Report: PDL-CPL-21-41

Region of Waterloo

Planning, Development and Legislative Services

Community Planning

To: Committee of the Whole

Meeting Date: November 9, 2021

Report Title: Regional Official Plan Review Update – Recommended Preferred Growth Scenario for the Land Needs Assessment Process

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1. Recommendation:

For information.

2. Purpose / Issue:

The purpose of this report is to share the results of the growth scenario evaluation. Scenario 2 has been identified as the preferred growth scenario. This growth scenario would:

- set an initial Regional minimum intensification target of 60 percent in the Built-Up Area, and an initial minimum Designated Greenfield Area (DGA) density target of 60 people and jobs per hectare for the purposes of the land needs assessment; and
- result in the need for a preliminary urban boundary expansion of approximately 1,028 hectares of land (i.e., 230 hectares for community area growth, and 800 hectares for employment area growth).

The precise amount and locations of any urban boundary expansions would be determined as part of the next stage of the land needs assessment, which would be subject to further public consultation and Council approval. The rationale for Scenario 2 being recommended as the preferred growth scenario is outlined below.

3. Strategic Plan:

The identification of a preferred growth scenario is a key milestone in the ROP Review and a critical input into the Region's land needs assessment work, which will influence how and where the community will grow over the next 30 years.

This report relates to several strategic focus areas, including: Thriving Economy; Sustainable Transportation; Environment and Climate Action; and Health, Safe and Inclusive Communities. It also relates to Action 3.5.1, "Promote efficient urban land use through greenfield and intensification policies while conserving natural heritage and agricultural areas."

4. Key Considerations:

The Region is undertaking a land needs assessment in accordance with Provincial guidelines to ensure it has enough land to accommodate its forecasted growth to 2051, including the need for any urban boundary expansions.

The land needs assessment is an iterative, multi-phase process. This work is being led by the Region's consulting team of Dillon Consulting and Watson & Associates Economists Ltd. The key objectives of this phase of the assessment is to consider growth scenarios based on:

- **How the Region wants to grow** - addressing Regional and Provincial planning priorities, such as supporting economic growth, maintaining fiscal responsibility, and mitigating and adapting to climate change;
- **Growth targets and densities** – that achieve the Growth Plan's minimum intensification target of 50% and minimum DGA density target of 50 people and jobs per hectare; and
- **Market implications** – provide for a wide range and mix of housing types that reflect market demand, including affordable housing.

To help evaluate the Region's future land needs to 2051, three alternative growth scenarios, including a base case, with progressively higher intensification and DGA density targets were evaluated. Table 1 summarizes the anticipated land needs resulting from each scenario. A more detailed breakdown of the results is contained in Attachment A.

Table 1: Results of Base Case and Alternative Growth Scenarios

Growth Scenario	Intensification Target (%)	DGA Density Target (residents and jobs per ha.)	Community Area DGA Land Needs to 2051 (ha.)	Employment Area DGA Land Needs to 2051 (ha.)	Total DGA Land Needs to 2051 (ha.)
Base Case	50%	60	830	800	1,630
Scenario 1	55%	60	520	800	1,320
Scenario 2	60%	60	230	800	1,028
Scenario 3	60%	65	0	800	800

Generally, the higher the intensification and DGA density targets, the lower the quantity of new land needed to accommodate the Region's forecasted growth. However, each growth scenario still projects a region-wide land deficit to 2051, ranging from approximately 1,320 hectares in Scenario

1, to about 800 hectares in Scenario 3. These deficits stem in part from the projected need for an additional 800 hectares of employment land, which remains constant across each scenario.

The Region hosted a Public Information Meeting on June 10 and a follow-up webinar on June 24, 2021 to obtain feedback from the community on the preliminary growth scenarios. The figures shown in Table 1 are the same as the information presented to the public in June, except for the estimated land needs in the last two columns. Initially, staff identified a preliminary deficit of approximately 680 hectares of employment land. This deficit has since risen to about 800 hectares (18% increase) to account for some further adjustments in the quantity of employment lands identified for conversion to non-employment uses. The Region currently has a supply of about 1,050 hectares of vacant employment lands. These vacant lands, together with the 800 additional hectares noted above, are needed to:

- accommodate about 40 percent (70,600 new jobs) of the Region's forecasted employment growth to 2051 as mandated by the Provincial Growth Plan;

- ensure that the Region maintains a continuous and immediately available supply of lands for new and expanding businesses, including opportunities for aviation and aerospace related employment uses near the airport;

- increase the Region's attractiveness for land-extensive employment uses requiring access to major corridors and goods movement facilities; and

- increase the supply of industrial space, which has recently reached a historic low vacancy rate of 1.3 percent because of limited supply.

The ROP Review team evaluated each growth scenario against a series of evaluation criteria, including a climate change lens.

The preferred growth scenario must balance several competing Regional and Provincial planning objectives. To help identify a preferred growth scenario, the ROP Review team evaluated the growth scenarios against a series of criteria focusing on six themes: Growth Management; Transportation, Infrastructure and Financing; Agricultural and Mineral Aggregate Resources; Natural Environment and Source Water Protection; Livability; and Economic Growth.

Each theme included a number of policy directions (12 in total) and related metrics or criteria (27 in total) to allow for a broad comparison among the scenarios. The evaluation framework also applied a climate change lens throughout the criteria to identify scenarios that would help reduce the growth of greenhouse gas emissions, and transition the region into a low-energy, low-carbon community. Although the evaluation framework did not calculate the anticipated greenhouse gas emissions from each alternative growth scenario, it considered climate change impacts in a more holistic way. In general, scenarios that supported a more compact built form were viewed as having

the best potential to address climate change because they would provide for the more efficient use of land and infrastructure, support walkable and transit-supportive communities, reduce commuting distances, and direct more growth away from agricultural lands and the natural heritage system.

In addition to the Public Input Meeting and public webinar held last June, the evaluation framework was posted on the Region's engage website and reviewed with the area municipalities and other key stakeholders for further input. The final evaluation criteria reflects all feedback received through this consultation process.

The results of the scenario evaluation recommend Scenario 2 as the preferred growth scenario.

The results of the evaluation recommend that Scenario 2 be used as the preferred growth scenario for input into the land needs assessment. Attachment B provides a summary of the assessment results for each theme. Attachment C includes a link to the consulting team's Growth Scenario Evaluation Technical Brief, which contains a more detailed analysis and commentary of each growth scenario.

Base Case Scenario – Not Recommended

The Base Case scenario is presented as a reference point for the three other growth scenarios. This scenario assumed the Growth Plan's minimum intensification target of 50 percent, and a DGA density target of 60 people and jobs per hectare. It generally reflects what the regional housing market has been delivering on an average basis over the past few years. Continuing along this trend would require the Region to expand its urban boundaries in multiple locations to accommodate a projected land need of about 1,630 hectares (i.e., 830 hectares for community area growth, and 800 hectares for employment area growth). It would have the greatest impact on agricultural land, and work against the Region's and the Province's planning goals to build more compact and complete communities. The Base Case scenario would also hamper the Region's efforts to mitigate and adapt to climate change. For these reasons, the Base Case scenario was ruled out as a viable option and not considered further in the analysis.

Scenario 1 – Least Recommended Growth Scenario

Scenario 1, a modest increase in intensification, consistently shows up as the least preferred growth scenario, as it requires the largest amount of new community area land (520 hectares), which negatively affects prime agricultural lands and natural systems. Compared to Scenarios 2 and 3, this scenario has the lowest potential to support transit supportive development and the Region's planned urban structure as it has a lower intensification target at 55 percent. Scenario 1 also has a higher potential to increase commuting distances and greenhouse gas emissions compared to the other scenarios.

Scenario 2 – Recommended Preferred Growth Scenario

Scenario 2 represents an ambitious but realistic option that would still support a significant shift in current development patterns to a more compact, transit-supportive built form. Although Scenario 2 requires an urban expansion of approximately 227 hectares for community area growth, the relative size of this expansion is 56 percent lower than what would be required under Scenario 1 (520 hectares). The relatively moderate size of the new DGA land in Scenario 2 would also provide opportunities to develop more compact, transit-supportive neigbourhoods in new greenfield communities, depending on the location of expansion.

Scenario 2 forecasts a housing mix of about 19% low density units, 26% medium density units, and 55% high-density units between 2019 and 2051. This forecast has a higher share of medium- and higher-density than Scenario 1 but lower than Scenario 3, making it a more reasonable and achievable option than Scenario 3 from a market perspective. Scenario 2 also yields a greater share of medium-density units compared to Scenarios 1 or 3, which could potentially support more “missing middle” housing over the forecast period.

With respect to housing affordability, the scenario that most accurately aligns future housing supply with the anticipated demand for different housing types, would best address Region’s objectives to build more affordable housing. Compared to the Scenarios 1 and 3, Scenario 2 aligns best with short, medium and longer term housing trends, therefore offering the most balanced housing supply options, including affordable housing.

Scenario 3 – Second Most Recommended Growth Scenario

With the highest DGA density target of the three scenarios, Scenario 3 would eliminate the need to add any additional lands for community area growth, minimizing the need for converting prime agricultural lands. However, it also has the largest forecasted amount of high-density housing, which would require the most aggressive shift in consumer housing preferences away from low-density housing. Consequently, Scenario 3 risks generating housing targets beyond what the housing market could deliver, limiting opportunities for a more balanced range of choices.

With a more compact built form, Scenario 3, followed closely by Scenario 2, would best address climate change mitigation and adaptation because it would provide for the most efficient use of land, infrastructure and public service facilities, and direct more growth away from agricultural and natural heritage system lands. Scenario 3 would also best minimize the need to construct new infrastructure to service an expanding urban region. Less infrastructure would in turn help reduce costs and the greenhouse gas emissions created in various phases of a piece of infrastructure’s full life-cycle (e.g., material extraction, manufacturing, construction, maintenance, and end of life/disposal.)

Conclusion

The scenario evaluations highlight the competing policy objectives and challenging trade-offs the

Region and its area municipalities must consider when planning for future growth. Taken as a whole, Scenario 2 has been identified as the preferred growth scenario because it:

- Accommodates the Region's forecasted growth while making a meaningful contribution to mitigating and adapting to climate change;
- Strikes the best overall balance between the Region's social, economic, and environmental objectives with what the housing market can deliver;
- Supports the Region's existing and planned investments in the ION transit system and other infrastructure projects;
- Strengthens the Region's planned urban structure by directing a significant share (60 percent) of the Region's future residential growth to existing built-up areas, with a focus on major transit station areas and urban core areas, and by creating complete communities;
- Responds to key social, economic and demographic trends, including an aging population, a growing share of non-permanent residents, and a gradually shifting housing market towards more medium- and high-density housing; and
- Aligns best with short, medium and longer term housing trends, thereby offering the most balanced supply of housing, including affordable housing.

5. Background:

Additional background information about the growth scenarios and the evaluation themes can be found in the Growth Scenario Evaluation Technical Brief, October, 2021.

6. Area Municipality Communication and Public/Stakeholder Engagement:

In June, 2021, the ROP Review team put forward three preliminary growth scenarios for public input (https://calendar.regionofwaterloo.ca/Council/Detail/2021-06-10-1800-Public-Input-Meeting-Regional-Official-Plan-ROP-Re/5618731d-01dd-4774-ae2a-ad4300b13c16) and hosted a second webinar event on June 24, 2021 (https://www.engagewr.ca/regional-official-plan). Engagement continued over the summer and fall with a wide range of stakeholders, including Indigenous communities, individual land owners, the area municipalities, and the various ROP Review Communities. Following the release of this report, the ROP Review team will continue to consult with the community prior to releasing the first draft land needs assessment.

Financial Implications:

The ROP Review will include a Financial Impact Analysis to provide Council with the estimated financial impacts of any proposed urban area expansions.

7. Conclusion / Next Steps:

Staff will be using the growth scenario evaluation results as the key required inputs into the land

needs assessment, which will be released later this year or early 2022. Concurrent with that assessment, staff are evaluating a series of candidate expansion areas, including several individual urban expansion requests, to identify the most appropriate locations for expanding the Region's urban boundaries. This process will include further engagement with the public and stakeholders over the winter and early spring, and culminate in a recommended draft ROP amendment anticipated early next year.

Attachments / Links:

Appendix A – Detailed Results of Base Case and Growth Scenarios

Appendix B – Summary of Growth Scenario Evaluations

Appendix C – Growth Scenario Evaluation Technical Brief, October 2021

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25

Appendix A

Detailed Results of Base Case and Growth Scenario

Scenario Component	Base Case	Scenario 1	Scenario 2	Scenario 3
A Place to Grow Policy Targets				
Intensification Target	50% Intensification (BUA)	55% intensification (BUA)	60% intensification (BUA)	60% intensification (BUA)
Designated Greenfield Density Target	60 People and Jobs Per Hectare (DGA)	60 People and Jobs Per Hectare (DGA)	60 People and Jobs Per Hectare (DGA)	65 People and Jobs Per Hectare (DGA)
Urban Population Growth				
BUA Population Growth, 2019 to 2051	145,000	162,000	178,000	181,000
DGA Population Growth, 2019 to 2051	177,000	161,000	145,000	142,000
Total Urban Population Growth, 2019 to 2051	322,000	323,000	323,000	323,000
Urban Household Growth				
BUA Households, 2019 to 2051	63,200	69,000	74,830	74,830
DGA Housing Growth Households, 2019 to 2051	63,050	57,220	51,390	51,390
Urban Population and Jobs, 2019 to 2051				
BUA Population and Jobs, 2019 to 2051	216,400	235,300	253,200	256,600
DGA Population and Jobs, 2019 to 2051	207,900	190,000	172,100	168,700
DGA Population and Jobs at 2051	280,100	262,200	244,300	240,900
Housing Mix, 2019				
BUA Housing Mix, 2019	Low: 57%; Medium: 14%; High 29%	Low: 57%; Medium: 14%; High 29%	Low: 57%; Medium: 14%; High 29%	Low: 57%; Medium: 14%; High 29%
DGA Housing Mix, 2019	Low: 72%; Medium: 23%; High 5%	Low: 72%; Medium: 23%; High 5%	Low: 72%; Medium: 23%; High 5%	Low: 72%; Medium: 23%; High 5%
Region Housing Mix, 2019	Low: 60%; Medium: 14%; High 25%	Low: 60%; Medium: 14%; High 25%	Low: 60%; Medium: 14%; High 25%	Low: 60%; Medium: 14%; High 25%
Housing Mix, 2019 to 2051				
BUA Housing Mix, 2019 to 2051	Low: 1%; Medium: 5%; High 95%	Low: 1%; Medium: 13%; High 87%	Low: 1%; Medium: 19%; High 80%	Low: 1%; Medium: 19%; High 80%
DGA Housing Mix, 2019 to 2051	Low: 44%; Medium: 37%; High 20%	Low: 44%; Medium: 37%; High 20%	Low: 44%; Medium: 37%; High 20%	Low: 41%; Medium: 35%; High 24%
Region Housing Mix, 2019 to 2051	Low: 23%; Medium: 21%; High 56%	Low: 21%; Medium: 23%; High 56%	Low: 19%; Medium: 26%; High 55%	Low: 18%; Medium: 25%; High 57%
Housing Mix, 2051				
BUA Housing Mix, 2051	Low: 43%; Medium: 12%; High 45%	Low: 42%; Medium: 14%; High 44%	Low: 41%; Medium: 16%; High 43%	Low: 41%; Medium: 16%; High 43%
DGA Housing Mix, 2051	Low: 51%; Medium: 33%; High 16%	Low: 51%; Medium: 33%; High 16%	Low: 52%; Medium: 33%; High 15%	Low: 50%; Medium: 31%; High 19%
Region Housing Mix, 2051	Low: 47%; Medium: 17%; High 37%	Low: 46%; Medium: 18%; High 36%	Low: 45%; Medium: 19%; High 36%	Low: 45%; Medium: 18%; High 37%

Scenario Component	Base Case	Scenario 1	Scenario 2	Scenario 3
Employment Growth				
DGA Community Area Employment, 2019 to 2051	*30,900 (30%)*	*28,000 (27%)*	*27,100 (26%)*	*26,700 (26%)*
BUA Community Area Employment 2019 to 2051	*71,400 (70%)*	*73,300 (72%)*	*75,200 (74%)*	*75,600 (74%)*
Community Area Employment, 2019 to 2051	102,300 (58%)	102,300	102,300	102,300
Employment Area Employment, 2019 to 2051	70,600 (40%)	70,600 (40%)	70,600 (40%)	70,600 (40%)
Rural Area Employment, 2019 to 2051	4,800 (3%)	4,800 (3%)	4,800 (3%)	4,800 (3%)
Total Employment, 2019 to 2051	177,700 (100%)	177,700 (100%)	177,700 (100%)	177,700 (100%)
Land Needs				
DGA Land Needs – Community Area (gross ha) (Expansion)	828 gross ha	519 gross ha	227 gross ha	0 gross ha (results in surplus of 152 hectares)
DGA Land Needs- Employment Area (Expansion)	801 gross ha	801 gross ha	801 gross ha	801 gross ha
Total Land Need	**1,629 gross ha**	**1,320 gross ha**	**1,028 gross ha**	**801 gross ha**

Appendix B

Summary of Growth Scenario Evaluations

Theme	Evaluation Commentary	Scenario 1	Scenario 2	Scenario 3
Growth Management	• All Scenarios exceed the Provincial minimum intensification target of 50%, providing opportunities for a more compact built form and that supports walking and cycling and taking public transit. Scenarios 2 and 3 are the most preferred under the growth management criteria, as they have the highest intensification targets, higher DGA density targets, better potential to optimize the existing land supply and housing stock, will allow for the development of more compact built form, and reduce the rate at which land is consumed, all of which show well against most of the metrics. • Scenarios 2 and 3 also provide more opportunities for transit supportive development compared to Scenario 1. Scenario 2 is slightly more preferred than Scenario 3 as a result of the provision of a more balanced housing mix that reflects market demand over the near- and long-term. Scenario 2 also best balances the Province's growth management objectives related to compact development with other important planning considerations, providing the Region with more flexibility over the planning horizon. Scenario 3 also results in an excess of Community Area land in the DGA, which would create some phasing challenges for existing and planned designated Greenfield Areas. • With a more compact built form, Scenario 3, followed closely by Scenario 2, best addresses climate change mitigation and adaptation because it provides for the more efficient use of land, infrastructure and pubic service facilities, and directs more growth away from agricultural and natural heritage system lands.			
Transportation, Infrastructure and Finance	• With its larger Community Area expansion areas and associated new infrastructure requirements, Scenario 1 increases the potential for higher infrastructure costs. However, these costs would be partially offset by potential benefits of comprehensively planning large new Community Areas based on the latest design standards and best practices. In contrast, Scenarios 2 and 3 offer the best potential for optimization of existing municipal infrastructure, such as water and wastewater systems, as well as public service facilities such as schools, libraries and other public services, with higher levels of intensification compared to Scenario 1. However, the higher levels of intensification could create practical challenges to constructing new energy/water conservation and green infrastructure within existing built-up areas, as retrofits have greater impacts on existing residents and tend to involve more technically complex solutions compared to greenfield initiatives. Scenarios 2 and 3 would also help minimize long-term operations and maintenance costs more than Scenario 1, which would require the largest quantum of new public facilities, parks and infrastructure. • From a climate change perspective, Scenarios 2 and 3 would best minimize the need to construct new infrastructure to service an expanding urban region. Less infrastructure would in turn help reduce the GHG emissions created in various phases of a piece of infrastructure's full life-cycle (e.g., material extraction, manufacturing, construction, maintenance, and of life/disposal.)			
Agriculture	• Scenarios 1 and 2's Community Area expansions do not show favourably against the criteria of this theme, highlighting the potential for loss of prime agricultural lands, compared to Scenario 3 which does not require any Community Area expansion. Scenario 1 is the least preferred, as it has the largest amount of new Community Area expansion. All Scenarios require new urban land to accommodate the employment forecast. • Viewed through a climate change lens, Scenario 3, followed closely by Scenario 2, provides the best opportunities for reducing overall GHG emissions because more agricultural lands (e.g., soils, woodlots, hedges) would sequester more carbon. The availability of local food would also help reduce emissions by reducing the distance from farm to table.			

Theme	Evaluation Commentary	Scenario 1	Scenario 2	Scenario 3
Natural Heritage	• With the smallest required urban area expansion, Scenario 3, followed closely by Scenario 2, offers the most potential for protecting the region's natural heritage system. In terms of climate change mitigation and adaptation, protecting more trees, forests and wetlands would help promote more carbon sequestration and protect existing carbon sinks by preventing soil erosion. Protecting such natural areas also supports the long term management of water quality and quantity through water filtration and the storage of flood waters. These ecosystem services would also help strengthen the region's resilience and ability to adapt to extreme weather events.			
Livability	• The criteria under this theme creates a mixed picture, revealing the trade-offs between the different housing mix forecasts for the three Scenarios. Scenarios 2 and 3 are more preferred because they provide for a more compact built form that supports active transportation and fewer automobile trips. Increasing travel choices fosters healthy and active living, and creates better public health outcomes compared to Scenario 1. • Scenario 2 is more preferred than Scenario 3 from a housing market perspective as it would provide a more balanced supply of housing choices reflective of market demand for the broadest range of people, including ground-oriented housing, while also providing opportunities to meet broader housing affordability objectives and targets. Scenario 3 does not provide as diverse a range of housing choices compared to Scenario 2. It would also require the greatest shift in consumer housing preferences from low-density to medium- and high density housing. Accordingly, Scenario 2 provides the most balanced housing supply opportunities of the three Scenarios and is more preferred compared to Scenarios 1 and 3. • From a climate change perspective, there are no significant differences among the Scenarios on this theme. In general, increased levels of urbanization in the form of additional intensification or expanded DGAs could increase the health risks associated with the urban heat island effect and increased GHG emissions. Ultimately, the design of new communities will be a major factor in mitigating and adapting to the impacts of climate change. This could include creating more green space and urban forest cover, and switching from building materials like concrete, brick and asphalt to more heat resistant materials.			
Economic Growth	• In general, all scenarios perform well under the Economic Growth theme because they require the same amount of new Employment Area land and have the same underlying employment forecast. Both Scenarios 2 and 3 would support economic development within the Region's urban growth centres through increased densities and focus on redevelopment within these areas driven by the reduced amount of land for expansion. With a more compact and transit supportive built form, Scenarios 2 and 3 would also better support the Region's long-term economic growth by minimizing traffic congestion, facilitating the movement of goods and services, and reducing employees' commuting times. Overall, Scenario 2 is more preferred compared to Scenarios 1 and 3, as it offers a housing supply that is well aligned with diverse economic growth opportunities, allowing the Region to retain and attract the broadest range of talent (relative to the other Scenarios).			
Evaluation Summary	• Based on the results of the analysis, the Scenarios that minimize the expansion of the Region's urban areas best support the criteria identified in this evaluation framework, particularly with respect to climate change mitigation and adaptation. However, the analysis also highlights the competing policy objectives and difficult trade-offs the Region and its local area municipalities must consider in developing a preferred growth scenario. Among these key considerations are the need to provide for a sufficient housing supply that reflects market demand, and to provide opportunities for a diversified economic base, including maintaining a range and choice of suitable sites for employment uses. • Taken as a whole, Scenario 2 is recommended as the preferred scenario because it offers the best balance between the market demand for certain forms of housing and the need to support opportunities for compact, transit supportive development, protection and enhancement of the natural heritage system, and continued protection of prime agricultural lands. It also provides a good balance between accommodating the region's future growth to 2051 with the need to mitigate and adapt to a changing climate.	**Least Preferred**	**Most Preferred**	**Second Most Preferred**

Appendix C – Growth Scenario Evaluation Technical Brief, October 2021