Land Use Analysis 2.0
2.1 Overview

Land Use Analysis

Development Scenarios

The assessment and evaluation of land use development scenarios for the Southwest Kitchener Area Study is based on the following methodology:

a. Establish Southwest Kitchener Study Area Design Givens (based on consultant’s background reports and through data supplied by City staff.)

b. Establish Urban Design Principles

c. Establish Land Use Options Evaluation Criteria

d. Establish Land Use Program Scenarios

2.1.1 Design Givens

A detailed site analysis that focused on the environmental, heritage, market, servicing, land use planning and transportation conditions of the site resulted in a development framework of ‘design givens’ that informed the subsequent land use analysis (refer to the Overview and Background section of this report). The identified design givens provided the fundamental base data on which all proposed land use development options were prepared. They are integral to the sustainable development of the study area and crucial to its success. They include:

1. Achieve subwatershed requirements as priority – such as ground water recharge rate and quality

2. Respects the Countryside boundary line.

3. Examine all forms of transportation connectivity, including the option of a linking North-South internal collector road.

4. Assess a variety and range of dwelling types and uses.
5. Assess opportunities for walking, cycling, transit and all forms of active transportation.

6. Conserve the significant Natural Heritage features and establish linkages between them and with other parkland, SWM and institutional features.

7. Conserve significant heritage buildings.

8. Establish 60 people and jobs/hectare as an overall density, with higher densities along Fischer Hallman Road as directed by the City. The Fischer Hallman Corridor being defined with a 200m of supportive developable land on each side of the corridor.

9. Define a hierarchy of parks and open spaces that are linked with the Natural Heritage System, SWM system and provide for a variety of sizes and functions within a range of walking distances.

10. Define a hierarchy of streets that are permeable and linked.

11. Define Fischer Hallman as a transit corridor, with supportive mixed use opportunities and a high level of active transportation connectivity in order to support the Region’s requirement of a 25% modal split.

12. Define the Southwest Kitchener gateway at Huron and Fischer Hallman Roads and explore retail/mixed use options.

13. Ensure the provision of community infrastructure (i.e. schools, community centre, sports fields):

14. Provide for a variety of high quality public open spaces.

15. Provide for sustainability features through physical design initiatives.
2.1.2 Urban Design Principles

Contemporary design principles and clear objectives previously prepared in the context of development experiences in Kitchener and other cities across Ontario and used in the City’s urban design guidelines for suburban neighbourhoods were drawn upon in the preparation and drafting of the study area design principles. These principles also reflect regional and provincial growth plan strategies as well as the City’s Municipal Plan policies. The primary design objectives are identified below:

1. **WALKABILITY**: to create walkable neighbourhoods that are well connected and fully accessible to major destinations and surrounding neighbourhoods.

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

3. **PLACEMAKING**: to create streetscape 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, healthy and complete communities.
2.1.3 Land Use Options Evaluation Criteria

Based on the above mentioned urban design principles, an evaluation criteria was developed. Urban design aspects considered within each principle are the following:

**WALKABILITY:**
- Defined neighbourhoods
- Walkable Streets

**VARIETY:**
- Land Use Distribution
- Density (Compact Form)
- Mix of Land Uses
- Range of Housing Types
- Range of Housing Tenure
- Range of Community Facilities
- Parks and open space Hierarchy

**PLACEMAKING:**
- Defined Neighbourhood Centres and edges
- Defined Character Areas

**CONSERVATION:**
- Ground Water Management
- Surface Water Management
- Energy Conservation
- Conservation of Natural Heritage System
- Integration and Conservation of Cultural Heritage Resources
- Cemetery Lands
- TDM Supportive
- Impact on Servicing (Grading)

**CONNECTIVITY:**
- Connected and Accessible Road System
- Connected and Accessible Natural Heritage System

**TRANSIT SUPPORTIVE:**
- Transit Provision
- Land Use

**SAFETY:**
- ‘Eyes’ on the street CPTED Program
- Circulation
- Regional Flood Management

**BALANCE:**
- Market Responsive

**LIVEABILITY:**
- Public Realm
- Energy Conservation
- Active Transportation
- Sustainable Community and Building Design
- Elements to be Considered at a Draft Plan or Site Plan Process:
  - Noise
  - Public Art
  - Programmable Space
2.1.4 Land Use Program Scenarios

Four different development programs were established in order to illustrate possible land use scenarios. The development program for each option was based on requirements and comments by the City of Kitchener staff as well as the Grand River Conservation Authority and Regional staff with the exception of land use option 4 which reflects the previously prepared local developers’ proposals. These programs reflect the ‘Design Givens’ and ‘Urban Design principles’ as set out earlier. The programs have also been established to explore a variety of different physical layouts to assess through comparison preferred locations of parks, roads, institutions, residential and employment areas.

The land use development programs are as follow:

<table>
<thead>
<tr>
<th>Item</th>
<th>Option 1</th>
<th>Option 2a</th>
<th>Option 2b</th>
<th>Option 3</th>
<th>Option 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Open Space (Parks)</td>
<td>Connected to Natural Heritage System</td>
<td>Connected to Natural Heritage System</td>
<td>Connected to Natural Heritage System</td>
<td>Connected to Natural Heritage System</td>
<td>See Developer’s proposal System</td>
</tr>
<tr>
<td>Community / Recreation Centre Site</td>
<td>Locate a Community Centre within the local neighbourhood but within 400m walk from Fischer Hallman Road</td>
<td>Locate Community Centre along the Fischer Hallman corridor (max 200m from corridor)</td>
<td>Locate Community Centre along the Fischer Hallman corridor (max 200m from corridor)</td>
<td>Locate a Community Centre next to hydro-corridor and Bleams Road</td>
<td></td>
</tr>
<tr>
<td>Schools</td>
<td>1 Public elementary School + 1 Separate elementary School, both 2.64ha in size</td>
<td>1 Public elementary School + 1 Separate elementary School, both 2.64ha in size</td>
<td>1 Public elementary School + 1 Separate elementary School, both 2.64ha in size</td>
<td>1 Public elementary School 2.84ha in size</td>
<td></td>
</tr>
<tr>
<td>Secondary School is located along Fischer Hallman Road south of the proposed District Park</td>
<td>No Secondary School is provided within the study area</td>
<td>Incorporate a Secondary School site south of the Cemetery lands</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Housing Program</td>
<td>Explore a residential estate (Gore lots) type of development for lands in Area 2 as an option to maximize recharge opportunities</td>
<td>Explore a cluster&quot; type of development for lands in Area 2 as an option to maximize recharge opportunities</td>
<td>Cluster higher density at community nodes and along Fischer Hallman Road</td>
<td>Locate medium and high rise residential uses near environmental areas</td>
<td></td>
</tr>
<tr>
<td>Retail</td>
<td>Explore a mixed use/life style (retail/employment) development for the southern gateway node</td>
<td>Explore a mixed use/life style (retail/employment) development for the southern gateway node</td>
<td>Explore a mixed use/life style (retail/employment) development for the southern gateway node</td>
<td>Stand alone retail proposed at the north-west corner of Fischer Hallman and Huron Roads</td>
<td></td>
</tr>
<tr>
<td>Employment (Including Non-retail Commercial)</td>
<td>Explore employment opportunities within northern gateway node</td>
<td>Explore employment opportunities within northern (Bleams and Fischer Hallman Road) and southern (Huron and Fischer Hallman Road) gateway nodes and along corridor</td>
<td>Explore employment opportunities within northern (Bleams and Fischer Hallman Road) and southern (Huron and Fischer Hallman Road) gateway nodes and along corridor</td>
<td>Retain currently employment zone lands at the south-east corner of Fischer Hallman and Bleams Roads and a small pocket on the east side of Fischer Hallman north of Sebrook Roads</td>
<td></td>
</tr>
<tr>
<td>Place of Worship</td>
<td>Maintain Church site</td>
<td>Maintain Church site</td>
<td>Maintain Church site</td>
<td>Maintain Church site</td>
<td>See Developer’s proposal</td>
</tr>
<tr>
<td>Storm Water Management System</td>
<td>Lands west of Hydro Line (Area 2 lands) to be preserved for water recharge (reservoir) purposes</td>
<td>Set aside significant recharge areas with a 30m buffer for lands within Area 2</td>
<td>Areas 2 lands will require separate SWM facilities</td>
<td>Recharge areas within Area 2 can be used as SWM facilities provided that their shape is maintained</td>
<td></td>
</tr>
<tr>
<td>Road Pattern</td>
<td>Explore a North-south road through cemetery lands</td>
<td>Significant recharge areas within Areas 3 and 4 can be slightly reshaped and used as SWM facilities</td>
<td>Explore Countryside Line north-south road alignment</td>
<td>Significant recharge areas within Areas 3 and 4 can be slightly reshaped and used as SWM facilities</td>
<td></td>
</tr>
<tr>
<td>Transit</td>
<td>Locate a transit node at southern gateway node</td>
<td>Explore Countryside Line north-south road alignment</td>
<td>Explore a pedestrian connection through the Cemetery Lands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pedestrian Links</td>
<td>Explore a pedestrian connection through the Cemetery Lands</td>
<td>Locate a transit node at southern gateway node</td>
<td>Explore a pedestrian connection through the Cemetery Lands</td>
<td>Explore a pedestrian connection through the Cemetery Lands</td>
<td></td>
</tr>
</tbody>
</table>
2.2 Land Use Evaluation

2.2.1 Option 1

Walkability

Overall, the proposed street and block pattern is permeable and well connected. Neighbourhoods show an average walking distance of 200 metres to ‘sub-neighbourhood’ features, such as parkettes. With the exception of development lands located to the east of Fischer Hallman, all neighbourhoods show an average walking distance of 400 metres to neighbourhood features such as schools and neighbourhood parks. The placement of the community centre along the Fischer Hallman corridor close to the geographic centre of the study area contributes to the pedestrian accessibility of this higher order community element.

- Defined Neighbourhoods – ACHIEVED
  - Note: Development areas located on the east side of Fischer Hallman Road are either self contained, if surrounded by the Natural Heritage System, or integrated into the surrounding communities. Both approaches are considered appropriate.

- Walkable Streets – MOSTLY ACHIEVED
  - Note: The internal north-south collector that runs through the Cemetery Lands should connect to Huron Road in a more direct manner.

Variety

Option 1 proposes high, medium and low rise residential uses, accommodating for the full range of unit types and tenure options. The proposed residential densities allow for small single detached, semi detached, street townhouse, cluster townhouse, stacked townhouse, walkup apartment, apartment, condo, adult life style units and assisted living units. The diversity and mix of land uses are considered appropriate for the area. Denser and compact land use forms are located along the corridor and at both nodes further encouraging transit ridership. Option 1 also provides for a diverse range of neighbourhood services such as accessible school, recreational, service and retail amenities along with a full range of open space amenities ranging from local parkettes to a District Park, which, in turn, allows for a range of active and passive recreational activities.

- Land Use Distribution – ACHIEVED
- Density – ACHIEVED
- Mix of Land Uses – ACHIEVED
- Range of Housing Types and Tenure – ACHIEVED
- Range of Community Facilities – ACHIEVED
- Park and Open space Hierarchy – ACHIEVED
  - Note 1: Opportunities to directly connect proposed open space to adjacent Natural Heritage System are encouraged.
  - Note 2: Option 1 does not preclude the potential to connect the City’s cycling trail network to and from the community. Further evaluation of the routing of the trail network through the study area and beyond would be necessary at a later stage.
Placemaking

Option 1 neighborhoods show a clear and defined neighbourhood centre comprised of a mix of open space and institutional land uses. The proposed street and block layout does not preclude the opportunity to locate significant neighbourhood and community gateways and landmarks at appropriate locations.

- Defined Neighbourhood Centres and Edges – MODERATELY ACHIEVED
  
  o Note 1: The opportunity for small-scale mixed used retail, i.e. convenience store, is not present in this option. While ultimate unit and population yields will determine the viability of locating small scale retail uses at the core of each neighbourhood, a flexible mixed-use retail/service residential land use designation should be set in place.

  o Note 2: Bleams Road north side back lotting condition creates a hard edge to transition or respond to. Option 1 counters by backing onto the road. While a detail of this condition is not explored at this stage of the plan design, an appropriate back lotting condition treatment should be implemented. A combination of a landscaped berm combined with a consistent fence treatment is recommended.

- Defined Character Areas – UNDETERMINED
  
  o Note 1: While all built heritage areas have been conserved, further detail is required to integrate heritage buildings and their associated landscape features into the plan.

  o Note 2: Further analysis is required to determine the viability of locating community amenity uses in combination with an accessible storm water management facility at the heritage building site situated on the south side of the Alder Creek.

Conservation

Ground Water Management and Surface Water Conservation evaluations are being conducted and expected to be finished by the end of October 2010. Important land use design considerations will be drawn from the conclusions presented by both analyses.

Further analysis on the degree of pedestrian accessibility to the water reservoir is required, should this development option be considered appropriate. Proposed storm water management facilities are satisfactorily integrated to the proposed street and block pattern as important element of the proposed open space system with minimized back lotting conditions. A back lotting treatment onto storm water facilities and their related elements such as channels and swells is strongly discouraged. This treatment is considered to diminish the potential to integrate these areas into the overall open space system.

Overall, Option 1 achieves a high level of conservation in terms of protecting and enhancing the Natural Heritage System, with particular emphasis on the protection of significant recharge areas.

Ground Water Management – SEE ANNOTATION ABOVE

- Surface Water Conservation – SEE ANNOTATION ABOVE

- Energy Conservation – MODERATELY ACHIEVED
  
  o Note: The slight departure from a true north-south direction characteristic of the urban fabric of this section of the City of Kitchener naturally falls within the 15 degrees deviation necessary in a passive solar street and block alignment. However, the length of the block should maintain a primarily east-west alignment, which is not achieved in this option. Special consideration should be given at a later stage to the total land coverage and
surface permeability to reduce heat island effect and increase water harvesting and infiltration opportunities.

- Conservation of Natural Heritage System – MOSTLY ACHIEVED
  
  o *Note 1:* North-south collector road fragments key linkage and enhancement opportunity identified in SIS.

  o *Note 2:* Use of single loaded roads adjacent to natural areas should be used along woodlot edges and in particular along the north edge of the woodlot that supports JESA habitat.

  o *Note 3:* Provide open space connection along south edge of cemetery property between woodlots.

  o *Note 4:* SWM scheme in areas proposed for development is not consistent with the principles of groundwater management and surface water conservation. Proposed SWM pond locations may not be suitable from a recharge perspective and protection of adjacent deciduous forest and wetland habitat (potential dewatering or mounding impacts on local water table). Potential impacts to ponds/wetlands supporting habitat for Jefferson salamander needs to be considered in location of SWM facilities. Suitability for using natural areas for discharge of major storm overflow (if required) needs to be addressed.

- Conservation of Cultural Heritage Resources – UNDETERMINED
  
  o *Note:* While existing built heritage features have been integrated to the street and block pattern shown in Option 1, the detailed integration of all heritage buildings and their associated landscapes, such as hedgerows, will require further analysis.

- Cemetery Lands – MODERATELY ACHIEVED
  
  o *Note:* A local collector road transverses the cemetery lands connecting the entire west community from Bleams to Huron Road. With the intent of minimizing this road’s impact on the function and operation of the cemetery, the proposal locates the road on the current gas easement at the edge of the cemetery’s phase 1. It is recommended that the road be designed using alternative design standards to further minimize the impact of large paving areas.

**Connectivity**

Option 1 presents several opportunities for access and views to the surrounding Natural Heritage System and the internal local road network is considered appropriate (although minor improvements can be made). Moreover, because of the limited north-south connection opportunities between neighbourhoods located on the west side of Fischer Hallman Road it is proposed to retain a secondary north-south collector road in this area.

- Connected and Accessible Road System – ACHIEVED
  
  o *Note:* The proposed north-south road that crossed the cemetery lands is considered vital to the livability and function of the entire community including the viability of Fischer Hallman Road as a transit corridor.

- Connected and Accessible Natural Heritage System – ACHIEVED
  
  o *Note:* Further detail on a proposed trail system is required.
**Transit Supportive**

1. **VEHICLES**

   **Intersection Spacing**
   - appropriate

   **Sufficient Intersection Capacity at Collector/Arterial Road Intersections to Accommodate Development Vehicle Demands**
   - sufficient

   **Roadway Connectivity- Internal Development Connections**
   - all areas of development are well connected

   **Connectivity between Neighbourhoods**
   - all areas of development are well connected

   **Connectivity to Boundary Arterials**
   - all areas of development are well connected

   **Central Winding Road**
   - N/A

   **Cemetery Crossing**
   - serves majority of development
   - greatly enhances road network
   - will reduce site traffic on Fisher-Hallman by 20%.

2. **PEDESTRIANS**

   **Trail Network, Sidewalks-Internal**
   - provide pedestrian connection between developments on the east side of Fisher-Hallman

   **Trail Network, Sidewalks –External**
   - provide pedestrian access from south-east development to Huron

3. **TRANSIT**

   **Transit Accessibility- Bleams Road**
   - low density along arterial, typical low modal splits can be expected

   **Transit Accessibility- Fisher-Hallman**
   - high density along arterial, can support increased transit modal split

   **Transit Accessibility- Internal**
   - north-south collector permits interior transit service

   **Notes:**
   - 2 – Bleams Road will likely have a regularly scheduled transit service. Most of the development is within a reasonable walking distance to the corridor. A new east-west collector within the community could have a transit route on it. However, transit will have to make critical operating decisions because there is not enough population to support an independent service on Bleams road and another on the internal collector.

   **Safety**

   The street and block pattern proposed in Option 1 encourages a safe pedestrian environment by fronting onto all community amenity areas such as schools, open space and storm water management facilities. In addition, the proposed street network minimizes vehicular and pedestrian conflicts by providing for a clear hierarchical network as well as easy access to neighbourhood and community amenities.

   - “Eyes” on the Street CPTED Program – ACHIEVED
   - Circulation – ACHIEVED
   - Regional Flood Management – UNDETERMINED
Note: Results from the surface and ground water studies are required. However, lands east of Fischer Hallman Road do not show a stormwater management facility strategy, which should be further addressed.

**Balance**

Option 1 shows all of the highest density uses and commercial uses extending along Fischer Hallman Road. As such, in order to promote quality design through a balanced approach with economic considerations, neighbourhood and convenience scale commercial uses could be accommodated as ground floor commercial below the high density residential uses.

- **Market Responsive – MOSTLY ACHIEVED**
  
  - Note 1: The employment lands at Bleams and Fischer Hallman reduce the transit orientation of this key intersection.
  
  - Note 2: The mixed retail/residential/employment site at the Bleams and Fischer Hallman intersection is not well oriented to serve the residential population in the rest of the study area in that it is surrounded by industrial and open space lands.

  - Note 3: Linear pedestrian commercial development works best when adjacent to residential neighbourhoods; anything that separates it from the residential areas reduces its pedestrian attraction.

- **Public Realm – TO BE ACHIEVED**

  - Note: It is recommended that all streets cross-sections are designed to the standard of the Neighbourhood Design Standard as a minimum. Fischer Hallman Road requires further analysis to fully develop as the transit corridor-main street that the Region and the City have envisioned.

- **Energy Conservation – MODERATELY ACHIEVED**

  - Note: As previously noted, the slight departure from a true north-south direction characteristic of the urban fabric of this section of the City of Kitchener naturally falls within the 15 degrees deviation necessary in a passive solar street and block alignment. The length of the blocks should maintain a primarily east-west alignment, which is not achieved in this option. Consideration should be given at a later stage to the total land coverage and surface permeability to reduce heat island effect and increase water harvesting and infiltration opportunities.

- **Active Transportation – TO BE ACHIEVED**

  - Note: The ultimate balance between places to live and places to work, transit service and frequency level as well as personal life style choices will be factors to be further monitored in determining how much people engage in active transportation and at what time.

**Liveability**

Option 1’s street and block layout could potentially reduce auto dependence and encourage active transportation and physical activity by delivering a street network and densities that support transit, comfortable walking distances to amenity areas and accessible connections to the City’s trail network.
2.2.2 Options 2.a & 2.b

Walkability

The proposed street and block pattern within Options 2.a and 2.b are permeable and well connected. These Options show two clearly defined neighbourhoods east of Fischer Hallman Road. Both communities have a desired 400m from the neighborhood’s center to its edge and most neighbourhoods show an average walking distance of 200 metres to ‘sub-neighbourhood’ features, such as parkettes.

Option 2.a explores estate lot development for Area 2. This type of development is expansive and, at times results in the loss of a well defined centre or core. Option 2.b explores cluster development for Area 2. The ‘clusters’ create three small neighbourhoods within this portion of the study area. Distinguished by their surrounding open space and defined cores, these have a much smaller walking distance from their centre to edge but still maintain a desired 400m walk from core to core.

- Defined Neighbourhoods – MOSTLY ACHIEVED
  
o Note 1: Option 2.b includes a transitional neighbourhood, somewhat lacking in definition, just south of the hydrocorridor in the eastern portion of Area 2. This neighbourhood marks the shift from the neighbourhoods west of Fischer Hallman Road to the cluster developments and should be better defined as such; a matter that can easily be resolved by incorporating a more well-defined core to enhance the threshold into Area 2.
  
o Note 2: Development areas located on the east side of Fischer Hallman Road are either self contained if surrounded by the Natural Heritage System or integrated into the surrounding communities, both approaches are considered appropriate.

- Walkable Streets – ACHIEVED

Variety

Options 2.a and 2.b propose high, medium and low rise residential uses. The proposed residential densities allow for estate, small single detached, semi detached, street townhouse, cluster townhouse, stacked townhouse, walkup apartment, apartment, condo, adult life style units and assisted living units. The diversity and mix of land uses incorporated are considered appropriate for the area with the exception of estate residential uses, which are in conflict with current Regional and Provincial policy. Denser and compact land use forms are located along the corridor and at both nodes encouraging transit ridership.

Options 2.a and 2.b provide for a diverse range of neighbourhood services including schools, recreational, service and retail amenities along with a full range of open space amenities ranging from local parkettes to a District Park, which in turn allows for a range of active and passive recreational activities. As in a majority of the options proposed, Options 2.a and 2.b’s Land use distribution is consistent with the idea of strengthening the Fischer Hallman Corridor’s role: high rise, commercial and employment uses along the corridor, which at the same time encourage transit, followed by medium and low rise built forms.

- Land Use Distribution –NOT ACHIEVED IN OPTION 2a; ACHIEVED IN OPTION 2b
  
o Note: Area 2 in Option 2.a is somewhat deficient in the variety of land uses due to the prescribed form of development.
Option 2.b

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- Density – NOT ACHIEVED IN OPTION 2a; ACHIEVED IN OPTION 2b
- Mix of Land Uses – ACHIEVED
- Range of Housing Types and Tenure – ACHIEVED
- Range of Community Facilities – ACHIEVED
- Park and Open space Hierarchy – MOSTLY ACHIEVED

**Note 1:** With the exception of the aforementioned transitional neighbourhood located in the eastern portion of Area 2 in Option 2.b, neighbourhood parks throughout Options 2.a and 2.b are located at the centre of each neighborhood proposed to the west side of Fischer Hallman Road, while local small parkettes are strategically located at appropriate sub neighborhood locations.

**Note 2:** Opportunities to directly connect proposed open space to adjacent Natural Heritage System are encouraged.

**Note 3:** Options 2.a and 2.b do not preclude the potential to connect the City’s cycling trail network to and from the community. Further evaluation of the routing of the trail network through the study area and beyond is necessary at a later stage.

### Placemaking

A majority of Options 2.a and 2.b’s neighbourhoods show clear and well defined centres comprised of a mix of open space and institutional land uses. The proposed street and block layout depicted in Options 2.a and 2.b do not preclude the opportunity to locate significant neighbourhood and community gateways and landmarks at appropriate locations.

- Defined Neighbourhood Centres and Edges – MODERATELY ACHIEVED

**Note 1:** The opportunity for small-scale mixed used retail is not present in these options. While ultimate unit and population yields will determine the viability of locating small scale retail uses at the core of each neighbourhood, a flexible mixed-use retail/service residential land use designation should be set in place at that time.

**Note 2:** Bleams Road north side back lotting condition creates a hard edge to transition or respond to. Both Options 2.a and 2.b counter by backing onto the road. While a detail of this condition is not explored at this stage of the plan design, an appropriate back lotting condition treatment should be implemented. A combination of a landscaped berm, as suggested in Option 2.a, with a consistent fence treatment is recommended.

- Defined Character Areas – UNDETERMINED

**Note 1:** While built heritage areas have been conserved, additional detail is required to integrate the heritage buildings and some of their associated landscape features into the plan.

**Note 2:** Further analysis is required to determine the viability of locating community amenity uses in combination with an accessible storm water management facility at the heritage building site situated on the south side of the Alder Creek.

### Conservation

Ground Water Management and Surface Water Conservation evaluations are being conducted and expected to be finished by the end of October 2010. Important land use design considerations will be drawn from the conclusions presented by both analyses.

Storm water management facilities are satisfactorily integrated to the proposed street and block pattern as
Options 2a and 2.b achieve a high level of conservation of Natural Heritage System criteria.

- **Energy Conservation** – **MODERATELY ACHIEVED**
  
  - *Note:* The slight departure from a true north-south direction characteristic of the urban fabric of this section of the City of Kitchener naturally falls within the 15 degrees deviation necessary in a passive solar street and block alignment. However, the length of the block should maintain a primarily east-west alignment, which is not entirely achieved throughout each of these options. In addition, consideration should be given at a later stage to the total land coverage and surface permeability to reduce heat island effect and increase water harvesting and infiltration opportunities.

- **Conservation of Natural Heritage System** – **MOSTLY ACHIEVED**
  
  - *Note 1:* North-south collector road fragments an existing linkage connection between two woodlots plus a major east-west linkage enhancement opportunity identified in the SIS.
  
  - *Note 2:* Concerns apply regarding proximity of SWM ponds to existing woodlots and wetlands.
  
  - *Note 3:* The majority of the NHS is flanked by rear yards, including area east of Fischer-Hallman Road. It is advised to utilize single-loaded roads and or compatible open space uses adjacent to NHS (in particular woodlots and wetlands). Example- north edge of woodlot (north of cemetery) is rear lotted. A single loaded road or open space use would be better in this location, particularly given the proximity of JESA habitat.

- **Conservation of Cultural Heritage Resources** – **UNDETERMINED**
  
  - *Note:* While existing built heritage features have been integrated to the street and block pattern shown in Options 2.a and 2.b, the detailed integration, such as is proposed at the heritage building site situated on the south side of the Alder Creek, of all heritage buildings and their associated landscapes, such as hedgerows, will require further analysis.

- **Cemetery Lands** – **ACHIEVED**
  
  - *Note:* With the intent of minimizing impact on the function and operation of the cemetery, a pedestrian connection/trail transverses the cemetery lands and acts as the only interior connection for the entire west community from Bleams to Huron Road.

**Connectivity**

The overall internal local road network for Options 2.a and 2.b is considered appropriate. It provides multiple route options for all modes of transportation and presents several opportunities for access and views to the surrounding Natural Heritage System. However, because of the limited north-south connection between neighbourhoods located on the west side of Fischer Hallman Road due to the inadmissible vehicular access through the cemetery lands there is a lack of connectivity; albeit somewhat strengthened by means of the proposed pedestrian trail.

- **Connected and Accessible Road System** – **MOSTLY ACHIEVED**
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1. TRANSPORTATION

2. PEDESTRIANS

3. TRANSIT

Notes:

1 – Any attempt to create a north-south connector through the open space area will not likely be an efficient component of the road network. Such a route is too removed and indirect for the local neighbourhoods. Through traffic also could not be diverted to this route because it is indirect and too time consuming to attract or help divert through traffic flows.

2 – Bleams Road will likely have a regularly scheduled transit service. Most of the development is within a reasonable walking distance to the corridor. A new east-west collector within the
community could have a transit route on it. However, transit will have to make critical operating decisions because there is not enough population to support an independent service on Bleams road and another on the internal collector.

**Safety**

The street and block pattern proposed in Options 2.a and 2.b contributes to neighbourhood safety fronting onto all community amenity areas such as schools, open space and storm water management facilities. Additionally, the proposed street network minimizes vehicular and pedestrian conflicts by providing for a clear hierarchical network as well as easy access to neighbourhood and community amenities.

- “Eyes” on the Street CPTED Program – ACHIEVED
- Circulation – ACHIEVED
- Regional Flood Management – UNDETERMINED
  - Note: Results from the surface and ground water studies are required. However, lands east of Fischer Hallman Road do not show a stormwater management facility strategy, which should be further addressed.

**Liveability**

Options 2.a and 2.b promote sustainable practices and healthy complete communities by proposing a street and block layout that could potentially reduce auto dependence and encourage active transportation and physical activity by delivering a street network and densities that support transit, comfortable walking distances to amenity areas and accessible connections to the City’s trail network.

- Market Responsive – MOSTLY ACHIEVED
  - Note 1: High density residential at Bleams and Fischer Hallman is appropriate from a transit perspective. The ground floor commercial space could be integrated into the high density residential development along Fischer Hallman.
  - Note 2: The new western north south collector could be the site for neighbourhood scale uses where it intersects with Bleams. Intersection of this road with Huron appears to be constrained by environmental lands; otherwise, it too could be appropriate for neighbourhood or convenience retail uses.

**Balance**

Options 2.a and 2.b, along with Option 4, have the highest populations and will likely require 3 neighbourhood scale centres – potentially 2 in the north and 1 in the south. In order to promote quality design through a balanced approach with economic considerations, there will also be a need for 1 or 2 convenience centres to serve the residential lands west of the hydro right of way, which have been excluded from Option 1 (Area 2).

- Public Realm – TO BE ACHIEVED
  - Note 1: It is recommended that all street cross-sections are designed to the standards of the Neighbourhood Design Standard as a minimum. Fischer Hallman Road requires further analysis to fully develop as the transit corridor-main street that the Region and the City have envisioned.
  - Note 2: Due to its prescribed form of development, special consideration should be given to Area 2 in Option 2.a to assure that this portion of the plan will not be deficient in the provision of a pedestrian friendly public realm.
• Energy Conservation – MODERATELY ACHIEVED

  o Note: As previously noted, the slight departure from a true north-south direction characteristic of the urban fabric of this section of the City of Kitchener naturally falls within the 15 degrees deviation necessary in a passive solar street and block alignment. The length of the blocks should maintain a primarily east-west alignment, which is not entirely achieved throughout each of these options. Consideration should be given at a later stage to the total land coverage and surface permeability to reduce heat island effect and increase water harvesting and infiltration opportunities.

• Active Transportation – MOSTLY ACHIEVED

  o Note 1: The ultimate balance between places to live and places to work, transit service and frequency level as well as personal life style choices will be factors to be further monitored in determining how much people engage in active transportation and at what time.

  o Note 2: Accessible open links to the adjacent Natural Heritage System are encouraged
2.2.3 Options 3

Walkability

Option 3’s proposed street and block pattern is permeable, well connected and overall accessible. Neighbourhoods show an average walking distance of 200 metres to ‘sub-neighbourhood’ features, such as parkettes. With the exception of development lands located to the east of Fischer Hallman, all neighbourhoods show an average walking distance of 400 metres to neighbourhood features such as schools and neighbourhood parks. Moreover, Option 3 would provide for an average walking distance of 800 metres to higher order community elements, such as District Parks, Secondary Schools and Community Centres.

- Defined Neighbourhoods – ACHIEVED
  - Note: Although somewhat divided by a series of employment clusters, development areas located on the east side of Fischer Hallman Road are either self contained, if surrounded by the Natural Heritage System, or integrated into the surrounding communities. Both approaches are considered appropriate.

- Walkable Streets – MOSTLY ACHIEVED
  - Note: Due to its remote nature, special consideration should be given to the alternate Countryside Line north-south road alignment, so that specific precautions are taken to maintain the safety, walkability and accessibility of this road.

Variety

Option 3 proposes high, medium and low rise residential uses, accommodating for the full range of unit types and tenure options. The proposed residential densities allow for small single detached, semi detached, street townhouse, cluster townhouse, stacked townhouse, walkup apartment, apartment, condo, adult life style units and assisted living units. The diversity and mix of land uses are considered appropriate for the area. Employment and denser, compact land use forms are located along the corridor and at both nodes and assist with the encouragement of transit ridership. Option 3 also provides for a diverse range of neighbourhood services such as schools, recreational uses, service and retail amenities along with a full range of open space amenities ranging from local parkettes to a District Park, which also allow for a range of active and passive recreational activities.

- Land Use Distribution – ACHIEVED

- Density – ACHIEVED

- Mix of Land Uses – ACHIEVED
  - Note: Although contributing to transit ridership, further studies are required to determine the feasibility of the employment nodes located at the northern and southern intersections as well occasionally along the Fischer Hallman Corridor from a market demand perspective.

- Range of Housing Types and Tenure – ACHIEVED

- Range of Community Facilities – ACHIEVED

- Park and Open space Hierarchy – ACHIEVED
  - Note 1: Opportunities to directly connect proposed open space to adjacent Natural Heritage System are encouraged. Back lotting strategy is discouraged.

  - Note 2: Options 3 does not preclude the potential to connect the City’s cycling trail network to and from the community.
integrate the heritage buildings and some of their associated landscape features into the plan.

**Note 2**: Further analysis is required to determine the viability of locating community amenity uses in combination with accessible storm water management facilities.

### Conservation

*Ground Water Management and Surface Water Conservation evaluations are being conducted and expected to be finished by the end of October 2010. Important land use design considerations will be drawn from the conclusions presented by both analyses.*

*Proposed storm water management facilities are satisfactorily integrated to the proposed street and block pattern as important element of the proposed open space system with minimized back lotting conditions. A back lotting treatment onto storm water facilities and their related elements such as channels and swells is strongly discouraged. This treatment is considered to diminish the potential to integrate these areas into the overall open space system.*

In general, Option 3 achieves a moderate to high level of conservation of Natural Heritage System criteria, groundwater management and surface water conservation.

- **Ground Water Management** – **SEE ANNOTATION ABOVE**
- **Surface Water Conservation** – **SEE ANNOTATION ABOVE**
- **Energy Conservation** – **MOSTLY ACHIEVED**

**Note 1**: The slight departure from a true north-south direction characteristic of the urban fabric of this section of the City of Kitchener naturally falls within the 15 degrees
deviation necessary in a passive solar street and block alignment. However, the length of the blocks should maintain a primarily east-west alignment, which is only achieved throughout isolated portions of this option.

- **Note 2:** Special consideration should be given at a later stage to the total land coverage and surface permeability to reduce heat island effect and increase water harvesting and infiltration opportunities.

- **Conservation of Natural Heritage System – MOSTLY ACHIEVED**
  - **Note 1:** North-south collector road fragments an existing linkage connection between two woodlots plus a major east-west linkage enhancement opportunity identified in the SIS.
  - **Note 2:** Concerns apply regarding proximity of SWM ponds to existing woodlots and wetlands.
  - **Note 3:** The majority of the NHS is flanked by rear yards, including area east of Fischer-Hallman Road. It is advised to utilize single-loaded roads and or compatible open space uses adjacent to NHS (in particular woodlots and wetlands). Example- north edge of woodlot (north of cemetery) is rear lotted. A single loaded road or open space use would be better in this location, particularly given the proximity of JESA habitat.

- **Conservation of Cultural Heritage Resources – UNDETERMINED**
  - **Note:** While existing built heritage features have been integrated to the street and block pattern shown in Option 3, the detailed integration of all heritage buildings and their associated landscapes, such as hedgerows, will require further analysis.

- **Cemetery Lands – ACHIEVED**
  - **Note:** With the intent of minimizing impact on the function and operation of the cemetery, a pedestrian connection/trail transverses the cemetery lands and acts as the only interior connection for the entire west community from Bleams to Huron Road.

### Connectivity

Option 3 presents several opportunities for access and views to the surrounding Natural Heritage System and the internal local road network is considered appropriate (although minor improvements can be made). Moreover, because of the limited north-south connection opportunities between neighbourhoods located on the west side of Fischer Hallman Road it is proposed to retain a secondary north-south collector road in this area.

- **Connected and Accessible Road System – MOSTLY ACHIEVED**
  - **Note:** A stronger north-south connection is necessary for the vitality, livability and function of the entire community including the viability of Fischer Hallman Road as a transit corridor.

- **Connected and Accessible Natural Heritage System – ACHIEVED**
  - **Note:** Further detailed on a proposed trail system is required.

### Transit Supportive

1. **VEHICLES**

   **Intersection Spacing**
   - appropriate

   **Sufficient Intersection Capacity at Collector/Arterial Road Intersections to Accommodate Development Vehicle Demands**
   - sufficient
Roadway Connectivity - Internal Development Connections

• north is well connected

Connectivity between Neighbourhoods

• needs connectivity between north and south development

Connectivity to Boundary Arterials

• south needs increased connection to Huron Rd., or co-ordination of access locations along Huron Rd.

Central Winding Road

• serves small portion of development
• does not enhance the road network

Cemetery Crossing

• provides good pedestrian connectivity
• needed for roadway connectivity

2. PEDESTRIANS

Trail Network, Sidewalks - Internal

• provide pedestrian connection between developments on the east side of Fisher-hallman

Trail Network, Sidewalks – External

• provide more pedestrian access to Huron road through the employment lands

3. TRANSIT

Transit Accessibility - Bleams Road

• low density along arterial, typical low modal splits can be expected

Transit Accessibility - Fisher-Hallman

• minimal residential density along arterial, difficult to increase transit modal split

Transit Accessibility - Internal

• northern east-west collector road could support internal transit route but would have to be part of Bleams Rd. Route service

Notes:

1 – Any attempt to create a north-south connector through the open space area will not likely be an efficient component of the road network. Such a route is too removed and indirect for the local neighbourhoods. Through traffic also could not be diverted to this route because it is indirect and too time consuming to attract or help divert through traffic flows.

2 – Bleams Road will likely have a regularly scheduled transit service. Most of the development is within a reasonable walking distance to the corridor. A new east-west collector within the community could have a transit route on it. However, transit will have to make critical operating decisions because there is not enough population to support an independent service on Bleams road and another on the internal collector.

Safety

The street and block pattern proposed in Option 3 contributes to neighbourhood safety fronting onto all community amenity areas such as schools, open space and storm water management facilities. Additionally, the proposed street network minimizes vehicular and pedestrian conflicts by providing for a clear hierarchical network as well as easy access to neighbourhood and community amenities.

• “Eyes” on the Street CPTED Program – ACHIEVED

• Circulation – ACHIEVED

• Regional Flood Management – UNDETERMINED

Note: Results from the surface and ground water studies are required. However, lands east of Fischer Hallman Road do not show a stormwater management facility strategy, which should be further addressed.
Balance

The lower population in Option 3 would likely only require 2 neighbourhood centres, one of which could be located at the new intersection of the north south collector and Bleams, where it would be central to the population of the northern part of the study area and promote quality design through a balanced approach.

- Market Responsive – MOSTLY ACHIEVED
  - Note 1: The mixed retail/employment uses at Fischer Hallman and Huron are more concentrated on the east side of Fischer Hallman than the other options. In that these uses will likely be more district serving, this is not so much of an issue, but consideration should be given to ensuring that a supermarket is well situated with respect to the southern portion of the study area.
  - Note 2: The mixed retail/employment/residential designations along Fischer Hallman provide more development flexibility than the high density residential in some of the other options.
  - Note 3: Appropriate employment densities should be implemented to create a transit supportive corridor.

Liveability

Option 3 promotes sustainable practices and healthy complete communities by proposing a street and block layout that could potentially reduce auto dependence and encourage active transportation and physical activity by delivering a street network and densities that support transit, comfortable walking distances to amenity areas and accessible connections to the City’s trail network.

- Public Realm – TO BE ACHIEVED

- Note 1: It is recommended that all street cross-sections are designed to the standards of the Neighbourhood Design Standard as a minimum. Fischer Hallman Road requires further analysis to fully develop as the transit corridor-main street that the Region and the City have envisioned.

- Note 2: Because of its remote location, special consideration should be given, at a later time, to the alternate Countryside Line north south road alignment to assure that specific precautions are taken to maintain the safety, walkability and accessibility of this road so that it will not be deficient in the provision of a pedestrian friendly and sustainable public realm.

- Energy Conservation – MOSTLY ACHIEVED
  - Note 1: As previously noted, the slight departure from a true north-south direction characteristic of the urban fabric of this section of the City of Kitchener naturally falls within the 15 degrees deviation necessary in a passive solar street and block alignment. However, the length of the blocks should maintain a primarily east-west alignment, which is only achieved throughout isolated portions of this option.

  - Note 2: Special consideration should be given at a later stage to the total land coverage and surface permeability to reduce heat island effect and increase water harvesting and infiltration opportunities.

- Active Transportation – TO BE ACHIEVED
  - Note: The ultimate balance between places to live and places to work, transit service and frequency level as well as personal life style choices will be factors to be further monitored in determining how much people engage in active transportation and at what time.
2.2.4 Option 4

**Walkability**

Overall, the proposed street and block pattern is not permeable or well connected. The street system works within specific land ownerships without connecting to surrounding lands. Neighbourhoods show an average walking distance of 200 metres to ‘sub-neighbourhood’ features, such as parkettes. The neighborhood located immediately north of the cemetery lands proposes the only elementary school within the study area providing adequate walking distances to this amenity this neighbourhood only.

- Defined Neighbourhoods – ACHIEVED
  - Note: Development areas located on the east side of Fischer Hallman Road are either self contained, if surrounded by the Natural Heritage System, or integrated into the surrounding communities. Both approaches are considered appropriate.

- Walkable Streets – NOT ACHIEVED
  - Note: The entire study area lacks pedestrian and vehicular connectivity. Also, the northern east-west collector system is disjointed.

**Variety**

Option 4 proposes high, medium and low-rise residential uses. Denser and compact land use form is located along the corridor north of the cemetery lands and at the southern node (Fischer Hallman and Huron Road) encouraging transit ridership, further information on the built form being proposed on medium and high rise residential uses is required. The neighbourhood south of the cemetery lands could increase the amount of medium and high density residential uses, in the same manner that the north of the cemetery lands are proposing. Because of the prominence and role of Fischer Hallman Road as a transit corridor, the proposed stand-alone retail at the northwest corner of Fischer Hallman and Huron Road is discouraged. A mix of service commercial and or office with retail uses located at ground level is recommended. Option 4 lacks community wide amenities with only an elementary school being proposed.

- Land Use Distribution – MOSTLY ACHIEVED

- Density – MOSTLY ACHIEVED, DEVELOPMENT PROGRAM INFORMATION REQUIRED

- Mix of Land Uses – MOSTLY ACHIEVED

- Range of Housing Types and Tenure – MOSTLY ACHIEVED, DEVELOPMENT PROGRAM INFORMATION REQUIRED

- Range of Community Facilities – NOT ACHIEVED

- Park and Open space Hierarchy – ACHIEVED
  - Note 1: Opportunities to integrate the storm water management facilities and associated channel onto the overall open space system should be explored. Back lotting onto these facilities is discouraged.
  - Note 2: Although option 4 does not preclude the potential to connect the City’s cycling trail network to and from the community, further evaluation of the routing of the trail network through the study area and beyond is necessary at a later stage. Extensive back lotting onto the natural heritage system is strongly discouraged.
**Placemaking**

Option 4 neighborhoods show neighbourhood centres comprised of a mix of open space, institutional land uses and/or medium to high rise residential uses. The opportunity of using the extensive storm water management system shown on Area 2 lands to strengthen a sense of place is missed by locating it behind residential units. The proposed street and block layout, although disjointed, does not preclude the opportunity to locate significant neighbourhood and community gateways and landmarks at appropriate locations.

- **Defined Neighbourhood Centres and Edges** – MOSTLY ACHIEVED
  - *Note 1*: integration of the storm water management system should be explored.
  - *Note 2*: Bleams road north side back lotting condition creates a hard edge to transition or respond to. Option 4 counters by backing onto the road. While a detail of this condition is not explored at this stage of the plan design, an appropriate back lotting condition treatment should be implemented. A combination of a landscaped berm combined with a consistent fence treatment is recommended.

- **Defined Character Areas** – UNDETERMINED
  - *Note*: It is not clear how the proposed street and block pattern will integrate significant cultural heritage resources located in Areas 2 and 4.

**Conservation**

Ground Water Management and Surface Water Conservation evaluations are being conducted and expected to be finished by the end of October 2010. Important land use design considerations will be drawn from the conclusions presented by both analyses.

Proposed storm water management integration to the proposed street and block pattern, as important element of the open space system needs further consideration. A back lotting treatment onto storm water facilities and their related elements such as channels and swells is strongly discouraged. This treatment is considered to diminish the potential to integrate these areas into the overall open space system.

Option 4 does not comply with this study’s delineation of the existing Natural Heritage System and thereby encroaches on it’s limits at several instances.

- **Ground Water Management** – SEE ANNOTATION ABOVE
- **Surface Water Conservation** – SEE ANNOTATION ABOVE
- **Energy Conservation** – MODERATELY ACHIEVED
  - *Note*: The slight departure from a true north-south direction characteristic of the urban fabric of this section of the City of Kitchener naturally falls within the 15 degrees deviation necessary in a passive solar street and block alignment. However, the length of the block should maintain a primarily east-west alignment, which is could be achieved for the majority of lands in Option 4. Further assessment of this specific energy conservation strategy is encouraged. Special consideration should be given at a later stage to the total land coverage and surface permeability to reduce heat island effect and increase water harvesting and infiltration opportunities.
- **Conservation of Natural Heritage System** – NOT ACHIEVED
  - *Note 1*: Concept does not conform to recommended NHS and buffers.
  - *Note 2*: No fragmentation of NHS by N-S collector road
Note 3: Concept does not provide for E-W linkage enhancement.

Note 4: NHS primarily flanked by rear lots.

Note 5: Highest percentage of impervious cover compared to other concepts. It is likely difficult to meet groundwater management targets.

Note 6: Concept does utilize greenway system of SWM.

Note 7: Concept does not respect all of the significant recharge areas.

Conservation of Cultural Heritage Resources – UNDEFINED

Note: While existing built heritage features have been integrated to the street and block pattern shown in Option 4, the detailed integration of all heritage buildings and their associated landscapes, such as hedgerows, will require further analysis.

Connectivity

Option 4 presents few opportunities for access and views to the surrounding Natural Heritage System because of the large back lotting treatment being proposed. The internal local road network between all neighbourhoods is considered inappropriate. Moreover, because of the proposed densities as well as Fischer Hallman Road’s corridor role, north-south as well as east-west connection opportunities between neighbourhoods is strongly encouraged.

Connected and Accessible Road System – NOT ACHIEVED

Note: Area 4 number of local road connections to Huron and Fischer Hallman Road should be further reviewed.

Connected and Accessible Natural Heritage System – NOT ACHIEVED

Transit Supportive

1. VEHICLES

Intersection Spacing

• appropriate

Sufficient Intersection Capacity at Collector/Arterial Road Intersections to Accommodate Development Vehicle Demands

• sufficient

Roadway Connectivity- Internal Development Connections

• internal neighbourhoods are well connected

Connectivity between Neighbourhoods

• north-west has no connection with north-east

• needs connectivity between north and south development

Connectivity to Boundary Arterials

• north-west needs increased connection to Bleams

• connection needed between ret./com. at Huron & Fisher-Hallman and surrounding residential

• south needs increased connection to Fisher-Hallman

Central Winding Road

• N/A

Cemetery Crossing

• provides good pedestrian connectivity

• needed for roadway connectivity

2. PEDESTRIANS

Trail Network, Sidewalks-Internal
• provide pedestrian connection between developments on the east side of Fisher-Hallman Trail Network, Sidewalks – External
  • provide pedestrian access from north-west development to Bleams and Trussler

3. TRANSIT

Transit Accessibility – Bleams Road
• low density along arterial, typical low modal splits can be expected
• Transit Accessibility – Fisher-Hallman
• high density along arterial, can support increased transit modal split

Transit Accessibility – Internal
• no opportunity for internal transit route service

Notes:
1 – Any attempt to create a north-south connector through the open space area will not likely be an efficient component of the road network. Such a route is too removed and indirect for the local neighbourhoods. Through traffic also could not be diverted to this route because it is indirect and too time consuming to attract or help divert through traffic flows.

2 – Bleams Road will likely have a regularly scheduled transit service. Most of the development is within a reasonable walking distance to the corridor. A new east-west collector within the community could have a transit route on it. However, transit will have to make critical operating decisions because there is not enough population to support an independent service on Bleams road and another on the internal collector.

Balance

Information on the development program being proposed for Area 2 lands as well as the type of uses within the mixed use and built form within the medium and high rise residential uses is required to further understand Option 4’s response to the market place. It is suggested that neighbourhood and convenience scale commercial uses could be accommodated as ground floor commercial below the high rise residential lands.

• Market Responsive – UNDETERMINED
  o Note 1: This is the only option that the provides for a retail only centre at Huron and Fischer Hallman. From the perspective of creating a “town centre” feel, urban design policies should be in place to encourage similar design treatments for all four quadrants, and strong pedestrian and vehicular connections between the four quadrants. Where possible, the retail buildings should be sighted close to the intersection to minimize the need to drive between sites.

  o Note 2: Fischer Hallman in this option is more nodal than linear, with a very large

Safety

The street and block pattern proposed in Option 4 could further encourage a safe pedestrian environment by fronting onto all open space and storm water management facilities. In addition, the proposed street network could minimize vehicular and pedestrian conflicts by providing for a clear and connected hierarchical network as well as easy access to neighbourhood and community amenities.

• “Eyes” on the Street CPTED Program – NOT ACHIEVED
• Circulation – NOT ACHIEVED
• Regional Flood Management – UNDETERMINED
  o Note: Results from the surface and ground water studies are required. However, lands east of Fischer Hallman Road do not show a stormwater management facility strategy, which should be further addressed.

Note: Results from the surface and ground water studies are required. However, lands east of Fischer Hallman Road do not show a stormwater management facility strategy, which should be further addressed.
commercial and mixed use node to the south and a smaller mixed use node north of the hydro right of way.

Liveability

Option 4’s street and block layout will increase auto dependence discouraging active transportation and physical activity by delivering a disconnected street network that precludes comfortable walking distances to amenity areas and accessible connections to the City’s trail network.

- Public Realm – TO BE ACHIEVED
  - Note: It is recommended that all streets cross-sections are designed to the standards of the Neighbourhood Design Standard as a minimum. Fischer Hallman Road requires further analysis to fully develop as the transit corridor-main street that the Region and the City have envisioned.

- Active Transportation – NOT ACHIEVED

- Sustainable Community and Building Design – TO BE ACHIEVED
  - Note: This item is to be assessed at a site plan or draft plan stage.
2.2.5 City of Kitchener and Relevant Agencies’ Comments

Option 1

City of Kitchener
Community Services Department,
Parks Planning, Development and Operations

- A linear open space corridor between Huron Road, near the District Park, and the proposed southern Elementary School and nearby open space is missing in this plan. This could be a “front yard” linear urban green, like an oversized median with single loaded streets on two sides of the park. This would then provide the possibility of a continuous linked open space and multi-use trail from Huron Rd to the Community Centre and Hydro corridor and opportunities to link the open space north of here to the northern Elementary School and to Bleams Road.

- A Community Trail system is required to link all of the open space land uses within and beyond the community in both a north-south and east-west direction and corridors for this system must be provided adjacent to sensitive or protected natural areas.

- SWM Management areas, with their required vehicle access routes, often provide the trail head or access point for pedestrians and cyclists to adjacent natural areas. The location and design of SWM areas should consider this additional use at an early stage.

City of Kitchener
Development Engineering

- There is too much green space in the major recharge area, we would like to see some development incorporated in this area.

- We like the high rise along the Fischer-Hallman corridor followed by MR and LR.

- We would like a buffer or HR adjacent to the cemetery, opposed to LR backing onto it.

- We would like to see more multi-res incorporated into design.

- Would like to see more OS or larger OS area by Plains Rd.

- Would like to see another block of Employment lands along FH corridor.

- Have a pedestrian connection through cemetery.

- Need a pedestrian connection to cross Fischer Hallman Rd.

- We would like to keep the elementary schools off of collector roads, they should be off of local roads due to speed.
City of Kitchener
Development and Technical
Services Department –
Heritage Planning

- Why are we maintaining a large (approx. 10 acres) church site with development potential?
- Assign a land use to all significant cultural heritage resources
- 1385 Bleams Road: Will employment land use designation apply to this property? If yes, may need special policy to allow existing residential use to continue. Building can likely be integrated within larger development via future Site Plan application and Heritage Impact Assessment;
- 1255-1291 Fischer Hallman Road: Am I correct that the building is surrounded by a SWM facility? or is the building within the SWM facility? How will the building be accessed? The front facade faces the Natural Heritage System. Does this option require demolition? If yes, a Heritage Impact Assessment has already been submitted confirming the cultural heritage value and interest and recommended conservation via designation under the Ontario Heritage Act. As a result, demolition of this building is not supported;
- 1664 Huron Road: Not identified on map. This property is listed as a non-designated property of cultural heritage value or interest on the Municipal Heritage Register. Future development will require a Heritage Impact Assessment to demonstrate how the building can be conserved. As a result, property must be identified as a cultural heritage resource.; and,
- 1683 Huron Road: It appears that the road network crosses this property. Will the road result in demolition? If yes, a Heritage Impact Assessment has already been submitted confirming the cultural heritage value and interest and recommended conservation via designation under the Ontario Heritage Act. As a result, demolition of this building is not supported.

City of Kitchener
Transportation Planning

- Has good connectivity between both neighbourhoods and the arterial network, which lends itself to a more walkable community.
- The number of accesses to the arterial road network (7) and the strategic location of these accesses help to mitigate traffic impact on any singular street within the community while making the community accessible.
- The design is transit supportive with high density residential along the transit route within walking distance, which should help to achieve transit ridership projections. Additionally, the collector road is an alternative n/s spine that could also serve as a transit route through the neighbourhood and would result in the majority of the community being within 400m walking distance of transit.
- The proposed “grid” network of streets supports neighbourhood access and walkability.
- With schools/community centres proposed in central locations and adjacent to greenspace, there is increased potential for trails and increased walkability to these features.
- Does not incorporate any development within the recharge area, which seems like a missed opportunity.
- There is very little commercial/retail on the west side of Fischer Hallman which is needed to be a self sustaining, walkable community.
The road connecting to the Seabrook roundabout isn’t labeled as one of the collector roads, but should be used as part of the collector road network and should extend along the open space to the other street for better access.

Overall this design tries to meet all of the objectives outlined within the City of Kitchener’s Design Brief for “Suburban Development and Mixed Use Neighbourhood Centres”.

**Region of Waterloo Transit Planning**

The following is a review including positive features and areas for potential improvement:

- Good density close to Fischer Hallman Road
- Employment at FISCHER HALLMAN ROAD and Bleams might be less controversial with neighbourhood than HR
- Good land use mix for transit at FISCHER HALLMAN ROAD and Bleams
- Urban North-South collector location good with this form but understand the constraints.
- Good use of transition from HR facing FISCHER HALLMAN ROAD to MR to LR.
- Prefer more employment at FISCHER HALLMAN ROAD and Huron
- Too much LR at the back creating a homogeneous land use that lacks interest and could create unnecessary social divisions.
- Concern with MR on SE corner of FISCHER HALLMAN ROAD and Huron, maybe should be employment or more MU as the rest of the development is LR or Towns.

**City of Kitchener- Cemeteries Community Services Department**

- No support, road through cemetery is unacceptable

**Region of Waterloo Planning**

Positive aspects of the proposed option are:

- Protection of recharge area through OS uses
- Natural Heritage System (NHS) including proposed ESPA Williamsburg Woods
- Connectivity of NHS
- Proposes SWM in the SW provides buffer/protection for proposed ESPA
- Higher density along F-H Corridor
- Natural Heritage System protected
- N-S road through cemetery
- Institutional uses spread out

Option aspects that required further analysis:

- Need more mixed use along Fischer Hallman Road Corridor
- More employment lands, e.g., to the south
- Consider second N-S route

**Waterloo Region District School Board**

- With any scenario the Board has recommended and prefers some form of access through Williamsburg cemetery to ensure that students from north or south of this area are able to walk
to proposed school facilities, with a minimum travel distance. The potential road shown on this concept could serve this function provided sidewalks are also considered.

- Projected public elementary students may require the designation of 3 elementary sites.
- Sites currently identified in this option do not meet the Board’s locational criteria for setback from hydro or gas lines.
- Lands east of Fischer-Hallman Road are less easily serviced by area schools. There is an option of directing these students to the Board’s school site on Woodbine Avenue in the Huron Village area, but safe walking trails would have to be provided to make that connection along the hydro corridor.
- Alternately, in a less desirable solution, students may be accommodated west of Fischer-Hallman if safe pedestrian access/facilities are established to permit that crossing.

Waterloo

Catholic District School Board

- A Catholic school site is not required in the southern portion of the plan. One, however, is required in the northern portion of the plan. The location of the Catholic school site very much depends on how the lands to the west of the study area are developed. Should the lands not develop, or develop as estate residential, then the location of the Catholic school site should be roughly where the elementary school site is shown in Option 2 (northern school site).
- Location of the Catholic elementary school site should consider preferences for frontage on a collector road, avoid steep slopes, and be adjacent to parkland. It is the preference of WCDSB not to be located close to storm water management facilities, gas pipelines, transmission towers or lines, or commercial areas.
- Secondary North-South Connection: A secondary north-south road between Trussler Road and Fisher-Hallman would be extremely beneficial. The road through the cemetery is preferred because it would serve the residents of this community. It would allow for direct access from the northern area to the district park and transit node and would allow for more efficient school bus/transit routing should it be required. It would also create a well traveled path from north to south, making it safer for pedestrians in terms of visibility (eyes on the street). If the road connection through the cemetery is not feasible, a pedestrian connection would be advisable.
- Fisher-Hallman Corridor: The high rise residential corridor along Fisher-Hallman is preferred, as shown in Options 1 and 2. It would help to define the corridor and increase transit ridership. Depending on how the buildings are situated and how tall the buildings are in relation to street width, it could give the corridor a more urban feel. If done properly, the high rise residential corridor could give a visual queue to drivers to slow down, which would help contribute to pedestrian safety.

Grand River Conservation Authority

Pro’s

- Open space designation immediately south of Bleams will allow for some ecological restoration and enhancement while enabling passive uses that are compatible with existing/proposed natural heritage features in this area
- Huge potential for wetland buffer restoration and enhancement - a good way to maintain recharge targets
• High level of ecological connectivity

Con’s

• The north-south collector alignment through cemetery lands will bisect a proposed linkage between two core features as well as a potential linkage to the natural areas east of Fischer-Hallman Road linkage

• Not clear though what grading/road corridor is required and whether the natural features themselves (ie. wetlands) will be impacted

• This alignment would bisect a potentially large “green” area when the NHS and proposed open space are combined

• Not clear how this scenario would impact Jefferson salamander habitat

Option 2.a

City of Kitchener
Community Services Department, Parks Planning, Development and Operations

• A linear open space corridor between Huron Road, near the District Park, and the proposed southern Elementary School and nearby open space is missing in this plan. This could be a “front yard” linear urban green, like an oversized median with single loaded streets on two sides of the park. This would then provide the possibility of a continuous linked open space and multi-use trail from Huron Rd to the Community Centre and Hydro corridor and opportunities to link the open space north of here to the northern Elementary School and to Bleams Road.

• A Community Trail system is required to link all of the open space land uses within and beyond the community in both a north-south and east-west direction and corridors for this system must be provided adjacent to sensitive or protected natural areas.

• SWM Management areas, with their required vehicle access routes, often provide the trail head or access point for pedestrians and cyclists to adjacent natural areas. The location and design of SWM areas should consider this additional use at an early stage.

City of Kitchener
Development Engineering

• This is our most preferred plan with a few modifications:

• We really like the estate lots and the integration with the heritage site

• We like how the estate lots integrate with the SWM ponds and recharge areas

• We like the swm ponds around recharge areas

• Would like to see some employment lands on this plan

• Would like to see more multi-res up top by Bleams Rd

• Need to verify that a SWM pond is permitted in hydro corridor

• We like the HR along FH corridor

• We like the open spaces by the schools

• Need a pedestrian connection to cross Fischer Hallman Rd

• We would like to keep the elementary schools off of collector roads, they should be off of local roads due to speed
• We like the different land uses by the schools.
• Good balance between LR, MU, HR.
• We like the mixed use by the transit node.
• We like the pedestrian connection through the cemetery.
• We would like the collector road just south of the church to be straighten out at the bump out there, it will create difficulties for maintenance and ploughing (more like Option 2B).
• Add employment lands along FH at southern most part.
• Have employment lands and retail/commercial lands at Huron and FH.
• Have pedestrian crossing connect with trail through cemetery and then cross FH.
• Have employment, mixed use and retail lands at Bleams and FH.
• Add an open space in estate lots.
• Add a secondary school if needed by the church.

City of Kitchener
Development and Technical Services Department – Heritage Planning

• Why are we maintaining a large (approx. 10 acres) church site with development potential?
• Assign a land use to all significant cultural heritage resources.
• 2091 Bleams Road: It appears that the road network crosses this property. Will the road result in demolition? If yes, this is pre-mature as the property is identified as a potential cultural heritage resource.
• 236 Gehl Place: It appears that the road network crosses this property. Will the road result in demolition? If yes, this is pre-mature as the property is identified as a potential cultural heritage resource.
• 1385 Bleams Road: Very concerned about the introduction of high rise residential (minimum 8 storeys) adjacent to this property. The property is designated under Part IV of the Ontario Heritage Act and features a 1 storey school house now used as a single family dwelling. High rise residential development will have negative impacts on this cultural heritage resource. As a result, high rise residential development cannot be supported.
• 1255-1291 Fischer Hallman Road: Very concerned about the introduction of high rise residential (above 8 storeys) adjacent to this property. The property is listed as a non-designated property of cultural heritage value or interest on the Municipal Heritage Register and a Heritage Impact Assessment has already been submitted, which recommends conservation via designation under the Ontario Heritage Act. High rise residential development will have negative impacts on this cultural heritage resource. As a result, high rise residential development cannot be supported. Also, note that the front facade faces Fischer Hallman. Options should consider integrating the front of the building (not the rear).
• 1664 Huron Road: Not identified on map. This property is listed as a non-designated property of cultural heritage value or interest on the Municipal Heritage Register. Future development will require a Heritage Impact Assessment to demonstrate how the building can be conserved. As a result, property must be identified as a cultural heritage resource.; and,
• 1941 Fischer Hallman Road: Very concerned about the introduction of high rise residential (above 8 storeys) adjacent to this property. The property is listed as a non-designated property of cultural heritage value or interest on the Municipal Heritage Register and a Heritage Impact Assessment has already been submitted, which recommends conservation via designation under the Ontario Heritage Act. High rise residential development will have negative impacts on this cultural heritage resource. As a result, high rise residential development cannot be supported.

City of Kitchener
Transportation Planning

• There is a major E/W connection which could serve as a collector for the neighbourhood, provide a potential transit route and serve as an alternative to Bleams Road.

• There is a N/S connection proposed between Huron and Bleams. While the location isn’t ideal, as it is on the outskirts of the developed community, it still provides for connection of the communities. I would suggest that it “wrap” around the proposed greenspace and connect to the easterly access road rather than the proposed access in order to be serve the community.

• The design is also transit supportive with high density res. along the transit route within walking distance. The mixed use within the transit node is a positive element for transit supportive development.

• The proposed walking trail through the cemetery supports walkability between the neighbourhoods.

• The N/S corridor really provides limited ridership opportunities and therefore may not be an option for transit usage in option A. Because option B provides medium density residential along the corridor, it could potentially support a transit route.

• Intersection treatment of the E/W connection at Fischer Hallman would have to be given careful consideration. It could potentially warrant a roundabout which could cause traffic concerns on Fischer Hallman Road.

• There is a lack of commercial/retail within the northern portion of the community, which is required to create a self sustaining, walkable community.

• In option 2A the alignment of the proposed E/W collector appears to have extreme horizontal curvature in the area of the church, which is a concern.

• Overall the design(s) seem to meet the objectives outlined within the City of Kitchener’s Design Brief for “Suburban Development and Mixed Use Neighbourhood Centres” as well, with the major difference being the location of the N/S arterial. Option 2b is the preferred alternative from a Transportation Planning perspective. However, we would like further discussion to see if the alignment of the N/S collector could be modified.

City of Kitchener- Cemeteries
Community Services Department

• Pedestrian path is acceptable; with limitations i.e. it would be subject to design limitations and also may have to be closed to the public at certain times.

• Connector road is close to cemetery, which may negate the need for a pedestrian path.
Region of Waterloo Planning

Positive aspects of the proposed option are:

• Protection of recharge area
• High & med density along F-H Corridor
• Provision for a N-S route

Option aspects that required further analysis:

• Residential Estates use does not comply with the Regional OP (both current and new). Must be on full municipal services in the urban area. Would not meet general development policies in the new ROP. Not efficient use of infrastructure. Staff recommends this use be removed.

• Need more mixed use along F-H Corridor
• Need some provision for commercial outside of F-H Corridor
• Community Centre needs to be sited more centrally
• There is a lack of employment lands
• E-W route should be more direct (grid)
• The N-S road is too far west (outside the urban area). The road should be pulled in to coincide with the urban area boundary limits.

Region of Waterloo Transit Planning

• Good locations of open space and good central focus from the street on these locations
• Good residential orientation towards these points
• Lack of MU, retail and Employment north of the cemetery and around Fischer Hallman Road and Bleams
• Would like to see more MU with residential along Fischer Hallman Road near Huron and Bleams.
• Concern with the large area of estate residential west of Hydro corridor that is not transit supportive, but understand this may have to do with ability to develop because of ground water recharge areas.

• Include a ground-floor retail component or employment within HR along Fischer Hallman Road
• Include more MU west of the hydro corridor intermixed with the residential uses

Waterloo Region District School Board

• In this option, the elementary school site south of Williamsburg cemetery is better able to meet the setback requirement from the major trunk gas line. The site to the north will need to be relocated to ensure that these setbacks are achieved.

• A third elementary school site is warranted, since student enrolment in this option is expected to exceed 1,900 public elementary students. The third site may be located within the estate residential lands, with potential to also service communities north of Bleams Road.
• The pedestrian routing through the cemetery achieves the connection desired by the Board for both elementary and secondary students.

• Safe pedestrian accesses for lands east of Fischer-Hallman to the south and west are critical.

**Waterloo**

**Catholic District School Board**

• A Catholic school site is not required in the southern portion of the plan. One, however, is required in the northern portion of the plan. The location of the Catholic school site very much depends on how the lands to the west of the study area are developed. Should the lands not develop, or develop as estate residential, then the location of the Catholic school site should be roughly where the elementary school site is shown in Option 2 (northern school site).

• Location of the Catholic elementary school site should consider preferences for frontage on a collector road, avoid steep slopes, and be adjacent to parkland. It is the preference of WCDSB not to be located close to storm water management facilities, gas pipelines, transmission towers or lines, or commercial areas.

• Fisher-Hallman Corridor: The high rise residential corridor along Fisher-Hallman is preferred, as shown in Options 1 and 2. It would help to define the corridor and increase transit ridership. Depending on how the buildings are situated and how tall the buildings are in relation to street width, it could give the corridor a more urban feel. If done properly, the high rise residential corridor could give a visual queue to drivers to slow down, which would help contribute to pedestrian safety.

• Intersection of Bleams Road & Fisher-Hallman Road: The difficulty with having residential land uses at this intersection is that it would be physically isolated from the surrounding areas. The adjacent neighbourhood northwest of Bleams Road is back-lotted while to the south, the area is separated by Strasburg creek. The northeast corner however, could be easily integrated into the existing neighbourhood. There is some concern about the southern and north westerly corners being developed as residential because it may pose some difficulty should school bussing be required. Consideration should be given to pedestrian connections through the Strasburg creek natural area.

**Grand River Conservation Authority**

**Pro’s**

• Estate type (low density, fewer grade changes for SWM) development may allow for LID alternatives and be more compatible with NHS objectives than cluster type development (Option2b)

• Pedestrian trail through cemetery lands (NBS) would be a compatible use

**Con’s**

• While it crosses at the narrowest point, the north-south collector alignment bisects a core feature identified in the ROPP which will limit connectivity between two large natural areas

• The north-south collector alignment will also bisect a proposed east-west linkage

• Many SWM ponds
**Option 2.b**

**City of Kitchener**

**Community Services Department, Parks Planning, Development and Operations**

- A linear open space corridor between Huron Road, near the District Park, and the proposed southern Elementary School and nearby open space is missing in this plan. This could be a “rear lotted” linear open space similar to the Idlewood neighbourhood where open SWM swales also provide public access along the green corridors. This could also be a “front yard” linear urban green, like an oversized median such as a scaled down version of the parks proposed for the Becker Estates subdivision, with single loaded streets on two sides of the park. This would then provide the possibility of a continuous linked open space and multi-use trail from Huron Rd to the Community Centre and Hydro corridor and opportunities to link the open space north of here to the northern Elementary School and to Bleams Road.

- A Community Trail system is required to link all of the open space land uses within and beyond the community in both a north-south and east-west direction and corridors for this system must be provided adjacent to sensitive or protected natural areas.

- SWM Management areas, with their required vehicle access routes, often provide the trail head or access point for pedestrians and cyclists to adjacent natural areas. The location and design of SWM areas should consider this additional use at an early stage.

**City of Kitchener**

**Development Engineering**

- Consider relocating an elementary school by Trussler and Bleams
- Would like to see some employment lands
- We don’t like the HR backing on to swm pond & recharge area
- We like the Mixed use by transit node
- We like the open space throughout the residential areas
- Would like to separate the secondary school from elementary school
- Need a pedestrian connection to cross Fischer Hallman Rd
- We would like to keep the elementary schools off of collector roads, they should be off of local roads due to speed
- We like the swm ponds by the recharge areas
- Delete/revise the collector road by the corner of Trussler and Bleams around the SWM pond, not ideal
- Not ideal to have the swm pond crossing under collector road (by Bleams Rd)

**City of Kitchener**

**Development and Technical Services Department – Heritage Planning**

- Why are we maintaining a large (approx. 10 acres) church site with development potential?
• Assign a land use to all significant cultural heritage resources

• 1385 Bleams Road: Very concerned about the introduction of high rise residential (above 8 storeys) adjacent to this property. The property is listed as a non-designated property of cultural heritage value or interest on the Municipal Heritage Register and a Heritage Impact Assessment has already been submitted, which recommends conservation via designation under the Ontario Heritage Act. High rise residential development will have negative impacts on this cultural heritage resource. As a result, high rise residential development cannot be supported.

• 1941 Fischer Hallman Road: Very concerned about the introduction of high rise residential (above 8 storeys) adjacent to this property. The property is listed as a non-designated property of cultural heritage value or interest on the Municipal Heritage Register and a Heritage Impact Assessment has already been submitted, which recommends conservation via designation under the Ontario Heritage Act. High rise residential development will have negative impacts on this cultural heritage resource. As a result, high rise residential development cannot be supported.

• 1255-1291 Fischer Hallman Road: Very concerned about the introduction of high rise residential (above 8 storeys) adjacent to this property. The property is listed as a non-designated property of cultural heritage value or interest on the Municipal Heritage Register and a Heritage Impact Assessment has already been submitted, which recommends conservation via designation under the Ontario Heritage Act. High rise residential development will have negative impacts on this cultural heritage resource. As a result, high rise residential development cannot be supported.

• 236 Gehl Place: It appears that the road network crosses this property. Will the road result in demolition? If yes, this is pre-mature as the property is identified as a potential cultural heritage resource.

• 1664 Huron Road: Not identified on map. This property is listed as a non-designated property of cultural heritage value or interest on the Municipal Heritage Register. Future development will require a Heritage Impact Assessment to demonstrate how the building can be conserved. As a result, property must be identified as a cultural heritage resource.

City of Kitchener
Transportation Planning

• Same as Option 2a.

City of Kitchener - Cemeteries
Community Services Department

• Not preferred land use. The adjacent institutional land use is possibility not as good a fit because of noise issue, vandalism etc. as current experiences would indicate.

Region of Waterloo Planning

Positive aspects of the proposed option are:

• Good mix of densities throughout area
• High and med density along F-H Corridor
• Good connections to Bleams Rd.
• Provision for N-S route
• Cluster concept a good idea if it works to protect recharge area
Option aspects that required further analysis:

• More mixed use along F-H Corridor
• Impact on recharge area?
• No employment lands
• Need some commercial on west side
• The N-S road is too far west (outside the urban area). The road should be pulled in to coincide with the urban area boundary limits.

Region of Waterloo

Transit Planning

• Good location for secondary school as routes can bring kids to school and pick up residents for work trips, caused good bi-directional ridership.
• Good mix of residential types west of Hydro corridor
• Good alignment for west-east collector for transit routing
• Good location for north-south collector given constraints.
• Maybe needs more MU with employment at Fischer Hallman Road at Bleams and Huron so transit can have better bi-directional ridership

Waterloo Region

District School Board

• With a potentially higher student yield, three elementary school sites of reasonable size are required to service the communities. Locations would be similar to those required in 2a.
• Some encroachment of the proposed school sites into storm water recharge areas may be considered to reduce the overall land requirement of the school site, and to recognize the recharge function that these larger campuses serve.
• The secondary site would require adjustment for setbacks and minimum area (15 to 20 acres).
• It is understood that secondary facilities are to be located at mixed use nodes in accordance with the City’s Municipal Plan.
• Residential areas east of Fischer Hallman Road are encouraged to have pedestrian access to the southern Woodbine Avenue elementary school site.

Waterloo Catholic District School Board

• A Catholic school site is not required in the southern portion of the plan. One, however, is required in the northern portion of the plan. The location of the Catholic school site very much depends on how the lands to the west of the study area are developed. Should the lands not develop, or develop as estate residential, then the location of the Catholic school site should be roughly where the elementary school site is shown in Option 2 (northern school site). If the western lands are fully developed then a school further to the west would be preferable.
• Location of the Catholic elementary school site should consider preferences for frontage on a collector road, avoid steep slopes, and be adjacent to parkland. It is the preference of WCDSB not to be located close to storm water management facilities, gas pipelines, transmission towers or lines, or commercial areas.
• Fisher-Hallman Corridor: The high rise residential corridor along Fisher-Hallman is preferred, as shown in Options 1 and 2. It would help to define the corridor and increase transit
ridership. Depending on how the buildings are situated and how tall the buildings are in relation to street width, it could give the corridor a more urban feel. If done properly, the high rise residential corridor could give a visual queue to drivers to slow down, which would help contribute to pedestrian safety.

• Intersection of Bleams Road & Fisher-Hallman Road: The difficulty with having residential land uses at this intersection is that it would be physically isolated from the surrounding areas. The adjacent neighbourhood northwest of Bleams Road is back-lotted while to the south, the area is separated by Strasburg creek. The northeast corner however, could be easily integrated into the existing neighbourhood. There is some concern about the southern and north-westerly corners being developed as residential because it may pose some difficulty should school bussing be required. Consideration should be given to pedestrian connections through the Strasburg creek natural area.

Grand River Conservation Authority

Pro’s

• Pedestrian trail through cemetery lands would be a compatible use.

Con’s

• The north-south collector alignment bisects a core feature identified in the ROPP which will limit connectivity between two large natural areas. The north-south collector alignment will also bisect a proposed east-west linkage

• Many SWM ponds

• Cluster type development means more people, pets, garbage and stress on surrounding natural areas

Option 3

City of Kitchener
Community Services Department,
Parks Planning, Development and Operations

• This option includes a North-South linear open space system from the Employment Lands through the community to Bleams Road. This open space link should connect through the Employment Lands to Huron Road to the District Park. With this one addition we would have a central open space spine which could accommodate a multi-use trail providing a meaningful active transportation link throughout the community and linking to adjacent communities.

• A Community Trail system is required to link all of the open space land uses within and beyond the community in both a north-south and east-west direction and corridors for this system must be provided adjacent to sensitive or protected natural areas.

• SWM Management areas, with their required vehicle access routes, often provide the trail head or access point for pedestrians and cyclists to adjacent natural areas. The location and design of SWM areas should consider this additional use at an early stage.

City of Kitchener
Development Engineering

• There are too many collector roads and connection points along Bleams Rd

• We don’t like the elementary school backing on to recharge area
• The swm pond should integrate with recharge areas no development between them

• Need a pedestrian connection to cross Fischer Hallman Rd

• We would like to keep the elementary schools off of collector roads, they should be off of local roads due to speed

• We like the employment lands along Huron

• Don’t have employment lands adjacent to LR

• We would like to see HR especially along FH corridor

• Bottom area by Huron and Fischer Hallman may need an elementary school

• We would like to see more open space amongst the res lands

• Would like to see more mixed use by Trussler/Bleams

• Community centre should be relocated to be amongst the residential, seems disconnected

• Don’t have the collector road cross the green space, move it more west so it doesn’t impact existing residential property

• 1255-1291 Fischer Hallman Road: Note that the front facade faces Fischer Hallman. Options should consider integrating the front of the building (not the rear); and,

• 1664 Huron Road: Not identified on map. This property is listed as a non-designated property of cultural heritage value or interest on the Municipal Heritage Register. Future development will require a Heritage Impact Assessment to demonstrate how the building can be conserved. As a result, property must be identified as a cultural heritage resource.

City of Kitchener
Transportation Planning

• There are a number of connections to the surrounding arterial network, which helps to alleviate traffic concerns within the neighbourhood.

• N/S corridor is too far removed from the community and serves very little purpose. This leads to a disconnect between the 2 neighbourhoods.

• There is very little high rise residential along Fischer Hallman Road to support the transit. In general terms, the design isn’t transit oriented at all.

• The southern portion of the community has very little amenities provided (no schools/commercial facilities). Would become an auto oriented community, separate from the northerly community.

• The southern portion of the community doesn’t connect to the N/S collector at all.

• City of Kitchener Cemeteries Department.

City of Kitchener
Development and Technical Services Department – Heritage Planning

• Why are we maintaining a large (approx. 10 acres) church site with development potential?

• Assign a land use to all significant cultural heritage resources
• Pedestrian path is acceptable; with limitations i.e. it would be subject to design limitations and also may have to be closed to the public at certain times.

• Possible noise issues from subject employment lands.

• Connector road is close to cemetery which may negate the need for a pedestrian path.

**Region of Waterloo Planning**

Positive aspects of the proposed option are:

• Provision for employment, though staff do question the amount that needs to be provided here

• Mix of densities throughout area

• Direct E-W route provided

Option aspects that required further analysis:

• HR uses needed along Fischer Hallman Corridor

• N-S road too far west (outside the urban area). The road should be pulled in to coincide with the urban area boundary limits.

**Region of Waterloo Transit Planning**

• Good that there is some designated employment

• Like the mix on the se corner of Fischer Hallman Road and Huron, would like to see that elsewhere with HR mixed in.

• It might be too much employment. Can we make some of it HR and MR behind it before the LR?

• Prefer more HR

• North-south collector alignment too far west

• Prefer more inter-mixing of residential types.

• Why can’t we have HR on the east side of FISCHER-HALLMAN ROAD backing onto the Huron Natural area? Does it need to be LR?

**Region of Waterloo**

• Regional staff prefers Option 3 with the following revisions. More north-south connectivity should be provided. A second north-south road should be provided through the cemetery lands, change pedestrian connection to a road connection. The proposed N-S road is too far to the west. It should be pulled in as close to the urban area/environmental areas as geometrically possible. With these proposed roads there would be a need to provide for connectivity of the natural heritage system. Staff supports the E-W road and roads connecting to Bleams Road.

• Staff supports the employment uses proposed as this will provide for a complete community. However, we would recommend removing some of these and replacing them with more higher residential uses including high rise residential. Staff also supports the mix of LR and MR to the west.

• There is no retail commercial proposed on lands to the west. Does the Kitchener OP provide for retail within residential districts?

**Waterloo Region District School Board**

• The Board’s desired pedestrian link through the cemetery is achieved under this option,
which may be more critical since the number of students yielded south of the cemetery may be significantly diminished with the designation of additional employment lands.

- The anticipated 1,300 to 1,600 public elementary students generated by this option would likely be served with facilities north and west of the cemetery.

- Currently the locations of one elementary site and the secondary site would have to be adjusted to meet setback requirements from the hydro corridor. If further studies reveal any reduction in population yield for this option, then it is likely that public elementary students would be accommodated with the two sites shown.

- Pedestrian access for lands east of Fischer-Hallman Road is required to the southern Huron Village area.

**Waterloo Catholic District School Board**

- A Catholic school site is not required in the southern portion of the plan. One, however, is required in the northern portion of the plan. The location of the Catholic school site very much depends on how the lands to the west of the study area are developed. Should the lands not develop, or develop as estate residential, then the location of the Catholic school site should be roughly where the elementary school site is shown in Option 2 (northern school site). If the western lands are fully developed then a school further to the west would be preferable.

- Location of the Catholic elementary school site should consider preferences for frontage on a collector road, avoid steep slopes, and be adjacent to parkland. It is the preference of WCDSB not to be located close to storm water management facilities, gas pipelines, transmission towers or lines, or commercial areas.

- Intersection of Huron Road & Fisher-Hallman Road: WCDSB has an elementary school site designated in the Becker plan southeast of Huron Road and Fisher-Hallman Road. A boundary review was conducted during the 2008/09 school year and it was determined that students living in the proposed Mattamy subdivision would be directed to the new school in the Becker plan. The intention is for these elementary students to walk, meaning that students would be crossing at the intersection of Huron Road and Fisher-Hallman Road. The land uses at this corner should be pedestrian friendly and should provide direct access from the Mattamy lands to the intersection without having to walk along Fisher-Hallman or Huron Roads. Should this corner develop as employment lands employment lands as shown on Option 3, or as a retail/commercial block as shown on Option 4, pedestrian safety would be a concern. Smaller blocks of mixed use residential/retail/employment would be preferred, as shown in Options 1 and 2.

- Secondary North-South Connection: A secondary north-south road between Trussler Road and Fisher-Hallman would be extremely beneficial. The road through the cemetery is preferred because it would serve the residents of this community. It would allow for direct access from the northern area to the district park and transit node and would allow for more efficient school bus/transit routing should it be required. It would also create a well traveled path from north to south, making it safer for pedestrians in terms of visibility (eyes on the street). If the road connection through the cemetery is not feasible, a pedestrian connection would be advisable.
**Grand River Conservation Authority**

**Pro’s**
- North-south collector alignment avoids core NHS this will promote increased ecological connectivity as compared to Options 2a and b

**Con’s**
- North-south collector alignment will bisect a proposed east-west linkage
- North-south collector alignment will also cross a floodplain at the south end
- The advantages and disadvantages of locating medium rise residential and school development, as opposed to open space, in close proximity to the NHS needs to be considered, and mitigation measures discussed

**Option 4**

**City of Kitchener**

**Development Engineering**
- We like the medium HR land use
- We like the use and location of the retail/commercial at Fisher Hallman and Huron
- Not sure if a secondary school is needed for the area, seems to be on all other plans
- We feel that a second elementary school is needed
- There is too much LR development
- The swm pond fronting FH is not ideal for location
- We would like to see more open space introduce through the design
- We feel that the recharge areas are not adequately utilized
- We feel that there are too many collection connection points out to Bleams Rd
- We feel that four collector roads crossing the hydro corridor is unacceptable

**City of Kitchener**

**Community Services Department, Parks Planning, Development and Operations**

- A Community Trail system is required to link all of the open space land uses within and beyond the community in both a north-south and east-west direction and corridors for this system must be provided adjacent to sensitive or protected natural areas.

- SWM Management areas, with their required vehicle access routes, often provide the trail head or access point for pedestrians and cyclists to adjacent natural areas. The location and design of SWM areas should consider this additional use at an early stage.

**City of Kitchener**

**Development and Technical Services Department – Heritage Planning**

- Why are we maintaining a large (approx. 10 acres) church site with development potential?
- Assign a land use to all significant cultural heritage resources
- 2091 Bleams Road: It appears that the road network crosses this property. Will the road
result in demolition? If yes, this is pre-mature as the property is identified as a potential cultural heritage resource.;

- 1664 Huron Road: Not identified on map. This property is listed as a non-designated property of cultural heritage value or interest on the Municipal Heritage Register. Future development will require a Heritage Impact Assessment to demonstrate how the building can be conserved. As a result, property must be identified as a cultural heritage resource.; and,

- 1385 Bleams Road, 1255-1291 Fischer Hallman Road, and 1941 Fischer Hallman Road: Very concerned about the introduction of high rise residential (above 8 storeys) adjacent to these properties. The properties are either listed as a non-designated property of cultural heritage value or interest on the Municipal Heritage Register and a Heritage Impact Assessment has already been submitted, which recommends conservation via designation under the Ontario Heritage Act OR designated under Part IV of the Ontario Heritage Act. High rise residential development will have negative impacts on these cultural heritage resources. As a result, high rise residential development cannot be supported.

City of Kitchener
Transportation Planning

- The northern portion of the community is well connected to the arterial network
- Provides sufficient retail/commercial to service the majority of the neighbourhood.
- There is a total disconnect of the north and south community
- The internal road network doesn’t lend itself well to a secondary transit corridor.
- There are only 2 points of access to arterial road network from the southern community which could potentially cause traffic safety and capacity concerns.
- The high rise development isn’t concentrated all along the transit corridor which is required to support the use of transit.
- The medium/high rise residential is scattered throughout the northern neighbourhood. If there is not a viable secondary option for transit, then it leads to an auto oriented neighbourhood.

City of Kitchener- Cemeteries
Community Services Department

- Staff supports option 4 as it maintains the cemetery lands integrity by avoiding direct access through cemetery. Pathway/trail goes through woodlots, residential land use around cemetery is a good fit for both parties, historically speaking.

Region of Waterloo Planning

Positive aspects of the proposed option are:

- Provision for higher densities along F-H Corridor
- Some employment

Option aspects that required further analysis:

- Lacks protection of recharge area
- Lacks N-S route
- No connectivity between north and south
- No connection between east and west
- No Community Centre
• Low rise density uses located on the north east corner of Fischer Hallman and Huron Roads next to a mixed used node are not appropriate.

**Waterloo Region**

**District School Board**

• Clarification is required on this option to determine whether residential densities and anticipated population yield is sufficient to justify an elementary school site south of Williamsburg Cemetery. With roughly 2,000 public elementary students anticipated in this option, it is likely that sites north and south of the cemetery are needed, as well as a site further west along Bleams Road.

• The elementary school currently shown does not appear to be of sufficient size and may be encumbered by topographical constraints.

• In this option, there is little need to include lands east of Fischer-Hallman as part of the school service areas, since it is largely employment land. This may be an opportune area to identify the proposed secondary school provided reasonable pedestrian access is available, and it meets the City’s requirements for Major Institutional uses.

**Waterloo**

**Catholic District School Board**

• A Catholic school site is not required in the southern portion of the plan. One, however, is required in the northern portion of the plan. The location of the Catholic school site very much depends on how the lands to the west of the study area are developed. Should the lands not develop, or develop as estate residential, then the location of the Catholic school site should be roughly where the elementary school site is shown in Option 2 (northern school site). If the western lands are fully developed then a school further to the west would be preferable.

• Location of the Catholic elementary school site should consider preferences for frontage on a collector road, avoid steep slopes, and be adjacent to parkland. It is the preference of WCDSB not to be located close to storm water management facilities, gas pipelines, transmission towers or lines, or commercial areas.

• Intersection of Huron Road & Fisher-Hallman Road: WCDSB has an elementary school site designated in the Becker plan southeast of Huron Road and Fisher-Hallman Road. A boundary review was conducted during the 2008/09 school year and it was determined that students living in the proposed Mattamy subdivision would be directed to the new school in the Becker plan. The intention is for these elementary students to walk, meaning that students would be crossing at the intersection of Huron Road and Fisher-Hallman Road. The land uses at this corner should be pedestrian friendly and should provide direct access from the Mattamy lands to the intersection without having to walk along Fisher-Hallman or Huron Roads. Should this corner develop as employment lands employment lands as shown on Option 3, or as a retail/commercial block as shown on Option 4, pedestrian safety would be a concern. Smaller blocks of mixed use residential/retail/employment would be preferred, as shown in Options 1 and 2.

• Secondary North-South Connection: A secondary north-south road between Trussler Road and Fisher-Hallman would be extremely beneficial. The road through the cemetery is preferred because it would serve the residents of this community. It would allow for direct access from the northern area to the district park and transit node and would allow for more efficient school bus/transit routing should it be required. It would also create a well-traveled path from north to south, making it safer for pedestrians in terms of visibility (eyes on the street). If the road connection through the cemetery is not feasible, a pedestrian connection would be advisable.
• Intersection of Bleams Road & Fisher-Hallman Road: The difficulty with having residential land uses at this intersection is that it would be physically isolated from the surrounding areas. The adjacent neighbourhood northwest of Bleams Road is back-lotted while to the south, the area is separated by Strasburg creek. The northeast corner however, could be easily integrated into the existing neighbourhood. There is some concern about the southern and north-westerly corners being developed as residential because it may pose some difficulty should school bussing be required. Consideration should be given to pedestrian connections through the Strasburg creek natural area.

**Grand River Conservation Authority**

**Pro’s**

• North-south collector road eliminated

• Road network will likely convey less traffic and appears to avoid the NHS

**Con’s**

• Development blocks intrude into regulated wetlands which requires further investigation

• Development blocks intrude into Provincially Significant Wetlands which would not be permitted

• It appears that development may intrude into Jefferson salamander habitat, however we do not have a map illustrating the extent of its habitat

• Recommended buffers have not been respected

• Limited open space potential south of Bleams as compared to Option 1

• Limited recharge potential as compared to Option 1

2.2.6 Policy Context

**Provincial and Regional Policy Directives**

Based on a review of the key Provincial and Regional planning policy documents - the Provincial Policy Statement (2005), the Growth Plan for the Greater Golden Horseshoe (2006), the Clean Water Act, the Green Energy Act and the Region of Waterloo Official Plan - there are six primary themes that have particular relevance to the Southwest Kitchener Urban Area. They are:

1. Promoting complete communities, including a full range and mix of housing types;

2. Achieving an efficient land use and development pattern/compact form that supports opportunities for transit and active transportation;

3. Optimizing existing and/or planned infrastructure in a cost-effective manner;

4. Protecting significant natural heritage features and areas;

5. Protecting watershed-based drinking water sources; and,

6. Conserve energy consumption and promote the use of clean/renewable energy sources.

It is important to note that it is required that all development shall “be consistent with” the Provincial Policy Statement (2005), and shall “conform with” the Growth Plan for the Greater Golden Horseshoe (2006), the Region of Waterloo Official Plan and the Clean Water and Green Energy Acts.
Theme 1: Planned development shall promote a complete community, including a full range and mix of housing types:

A complete community is defined in Places to Grow as follows: “Complete Communities meet people’s needs for daily living throughout an entire lifetime by providing convenient access to an appropriate mix of jobs, local services, a full range of housing and community infrastructure including affordable housing, schools, recreation and open space for their residents. Convenient access to public transportation and options for safe, non-motorized travel is also provided.”

Some of the community design options demonstrate a clear recognition of the concept of a complete community. However Option 4 lacks the required community amenity facilities needed in a community.

Theme 2: Planned development shall achieve an efficient land use and development pattern/compact form:

The relevant planning policy documents raise, through several policy directives, the following requirements that must be considered in the review of community design options. The planned development must:

• Promote an efficient land use and development pattern – and contribute to a compact form, mix of uses and densities that are considered efficient;

• Be located within a Settlement Area, and must be proximate to existing development;

• Optimize the use of land;

• Promote development standards that minimize the consumption of land; and,

• Promote transit ridership and active transportation.

While the principle of efficiency is not specifically defined in any of the relevant planning policy documents, it is implicitly tied, in part, to the density of development, the concentration of development and the provision of a mixture of land uses.

• Efficiency is tied to higher density development - Density is a measure of efficiency. New development that is relatively higher in density is more efficient than new development that is lower in density because higher density development optimizes the use of land and can be provided with municipal services, roads and transit more cost effectively;

• Efficiency is tied to a concentrated land use pattern - Efficiency is also related to the concentration of development, where new development is more efficiently provided with municipal services, roads and transit when it is concentrated in locations where municipal services already exist. On the concept of a concentrated land use pattern, the PPS clearly states (Section 1.1.3.1) that “Settlement areas shall be the focus of growth...”. This requirement promotes the achievement of a concentrated land use pattern over time; and,

• Efficiency is tied to a mixture of land uses - A mixture of land uses is an important component that promotes an efficient land use and development pattern. By mixing places of work with shopping facilities, with residential neighbourhoods and institutions and public open space there is the potential for residents to live, work, shop, play and go to school in proximity, without the need for the use of the automobile. This type of efficiency reduces vehicular travel trips and vehicular travel times.
First and foremost, the Subject Lands are located within the defined Settlement Area (within the identified Countryside Line). Second, all four design options achieve a gross density of 60 persons and jobs per hectare, exceeding the minimum Designated Greenfield Area density target of 50 persons and jobs per hectare, as established by the Growth Plan. Third, Options 1, 2b, 3 and 4 promote a mix of land uses within the context of a compact urban built form that although might require further refinement, provides for alternative forms of transportation opportunities and support for increased walkability. Option 4 would further require a comprehensive road network strategy to allow for a complete and linked community. Option 4 will also need to consider a mixed use retail node at the corner of Fischer Hallman and Huron Roads. Option 2a residential estate uses proposed on Area 2 lands is considered inappropriate and in direct contravention of Provincial and Regional policy directives.

Theme 3: Planned Development shall optimize existing and/or planned infrastructure, including public service facilities, in a cost-effective manner:

The relevant planning policy documents raise, through several policy directives, the following requirements that must be considered in the review of the four development options. The planned development must:

- Optimize the use of public investment in infrastructure and public service facilities.
- Promote municipality’s ability to provide municipal services, including roads and transit, in a cost-effective manner;
- Be provided with adequate and appropriate service infrastructure; and,
- Promote a land use pattern, density and mix of uses that supports viable choices for public transit.

Notwithstanding that detailed technical work related to infrastructure and servicing is still underway, the proposed development densities, land use mix and connected transportation network reflect a desire to optimize planned infrastructure in a cost-effective manner. Further, each of the four development options promote higher density, mixed use development in proximity to existing development and existing arterial road network. Further refinement of Option 4’s road network is required to support a transit oriented system. Option 3’s north-south collector road is considered ineffective and costly as the majority of the road will be single loaded.

Theme 4: Planned development shall protect significant natural features and areas:

The relevant planning policy documents raise, through several policy directives, that the planned development must ensure that there will be no negative impacts on significant natural features or on their ecological functions.

A variety of environmental issues have been raised through the course of the review of the development potential of the Subject Lands, included the protection of important groundwater resources, the conservation of key wildlife habitats and significant natural heritage features and system.

Options 1 through 3 have been prepared on the understanding that it is crucially important that these environmental issues are adequately addressed prior to any development and site alteration being initiated. While the final preferred plan will rely upon the surface and ground water technical experts and the opinions of the relevant agencies having
directives. Energy conservation is implicitly linked to efficient development patterns, built form and the efficient use of existing and/or planned infrastructure.

While energy consumption is largely related to building design and household/industry usage patterns – factors that are beyond the control of community design – each of the four development schemes could inherently promote energy conservation efforts and the potential integration of renewable energy sources with the exception of Option 2a’s residential estate component.

**Theme 5: Planned development shall protect watershed-based source drinking water:**

The relevant policy documents – specifically the Clean Water Act – emphasize that planned development must ensure that watershed-based source drinking water is protected.

As a result, options 1 through 3 further explore Significant Water Recharge Areas protection and treatment strategies that will inform the surface and ground water modeling analysis currently underway (refer to land use options chart at the beginning of this Report’s section 2). Option 4’s storm water management strategy as well as its ground water modeling analysis will be incorporated into this analysis. Options 1 to 4 surface and ground water analysis are been prepared based on the understanding that it is crucially important that issues related to source water protection are adequately addressed prior to any development and site alteration being initiated. The final preferred plan will rely upon the retained technical experts and the opinions of the relevant agencies having legislative and regulatory jurisdiction. The preferred land use option will include strong provisions for the protection of Significant Recharge Areas and the City’s important drinking water resources.

**THEME 6: Planned development shall strive to conserve energy consumption and promote clean/renewable energy sources:**

The promotion of energy conservation and the use of clean/renewable energy sources is addressed in the relevant policy documents, through several policy
2.3 Summary

Land Use Analysis

Preferred Land Use Plan Directives

As a result of the extensive land use evaluation conducted for Options 1 through 4; the preferred master plan will be based on design aspects of good urban design principles observed in each one of the analyzed land use options.

In addition to the previously mentioned ‘Design Givens’ the following urban design considerations will be added to design considerations of the preferred master plan:

Community Amenities

- Include a library site with similar consideration as the proposed community centre. Library site should be close to transit route and visible from the street;
- Provide for a continuous north-south multi use trail outside of proposed right of way as well as east west along Hydro corridor;
- Provide for a linked open space system of continuous community trails to all open space land uses within the community;
- Provide for a safe pedestrian and cycling crossing of Fischer Hallman Road at the Hydro easement;
- Integrate SWM Management areas, with their required vehicle access routes that could function as trail head or access point for pedestrians and cyclists to adjacent natural areas;
- The need for a future Arena and indoor pool site was identified. The site should be around 8-10 acres with the potential ability to add/expand in the future; and,
- Mixed-use opportunities should be located at the centre of all neighbourhoods including Area 2 lands.

Road Network

- As a minimum a north south internal collector road should be planned for the community.
**Commercial and Employment Needs**

- Depending on the revised market calculations, there will likely be a need for between 30 and 40 hectares of retail and services space, assuming single level parking (at grade).

- Given the population, of approximately 23,200 at 60 persons and jobs per hectare, 2 neighbourhood scale supermarket anchored retail centres of 3-4 hectares, which could be part of mixed use developments could be supported. This could potentially increase to 3 sites for the higher population scenarios. These centres should be located at gateway sites into the community. At least one supermarket should be located in the southern part of the community, which could be part of a smaller centre or part of a larger district scale mixed-use node at the intersection of Huron and Fischer Hallman.

- Given the growth in the market, there will likely be demand for a large district scale node at Huron and Fischer Hallman, which may be accommodated for in the existing proposals. These lands should be developed as a mixed-use manner and where possible integrated with broader community uses. The proposed community centre/park at the southwest quadrant could help to achieve this. This could represent the “town centre” for Southwest Kitchener.

- In order to maximize the potential for transit supportive uses, the highest densities should be concentrated at the two primary intersections (Bleams and Fischer Hallman and Huron and Fischer Hallman).

- Where possible, the commercial uses, particularly the neighbourhood and convenience uses should be integrated into the pedestrian/recreational trail/bike lane network, with appropriate policies to facilitate active transportation onto and throughout the sites.

- Convenience scale sites (i.e. sites of 0.5 to 1.0 hectare) will also be required.

**Commercial Space Requirements**

- Based on an estimated 8,476 new households (by 2031), the future SWKPA population of 22,037 residents can support a range of 650,000-810,000 square feet of commercial space in Neighbourhood and Convenience Retail size categories, clustered in Activity Nodes and along the Fischer Hallman Road Mixed Use Corridor.

**Warranted Space Per Category:**

- Food Store Retail (FSR): 140,000 to 170,000 square feet
- Non Food Store Retail: 280,000 to 370,000 square feet
- Other (Beer, Wine and Liquor): 30,000 to 40,000 square feet
- Services (personal, financial, medical etc.): 150,000 to 160,000 square feet
- Food Services: 50,000 to 70,000 square feet

**Total: 650,000 to 810,000 square feet. Format of Warranted Space: Estimated Distribution of Space**

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*The Planning Partnership*
Educational Space Requirements

- Based on the addition of 8,476 new residential units in the SWKPA, we recommend:

  Waterloo Region District School Board (WRDSB):
  - Three to four public elementary schools
  - No new public secondary schools required unless additional population outside of study area warrants consideration for a new public school

  Waterloo Region Catholic District School Board (WRDCSB):
  - One new Catholic elementary school
  - No new Catholic secondary schools until further review of WRCDSB retention rates

Places of Worship Requirements

In terms of Places of Worship (PoW), based on the 22,037 population forecast for the SWKPA, we recommend:

- No new PoW's are recommended.

Within the defined trade area there are 13 places of worship, three of which are located within the SWKPA on Bleams Road. Traditional planning for PoW applies a ratio of 1 PoW for every 10,000 residents. Based on urbanMetrics experience in planning for PoW’s, this ratio is considered appropriate.

Format of Warranted Space: Estimated Distribution of Space

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<th>Neighbourhood Activity Node (2 Centres)</th>
<th>Convenience (3 to 4 Centres)</th>
<th>Mixed Corridor</th>
<th>TOTAL</th>
<th>Residual Expenditure Analysis (Middle of Range)</th>
<th>Per Capita Space Ratio Analysis</th>
<th>Estimated Population-Related Employment (1)</th>
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SOURCE: urbanMetrics inc.
1) Assume retail @ 400 square feet per employee and services @ 200 square feet per employee.
**Natural Heritage System**

- From a NHS perspective, the preferred concept plan should respect the recommended NHS components, including buffers and enhancements to core areas and linkages. Fragmentation of existing linkages and enhancement opportunities should be avoided, if possible. If a north-south collector road is required for the future, Option 2a/2b provides the least impactful location.

- It is very important not to fragment the Williamsburg Woods ESPA or the connection to the Huron Natural Area. Wherever feasible, compatible open space uses and single loaded roads should be located in the “adjacent” lands to the NHS. The pre-development pattern and volume of infiltration to the groundwater system must be maintained at all costs.

- LID SWM measures should be incorporated within the development to achieve this objective. A combination of at-source, conveyance and end-of-pipe solutions should be used. Although less desirable from a cost and maintenance perspective, a larger number of ponds dispersed across the landscape will provide for more recharge than a small number of large, central facilities. Options 2a and 2b best achieve this objective. Option 1, however, is the overall best concept from the protection of the groundwater system in the most sensitive and critical NW area.

**Storm Water Management System and Water Recharge Issues**

Ultimately, the surface and ground water analysis that is currently being undertaken will deliver a series of land use recommendations necessary to complete the design of the preferred master plan. At that time, a further update to the Southwest Kitchener ‘Design Givens” will be made.