3.1 The Vision

Preferred Community Master Plan

Southwest Kitchener Urban Areas Study

The Community Master Plan will guide the detailed planning and development of the Southwest Kitchener urban area for the next 20 years.

The Vision for the Southwest Kitchener Study Area is based on the twofold intent of ensuring that future development is in the form of pedestrian friendly, compact and diverse neighbourhoods, as well as to ensure that Fischer Hallman Road evolves into a transit supportive, pedestrian friendly corridor.

The following Design Principles further articulate the Vision and are based upon the City of Kitchener’s Suburban Neighbourhood Urban Design Guidelines.

Design Principles

1. WALKABILITY: to create a coherent and connected system of walkable neighbourhoods that support the typical walking distance of 400 metres (5 minutes) to daily activities and 800 metres (10 minutes) to higher order transit and community amenities;

2. VARIETY: to build neighbourhoods that provide a range of housing types, park and open spaces and neighbourhood focal points.

3. PLACEMAKING: to create streetscape high quality, and contribute to neighbourhood character and sense of place.

4. CONSERVATION: to conserve, protect and integrate existing natural and cultural heritage resources.

5. CONNECTIVITY: to provide multiple route options for all modes of travel.

6. TRANSIT SUPPORTIVE: to design and build neighbourhoods that provide greater opportunity for transit usage.

7. SAFETY: to promote design practices that contribute to neighbourhood safety.
8. **BALANCE**: to promote neighbourhood design quality through a balanced approach with economic considerations.

9. **LIVEABILITY**: to promote design solutions that contribute to sustainable practices, the celebration of arts and culture, and the development of healthy and complete communities.

**Guiding Principles**

The comprehensive land use, infrastructure, and open space strategy on which the vision for the Southwest Kitchener Study Area is based seeks to:

1. Deliver a Land Use strategy that will ensure development within the Southwest Kitchener Study Area will allow for

   a. compact and diverse neighbourhoods;

   b. a full range and mix of housing densities and uses, including housing that is more affordable;

   c. the delivery of a full range of uses that allow residents to live, work and play within the community;

   d. the establishment of Fischer Hallman Road as a viable corridor that supports Regional transit modal split targets by delivering a dense, compact form of development;

   e. the establishment of a mixed use corridor on Fischer Hallman with a distinctive node that includes a transit hub in the Fischer Hallman-Huron Rd area;

   f. the incorporation of identified heritage buildings into the surrounding development in a meaningful manner.

2. Deliver an Open Space strategy that will ensure the delivery of:

   a. a comprehensive management strategy of the surrounding natural heritage by establishing appropriate performance standards regarding its conservation, enhancement and transition to adjacent development;
3. Deliver an Infrastructure Strategy that will ensure:

   a. an interconnected and hierarchical street network strategy is in place to support future traffic and transit needs;

   b. the delivery of clear and defined neighbourhoods by identifying the inherent urban role of all bounding roads i.e. spine vs. dividers;

   c. an alternate north-south and east-west road structure that further strengthens the community’s pedestrian and vehicular interconnectivity;

   d. that Fischer Hallman Road in its corridor capacity, functions as the central transit and traffic spine of this community by delivering a pedestrian friendly, high quality public realm;

   e. the further enhancement and service expansion of the existing transit system complemented by the proposed transit station;

   f. ensure a water recharge strategy is delivered in accordance to the Alder Creek and Upper Strasburg Subwatershed Study requirements;

   g. the Subwatershed required water recharge targets for flow and infiltration.
3.2 Structuring Elements

3.2.1 Community Structure

The community structure of the Southwest Kitchener Study Area Master Plan is predicated on the identification of four neighbourhood areas and a mixed use corridor.

**Fischer Hallman Corridor**

The corridor has been defined by an average width of 100m on either side of Fischer Hallman Road with the exception of the gateway nodes. The corridor’s existing grade condition, as well as its intersecting natural heritage features and existing road network, results in a distinctive corridor flanked by two gateways:

1. A primary mixed use gateway node at the intersection with Huron Road; and,
2. A secondary mixed use gateway node at the intersection of the study’s main east-west collector road.

**SW Kitchener Neighbourhoods**

Four distinctive neighbourhoods have been identified, based on a 400 metre (5 minute walk) pedestrian radius. An internal east-west and a north-south collector road system links all four neighbourhoods. The collector system is intended to be the basic structure on which future transit can circulate. The intent is to develop pedestrian scaled, compact neighbourhoods with clear identifiable centres, usually comprised of open space areas.
Land Use Structure Plan
The following five structuring elements of the plan further describe how the community is intended to be delivered.

1. Land Use Structure
2. Open Space Structure
3. Road Structure
4. Sustainability
5. Servicing

3.2.2 Land Use Structure

The Southwest Kitchener Study Area is approximately 430 hectares (1,072 acres) in size, with approximately 380 hectares (940 acres) of land having substantial development potential. The proposed Community Master Plan can accommodate approximately 21,000 residents and 4,000 jobs. The planned density is currently a minimum of 60-65 persons and jobs per hectare. (For the purposes of macro-level estimations of residents, employment and density the mid-point of the density ranges was assumed with an average persons per unit and certain assumptions for amount of non-residential space and space per employee. Detailed calculations will be further refined through subsequent planning and development processes.)

The anticipated development is distributed among the previously described neighbourhoods and mixed use corridor, each of which has different expectations for mix use and built form. It is important to note that this level of development will take many years to achieve.

Density Assumptions:

- The proposed land use structure includes the following urban categories and permitted uses:
  - Low Rise Residential 1 (25 units per hectare): permits single detached, duplex, semi-detached and street townhouse dwellings.
• Low Rise Residential 2 (26-60 upha): will accommodate a full range of low density housing types including single detached dwellings, duplex dwellings, semi-detached dwellings, townhouse dwellings and low-rise multiple dwellings.

• Medium Rise Residential 1 (26-100 upha): permits townhouse and multiple dwellings with building heights ranging from 3-8 storeys and a maximum Floor Space Ratio of 1.0.

• Medium Rise Residential 2 (60-200 upha): permits townhouse and multiple dwellings with building heights ranging from 3-8 storeys and a Floor Space Ratio range of 0.6 to 2.0. This category shall have special provisions to permit purpose-built Live/Work units.

• High Rise Residential (100-400 upha): permits townhouse and multiple dwellings with no maximum building height and a Floor Space Ratio range of 1.0 to 4.0. This category also permits convenience commercial uses.

• Mixed Use: permits a range of neighbourhood and corridor-oriented retail/commercial uses, office and residential. There will be different categories or scales of mixed use to be further defined in the Secondary Plan and subsequent development phases. Lower scale mixed use sites, such as those along Bleams Road and at Seabrook may include a residential dwelling density range of 26-200 upha and a minimum non-residential building height of 2 storeys. Higher-order mixed use sites along the Fischer Hallman corridor and within any nodes may have a residential density range of 100-400 upha and a minimum non-residential building height of 2 storeys.

• Neighbourhood Institutional: permits educational establishments, religious institutions, community facilities such as community centres and libraries, along with single detached, duplex and semi-detached dwellings at a range of 10-25 upha.

• All land use categories will permit supportive/affordable housing with the preference for such assisted housing sites to be incorporated into lands near the Fischer Hallman mixed use corridor.

The underlying concept inherent to the development of the land use strategy is based on:

1. providing an appropriate transition between the corridor and the neighbourhoods,

2. providing a balanced mix of uses that respond to the scale and function of each community area,

3. providing an appropriate density form along all transit corridors.

3.2.2.a Fischer Hallman
Land Use Structure

The corridor holds a majority of the mixed use and high density development opportunities within the Study Area. Its intent is to enable the corridor to evolve into a pedestrian oriented, mixed use area that is transit supportive.

The implementation of an urban context within this area hinges on the following:

1. the creation of a fine grained enhanced network of public streets and lanes. This network will result in the creation of smaller development parcels and the reduction of potentially large surface parking areas to create a pedestrian friendly area;

2. the careful transition to adjacent neighbourhoods. Development along the corridor is predicated on a block depth that allows development to occur on either side of the block. Appropriately sized blocks permit development to occur in an incremental manner as the community and the corridor evolves into a higher order pedestrian
and transit environment. In this case, an average block depth of 80 metres has been assumed to accommodate for development fronting onto the corridor, as well as the internal neighbourhood with space for an internal service lane.

It is the intent of this land use strategy that, over time, the Fischer Hallman corridor will incorporate a mix of uses, with retail, primarily at grade, and medium to high density residential and/or offices above grade. Larger scale retail uses are projected to be located at the main Huron Road gateway node while smaller scale service retail and employment opportunities are encouraged at key community amenity nodes and mayor intersections.

The Community’s primary gateway node, located at the intersection of Fischer Hallman and Huron Road, is intended to evolve over time into a four corner gateway accommodating for some of the Community’s higher order amenity uses, such as a transit node, large scale mixed use and a District Park (located outside the Country Side Line) that is envisioned to house a twin pad gym, an arena, pool, and outdoor play-fields. Over time, a transit station might be integrated with future development.

3.2.2.b Fischer Hallman Corridor
Built form Strategy

Proper treatment of ground floor frontages, building uses and programming is essential to provide an outstanding and animated public realm. Destination areas, such as the Fischer Hallman Gateway node or community amenity areas, will be addressed through a combination of ground floor related retail shops, restaurants and office uses to ensure proper generation of public activity.

Seasonal weather protection through the incorporation of colonnades, glazed atriums and sheltered courtyards are encouraged to help enhance the year round appeal of the pedestrian environment. This strategy will require new buildings to, not only provide for appropriate uses, but to include architectural elements that provide weather protection.
3.2.2.c Neighbourhood Land Use Structure

The land use strategy envisioned for the Southwest Kitchener neighbourhoods is predicated on the following:

1. neighbourhoods are to have identifiable centres, either in the form of open space or institutional uses, located within 400 metres walking distance;

2. each neighbourhood further contains identifiable sub-neighbourhood centres, in this case in the form of small open space amenity areas (village greens). Each sub-neighbourhood is defined approximately by a 200 metre walking distance;

3. neighbourhood areas located adjacent to the Fischer Hallman corridor are planned for higher density uses transitioning to lower densities. Buildings along Fischer Hallman Road are well suited for ground floor retail or office at grade, with residential or office above;

4. community amenity uses are to be located near transit routes;

5. neighbourhoods are to be serviced by small scale community amenity nodes with commercial opportunities located along main transit and traffic routes;

6. medium rise densities are located along transit routes and neighbourhood centres transitioning to low rise densities located at the interior of the neighbourhood, further west from Fischer Hallman;

7. all stormwater management facility locations are based on preliminary design and best practice locational criteria. Their final location and sizing is expected to be further refined at the draft plan approval stage;
Fischer Hallman Road landmarks will culminate with important road views and herald, from a distance, key entry points to the community as a whole, as well as, surrounding neighbourhoods. These sites are places were additional height is encouraged, in relation to the immediate surrounding buildings, in addition to high level of urban design and architectural quality. Gateways can be furthered strengthened with special landscape and public art treatments.

**Neighbourhood Landmarks**

Neighbourhood landmarks are special sites within each neighbourhood that have a prominence because of their location at important intersections or highly visible locations adjacent to significant open spaces. Local landmarks can be created through special architectural and landscape architectural treatments as well as public art.
Open Space Structure Plan
3.2.3 Open Space Structure

The Southwest Kitchener Community Master Plan Open Space structure defines a hierarchy of parks and green spaces that are sinuously linked with the Natural Heritage and stormwater management facilities; offering a multiplicity of high quality public open spaces in a variety of sizes and providing for an assortment of functions within a range of walking distances.

The Open Space structure is based on the principles of good urban design observed in the City of Kitchener’s Suburban Neighbourhood Urban Design Guidelines. These principles also adhere to Regional and Provincial growth plan strategies, as well as the City’s Municipal Plan policies, and are reflected throughout all aspects of the Plan.

Key elements of the Open Space Structure include:

1. The Natural Heritage System as well as all parks, village greens, utility corridors, and storm water management facilities, form a connected environmental system that provides a variety of open space for an array of recreation and leisure activities.

2. Pedestrian and green connections adjacent to natural heritage features are planned to anticipate usage and to avoid impact on the features and their environmental functions.

3. The Open Space links the Community and its neighbourhoods not only to the nearby existing built areas, but provides a harmonious transition to surrounding environmental features existing outside of the Study Area as well.

4. The proposed structure enables ease of access and improved connections throughout the Community.
5. The proposed structure incorporates opportunity for a connected pedestrian network on trails, walkways and sidewalks, connecting the community with surrounding neighbourhoods, higher order transit and a variety of destinations allowing for continuous movement throughout the community.

6. Safe pedestrian and cyclist crossings of Fischer Hallman Road are implemented at the Hydro Corridor and the future Huron Natural Area extension.

What follows is an overview of the major components of the Open Space Structure:

3.2.3.a Natural Heritage System (NHS)

The NHS of the Southwest Kitchener study area is comprised of the following key natural heritage and key hydrologic features:

1. Core Environmental Features (as defined in the SIS and by the RMOW – Williamsburg Woods ESPA);

2. Woodlands;

3. Wetlands (PSW’s, Evaluated Wetlands);

4. Enhancements to natural heritage features, including buffers (30 m) and linkage connections comprising existing hedgerows, cultural communities and restored lands;

5. Habitat for threatened species;

6. Significant groundwater recharge areas (associated with wetlands); and,

7. Floodplains

In keeping with the direction of the Alder Creek and Upper Strasburg Creek Sub-Watershed studies, and precedents set elsewhere in the Grand River watershed, a minimum 30 m buffer has been applied to the various components that comprise the recommended NHS. The linkage connection between the NHS features is achieved through a combination of 30 m buffers, retention of cultural hedgerows and meadows, and restoration of agricultural land and gravel pit lands (i.e. side slopes along southern boundary).

Incorporation of compatible open space land uses will assist in achieving the linkage connection. Compatible land uses within buffer and linkage enhancement areas (where supported by an EIS) include passive park uses with naturalization, groundwater recharge SWM facilities, naturalized grounds of institutional/schools, and greenways. The minimum width of the linkage connection between natural heritage features, such as wetland and woodlot pockets should be 100 m. A Scoped EIS will be required at the time of draft plan application to demonstrate that the minimum buffer (30 m) and corridor (100 m) widths are appropriate or whether increased protection is required.

Further direction and guidance on the location and width of the linkage connection across the study area can be found in the Alder Creek and Upper Strasburg Creek Watershed studies.

MNR comments on the Jefferson Salamander Study Area (JESA) surveys (2011, 2012) will determine the final limits of regulated habitat under the ESA, which will govern i) the most appropriate location for a north-south collector road, ii) woodlot buffer requirements, and iii) appropriate adjacent land uses, including SWM. Design criteria to protect JESA habitat includes:
1. maintaining the pre-development volume, pattern and quality of groundwater and surface water inputs to breeding ponds;

2. restricting public access, where appropriate, to sensitive/critical habitats through appropriate trail locations (or no trails), increased buffers, and fencing with dense shrub thicket plantings (e.g. brambles, dogwood) along woodland edges;

3. rear lotting adjacent to a critical habitat feature (woodlot with breeding pond) should not be allowed;

4. public open space uses with deterrents to access along the edge of the feature should be located adjacent to the habitat feature;

5. single-loaded roads may be considered provided there are appropriate deterrents to public access along the edge of the feature; and,

6. in consultation with MNR an environmental monitoring program and impact contingency plan for JESA should be made a condition of draft plan approval.

It is important to note that the Fischer Hallman Corridor is bisected, at two points, by the NHS visually defining future development along the corridor and providing for extraordinary views, vistas and linkage opportunities to the existing natural context. These partitions present an opportunity to link the proposed Fischer Hallman corridor to the greater NHS by locating gateway markers or trail head information signs at these points.

3.2.3.b Neighbourhood Parks, Village Greens & Semi-Public Open Spaces

Neighbourhood parks provide opportunities for active and passive recreation for surrounding residents. The neighbourhood parks located within the Study Area’s Open Space System are each designed to perform a particular function within its context and are therefore often located strategically adjacent to a school (as is seen in the centre of the System, just south of the hydro corridor abutting a public school) and wherever possible are integrated with, or linked to, a nearby Natural Heritage feature (as shown in the western most portion of the Plan where a neighbourhood park is located adjacent to a supporting environmental feature and pond). Located at the centre of each neighbourhood, these parks are easily accessible within a 5 minute walk by residents of all ages within a 400 metre radius. The neighbourhood parks shall range between 1.5 to 2.0ha in size.

A village green is a smaller component of the Open Space scheme that is used throughout the Plan to connect to larger portions of the System. Through this connective fabric, these parkettes help to close gaps within and between the NHS and neighbourhood parks. Village greens range in size between 0.5-0.25 hectares. These green gathering spaces are dispersed throughout the neighbourhood and are often accessible within a 2 minute walk or 200 metre radius from the centre. Village greens are often associated with areas of high pedestrian activity (as seen in the Plan, located within, or near, mixed use and retail areas all along the Fischer-Hallman Corridor) and provide a neighbourhood focal area or feature that gives character and enables a range of passive and informal uses.
In addition to the neighbourhood parks and village greens, a series of semi-public open spaces are encouraged at inner-block locations along the Fischer Hallman corridor. These spaces range from urban squares and patios to terraces and courtyard greens. The functional and spatial characteristics of the urban green will vary depending on the building typology and size of the block. Of particular importance will be key intersections where mixed use land uses are located, such as the identified primary gateway node at Huron Road.

Private open spaces related to residential uses can be located at grade or above grade in the form of rooftop gardens that further enhance the residential environment. All development applications should identify potential locations for these amenities.

### 3.2.3.c Environmental Links; Green, Pedestrian Links & Trails

Environmental and green, pedestrian links within the Open Space System serve an important function in the community in that they provide an increase in permeability and connectivity. Meant to encourage pedestrian travel through neighbourhoods and open space features or to link major natural environments and neighbourhood parks, these pathways often accommodate multiple uses and provide meaningful active transportation connections throughout the community and to adjacent communities as well.

One such linkage corridor can be found in the western portion of the Plan where a series of small wetlands and larger woodlots form the key elements within the connection across the existing cultural habitat. Similarly, another linear open space corridor runs along the gas line easement and Hydro corridor in the east. This green easement would double as a pedestrian space that provides the possibility of a continuous linked open space and multi-use trail from Huron Road to the Community Centre in the north with the potential link to additional open spaces further north and eventually to Bleams Road.

A complete Community Trail System Plan is required to link the open space land uses within and beyond the Southwest Kitchener Study Area in both a north-south and east-west direction. Additionally, connections to this system must also be provided adjacent to sensitive or protected natural areas. As a result, a more comprehensive Trail System should be reviewed in the field with a qualified ecologist to determine the most appropriate location of routes and later finalized at the Secondary Plan level.

### 3.2.3.d Williamsburg Cemetery

The medley of woodlots and wetlands located to the north and south of the Williamsburg Cemetery has been evaluated and identified as a Core Environmental Feature (Williamsburg Woods Environmentally Sensitive Policy Area) in the Region of Waterloo Official Plan (2009). Located midblock along the spine of the Fischer Hallman Corridor, the Cemetery bisects the north and south portions of the community. Despite the challenge of this physical barrier, the Williamsburg Cemetery presents the opportunity for integration into the Open Space System as a niche for passive and active recreation, encouraging more pedestrian and possibly even cycling activity in the area.

Providing a pedestrian, green link through the Cemetery lands will maintain the lands’ integrity by avoiding direct vehicular access through cemetery,
3.2.3.g Hedgerows

The study area includes a number of hedgerows that provide for interesting view corridors as well as community character. It is encouraged, when possible, to incorporate these features into the street and block network.

3.2.3.h Stormwater Management Ponds

Stormwater management pond facilities are key features within the Open Space System, contributing to the overall livability of the community, while achieving functional objectives related to stormwater management. Stormwater management facilities will be designed as special landscaped amenities that are accessible, safe and visible to the community. However, given the significance and sensitivity of the natural environment features within the Study Area, naturalization of the buffers and ponds with native species is advised in order to enhance the function and integrity of the NHS and increase its resilience to development of the surrounding neighbourhoods.

It is recommended that a minimum of 50% of these facilities open to the community by locating them immediately adjacent to public roads, schools or park facilities. Final storm water management facility location and size with determine at the Draft Plan of subdivision stage. Consideration to partially locate some of these facilities on Natural Hazard Lands will be further explored through the appropriate studies at the same time.
3.2.3.i Special Policy Areas

**Special Policy Area 1**

**Williamsburg Woods**

In accordance with the recommendations of the Alder Creek and Upper Strasburg Creek watershed/subwatershed studies, a 30 m buffer has been applied to the woodlots and wetlands that comprise this core environmental feature. The linkage connection between this natural heritage feature and the Huron Natural Area to the east has also been provided for, as shown on the Open Space Structure Plan (page 206). The location and width of the linkage connection should be based on the following:

- A practical interpretation of the species dispersal (plants, wildlife) functions between landscape habitat patches in the study area (both current and post-restoration);

- Application of the recommended linkage connection in the Alder Creek and Upper Strasburg Creek studies; and,

- Draft MNR regulated habitat mapping for Jefferson salamander (*Ambystoma jeffersonianum)*.

Future development applications on lands adjacent to the natural heritage system will be subject to an EIS that demonstrates conformity with the policies of the PPS. Opportunities for integrating compatible open space uses as part of the linkage connection (e.g. passive park) can be considered as part of the EIS. To strengthen the linkage connection between the Williamsburg Woods core environmental area and the Huron Natural Area, the corridor should be naturalized with native plant species indicative of the landscape setting. The naturalized portion of the corridor should be at least 100 m in width.

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**Special Policy Area 2**

**Huron Natural Area**

The Huron Natural Area is one of the largest, intact natural heritage features in the City of Kitchener and the Region of Waterloo. Although the development setbacks to the NHS for lands east of Fischer Hallman Road were determined through the Upper Strasburg Creek Environmental Impact Statement (Stanley Consulting *et al.*, 1997), the opportunity to integrate current environmental protection best business practices to the development of lands immediately adjacent to the NHS should be explored.
Special Policy Area 3
Outlier Wetlands

A series of small, outlier wetlands occur in the centre of the study area. These wetlands have been evaluated by MNR (non-PSW) and are part of an east-west linkage connection between the Williamsburg Woods and the central woodlots. The wetlands also function as “significant groundwater recharge areas”. A minimum 30 m buffer is recommended to protect and enhance these habitat features, and to strengthen the linkage connection between natural heritage features across the study area.

Future development applications on lands adjacent to the natural heritage system will be subject to an EIS that demonstrates conformity with the policies of the PPS. Opportunities for integrating compatible open space uses as part of the linkage connection (e.g. Passive Park) can be considered as part of the EIS. The final width/shape of the linkage connection between the wetland parcels will be determined through an EIS. The recommended minimum corridor width between habitat patches is 100 m however a smaller linkage connection (e.g. 50 m) may be appropriate for the small, northerly wetland parcel (adjacent to the sand and gravel pit). The linkage connection (and buffers) should be naturalized with native plant species indicative of the landscape setting.

Special Policy Area 4
Significant Recharge Areas

All significant recharge areas are to be further understood and analyzed by future studies as requested by the Region of Waterloo. These studies are to help determine the final size, shape and location of these areas in relation to their function and importance to municipal water targets and wellhead proximity.

Whether the form of these areas is retained or reduced they need to be effectively connected to the overall Open Space System through a system of trails and the preservation of key views and vistas. It is recommended that a minimum of 50% of their perimeter is open to the community or located next to school, storm water management or park facility to facility pedestrian circulation and provide a safe environment according to CPTED requirements.

Further direction on the opportunity of using some of the significant recharge areas as storm water management facilities is to be provided by the Secondary Plan.
Legend
- Gateway/Transit Hub
- Potential Transit Route
- Neighbourhood Collector
- Corridor
- Neighbourhood Collector
- Road
- Minor Collector Road
- Primary Trail
- Secondary Trail
- Huron Trail (Huron Natural Area Trail)
- Plantation Trail (Huron Natural Area Trail)
- Forest Trail (Huron Natural Area Trail)
- Strasburg Creek Trail (Huron Natural Area Trail)
- Primary Bike Route (Region; on road)
- Secondary Bike Route (Region; on road)

Note:
The north-south minor collector road as shown is subject to EA process.

Road Structure Plan
3.2.4 Road Structure

A highly integrated and fine grained street network creates development blocks characteristic of compact and connected communities. This pattern of streets and blocks is typically found in traditional, historic town centres and promotes a fundamental grid pattern with a highly connected vehicular and pedestrian network.

The Preferred Plan pattern of collector roads relies on a fine grained street and block pattern strategy with blocks that accommodate a variety of land uses and building types and, along Fischer Hallman Road, a complete network of mid-block connectors that further facilitate vehicular and pedestrian movement.

The proposed road network is intended to create an urban environment that stimulates high quality, ordered development and facilitates future development opportunities while preserving Southwest Kitchener’s vision.

The proposed road network is based on the following principles:

1. it minimizes the impact on surrounding Natural Heritage System;

2. it provides a well connected, integrated, and permeable transportation network connecting to the existing road network, surrounding communities and the larger environs;

3. it functions as multi-purpose urban streets which are both transportation corridors and pedestrian oriented places; and,

4. it provides the opportunity to balance the demands of pedestrians and cyclists, as well as vehicles in the creation of linked destination points.
Streets are the largest component of the public realm and attention to their aesthetic and functional design will ensure the achievement of the vision set out in this document.

It is an objective of this strategy to ensure beautiful and functional street design with trees, on-street parking, sidewalks along all frontages and a multi-modal character (pedestrian, transit, vehicular and cycling) as essential components.

This section describes the design of each type of street found within the Southwest Kitchener study area.

3.2.4.a
Fischer Hallman Road
(32m-36m ROW)

As envisioned by the Region, Fischer Hallman Road is to evolve into a multi-modal route that includes walking, cycling and higher order transit. Intrinsic to the proper development of this important corridor are the following design elements:

1. to encourage a permeable road network by locating intersections at a minimum spacing of 250m;
2. to encourage transit ridership by allowing multiple cycling and pedestrian access points to the corridor at intervals no greater than 200m;
3. to promote a consolidated vehicular access point strategy along the corridor. This can be either in the form of combined private access points, the provision of a lane system (mid-block connectors) or a combination thereof;
4. to provide for a boulevard treatment that reflects the street’s active transportation priority. This is to include wide sidewalks, street trees, landscaping, pedestrian and transit amenities and public art;
5. to provide a pedestrian refuge area in the form of a planted median boulevard; and,
6. to deliver, from the onset, a cross-section designed to accommodate for higher order transit. Intrinsic to the design of this cross section is the protection of the boulevard’s alignment with the intent of minimizing the removal and replacement of on-street trees.

Streetscape elements integral to the Fischer Hallman Road mixed use corridor are:

1. vehicular and transit lanes;
2. multi-use sidewalk network on both sides of the street that accommodates for cycling and walking needs;
3. planted median (wide enough to accommodate for higher order transit in the future);
4. direct frontage along the street edge;
5. consolidated vehicular access; and,
6. diverse landscaped boulevards that include street trees that will mature over time.
3.2.4.b
Bleams, Trussler & Huron Road
(30m ROW)

Bleams, Trussler and Huron Road are classified as Neighbourhood Connector Roads by the Region and as such they are to evolve into multi-modal routes that include cycling and walking. Adjacent road and land use design considerations that respond to this mandate are:

1. to encourage a permeable road network by locating intersections at a minimum spacing of 250m;

2. to encourage transit ridership by allowing multiple cycling and pedestrian access points to the corridor at intervals no greater than 200m;

3. to promote a consolidated vehicular access point strategy along the corridor. This can be either in the form of combined private access points, the provision of a lane system (mid-block connectors) or a combination thereof;

4. to provide for a boulevard treatment that reflects the street’s active transportation priority. This is to include wide sidewalks, street trees, landscaping, pedestrian and transit amenities and public art;

5. to promote attractive streetscapes through a variety of design solutions tailored to the following lotting conditions:
   a. back lotting: although not encouraged, this lotting option might be explored at key areas through the use of passive noise mitigation measures and coordinated noise/privacy fencing with landscaped berm;
   b. front lotting: window streets or lane-based units with landscaped buffer blocks, decorative fencing
   c. side lotting: window streets, landscaped buffer, decorative fencing

3.2.4.c
Community Collector Road
(20m-23.5m ROW)

The proposed internal collector road system intent is to provide for a multi-modal network that connects the entire study area. Important community amenity areas such as schools and neighbourhood parks are located along these roads.

The streetscape character includes:

a. vehicular, transit and bicycle lanes;

b. on-street parking on both sides in off-peak hours and on one side during peak hours;

c. direct frontage along the street edge;
d. consolidated vehicular access;

e. sidewalks on both sides; and,

f. diverse landscaped boulevards that include street trees that will mature over time.

3.2.4.d
Local Roads
(18m-16m ROW)

Local roads will be primarily residential in nature. They provide a natural transition between the mixed use and/or higher density uses located along bounding regional or collector roads.

The streetscape character includes:

a. vehicular traveling lanes;

b. on-street parking;

c. sidewalks on both sides; and,

d. diverse landscaped boulevards that include street trees that will mature over time.

3.2.4.e
Lanes
(8.5m ROW)

Rear lanes help to create beautiful streets because parking driveways and service areas can be located along them, while permitting full front elevation buildings to face the street. An 8.5m lane is proposed to be used along strategic areas of the community where their implementation will greatly contribute to the overall functioning and aesthetics of the area. Suggested locations are along the Fischer Hallman corridor as well as next to key open space features.
3.3 Sustainability

The Southwest Kitchener Community is envisioned to achieve social, economic and environmental sustainability at the community and building scale.

Community wide strategies put forward by the proposed Land Use, Open Space and Road Structure will ensure the delivery of:

1. a socially diverse community that delivers a wide range of accommodation to a wide range of people with different background, age, lifestyle and economic status;

2. an economically active community that accommodates for a wide range of uses including commercial, recreational and employment uses. The Southwest Kitchener study area has the potential to accommodate 4,000 jobs accessed by public transit. The proposed range in land uses ensures the delivery of a day-long activity node.

3. an environmentally sound community that takes a comprehensive approach to the impacts of construction and occupation inherent to all development. By addressing land use, open space and road network issues the Master Plan seeks to deliver a responsible, innovative, healthy, energy efficient and transit supportive community.

Opportunities for the development of sustainable solutions should be implemented through a comprehensive policy on sustainability that incentivizes the public and private sectors into delivering high quality energy efficient buildings.

Initiatives and programs that encourage sustainable approaches in the realm of energy, water, waste, air quality, green building technologies and heat island effect should be encouraged to save, conserve and reuse energy, water, waste and improve air quality are the following:

3.3.1 Energy

The goal for energy and utilities is to encourage and ensure the conservation and wise economic use of energy and to minimize adverse effects caused by its provision and to consider the inclusion of alternative energy sources. Suggested initiatives include:

a. to reduce demand for energy from the grid and encourage renewable energy production. Use of alternative energy sources can reduce pollution and increase the efficiency of the power system. Renewable energy sources that could be employed may include the use of solar thermal and photo voltaic equipment, geoxchange technologies, and/or wind power. Proposed alternative energy source(s) could be used in combination with energy from the grid. (i.e. Fischer Hallman corridor high density uses would support the use of the above mentioned technologies);

b. to encourage passive solar orientation to permit enhanced energy efficiencies by creating optimum conditions for the use of passive and active solar strategies;

c. to encourage development to implement block design street alignment within 15 degrees of geographic east-west to maximize passive solar orientation of buildings front and rear windows;
d. to establish targets for reducing greenhouse gas emissions and improving air quality that comply with Canada’s target of a 20% CO₂ reduction below 2006 levels by 2030 and 60%-70% reduction by 2050;

e. to promote the use of alternative community energy generation systems such as district energy;

f. to encourage developers to include an owner/tenant education package at the time of purchase or rental regarding household activities to improve energy and water efficiency, access to transit, location of recycling station, etc;

g. to promote the use of transit and active transportation as alternative modes of transportation within the Region; and,

h. to encourage energy reduction at a local level to ensure public awareness. Include various measuring and benchmarking software options, such as zero footprint, on local municipal websites to assist local decision making with solutions to reduce energy consumption and provide public awareness.

3.3.2 Water

To increase public awareness of the importance and value of an adequate, sustainable supply of clean water for both human use and the natural environment through:

a. the implementation of Low Impact Design Standards that emphasize the use of Bio-Swale/Innovative Stormwater practices, Constructed Wetlands, At-source infiltration, greywater reuse system and alternative filtration systems such as a Treatment Train, Water Conservation Measures, and Cisterns and Rain Barrels;

b. the introduction of green infrastructure, such as bioswales, within the public right-of-way to enhance ground water infiltration and improve water quality as part of a comprehensive water management plan;

c. the implementation of a comprehensive rainwater and water recharge strategy in conjunction with required stormwater management facilities;

d. the implementation of Green Infrastructure at the neighbourhood scale to utilize the absorbing and filtering abilities of plants, trees and soil to protect water quality, reduce runoff volumes, and recharge groundwater supplies;

e. the use of permeable pavement instead of standard asphalt and concrete for surfaced sidewalks, driveways, parking areas, and many types of road surfaces;

f. the implementation of policies for Stormwater retention & run-off such as:

- retain stormwater on-site through rainwater harvesting, on-site infiltration, and evapotranspiration (green roofs, rain barrels, permeable paving, green streets, infiltration trenches and absorbent landscaping)

- 80% of total suspended solids removed from all runoff leaving the site

- consider the inclusion of third pipe greywater systems and rain water harvesting for watering lawns, gardening, to reduce demand on potable water use

- direct flow to landscaped areas and minimize the use of hard surfaces in order to reduce the volume of run-off into the storm drainage system.

- increase vegetation to retain water and integrate features like rock marshes to force water to seep into ground.
3.3.3 Waste

To effect an attitudinal change that will regard waste as a resource in transition waiting to be reclaimed and for which re-use or alternative uses are available and desirable. Initiatives that should be explored are:

a. the implementation of policies that emphasize the benefits of Zero garbage target, and targets for a higher diversion rate in recycling;

b. the implementation of policies that set targets for the diversion of:
   - solid waste - 60% waste diversion to landfill sites
   - construction waste - Recycle and/or salvage at least 50% of nonhazardous construction and demolition debris, designated area on site for recyclable materials
   - recyclable waste - recycling services - regional or municipal
   - compostable waste - comprise up to half of household waste. Diverting these materials from the waste stream for processing into compost is a key part of achieving the zero garbage waste goal. Implement a region wide composting system (eg. Edmonton, Halifax, Toronto)

c. careful monitoring of emissions and international best practice standards are employed; and,

d. expansion of waste diversion for public and private schools.

- store snow piles away from drainage courses and storm drain inlets.
- use of infiltration trenches, dry swales and naturalized bioswales adjacent to parking areas to improve on-site infiltration.
- ponds are designed as part of the natural landscape, and replicate organic shapes with natural landforms in the area rather than geometric forms with standard slope gradients.
- the implementation of policies for Pond Design and Landscaping such as:
  - stormwater ponds are located offline, and act as a buffer to environmental features.
  - ponds are designed as key focal/visual features within the community in addition to functional objectives related to flow moderation and water quality.
  - native species and flood tolerant edge plants (such as herbaceous and woody vegetation) are used to stabilize banks of ponds. The perimeter of the permanent pool is planted with emergent, strand, and submergent species to improve the aesthetics and enhance the performance of the facility.
  - ponds are designed as part of the overall pedestrian and trail system with view points and interpretive signage. Public walking/cycling trails encircle ponds and extend along stormwater channels where possible.
  - where public access is discouraged, living fences and barrier planting is utilized around the perimeter of the ponds in place of fencing.
3.3.4 Air Quality

To reduce, in concert with the Federal Government, the Province, the Region of Waterloo, other municipalities, public interest groups and the private sector, the emissions of greenhouse gases. To improve air quality and to address the impact of climate change the following initiatives should be explored:

a. the development of ‘complete’ communities characterized by greater densities placed at neighbourhood centres, mixed use nodes, or near transit facilities, mixed land uses, mix and diversity of housing types, connected and walkable road patterns, and active transportation;

b. the promotion of alternative modes of transportation such as public transit and bike paths. Promote active transportation to reduce automobile dependence and transit within a 400 metre walking distance of residential development.

c. the provision of the minimum number of parking spaces allowed under the Zoning Bylaw:
   • Mixed use developments should include shared use of parking among uses that have different peaking characteristics.
   • Dedicated priority parking spaces for carpool ride sharing.
   • Dedicated priority parking spaces for ultra low emission vehicles.

d. the separation of sensitive land uses from pollution source through land use planning and zoning to ensure the separation of air pollutant sources from sensitive land uses

e. the application of high energy efficiency standards, such as EnerGuide 85 efficiency rating, and renewable energies for new buildings to reduce building related air pollution.

f. the adoption of landscaping policies and practices that would reduce emissions of greenhouse gases and air pollutants and reduce the urban heat island effect. Establish a green strategy for tree planting, connected open space system, green roofs and community gardens.

3.3.5 Green Buildings

To promote innovative programs to encourage the design and construction of residential, commercial and institutional energy efficient green buildings through:

a. innovative residential development designs which contribute to affordability and energy and natural resource conservation;

b. the promotion of Energy Efficiency:
   • Residential buildings energy demand achieves an EnerGuide 85 energy efficiency rating for residential buildings
   • Mid to high-rise residential and non-residential energy demands improve by 40% over the Model National Energy Code for Buildings (MNECB) as demonstrated by third party certification
   • Municipal building achieves a LEED Silver Certification
   • Building includes green or white roof technology
3.3.5 Heat Island Effect Reduction

To provide a strategy for urban heat island reduction through the use of cool or green roofs. Initiatives to consider are:

a. the implementation of policy that requires building(s) to incorporate green or living roofs and to include light coloured/high reflectance roofs;

b. to provide for Green roofs for 80% of all high density development;

c. the incorporation of both high reflectance and vegetated (green) roofs for at least 50% of all new buildings with a flat roof; and,

d. to develop a heat island reduction strategy for community and public buildings to install green roofs with 50% coverage, remainder covered with light coloured material.

c. the promotion of Water Efficiency:

- All buildings comply with Ontario’s building code required water fixtures efficiency
- Building uses Low Impact Development strategies to deal with on-site run-off and heat island effects
- Water metering is available
- Building’s landscaping is water efficient and drought resistant by using native planting materials
- Pre design for grey-water pipe infrastructure

d. the best practice accreditation of buildings through a third-party certification programs such as Energy Star, LEED H, LEED NC, LEED for Schools, BREAM, etc. All public buildings should achieve a minimum golf certification level; and,

e. the promotion of Green Materials:

- Promote construction best practices that reduce construction waste
- Incorporate green building material standards to reduce impact on the environment and ensure materials are purchased/obtained from a responsible ethical sources % of materials from certified local businesses
3.4 Transportation

Assessment Update

Transit

The analysis approach is premised on the land use plan and the emphasis placed on locating appropriate development types and density along the Fischer Hallman Road corridor.

The transportation analysis therefore assumed that within a 400 meter bandwidth of the corridor that approximately thirty (30) percent of the home based work trips and nodal office uses would use transit during the roadway peak hour would use transit. In addition within this corridor reduced vehicle trip generation rates were applied to retail-commercial activities to reflect reduced vehicle trip making between these uses and residents who would live in the corridor. In the remaining parts of the plan standard vehicle trip generation rates were applied.

Trip Distribution

All vehicle and person trip distribution information was derived from the Region of Waterloo Transportation Master Plan.
Roads and Intersections

The road improvements and additions defined by the Region of Waterloo were used for the boundary roads of Bleams Road, Fischer Hallman Road, Trussler Road and Huron Road.

It is noted that Fischer Hallman Road is to contain the higher order transit service. As such the final cross-section for this road has not been determined. Respecting the spatial needs for transit, it was assumed that this corridor would have two lane of traffic in each direction of travel. This would be for the use of automobiles and trucks. Transit will then determine its spatial requirements within the corridor.

Intersections locations were defined along Fischer Hallman in accordance to Regional intersection spacing standards. These intersections will contain traffic circles as the preferred traffic control device.

Intersections have been located along Bleams Road respecting existing intersections on the north side.

Horizon Year Analysis

In keeping with the direction provided a 2031 horizon year analysis is being finalized. The Region of Waterloo provided forecast traffic flows. Poulos & Chung Limited adjusted the forecasts to determine background traffic flows and added Community traffic flow demands.

A final analysis is being completed. It appears that the boundary roads and designated intersections are capable of satisfactorily accommodated total forecast traffic demands. The analysis will be detailed in the final report.

It should be noted that Poulos & Chung Limited will be completing the analysis using the “Synchro” software program. The firm does not own the traffic circle capacity program. The Synchro analysis can prove feasibility while the designated traffic circle software can be applied at development phases to accurately determine the traffic circle dimensions.

Internal Roads

Analysis of internal vehicle flow demands on the identified “collector” type roads indicate that one lane of traffic in each direction of travel is sufficient to meet vehicle demands. Urban design can determine the need for on-street parking.

Certain collector type roads will require intersection additions such as the provision of exclusive left turn lanes.

The final report will be providing guidance as to the policy and strategic direction for locating access to serve land uses fronting along Fischer Hallman Road.
Sanitary Servicing Plan_Figure S1
3.5 Servicing

Proposed Servicing Summary

Introduction

The following provides a summary of proposed servicing related to the lands within the South West Kitchener Urban Area Study. Specifically, preliminary concepts for storm drainage and stormwater management, sanitary servicing, water distribution, grading and utilities are provided.

Storm Drainage and Stormwater Management

(see AMEC report)

Sanitary Servicing

Sanitary flows from the proposed development will ultimately be conveyed to and can be accommodated in either the Middle Strasburg Trunk Sanitary Sewer (MSTSS), or the South Strasburg Trunk Sanitary Sewer (SSTSS).

Sanitary drainage from the northern portion of the study area (approximately 235.9 ha) will drain to a future extension of the MSTSS as conceptually shown on Figure S1. Based on the preferred land use, the peak sanitary flow from this portion of the study area can be accommodated in the downstream MSTSS.

Sanitary drainage from the southern portion of the study area will either drain to the existing MSTSS via the existing sanitary sewers within the Huron Village Subdivision, or to the proposed SSTSS via the proposed sanitary sewers within the Becker Estates Subdivision, as shown on Figure S1.

Due to capacity constraints in the existing sanitary sewers within the Huron Village Subdivision, the amount of flow from the southern portion of the study area lands that can drain into the existing sewer system will be restricted to the capacity of the existing sanitary sewers. The sanitary flows from the remainder of the southern portion of the study area (approximately 40.9 ha) will be directed to the proposed SSTSS, via a connection through the Becker Estates Subdivision.

Further analysis of the existing Huron Village sanitary sewer system is recommended at the Secondary Plan stage to confirm if additional capacity is available. Sanitary servicing allocation will be determined through this more detailed investigation and will not be assigned until the subdivision approval stage through appropriate conditions and discussion with the City.

Further capacity analysis/study should also be undertaken on the downstream receiving trunk sewer networks (i.e. both the MSTSS and the SSTSS) to identify any necessary upgrades associated with future developments within the sewersheds. If the analysis concludes that infrastructure improvements are required in order to service the proposed land uses within the study area, then the City will determine if an Environmental Assessment process is required.

Based on further analysis of the existing receiving trunk sewer networks, the ultimate sanitary catchment boundaries to the MSTSS and SSTSS may require re-delineation in order to service the study area.
Water Servicing Plan_Figure S2
**Water Distribution**

Water will be supplied to the proposed development via connections to i) the existing Regional 450 mm diameter trunk watermain on Bleams Road, ii) the existing Regional 450 mm diameter trunk watermain on Fischer-Hallman Road, iii) the existing 300 mm diameter watermain on Huron Road east of Fischer-Hallman Road, and iv) a proposed extension of the existing existing 300 mm diameter watermain on Huron Road west of Fischer-Hallman Road.

The majority of the study area is located within the Kitchener Pressure Zone 5, with the exception of a small area east of Fischer-Hallman Road along the north and south sides of Bleams Road which is located within the Kitchener Pressure Zone 4 and the northwest portion of the study area which is located within the new Kitchener Pressure Zone 6 (refer to Figure S2).

The “Tri-City Water Distribution Master Plan” (AECOM, May 2009) identified two potential problem areas within the study area and possible solutions.

A potential low pressure problem was identified at the northwest corner of the study area. This potential low pressure problem has since been mitigated by rezoning the area to be part of the new Kitchener Pressure Zone 6, west of Kitchener Pressure Zone 5.

A potential high pressure problem was identified at the intersection of Fischer-Hallman Road and Bleams Road. The Region has confirmed that with some minor changes made to the Pressure Zone 5, and the reduction in HGL of Zone 5 (due to the new Pressure Zone 6 coming on-line) the higher than average pressures at the intersection of Fischer Hallman and Bleams is being managed by Kitchener and Region staff.

The Region has indicated that minor modifications to the boundaries between Zones 4 and 5 may be required in future, based on the results of on-going updates to the system and the creation of new pressure zones.

The Region has indicated that a minimum 300 mm diameter watermain will be required through the Study Area, parallel to Fischer-Hallman Road. This parallel watermain will provide looping to improve the distribution system to meet future demands and provide an alternate pathway for water supply for south end of Kitchener Pressure Zone 5 in the event of a watermain break on the Fischer Hallman transmission watermain. The Region has included funding in the 2009 Capital Program to assist with the installation of the parallel watermain.

An internal watermain system will generally be “looped” following the proposed internal roads. Modelling of the water distribution system within the study area should be completed at the next level of study to confirm internal watermain sizing and demand requirements.

**Grading**

Preliminary road and lot grading for the proposed development will be completed at the next level of study and shall be designed to generally meet the following criteria:

- Match existing grades adjacent lands that are not considered for development,
- Protect existing environmental features,
- Match existing/future road grades at the development access points,
- Comply with the City of Kitchener municipal standards for minimum and maximum permissible grades,
• Ensure adequate cover is provided over municipal services,

• Minimize the volume of earth to be moved and minimize cut/fill differential,

• Minimize structural fill requirements,

• Minimize the need for retaining walls,

• Minimize the need for rear lot catchbasins,

• Ensure overland flow (major system) routes are directed to downstream stormwater management facilities, or other designated outlets, and have the capacity to convey flows in excess of the storm sewer capacity,

• Promote infiltration of rain water runoff, and

• Achieve the stormwater management objectives required for the site.

Utilities

Hydro

Hydro service will be provided to the proposed development via connections to the existing 3-phase circuits along Bleams Road, Fischer-Hallman Road and Huron Road that exist through and adjacent to the study area.

Natural Gas

Natural gas will be provided to the proposed development via connections to the existing plant located within the Bleams Road and Fischer-Hallman Road rights-of-way.

Portions of the existing 12” high pressure Union Gas pipeline running north-south through the study area west of Fischer-Hallman Road may be relocated to coincide with the proposed street and lot pattern of the future development.

Cable Television

Cable service will be provided to the proposed development via connections to the existing Rogers Cable Systems infrastructure within the Bleams Road and Fischer-Hallman Road rights-of-way.

Bell Canada

Bell Canada service will be provided to the proposed development via connections to the existing Bell Canada infrastructure within the Bleams Road and Fischer-Hallman Road rights-of-way.
3.6 Market Needs

Executive Summary

This Commercial and Institutional Land Use Study has been prepared as a component study requirement to facilitate the Secondary Plan for the Southwest Kitchener Planning Area (SWKPA). This report contains a detailed analysis of the commercial and institutional (schools and places of worship) space required to serve the future SWKPA population. urbanMetrics is one member of an overall team of consultants retained to complete the Secondary Plan for this new community.

The following points summarize the main findings and conclusions of this report. Supporting data and research has been detailed in the body of the report.

The SWKPA is the last remaining greenfield area slated for development in the City of Kitchener. The SWKPA comprises approximately 435 hectares and is generally bound by Fischer Hallman Road to the east, Bleams Road to the north and Huron Road to the south and extends west to Trussler Road. The area is largely rural in character and home to a number of environmental features and aggregate extraction quarries, as well the Williamsburg Cemetery.

A Land Use Plan for the SWKPA has been prepared by the Planning Partnership, which was developed incorporating ongoing input from the consulting team, including urbanMetrics, as well as local stakeholders and municipal planning staff. Our recommendations are based on the population, employment and land use patterns incorporated into the plan.

For the purposes of examining the competitive influences and supply of commercial and institutional uses in the vicinity of the SWKPA, and to determine the amount of warranted retail and service commercial space, an appropriate Trade Area was delineated. The Trade Area, which extends beyond the boundaries of the SWKPA into the surrounding neighbourhoods, is bounded by Conestogo Parkway to the north, Trussler Road to the west, New Dundee Road to the south, and Reidel and Caryndale Drive north to Homer Watson Boulevard to the east. Our analysis has recognized the residential and commercial potential in this area based on a review of planning documents, demographic forecasting and our considerable experience in commercial and institutional land use planning. Based on our research and analysis, we have reached the following conclusions.

Commercial Space Requirements

The commercial space requirements are based on a build-out population within the Secondary Plan Area of 20,500 persons. Recognizing that the commercial sites in the Planning Area would largely be situated on Fischer Hallman Road in close proximity to a number of existing and developing communities, we have assumed that the retail stores and services in the SWKPA will also rely on support from beyond the Secondary Plan boundaries. The portion of the Trade Area outside of the SWKPA is considered as a “Secondary Zone”. Based on population projections prepared by the Region of Waterloo, this area is
planned to grow by some 25,700 persons between 2010 and 2031. Our analysis is intended to reflect the build-out population rather than attempt to estimate the population that will be in place at given points in time. However, for the purposes of projecting future expenditure levels, which can change over time, we have assumed a 2021 date. These dates should be considered flexible with the focus of the analysis being on the total population in place at build-out.

Based on our analysis, the SWKPA population of 20,500 residents can support a range of 670,000 to 845,000 square feet of retail and service commercial space. This space can be distributed amongst the Mixed Use Commercial sites identified in the Secondary Plan, and to a lesser extent in other land use categories, which may permit live-work units, ancillary commercial and convenience commercial activities.

The warranted space at build-out by category is as follows:

*SWKPA - Summary of Warranted Commercial Space at Build-Out*

<table>
<thead>
<tr>
<th>Category</th>
<th>Low</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Store Retail</td>
<td>100,000</td>
<td>125,000</td>
</tr>
<tr>
<td>Liquor Beer Wine</td>
<td>20,000</td>
<td>30,000</td>
</tr>
<tr>
<td>Pharmacy and Personal Care</td>
<td>40,000</td>
<td>50,000</td>
</tr>
<tr>
<td><strong>Total Convenience Retail</strong></td>
<td><strong>160,000</strong></td>
<td><strong>205,000</strong></td>
</tr>
<tr>
<td>GAFO 1</td>
<td>285,000</td>
<td>330,000</td>
</tr>
<tr>
<td>Building and Outdoor Supplies</td>
<td>25,000</td>
<td>35,000</td>
</tr>
<tr>
<td>Automotive 2</td>
<td>5,000</td>
<td>10,000</td>
</tr>
<tr>
<td><strong>Total Non-Convenience Retail</strong></td>
<td><strong>315,000</strong></td>
<td><strong>375,000</strong></td>
</tr>
<tr>
<td>Restaurants</td>
<td>95,000</td>
<td>125,000</td>
</tr>
<tr>
<td>Other Services</td>
<td>100,000</td>
<td>140,000</td>
</tr>
<tr>
<td><strong>Total Services</strong></td>
<td><strong>195,000</strong></td>
<td><strong>265,000</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>670,000</strong></td>
<td><strong>845,000</strong></td>
</tr>
</tbody>
</table>

1. General Merchandise, Apparel, Furnishings and Other Retail
2. The automotive category is limited to auto parts stores and excludes gas stations, repair shops, auto sales, and auto body shops.
We would caution that our analysis is intended to reflect the space that will be required to serve the future population of the SWKPA, recognizing its ability to serve residents living outside the area, as well as the draw of stores beyond the Secondary Plan area limits. We have not assumed any sales transfers from existing stores. In general, the retail market is in balance, although it is recognized that there is a lag between population growth and commercial development that may be causing minor temporary imbalances in some categories.

In particular, based on market studies completed in the past few years for commercial developments in the area, on average the existing supermarkets in the trade area were performing at marginally higher than expected norms on a sales per square foot basis during the 2007-2008 time frame. For this reason, the warranted supermarket space noted above could be considered slightly conservative. We would note, however, that competitive changes have occurred in the market since the studies were completed and that current excess sales that may be attracted away from existing stores to support new supermarkets would be available not only to new SWKPA stores, but also other new stores elsewhere in the City. As a result, the warranted space totals identified for SWKPA are considered sufficiently accurate for planning purposes.

The following table summarizes our recommended distribution of space in SWKPA by node and corridor.
### Recommended Distribution of Space in the SWKPA

<table>
<thead>
<tr>
<th>Vision</th>
<th>Estimated Size of Node</th>
<th>Potential Major Retail and Service Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fischer Hallman/Huron-Higher order node serving broader district</td>
<td>400,000 to 450,000 sq. ft.</td>
<td>supermarkets, department store, other GAFO, drug store, entertainment, services</td>
</tr>
<tr>
<td>Bleams Road/ Fischer Hallman - Neighbourhood node</td>
<td>150,000 to 200,000 sq. ft.</td>
<td>supermarkets, drug store, liquor/beer/wine, services</td>
</tr>
<tr>
<td>Mixed Use - Other Fisher Hallman Corridor</td>
<td>100,000 to 150,000 sq. ft.</td>
<td>convenience food stores, restaurants, health services, limited GAFO</td>
</tr>
<tr>
<td>Other - Mixed Use - Bleams Road</td>
<td>25,000 to 50,000 sq. ft.</td>
<td></td>
</tr>
</tbody>
</table>
The following summarizes our recommendations for WRDSB and WRDCSB school sites:

**Waterloo Region District School Board (WRDSB)**

1. Three public elementary schools
2. No new public secondary schools

**Waterloo Region Catholic District School Board (WRDCSB)**

1. One new Catholic elementary school
2. No new Catholic secondary schools

Based on the 20,500 population forecast for the SWKPA, there may be a need for additional places of worship, depending on the denominations of future residents, although there appear to be sufficient existing facilities within close proximity to the area.

We would not recommend that specific sites be reserved for places of worship, but that they be permitted in broader land use categories. The size and land area requirements of places of worship will vary relative to the needs of the faith groups and the area and number of people to be served.

Based on considerable study undertaken by the City of Brampton1, the following provides some general guidelines as to suitable locations for places of worship based on size and function:

- **Small, local serving (or starter) place of worship-** with a gross floor area of less than of 600 sq.m. (6,450 sq.ft)- frontage on a collector or an arterial road having regular transit services (preferably at an intersection location)

- **Medium, neighbourhood serving place of worship -**with a gross floor area from 600 sq.m. to 1,500 sq.m. (6,450 sq.ft. to 16,125 sq.ft.)- frontage on a major collector or an arterial road having regular transit service (preferably at an intersection location)

- **Large, Regional serving place of worship-** with a gross floor area of greater than 1,500 sq.m. to 5,000 sq.m. (16,125 sq.ft. to 53,750 sq.ft.)- frontage on an arterial or major arterial road having regular transit service (preferably at an intersection location)

- **Inter-Regional serving place of worship-** with a gross floor area greater than 5,000 sq.m. (53,750 sq.ft.)- frontage on a major arterial road having regular transit service (preferably at an intersection location)

Regardless of the size of facility, they should afford a high degree of access for pedestrians and cyclists.