

**TRANSPORTATION,
SERVICES AND
UTILITIES**



7.0

TRANSPORTATION, SERVICES AND
UTILITIES

CONTENTS

7.1

TRANSPORTATION SYSTEM

- 7.1.1 General Policies
- 7.1.2 Transit Network
- 7.1.3 Road Network
- 7.1.4 Transportation Demand Management
and Active Transportation
- 7.1.5 Vehicle Parking
- 7.1.6 Goods Movement
- 7.1.7 Rail Network
- 7.1.8 Airports

7.2

SERVICES AND UTILITIES

- 7.2.1 Municipal Water and Wastewater
- 7.2.2 Solid Waste Management
- 7.2.3 Utilities and Communication

7.0 TRANSPORTATION, SERVICES AND UTILITIES

7.1 TRANSPORTATION SYSTEM

Transportation planning and policy formulation is necessarily a collaborative effort that requires a high degree of cooperation with other levels of government, outside agencies and internal interest groups. The critical interface between land use and transportation is largely managed and guided at the City level.

At the macro scale this interface determines the structure of the overall urban form and the degree to which the right type of transportation capacity is delivered to areas where it is most needed. By integrating the different patterns of development and land use within existing and proposed Markham communities with a wider range of travel modes, there is an opportunity to support more balanced mobility and facilitate the transition from a primarily auto dependent community to one where travel includes a greater share of other modes such as walking, cycling, transit and carpooling.

At the local level, transit-supportive land use planning emphasizing walkable streets and higher density mixed-use development can enhance the transportation choices of Markham citizens by integrating more pedestrian and transit-oriented land uses with improved pedestrian, cycling and transit access. Important interconnections between Markham's networks of roads, transit lines, sidewalks, bicycle lanes, pathways and trails that combine to enhance overall system connectivity are also made at the local or site level.

The challenge for Markham over the next 20 years is to accelerate the transition from a primarily car-dependent community to one where walking, cycling, transit and carpooling are seen as increasingly viable and attractive alternatives. Population and employment growth in Markham is forecast to increase by 40 percent and 50 percent respectively by 2031, resulting in an estimated 60 percent increase in daily auto use if current trip-making patterns were to continue. To address these trends and shift travel behaviour from auto-oriented transportation to more environmentally sustainable travel choices, the Markham Transportation Strategic Plan provides for:

- selective road capacity enhancements;
- increased and enhanced transit services;
- transit-supportive development;
- transportation demand management; and
- active transportation.

The overall objective is to develop a transportation system that increases mobility options for all users, including pedestrians, cyclists and transit riders and, in the process, begins to redress the past imbalance created by focusing on accommodating the automobile. However, there will remain a

At the local level, transit-supportive land use planning emphasizing walkable streets and higher density mixed-use development can enhance the transportation choices of Markham citizens by integrating more pedestrian and transit-oriented land uses with improved pedestrian, cycling and transit access.

need for selected, on-going improvements to the road network to accommodate Markham's traffic growth and to enhance mobility and accessibility for all users.

Markham's transportation infrastructure should also be seen as a key element in community building. Apart from its role in knitting together the urban structure, the transportation network has an important and defining placemaking function. As well as being thoroughfares, urban streets are to be regarded as places, recognizing that great streets make great communities. This Plan recommends that a "complete streets" philosophy be applied to the future development of the City's road network to balance mobility between modes, increase safety for all users, and position streets as places within Markham's communities.

Markham provides valuable input and advice to York Region regarding the planning, design and operation of major, regional road and transit projects and is responsible for securing the right-of-ways for these facilities. As well, by actively promoting travel demand management measures, Markham can influence the amount, composition and timing of the demand for transportation services in order to maximize the effectiveness of transportation infrastructure investments.

As well as being thoroughfares, urban streets are to be regarded as places recognizing that great streets make great communities.

7.1.1 General Policies

It is the policy of Council:

- 7.1.1.1 **To work** in cooperation with the Region and the Province to develop a sustainable transportation system that is accessible to users of all ages and abilities and:
- a) effectively and safely accommodates the demand for person trips within and beyond Markham and increases travel choices, with particular emphasis on pedestrians, cyclists and transit riders; and
 - b) supports an efficient, safe and integrated road and rail network for goods movement and service delivery; and
 - c) supports energy efficient means of travel for both people and goods.
- 7.1.1.2 **To strengthen** the coordination of land use planning, transportation planning and urban design to:
- a) focus development growth in new mixed-use neighbourhoods and *intensification areas* in the form of transit-supportive development at higher densities that are being well served by transit;
 - b) increase the opportunities for people to make shorter trips and more trips by foot, bicycle or transit;
 - c) create an integrated transportation system that supports urban growth by improving network connectivity, including the timely completion of missing mid-block links along major collector roads, and by providing convenient inter-modal transfer points to widen the range of travel choices; and
 - d) emphasize the placemaking role of transportation facilities by making people, rather than vehicles, the focus of street activity.



The overall objective is to develop a transportation system that increases mobility for all users, including transit riders.





The challenge for Markham over the next 20 years is to accelerate the transition from a primarily car-dependent community to one where cycling, walking, transit and carpooling are viable and attractive alternatives.



- 7.1.1.3 **To work** in collaboration with the Region to plan and design Markham's streets and the Region's arterial roads shown on Map 10 - Road Network to better balance the needs of all road users including pedestrians, cyclists, transit and motorists, and the integration of land uses.
- 7.1.1.4 **To support and encourage** other levels of government to give transit priority in the allocation of funds for major transportation infrastructure investment.
- 7.1.1.5 **To actively promote**, in consultation with other stakeholders, transportation demand management measures that make more efficient use of the existing transportation system and which may avoid or delay the high capital costs of road expansion by:
- reducing auto dependency by encouraging a greater proportion of trips to be made by walking, cycling or transit;
 - spreading out peak-period travel;
 - developing a parking strategy to increase Markham's control of on-street and off-street parking to support retail and other business activities in Markham's commercial areas; and
 - working with local transportation management associations, the Metrolinx Smart Commute Initiative and the Region to continue public outreach programs to increase the public's awareness, understanding and support of transportation demand management strategies.
- 7.1.1.6 **To phase** development growth, particularly in major mixed-use neighbourhoods and *intensification areas* and the 'Future Urban Area', in order to ensure that an acceptable balance between travel demand and transportation capacity is maintained.
- 7.1.1.7 **To ensure** that required transportation infrastructure initiatives that impact natural heritage areas or features are planned, designed and implemented to address the applicable environmental protection policies of the Oak Ridges Moraine Conservation Plan, the Greenbelt Plan, and Markham's Greenway System and other natural heritage policies of this Plan.

7.1.2 Transit Network

Unlike in the past, meeting the demands of future trip growth in Markham has to be primarily accommodated through the provision of enhanced transit services. A greater proportion of person trips will need to be taken by transit and dependence on the car reduced. By putting transit and the movement of people first, Markham's passenger transportation system will develop in a manner that makes the alternatives to car travel increasingly attractive for many urban trips, particularly the journey to work. For this approach to succeed, areas of enhanced transit service and development growth must coincide, particularly in new mixed-use neighbourhoods and *intensification areas* built around a grid pattern of streets to produce an urban form that supports transit use and also increases opportunities for people to walk and cycle.

By putting transit and the movement of people first, Markham's passenger transportation system will develop in a manner that makes the alternatives to car travel increasingly attractive for many urban trips, particularly the journey to work.

Future transit plans for Markham are largely defined by the York Region Official Plan and Transportation Master Plan and Metrolinx's Regional Transportation Plan, the Big Move, which combine to provide for a variety of rapid transit service based on bus, light rail, subway and commuter rail technologies, as well as supporting bus transit priority measures on a number of regional arterial roads as shown on Map 2 – Centres and Corridors and Transit Network. The Region establishes 2031 transit modal split targets for peak periods in Urban Areas (30 percent) and in Regional Centres and Corridors (50 percent) in Section 7.2.26 of the Regional Official Plan.

The planned extensions and upgrades to the transit system serving Markham will, in many cases, provide substantial and critical increases in transit capacity that come on-stream according to a schedule that is neither entirely predictable nor under the City's control. Given the vital importance of transit in serving new trips generated by development growth, it may prove necessary in some new mixed-use neighbourhoods and *intensification areas* to phase the implementation of land use plans to ensure that transit demand and capacity are kept adequately matched so that development growth does not outpace the expansion of transit services. In some cases, alternative funding sources should be explored to allow the early implementation of transit services.

Transit use can be further reinforced by appropriate streetscape design and better connections between transit stops/stations and surrounding development, as well as by improving linkages to the supporting network of pedestrian and cycling facilities. The so-called "last mile" of a trip can be a critical determinant of mode choice and the common preference for taking the car often reflects the convenience of door-to-door travel that this mode typically provides. Transit trips, on the other hand, usually involve walking or, in some cases cycling, to and from the transit stop and this can be a deterrent to transit use. It is in this area of strengthening the weakest link in the trip chain that Markham can improve the competitiveness of non-auto modes. The details regarding the design of the terminal points of transit trips and their connections to pedestrian and cycling routes can be positively guided by Markham through the *development approvals* process and the design of its streets and trails infrastructure.

It is the policy of Council:

- 7.1.2.1 **To work** with the Region, the Province and neighbouring municipalities to facilitate the implementation of the planned network of transit services shown conceptually on Map 2 – Centres and Corridors and Transit Network, and to structure new mixed-use neighbourhoods and *intensification areas* around these transit lines in support of the 2031 transit modal split targets established by Section 7.2.26 of the Regional Official Plan.
- 7.1.2.2 **To review**, in consultation with the Region, the Province and the City of Toronto, further improvements to support the planned network of transit services including, but not limited to:

Transit use can be further reinforced by appropriate streetscape design and better connections between transit stops/stations and surrounding development, as well as by improving linkages to the supporting network of pedestrian and cycling facilities.

- a) all day rail service, and alternative rapid transit technologies including electrification, on the existing CNR Bala, CNR Uxbridge and CPR Havelock rail lines as shown on Appendix E – Transportation, Services and Utilities; and
- b) redevelopment opportunities around the existing and proposed GO stations shown on Map 2 – Centres and Corridors and Transit Network and potential additional stations along the CNR Uxbridge line.

- 7.1.2.3 **To plan and design** new communities, major new developments and *redevelopments* in accordance with Markham, Regional and Provincial guidelines and policies for transit-supportive development, including reducing walking distances to transit stops.
- 7.1.2.4 **To work** with York Region to secure lands required for the public transit right-of-ways shown on Map 2 – Centres and Corridors and Transit Network, and for other transit-related purposes, through the *development approvals* process and at no public cost.
- 7.1.2.5 **To consult** with York Region and York Region Transit/Viva on measures to reduce delays to transit vehicles on Transit Priority Corridors, at major intersections and other congestion points while seeking to avoid the need for additional continuous traffic lanes.
- 7.1.2.6 **To work** in partnership with the Region to augment Markham’s transit network by:
- a) implementing improved local transit services to provide more direct transit links between adjacent communities;
 - b) extending transit priority measures to Markham controlled streets; and
 - c) engaging with the Region’s Smart Commute program, local Transportation Management Associations and the business community to explore the introduction of “smart shuttle” services which provide specific, dedicated and personalized access to transit services between major centres of commerce, transportation and employment.
- 7.1.2.7 **To work** with the providers of public transit to ensure their services are accessible to people of all ages and abilities.
- 7.1.2.8 **To support** the implementation of an equitable fare strategy that is integrated with transit services in adjacent Regions, the City of Toronto and with Metrolinx.
- 7.1.2.9 **To work** with York Region and the Province to develop funding mechanisms to facilitate the transit network in Markham.

7.1.3 Road Network

The road network is a key component of Markham’s transportation system and plays a defining role not only in the movement of people, goods and services but also in animating Markham’s physical character and shaping the quality of the public realm. The major elements of the road network include the provincial highways, regional arterial roads, local municipal arterial and major collector roads shown on Map 10 – Road Network. Minor collector roads are shown on a separate map contained in

The challenge 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.

Map 11 – Minor Collector Road Network.

Based largely on the historic pattern of the concession lines, the arterial roads provide the basic network on which the Markham's road system has evolved and over which, by far, the greatest volumes of intra-urban traffic are carried. However, as recognized in the Regional Official Plan, arterial roads must be planned to give increasing priority to serving the needs of transit users, cyclists and pedestrians if environmental and built-form planning goals are to be achieved. The challenge 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.

The design for arterial roads adopted by York Region in the Towards Great Regional Streets document addresses a number of these design challenges but does not fully encompass the more sustainable "complete streets" design philosophy recommended in the Markham Transportation Strategic Plan. Markham will work with Regional staff to ensure that future changes to the arterial road system are designed to fulfill the transportation planning and design objectives of the City to the maximum extent possible.

The collector road system provides transportation functions that fall between arterial roads and local roads. It allows connectivity between neighbourhoods for all modes of transportation. The collector road system is further divided into major collectors and minor collectors. Major collectors are generally 4 lane roads providing connectivity at mid-blocks across different neighbourhoods. Minor collectors have 2 lanes for vehicular traffic and are designed to provide a local linkage function in residential neighbourhoods to connect local roads to major collector roads or arterial roads.

The road network shall address applicable policies of Chapter 6 Urban Design and Sustainable Development.

It is the policy of Council:

- 7.1.3.1 **To define, develop and maintain** the major components of Markham's Road Network as shown on Map 10 – Road Network to include:
- a) provincial highways;
 - b) regional arterial roads as designated in Map 12 – Street Network of the Regional Official Plan;
 - c) Markham arterial roads and major collector roads;
 - d) mid-block crossing of provincial 400 series highways; and
 - e) the future Donald Cousens Parkway.
- 7.1.3.2 **To define, develop and maintain** Markham's minor collector system shown on Map 11 – Minor Collector Road Network, having regard for the protection of established low rise residential areas and the existing development pattern. Where approved by Council, minor collector roads may be added or deleted to Map 11 – Minor Collector Road Network



without further amendment to this Plan.

- 7.1.3.3 **To support** a grid pattern of road network development as a component of a required secondary plan, precinct plan and/or *comprehensive block plan* as outlined in Section 10.1.2, 10.1.3, and 10.1.4 by:
- a) creating continuous collector roads in both east-west and north-south directions where the opportunity arises in newly developing urban areas and in major infill development projects, including the provision of links to the existing road network where appropriate; and
 - b) generally discouraging local roads being built as cul-de-sacs or in other forms that disrupt the grid network.
- 7.1.3.4 **To require** conveyance through the *development approvals* process, additional lands needed to achieve:
- a) the designated right-of-way widths on Map 12 – Street Network of the Regional Official Plan and Map 10 – Road Network and Map 11 – Minor Collector Road Network of this Plan;
 - b) the right-of-way widths as required to support the road networks identified in secondary plans, precinct plans and *comprehensive block plans*; and
 - c) lands beyond the right-of-way widths for necessary features, such as intersection widenings, grading, grade separation, roundabouts, embankments, bicycle facilities, transit shelters, streetscape improvements and improved sightlines at no expense.
- 7.1.3.5 **That** roads are not closed to the public and remain in the public realm.
- 7.1.3.6 **To design and construct** all new roads and reconstruct existing roads by applying appropriate right-of-way design standards and having regard for urban design guidelines set out in Section 6.1.1.5 to:
- a) better balance the safety, accessibility, convenience and comfort of all street users, regardless of age or ability, including pedestrians, cyclists and transit riders and to provide a full range of travel choices;
 - b) encourage a more compact and sustainable urban form to:
 - i. reduce average trip lengths;
 - ii. support the use of walking, cycling and transit; and
 - iii. reduce overall dependence on car travel;
 - c) enhance the quality of the streetscape to create more attractive and vibrant communities for residents and businesses including increased opportunities for planting of street trees and accommodation of green infrastructure;
 - d) achieve better integration with adjacent land uses and improve connections to the trails and pathways systems, and to foster greater social interaction, and
 - e) transform the appearance and functioning of the road network over time by placing the overall emphasis on the movement of people not vehicles without compromising the safety of all road users.
- 7.1.3.7 **To work** with stakeholders from the Region, the Province and the community to support design initiatives and standards, taking into account the local context and planning objectives, that:

- a) increase road user safety;
- b) improve the enforcement of road safety measures; and
- c) support local traffic calming schemes where warranted on road safety grounds.

7.1.3.8 **To discourage and limit**, where possible, direct vehicular access from new developments abutting arterial roads and heavily used major collector roads by implementing access management principles such as the use of minor streets; lanes; shared driveways, and on-site interconnections between adjacent properties.

7.1.3.9 **To work** with the Region to develop methods whereby the movement of farm machinery, supplies and products along the north-south regional roads can be facilitated within Markham's agricultural areas.

7.1.3.10 **To enhance** road design and construction in the Countryside Agriculture Area, where feasible, to address farm access and machinery movement, wildlife movement, park settings, safe crossing and dark sky considerations.

7.1.4 Transportation Demand Management and Active Transportation

Transportation demand management measures seek to modify travel behaviour (demand) in ways that reduce both the number of single-occupant fossil fuel-powered vehicles and the levels of peak-period traffic in order to make more efficient use of the available transportation capacity (supply). Broadly speaking, these objectives can be achieved by encouraging people to take more trips by walking, cycling, transit and carpooling and other sustainable modes of transportation; by shifting to off-peak travel times; and by making locational choices that lead to fewer and shorter trips being made. Spreading out the peak travel period and reducing vehicular travel can also bring environmental benefits such as lower levels of pollution, greenhouse gas emissions and energy consumption.

Transportation demand management recognizes the importance of urban form or structure in determining the level and pattern of transportation demand. It is the intent of this Plan to pursue land use planning that supports transit use and creates a more attractive urban environment for active forms of transportation such as walking and cycling. However, this type of land use change comes gradually over a long period of time and the focus here is on a narrower set of transportation demand management initiatives that can be introduced to more immediate effect. Typical transportation demand management measures of this nature include carpooling; cycling and walking programs; flexible working hours; telecommuting; and parking management strategies. A recent development has been the creation of employer-based local Transportation Management Associations to develop and deliver customized transportation demand management programs across the Greater Toronto Area as part of the Metrolinx Smart Commute Initiative.

It is intended that land use planning will support transit use and create a more attractive urban environment for active forms of transportation such as walking and cycling.

Markham is an established and recognized leader in the field of transportation demand management, having already implemented numerous transportation demand management measures for municipal employees including ride matching, the provision of bicycle parking along with shower and change facilities, preferential carpool parking and discounted transit passes. These efforts continue to provide an important model for other employers to follow. It is recommended that all new significant development applications be required to submit a transportation demand management strategy as directed.

It is the policy of Council:

7.1.4.1 **To provide** leadership in the development, implementation and promotion of transportation demand management policies, programs and measures as an effective means of slowing the rate of growth in vehicle trips and managing peak-period congestion in the pursuit of a more environmentally sustainable future by:

- a) requiring that new significant development applications include a transportation demand management strategy;
- b) encouraging the inclusion of “travel plans” in the required transportation demand management strategies for non-residential development applications referred to in Section 7.1.4.1 a), in accordance with the Markham Transportation Strategic Plan;
- c) placing priority on the needs of pedestrians, cyclists and transit riders through the preparation of “mobility plans” in the ‘Future Urban Area’, as required by the Regional Official Plan;
- d) continuing to support and work with “Smart Commute Markham – Richmond Hill Transportation Management Association” to expand and strengthen the range of services offered to local workplaces;
- e) committing to support the continued provision of transportation demand management services and programs for Markham employees;
- f) supporting transportation demand management pilot projects as a strategic means to gain experience, develop best practices, build partnerships and demonstrate successful sustainable transportation initiatives; and
- g) continuing to work with the School Boards and the educational sector, and York Region to develop travel plans and to provide alternatives to car travel by developing safer and more attractive conditions for students to come to school by bicycle or on foot.

7.1.4.2 **To support** walking and cycling throughout Markham as competitive mobility choices for everyday activities such as work, school, shopping, business and leisure by:

- a) creating a more pedestrian-friendly environment that is interconnected by a network of safe, direct, comfortable and convenient pedestrian routes that are suitable for year-round walking;
- b) designing, constructing and integrating new streets and retrofitting existing streets, where appropriate, to focus on the needs of pedestrians, cyclists and persons with disabilities and ensuring safety, accessibility, convenience, and comfort of all street users are considered;

Markham is an established and recognized leader in the field of transportation demand management, having already implemented numerous transportation demand management measures for municipal employees including ride matching, the provision of bicycle parking along with shower and change facilities, preferential carpool parking and discounted transit passes.

- c) to work with York Region to ensure that sidewalks and street lighting are provided on all streets served by transit;
- d) supporting the provision of accessible, grade-separated crossings, where feasible and environmentally acceptable, at barrier points where major roads, highways, rail lines, and natural features such as ravines and waterways present a significant disruption to the movement of pedestrians and cyclists;
- e) promoting a safe and comprehensive network of signed bike routes, bike lanes, cycling trails and multi-use paths for cyclists of all ages and abilities generally as identified in Appendix D – Cycling Facilities based on the Markham and York Region Cycling Master Plans;
- f) implementing segregated bicycle lanes and/or off-road bicycle paths along arterial roads and major and minor collector roads where cycling safety is a foremost concern;
- g) enhancing and integrating convenient and secure public bicycle parking within:
 - i. inter-modal locations such as rail stations and transit stops;
 - ii. major trip attractors such as sports venues, entertainment centres, shopping complexes and community service centres; and
 - iii. the right-of-ways of streets in new mixed-use neighbourhoods and *intensification areas*;
- h) updating the zoning by-law to include bicycle parking standards and requirements for shower and change facilities in major non-residential developments;
- i) supporting the implementation of Markham’s Pathways and Trails Master Plan to create a connected network of off-road trails through natural areas and hydro corridors for use by pedestrians and cyclists;
- j) considering the introduction of a bike-share program for residents and visitors to Markham; and
- k) partnering with the Region and organizations in the local cycling community to support on-going promotional, safety and educational programs for pedestrians and cyclists.

7.1.5 Vehicle Parking

Parking policy is one of the major transportation planning instruments under Markham’s control and is an effective part of the transportation demand management approach to transportation planning. The availability of parking, in terms of amount, price and location, can be a determining factor in choosing whether or not to travel by car. However, parking also impacts built-form and business activity, influencing the way that Markham’s commercial areas and residential neighbourhoods look, feel and function.

Parking is generally regarded as a sterile use that consumes valuable urban land, creates unwanted gaps in the urban fabric, generates inconvenient and sometimes dangerous concentrations of traffic while, at the same time, supporting the use of the car, which causes these problems. Non-

It is intended that the amount of surface parking in Markham be reduced by requiring, through the development approval process, that new parking spaces shall generally be located in structures or garages, and preferably underground in intensification areas.

residential parking facilities are most effectively used when occupied intensively by short-stay users with a high turnover of parkers, as typically occurs in Markham's commercial areas where people visit for shopping, business and other services. All-day commuter parking, on the other hand, allocates an entire parking space to a single vehicle's use and is the most wasteful form of parking. It is the intent of this Plan to reduce the amount of surface parking in Markham by requiring, through the *development approval* process, that new parking spaces shall generally be located in structures or garages, and preferably underground in *intensification areas*.

Markham has a role in on-street parking, with regulated paid parking on some commercial streets and a permit-parking system on a number of residential streets. Direct involvement in off-street parking would enable Markham to develop parking policies for new mixed-use neighbourhoods and *intensification areas* that include the provision of centralized, public parking facilities and the opportunity to extend the efficiencies of shared parking to occur between, as well as within, buildings.

The Markham Transportation Strategic Plan and the associated City-wide parking strategy will address, among other things, revisions to the parking zoning standards applied throughout Markham to provide more progressive parking policies and standards such as those applied in Markham Centre.

It is the policy of Council:

- 7.1.5.1 **To develop** a City-wide parking strategy, implemented by individual business plans for various areas and a governance structure that will direct and oversee parking issues within the City, to:
- a) ensure the provision of adequate off-street, short-stay parking to support retail and other business activities in commercial areas; and
 - b) control the supply of all-day commuter parking, particularly in the form of surface lots in Regional Centres and *key development areas*.
- 7.1.5.2 **To prepare** business plans referred to in Section 7.1.5.1 which will include parking standards contained in Markham's zoning by-law to:
- a) establish minimum parking standards that may vary by location in Markham;
 - b) include a maximum parking standard for given land use classes in new mixed-use neighbourhoods and *intensification areas* and other areas well served by transit;
 - c) discourage reserved parking spaces accessible to single use only;
 - d) permit lower levels of required parking in mixed-use development projects where different patterns of parking among compatible uses will be shared;
 - e) permit reductions in the number of required parking spaces in multi-unit residential developments that provide dedicated car-share spaces;
 - f) limit the zones where commercial parking is permitted as a non-ancillary or stand-alone use; and
 - g) enhance accessible parking standards in accordance with the

Markham Accessibility Design Guidelines.

- 7.1.5.3 **To support** the inclusion of preferential parking measures for carpool vehicles, car-share vehicles and low-emission vehicles as part of transportation demand management strategies and to secure such arrangements through an appropriate agreement.
- 7.1.5.4 **To design** surface parking lots and above-grade parking garages to address pedestrian access, bicycle and carpooling parking, and in accordance with the urban design policies of Section 6.1.8.7.
- 7.1.5.5 To support the implementation of user pay parking at transit hub locations.

7.1.6 Goods Movement

For Markham's economy to function competitively, it is vital to maintain an effective, integrated and sustainable network of highways, arterial roads and rail freight lines to facilitate the efficient movement of goods and services. Much of the goods traffic in Markham passes through on the highways or by rail. Local freight is mainly transported on the arterial roads, particularly those serving the heavy generators of goods traffic, the employment lands and agricultural areas. The mixed-use neighbourhoods and *intensification areas* generally require delivery, pick-up and servicing by lighter commercial vehicles, supplemented, in some cases, by internal bicycle and pedestrian courier systems. Large development sites can require special, interim arrangements for truck and service vehicle access during construction.

The through component of truck traffic should be accommodated on the highways and selected arterial roads and directed away from mixed-use neighbourhoods and *intensification areas*. Encouragement should be given to clustering and containing freight and logistics activities into strategic consolidation centres. Measures should be undertaken to buffer nearby sensitive uses from the negative impacts of heavy goods traffic generated by these freight centres.

Within the congested parts of mixed-use neighbourhoods and *intensification areas*, consideration should be given to:

- regulating heavy delivery vehicle times;
- managing the use of curb-side space to facilitate deliveries, pick-up and servicing; and
- the introduction of package drop-off stations to consolidate and rationalize courier operations.

It is the policy of Council:

- 7.1.6.1 **To work** with the Region, Metrolinx, the Province and other agencies to plan for a comprehensive, effective, sustainable and integrated road and rail system of goods movement and service delivery to support the competitive positions of Markham's commercial areas and agricultural lands.

For Markham's economy to function competitively, it is vital to maintain an effective, integrated and sustainable network of highways, arterial roads and rail freight lines to facilitate the efficient movement of goods and services.

- 7.1.6.2 **To support** the recommendations of the Metrolinx Urban Freight Study, particularly with respect to:
- a) the establishment of an inter-governmental freight committee to facilitate the implementation and harmonization of approaches to and the regulation of freight movement across the Region;
 - b) the integration of land use and multi-modal goods movement planning and the development of freight-supportive land use planning guidelines; and
 - c) the establishment of an urban freight data collection program for the Greater Toronto and Hamilton Area.
- 7.1.6.3 **To facilitate and concentrate** truck traffic along selected strategic goods movement corridors to support the efficient functioning of employment areas and agricultural lands.
- 7.1.6.4 **To develop**, where required, specific goods movement and delivery strategies for mixed-use neighbourhoods and *intensification areas*.
- 7.1.6.5 **To update** Markham's zoning by-law to require new commercial developments to provide off-street facilities for vehicles engaged in loading, delivery, courier and servicing activities.
- 7.1.6.6 **To support** the clustering of freight and logistics activities and the buffering of these facilities from nearby sensitive uses.
- 7.1.6.7 **To consider** the regulation of truck delivery times and the implementation of curb-side management strategies to facilitate loading and delivery activities in congested parts of the *intensification areas*.
- 7.1.6.8 **To support** the introduction of package drop-off stations in commercial areas.
- 7.1.6.9 **To encourage** the routing of hazardous goods around urbanized areas.
- 7.1.6.10 **To support** innovation in goods movement and logistics systems technologies, and encourage energy efficiency measures in the freight movement sector.

7.1.7 Rail Network

The existing rail network as shown in Appendix E – Transportation, Services and Utilities provides important passenger and freight services to both Markham and the larger region. Wherever feasible, long-distance goods movement should be accommodated on the rail system rather than on the roads. The most important freight line in Markham is the CN York Subdivision that traverses the southern part of the City. It is a key link in the regional freight network and also provides local rail access to adjacent employment lands. Consistent with Ministry of the Environment guidelines, rail corridors should be protected from the encroachment of incompatible land uses that are sensitive to the noise, vibration and possible safety hazards associated with rail freight operations. Typically, such protection is afforded by imposing separation distances and/or some form of screening or buffering.



Markham is currently served by two GO-rail lines that provide limited peak direction, peak-period services, primarily to downtown Toronto. There are four GO-rail passenger stations in the City and two located at its borders. These stations contribute to the organization of Markham's structure and are defining elements in two of the Anchor Hubs and three of the Gateway Hubs identified in the Metrolinx Regional Transportation Plan as shown on Map 2 – Centres and Corridors and Transit Network. The Metrolinx 15-year plan calls for the introduction of full, all-day service on the existing GO-rail lines and the addition of a new GO-train service on the CP Havelock/Belleville Subdivision with a station at the East Markham Mobility Hub near Highway 407. The extension of the Yonge Subway line to support the development of the Langstaff Gateway Regional Centre or Anchor Hub is also included in the Metrolinx 15-year plan for the regional rapid transit network.

Passenger rail stations and rapid transit stations can no longer be viewed as isolated transfer points surrounded by acres of commuter surface parking lots but rather should be seen as opportunities around which to develop diversified activity centres that are fully integrated into the surrounding urban form with convenient connections to all travel modes, including walking and cycling. Other policies of this Plan regarding transit-oriented development, parking, network connectivity and the public realm deal in greater detail with these important issues regarding the design and fit of passenger rail stations and rapid transit stations in new mixed-use neighbourhoods and *intensification areas*.

It is the policy of Council:

- 7.1.7.1 **To protect** the existing rail lines shown in Appendix E – Transportation, Services and Utilities and promote rail as a safe and efficient means of moving people and goods.
- 7.1.7.2 **To protect** rail corridors from the encroachment of incompatible land uses that are sensitive to the noise, vibration and possible safety hazards associated with rail operations by imposing separation distances and/or forms of screening or buffering.
- 7.1.7.3 **To advocate** for the grade separation of road and rail crossings where warranted including the dedication of right-of-ways to construct future grade separations where there is an existing at-grade crossing of a Regional or City road and a rail line.
- 7.1.7.4 **To encourage** industrial and commercial activities in employment lands adjacent to rail corridors to make the fullest possible use of rail freight services to meet their goods movement needs.
- 7.1.7.5 **To support** the expansion of GO-rail services as recommended in the Metrolinx Regional Transportation Plan and the Regional Official Plan including:
 - a) the introduction of all-day, two-way service on existing GO-rail lines;
 - b) the planning and development of a new GO-rail passenger service on the CP Havelock/Belleville Subdivision; and

Passenger rail stations and rapid transit stations can no longer be viewed as isolated transfer points surrounded by acres of commuter surface parking lots but rather should be seen as opportunities around which to develop diversified activity centres that are fully integrated into the surrounding urban form with convenient connections to all travel modes, including walking and cycling.

c) the implementation of transit-supportive development around GO stations located in *intensification areas* with accompanying measures to minimize the area of land devoted to commuter surface parking lots.

7.1.7.6 **To support** the extension of the Yonge Subway line to serve the development of Langstaff Gateway Regional Centre.

7.1.7.7 **To support**, over the long term, the electrification of GO-rail passenger services, consistent with Section 7.1.2.2 a).

7.1.8 Airports

There are two privately owned airports operating in Markham: the Toronto Buttonville Municipal Airport and the Markham Airport shown in Appendix E – Transportation, Services and Utilities. Aviation has long been a component of Markham’s transportation infrastructure and Markham has worked cooperatively with the Federal and Provincial aviation authorities in the planning, development and operation of these two airports.

The Toronto Buttonville Municipal Airport site comprises approximately 70 hectares adjoining Highway 404 south of 16th Avenue. Buttonville Airport serves a range of aviation activities, including commercial cargo operations, air ambulance and police services, corporate flights, charters, and flight training schools. In 2010, the airport lands were sold with the expectation that the site will eventually be redeveloped for other urban uses to accommodate primarily employment-generating activities.

Markham Airport is sited on a 16-hectare property east of Highway 48 and north of Elgin Mills Road. Operations at Markham Airport are limited by its 2,000-foot runway and the fact it is surrounded by protected agricultural lands that restrict further expansion of the airport. The airport is partially located on lands owned by the federal government for the development of the proposed Pickering Airport. The establishment of the Pickering Airport would likely lead to the closure of Markham Airport. Until this happens, Markham Airport is expected to continue functioning much as it does today.

The Pickering Airport Site was formally established on lands owned by the federal government in August 2001. The portion of the site within Markham includes approximately 1,800 hectares, generally located east of Highway 48 and north of 16th Avenue as shown on Appendix E – Transportation, Service and Utilities. The portion of the Pickering Airport Site in Markham is identified as Greenbelt within the Provincial Greenbelt Plan. A portion of these lands is also subject to the Oak Ridges Moraine Conservation Plan.

Airport Zoning Regulations applying to the lands in the vicinity of the site were approved by the federal government in 2004. These regulations apply to a substantial area of land within Markham and Noise Exposure Forecasts have also been established for the site. In addition, an area of land in northern Markham, remains subject to a Provincial Minister’s



Zoning Order dating from 1972, that controls the use of land within the Order area. Policies respecting the Airport Zoning Regulations and the Minister's Zoning Order are contained in Section 9.10 of this Plan.

It is the policy of Council:

- 7.1.8.1 **To support** the continued functioning of the Toronto Buttonville Municipal Airport until the future disposition of the airport lands is more fully determined.
- 7.1.8.2 **To provide** for the continued operation of the Toronto Buttonville Municipal Airport and to work with the Region and the landowners to determine the details of the future, long-term use of these lands through an implementing secondary plan process in accordance with Section 8.5.1.5.
- 7.1.8.3 **To require** all new development adjacent to Toronto Buttonville Municipal Airport to comply with applicable Federal and Provincial Zoning Regulations until such time as airport operations cease.
- 7.1.8.4 **To permit** the continued operation of the Markham Airport until such time as the Federal Government is able to confirm the function of the airport relative to the operation of the proposed Pickering Airport, and to prohibit the expansion of Markham Airport onto adjacent agricultural lands.

7.2 SERVICES AND UTILITIES

Markham municipal services (water supply, sanitary sewers and storm sewers) provide for the safe and effective delivery of water and wastewater services by York Region. Markham also coordinates the provision of utilities by private providers including solid waste and recycling collection, telecommunications, street lighting, gas, electricity and Markham District Energy.

Markham invests in new municipal infrastructure and system upgrades from time to time to meet planning objectives and ensure a “state of good repair” in order to protect the valuable assets that are built to last and to operate efficiently. The City will ensure that system upgrades and new municipal infrastructure is climate-resilient to address the impacts of climate change and protect human and environmental health.

Markham promotes a culture of conservation and waste minimization. In addition to the waste management targets outlined in Section 7.2.2, water conservation targets and energy conservation strategies are outlined in Section 6.2.2.

7.2.1 Municipal Water and Wastewater

Municipal drinking water in the urban area of Markham is lake-based and supplied by York Region. Wastewater collection infrastructure and services are also supplied by York Region. On lands outside the urban area in Markham, private wells and private wastewater treatment systems are utilized.

Markham invests in new municipal infrastructure and system upgrades from time to time to meet planning objectives and ensure a “state of good repair” in order to protect the valuable assets that are built to last and to operate efficiently.

It is a policy of Council:

- 7.2.1.1 **To coordinate** the provision of municipal water and the collection of wastewater for domestic consumption, industrial uses (not including for cooling purposes) and fire-fighting.
- 7.2.1.2 **To apply** lifecycle cost analysis and full cost recovery to water and wastewater services reflecting economic, social and environmental costs.
- 7.2.1.3 **To coordinate** with the Region the delivery of water and wastewater infrastructure required to support future growth, particularly in *intensification areas* and the 'Future Urban Area'.
- 7.2.1.4 **To coordinate** the provision of municipal water and wastewater infrastructure capacity with *development approvals* to ensure both regional and local services are available prior to issuance of building permits.
- 7.2.1.5 **To phase** the allocation of municipal water and wastewater servicing capacity to new development or *redevelopment* in the urban area and the 'Future Urban Area' in accordance with the policies of this Plan, criteria established by Council, and in accordance with York Region's servicing allocation. Council may delay or phase the timing of the development based on availability of municipal water and wastewater collection capacity.
- 7.2.1.6 **To require** all new development or *redevelopment* within the urban area and the 'Future Urban Area' to be on full municipal water and wastewater treatment services except on lands designated 'Residential Estate', in which the primary supply of water and disposal of wastewater is generally from private sources.
- 7.2.1.7 **To work** with the Region and the development community to achieve water conservation in keeping with York Region's Long Term Water Conservation Strategy.
- 7.2.1.8 **To work** with the Region and the development community to reduce the amount of inflow and infiltration in both local and Regional wastewater systems in keeping with York Region's Inflow and Infiltration Reduction Strategy.
- 7.2.1.9 **To ensure** that applications for *development approval* are accompanied by the appropriate servicing study as identified in Section 10.6.2 of this Plan. The City may require that a servicing study address the impact of the *development approval* on an area extending beyond the site of the application.
- 7.2.1.10 **To require** landowners within the urban area to connect to municipal services at no cost to Markham where municipal water and wastewater services are available.
- 7.2.1.11 **To only permit** individual private on-site wastewater systems where no adverse impact to soil or groundwater quality is demonstrated to the satisfaction of Markham and subject to the Oak Ridges Moraine



Conservation Plan and the Greenbelt Plan where applicable, or other regulations and senior government public health policies.

- 7.2.1.12 **To encourage** the safe and effective maintenance of private wells and individual private on-site wastewater systems in order to protect and improve groundwater quality.

7.2.2 Solid Waste Management

The solid waste management system is a shared responsibility with Markham and York Region. The Region is responsible for the processing, transfer and safe disposal of waste, while Markham is responsible for the collection and transportation of waste to disposal facilities. It is the intent of Markham to promote leadership in waste management by meeting and exceeding regional and provincial waste diversion and processing targets where possible, supporting innovative technology where appropriate and advocating for packaging reduction and extended producer responsibility legislation. The focus of Markham's waste management strategy is a sustainable three-stream approach to waste reduction, recycling and composting. This includes programs to achieve Markham's 80-percent residential target and 30-percent multi-residential high-density target for reduction and diversion. The targets will be reviewed and updated as appropriate.

It is the policy of Council:

- 7.2.2.1 **To provide** progressive and innovative waste management services in a fiscally responsible manner that promote waste reduction techniques and extended producer responsibility to preserve natural resources and protect the environment.
- 7.2.2.2 **To work** cooperatively with the Region in the preparation and implementation of the York Region Waste Management Master Plan and coordinate compliance with the Region's processing facility requirements.
- 7.2.2.3 **To require** that applications for *development approval* shall conform to Markham's Waste Management Guidelines including matters such as loading space provision, waste storage room design, collection and storage of recycling materials, odour control and restriction on outdoor storage.
- 7.2.2.4 **To deliver** a sustainable and integrated waste management program that addresses:
- three-stream waste management in existing and all new building types;
 - litter reduction and management;
 - responsible waste management practices encouraged through public education awareness programs;
 - Zero Waste Management targets for all Markham facilities and buildings; and
 - Provision of services for hazardous waste removal and recycling of materials such as batteries, carbon fluorescent light bulbs and electronic products.
- 7.2.2.5 **To support** the integration of collection depots in existing and future

The focus of Markham's waste management strategy is a sustainable three-stream approach to waste reduction, recycling and composting.

Markham facilities to ensure an equitable distribution of collection services across the municipality.

- 7.2.2.6 **To identify** appropriate locations for recycling and transfer facilities in support of Markham’s Waste Management programs and secure these locations through zoning.
- 7.2.2.7 **To prepare** a strategy for the diversion of construction and demolition waste in new development and *redevelopment*.
- 7.2.2.8 **To seek** appropriate and innovative design solutions to address waste management requirements in multi-storey buildings including three-stream waste collection (garbage, recycling and organics).

7.2.3 Utilities and Communications

Utility corridors, street lighting and communications are essential services that contribute to the built environment by transporting energy, transmitting data and supporting communication. In the urban area, utility networks are located within shared public right-of-ways or within their own right-of-way. Major utility corridors include a north-south and east-west Hydro One electricity transmission corridor and an underground high pressure natural gas pipeline operated by TransCanada Pipelines as shown in Appendix E – Transportation, Services and Utilities.

In addition, private providers have invested in significant telecommunications infrastructure. The Markham Policy for Establishing Telecommunication Towers has been prepared to provide direction on the development of wireless communication infrastructure. Upgraded infrastructure will continue to be required in Markham to support mobile telephones, cable land-lines, fibre-optic networks, high-speed telecommunications, internet use and future technology. It is the intent of this Plan to support the provision of utilities and high-speed accessible communications.

Markham District Energy (MDE) owns and operates an EcoLogo certified community energy system that produces local and sustainable heating and cooling energy and electricity. As Markham continues to grow, Markham District Energy is committed to serving the urban centres of the expanding municipality. Two local energy plants are operating in Markham Centre, and a third energy plant is operating in Cornell Centre.

It is the policy of Council:

- 7.2.3.1 **To coordinate** with utility providers the location, maintenance and renewal of utilities and services within the public right-of-ways.
- 7.2.3.2 **To ensure** that utility corridors within public rights-of-way be adaptable and flexible so that they may accommodate new technologies and long-term needs.
- 7.2.3.3 **To support** the operation of high voltage hydro corridors by regulating adjacent land use including appropriate setbacks.
- 7.2.3.4 **To work** cooperatively with Hydro One and the Province to encourage

As Markham continues to grow, Markham District Energy is committed to producing local and sustainable heating and cooling energy and electricity to serve the urban centres of Markham.

appropriate secondary uses for transmission corridors including, but not limited to, stormwater management facilities, district heating and cooling facilities, trails and linear parks, community gardens and agricultural uses, appropriate naturalized low-maintenance landscaping and transportation.

- 7.2.3.5 **To work** with the Region and utility providers to ensure appropriate utility design and placement, including locating cables, electrical circuits and other utility structures underground in order to minimize visual impacts. Markham and the Region shall encourage priority areas for underground installation of utilities in new communities and *intensification areas*.
- 7.2.3.6 **To work** cooperatively with appropriate agencies to design transformer stations in a way that is sensitive to the surrounding context and to provide enhanced landscaping where appropriate.
- 7.2.3.7 **To require** the proponents of any development, *redevelopment* and *site alteration* adjacent to the TransCanada pipeline shown in Appendix E – Transportation, Services and Utilities, or a natural gas compressor station to:
- obtain approval by TransCanada Pipelines where development, *redevelopment* or *site alteration* is located within the mandatory setback distance;
 - locate buildings and structures a minimum setback from the pipeline right-of-way, as determined by TransCanada Pipelines and the National Energy Board;
 - locate any accessory and temporary structures, landscaping and parking within the setback boundaries, subject to the approval of TransCanada Pipelines; and
 - consult with TransCanada Pipelines where development, *redevelopment* and *site alteration* is located within 200 metres of the pipeline right-of-way or natural gas compressor station.
- 7.2.3.8 **To work** cooperatively with TransCanada Pipelines and other utility providers to encourage the use of their right-of-ways for open space, natural heritage, trail purposes, community gardens and agriculture use.
- 7.2.3.9 **To encourage** telecommunication service and data network providers to integrate new facilities into existing and new communities by:
- co-locating cellular transmission facilities wherever possible and where appropriate, to minimize visual impacts of wireless towers; and
 - using existing support structures (i.e., light poles, roof tops, etc.) and stealth design techniques for new telecommunication facilities where co-location of cellular transmission facilities is not possible.
- 7.2.3.10 **To work** in partnership with Markham District Energy to provide leadership in the design, development and use of community energy systems in Markham and to promote Markham as a demonstration site for new technologies addressing climate change and energy.

