

## Annex 15 – Urban Expansion Areas – Methodology for Determining and Evaluating Candidate Areas

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### Methodology

#### **Identification of Candidate Areas**

A number of assumptions guide the identification of candidate areas for analysis:

1. The parcels must be a logical extension of the existing urban area
2. No lands in an Agricultural Resource Area designation are considered
3. No lands in a Natural Environment Area designation are considered;
4. Mineral Aggregate Resource lands may be considered as candidate areas, where there is reasonable assurance that the resources would be depleted within the planning period.
5. May include all lands in General Rural Area designation abutting the existing Urban Area that are not rendered unsuitable for residential purposes due to influence such as aircraft noise and proximity to solid waste disposal sites.

#### **Definition of Gross Residential Hectares**

The objective is to identify an additional 850 hectares of gross residential land. Gross residential land includes residential land, public streets and limited range of non-residential uses typically found in a neighbourhood such as parks, schools, community centres, churches, convenience level retail and stormwater facilities. It is usually measured in dwelling units per land area.

The candidate areas are examined with respect to the presence of natural heritage features. Those lands identified as containing elements of the natural heritage system are subtracted from the gross residential land as are Hydro corridors, required setbacks from mineral resources, wetlands and other features. The remainder is the gross residential area of the candidate parcel.

#### **Evaluation Criteria**

The overall objective is to select areas that make the best use of existing available infrastructure capacity and community resources. These parcels should be developable within a reasonable period of time such as the next five to 10 years. The Official Plan is reviewed every five years and the condition of City infrastructure is monitored continuously. Lands that score lower today may very well be good candidates later.

<b>Table 1- Potential Evaluation Scores (weighted) by category</b>			
Category	Criterion	Weighted Score	% of total
Engineering	Water	8	9
	Wastewater	8	9
	Stormwater	8	9
	Depth of Bedrock	2	2
Total for Engineering		26	30%
Transportation	Capacity	6	7
	Accessibility	8	9
	Distance to Rapid Transit	10	11
Total for Transportation		24	27%
Integration with Community	Distance to Mixed-use Centre (MUC) or Mainstreet	5	6
	Ability to work in community	3	3
	Distance to Major Recreational Facility	5	6
	Distance to Emergency Services	5	6
	Conflicting Land Uses	4	5

**Table 1- Potential Evaluation Scores (weighted) by category**

Category	Criterion	Weighted Score	% of total
	Connectivity	4	5
	Local Bus Service	2	2
	Agriculture Conflict	2	2
Total for Integration		30	34%
Land Absorption	Approximate Years Supply	8	9%
<b>TOTAL</b>		<b>88</b>	<b>100%</b>

The purpose of the evaluation is to assess the relative merits of the various candidate areas. Each candidate area was evaluated against the criteria in Table 2. All distances are measured from the centroid of the parcel to the facility or service being assessed. The possible scores are distributed as follows and then weighted.

**Table 2 – Evaluation Criteria and Scores**

Criteria	Description	Scores	Possible Score
1. Servicability - Water	Scores for each site ranged from 0 to 4 based on consideration of the factors in the next column	0 – major upgrade / expansion of pump station and/or distribution system required to service development area 2 – good integration with existing network but requires moderate upgrades to existing facilities; 4 – residual capacity available in pressure zone to service development area with no or minimal investment in existing distribution system.	4 weighted by 2 = 8
2. Servicability - Wastewater	Scores for each site ranged from 0 to 4 based on consideration of the factors in the next column	0 – no gravity outlet; may require new local pump station and forcemain due to topographic conditions; capacity upgrades required in external trunk sewers and/or pump station 2 – access to gravity sewers but requires moderate upgrades to existing facilities; 4 – existing trunk sewers and/or pump stations have residual capacity to service development area with no or minimal investment.	4 weighted by 2 = 8
3. Servicability - Stormwater	Scores for each site ranged from 0 to 4 based on consideration of the factors in the next column	0 – existing servicing constraints; flood hazard constraints; no Environmental Management / Subwatershed Plan available to guide development area; 2 – no flood hazard constraints; Environmental Management / Subwatershed Plan available	4 weighted by 2 = 8

**Table 2 – Evaluation Criteria and Scores**

Criteria	Description	Scores	Possible Score
		to guide development, but requires update to consider cumulative impact of additional growth area; 4 – up-to-date Environmental Management / Subwatershed Plan available to guide development; drainage system and stormwater management systems approved and ready to accommodate future development.	
4. Capacity - Roads	Examined the existing / planned road infrastructure to determine if capacity can accommodate demand	See table below	3 weighted by 2 = 6
<b>Level of Service (LoS)</b>	<b>Volume to Capacity Ratio (V/C)</b>	<b>Point scoring based on worst of two screenlines measured</b>	
A	0 to 0.60	not scored, none in this range	
B	0.61 to 0.70	not scored, none in this range	
C	0.71 to 0.80	3(weighted by 2 = 6)	
D	0.81 to 0.90	1.5(weighted by 2 = 3)	
E	0.91 to 1.00	0	
F	>1.00	0	
<b>Note: The Transportation Master Plan seeks to provide a sufficient peak hour directional capacity to achieve a Level of Service “D” for screenlines outside of the City’s inner core.</b>			
5. Accessibility – Arterial and Collector Roads	Direct access to existing or planned arterial and collector roads	<ul style="list-style-type: none"> <li>• 0 - No direct access</li> <li>• 1 - Direct access to one or more collector roads</li> <li>• 2- Direct access to one arterial road</li> <li>• 3 – Direct access to 1 arterial and 1 or more collectors</li> <li>• 4 – Direct access to two or more arterials and any number of collectors</li> </ul>	4 weighted by 2 = 8
6. Accessibility - Transit	Distance to existing or planned rapid transit network or to park and ride. The average is 2.9 km. The points measure up to 25% more or less and 50% more or less.	<ul style="list-style-type: none"> <li>• 0 points – more than 4.4 km</li> <li>• 1 points – 3.7 to 4.3</li> <li>• 2 points – 3.0 to 3.6</li> <li>• 3 points – 2.3 to 2.9</li> <li>• 4 points – 1.5 to 2.2</li> <li>• 5 points – 0 to 1.4</li> </ul>	5 weighted by 2 =10

**Table 2 – Evaluation Criteria and Scores**

<b>Criteria</b>	<b>Description</b>	<b>Scores</b>	<b>Possible Score</b>
7. Accessibility to existing or planned retail/commercial focus	Distance to a Mainstreet or Mixed-Use Centre. The average is 4.8 km	<ul style="list-style-type: none"> <li>• 0 points – more than 7.4 km</li> <li>• 1 points – 6.1 to 7.3</li> <li>• 2 points – 4.9 to 6.0</li> <li>• 3 points – 3.7 to 4.8</li> <li>• 4 points – 2.5 to 3.6</li> <li>• 5 points – 0 to 2.4</li> </ul>	5
8. Ability to work in community	Jobs/Housing Balance. This is cumulative, starting at the parcel nearest the urban boundary	<ul style="list-style-type: none"> <li>• 0 - &lt;1.10</li> <li>• 1 – 1.1 to 1.19</li> <li>• 2 – 1.2 to 1.24</li> <li>• 3 – equal to over 1.25</li> </ul>	3
9. Accessibility to community facilities	Distance to a Major Recreational Facility. The average is 4.0 km	<ul style="list-style-type: none"> <li>• 0 points – more than 6.1 km</li> <li>• 1 points – 5.1 to 6.0</li> <li>• 2 points – 4.1 to 5.0</li> <li>• 3 points – 3.1 to 4.0</li> <li>• 4 points – 2.1 to 3.0</li> <li>• 5 points – 0 to 2.0</li> </ul>	5
10. Availability of existing or planned emergency services	Distance to emergency services – fire, ambulance and police (total /3). The average is 5.0 km	<ul style="list-style-type: none"> <li>• 0 points – more than 7.6 km</li> <li>• 1 points – 6.4 to 7.5</li> <li>• 2 points – 5.1 to 6.3</li> <li>• 3 points – 3.9 to 5.0</li> <li>• 4 points – 2.6 to 3.8</li> <li>• 5 points – 0 to 2.5</li> </ul>	5
11. Connectivity to the Community	The ability to connect is available or can be planned	<ul style="list-style-type: none"> <li>• 4 points – good – totally unobstructed in all directions;</li> <li>• 3 points – less than good – partial obstruction in one direction;</li> <li>• 2 points – medium – unable to connect in one direction;</li> <li>• 0 points – poor – obstructions in 2 or more directions.</li> </ul>	4
12. Existing Bus Service	Local bus service exists today at the parcel	<ul style="list-style-type: none"> <li>• 2 points – all day service exists</li> <li>• 1 point – peak period service exists</li> <li>• 0 points – service does not exist</li> </ul>	2
13. Potential Conflicting Land Uses	Agricultural Resource Area within 500 metres	<ul style="list-style-type: none"> <li>• 0 – yes</li> <li>• 2 - no</li> </ul>	2
14. Potential Conflicting Land Uses	Adjacent rural development (Country Lot or Village) or adjacent landfill constraint	<ul style="list-style-type: none"> <li>• 0 – yes</li> <li>• 2 - no</li> </ul>	2 weighted by 2 = 4
15. Depth to Bedrock		<ul style="list-style-type: none"> <li>• 0 is 0-2 metres</li> </ul>	2

<b>Table 2 – Evaluation Criteria and Scores</b>			
<b>Criteria</b>	<b>Description</b>	<b>Scores</b>	<b>Possible Score</b>
		<ul style="list-style-type: none"> <li>• 1 is 2 to 5 metres</li> <li>• 2 is 5 or more metres</li> </ul>	
16. Land Absorption	Approximate years supply in 2009	<ul style="list-style-type: none"> <li>• 0 - .&gt;19 (Leitrim, Riverside South)</li> <li>• 1 – 18 to 19</li> <li>• 2 – 16 to 17 (Kanata-Stittsville)</li> <li>• 3 – 14 to 15</li> <li>• 4 - &lt;14 (South Nepean, Orleans)</li> </ul>	4 weighted by 2 = 8
<b>Total</b>			<b>88</b>