated through conveyance to the City of Markham;
 - » All development requiring conveyance of land for the purposes outlined above must proceed by way of a plan of subdivision, plan of condominium, or consent;
 - » If a development involves more than one phase, the plan of subdivision, plan of condominium, or consent will be required at the first phase of development; and,
 - » Alternatively, the City of Markham may determine that the plan of subdivision, plan of condominium, or consent is not required where the City and applicant agree to the conveyance of land as a condition of development approval and executed through an agreement entered

into at the time of the Rezoning and/or Site Plan Approval process.

7.4.4 Landowner Agreements

- » It is recommended that:
 - » As a condition of development approval, applicants enter into one or more Landowner Agreements to address cost sharing issues associated with the provision of new infrastructure and services (e.g., reconfiguration of Mount Joy Creek, parks, school sites, etc.), and to confirm floodplain limits associated with Mount Joy Creek.

7.4.5 Development Phasing Plans

- » It is recommended that:
 - » Development within the MRMJSP Area will be sequenced in the following phases:
 - » Recently approved and active development applications in the short (3 to 5 years) to medium term (5 to 10 years);
 - » The Mount Joy GO Station Area, and larger consolidated and underutilized properties in the short (3 to 5 years) to medium term (5 to 10 years); and,
 - » Smaller, fragmented and well-utilized properties or encumbered sites and infill over the long term (15 to 25 years).
 - » As a condition of development approval for multi-phased development, applicants be required to submit a development phasing plan. The Development Phasing Plan is recommended to establish the timing and delivery of key internal and external infrastructure including but not limited to storm sewer pipes, stormwater management facilities, water and waste water distribution systems, roads as well as community services such as parks, schools and trails for each phase of development to be implemented through development approvals;

- » The development phasing plan shall address population and employment projections linked to each phase of development, the sequencing of development based on an appropriate hierarchy of infrastructure, services and amenities, and key benchmarks for progressing to phases of development; and,
- » The development phasing plan be prepared by the applicant, in consultation with the City of Markham and York Region, in a manner consistent with the required supporting studies, and applicable Provincial, Regional, City and TRCA policies. In particular, the development phasing plan should address the requirements of Section 10.1.2.2 of the City of Markham Official Plan.
- » Inclusionary Zoning be implemented within the Mount Joy MTSA to require the provision of affordable housing in accordance with Regulation 232/18 of the Planning Act;
- » A Holding Provision be implemented on the lands identified for the future School site, as well as lands south of Major Mackenzie Drive East, subject to further study of the feasibility of the GO Station at Major Mackenzie Drive East; and,
- » A Holding Provision be implemented on other lands, which are considered premature or inappropriate for development for any one or more of the following reasons:
 - » A concept Site Plan and/or Streetscaping and Landscape Plan has not been submitted and finalized to the City's satisfaction;
 - » Public infrastructure and community facilities, such as sanitary sewers, water supply, stormwater management facilities, parks, community and recreation facilities, schools, and libraries are insufficient to serve the proposed development;
 - » The existing street network does not have the capacity or is inadequately designed for the anticipated traffic and/or the access requirements;
 - » Development relies upon other matters occurring first, such as the consolidation of land ownership and/or the finalization of a Landowner Agreement regarding the development and funding of infrastructure and services; and/or,
 - » Technical studies are required on matters that City Council considers necessary.

7.4.6 Functional Servicing Reports

- » It is recommended that:
 - » Through the development process, applicants provide a Functional Servicing Report addressing the servicing requirements for the proposed development, per the City of Markham Engineering Standards. The FSRs are to have consideration for all recent development applications and the overall ultimate re-development of the MRMJSP.

7.4.7 Implementation Tools

Zoning

- » It is recommended that:
 - » To implement the MRMJSP, City Council enact amendments to the City of Markham's Zoning By-law. In the process of doing so, repeal existing and in force Zoning By-laws, establishing a consolidated Zoning By-law for the MRMJSP Area;

- » Development relies upon other matters occurring first, such as the consolidation of land ownership and/or the finalization of a Landowner Agreement regarding the development and funding of infrastructure and services; and/or,
- » Technical studies are required on matters that City Council considers necessary.

Community Planning Permit System

- » It is recommended that the City of Markham:
 - » Consider implementing a community planning permit system to streamline planning approvals on lands in proximity to the Mount Joy and potential Major Mackenzie GO Stations.

Environmental Assessments

- » It is recommended that the City of Markham:
 - » Initiate separate Environmental Assessments for the redesign of Markham Road and the ultimate sanitary servicing solution; and,
 - » Initiate an Environmental Assessment for the realignment of Mount Joy Creek, in order to inform the guidance and strategy to its implementation.

Community Improvement Plan and Business Improvement Area

- » It is recommended that the City of Markham:
 - » Introduce a Business Improvement Area for the MRMJSP Area, centred on the length of Markham Road and connections to Mount Joy GO Station; and,
 - » Introduce a Community Improvement Plan to incentivize redevelopment and affordable housing to meet the objectives of the MRMJSP.

Urban Design Guidelines

- » It is recommended that the City of Markham:
 - » Prepare a comprehensive set of Urban Design Guidelines to guide the design of built form, the public realm, and streetscapes throughout the MRMJSP Area. The Urban Design Guidelines

would serve as a tool to assist City of Markham Staff in the review and evaluation of development applications within the MRMJSP Area, and would be used to help inform advisement by the City of Markham Urban Design Review Panel;

- » Utilize international design competitions as a means of ensuring a high quality of design associated with significant public assets and infrastructure, including but not limited to GO Station lands, pedestrian crossings, public parks, and community infrastructure and facilities;
- » Introduce a boulevard design pilot project for Markham Road; and,
- » Prepare alternative design and engineering standards, including an alternative cross-section, to inform the development of Green Streets.

Other Implementation Tools

- » It is recommended that the City of Markham:
 - » Establish an interim development plan for the Mount Joy GO Station Area, transitioning the area into a mixed use destination in advance of development through the implementation of tools such as pilot projects and tactical urbanism projects; and,
 - » Incentivize redevelopment of the Mount Joy GO Station Area, as a means of catalyzing future development permissions, creating a destination, and reducing required parking ratios;
 - » Consider development charges for public realm elements to address costs associated with streetscape improvements, pedestrian infrastructure and amenities, open spaces, pedestrian crossing, and civic elements including wayfinding, signage, public art, and gateway features;

7.4.8 Implementation Processes

- » It is recommended that the City of Markham:
 - » Accelerate the timing, sequencing and coordination of capital infrastructure projects which are necessary to ensure the long-term success of the MRMJSP Area, including:
 - » The Donald Cousens Parkway Extension to Highway 48;
 - » The Highway 48 and Donald Cousens Parkway intersection;
 - » Required grade separation along the length of the Stouffville GO Rail Corridor at Major Mackenzie Drive East, Bur Oak Avenue and 16th Avenue subject to further Environmental Assessment study in coordination with Metrolinx, York Region and adjacent landowners;
 - » Potential grade separation along the length of the Stouffville GO Rail Corridor at Castlemore Avenue subject to further Environmental Assessment study in coordination with Metrolinx and adjacent landowners; and,
 - » Pedestrian crossings over or under the Stouffville GO Rail Corridor.
 - » Continue coordination with Metrolinx, and engage potential developer(s) regarding a future Transit Supportive Community around the Mount Joy GO Station and the GO Rail Station subject to further study at Major Mackenzie Drive East;
 - » Coordinate with York Region and Metrolinx regarding benefits and implications of a potential Major Mackenzie GO Station;
- » Coordinate with Metrolinx, TRCA and other stakeholders regarding the realignment of Mount Joy Creek;
- » Participate in ongoing engagement with York Region to encourage the implementation of the Donald Cousens Parkway Extension to Highway 48; and,
- » Work with Parks Canada to enhance access to Rouge National Urban Park.

8.0 Next Steps

This report serves as the culmination of Phases 1 through 6 of the Markham Road Mount Joy Secondary Plan Study. It will inform the preparation of the Markham Road Mount Joy Secondary Plan. The recommendations and directions included herein will also inform additional studies in support of the additional GO Rail Station subject to further study at Major Mackenzie Drive East.

