

Ambitious Density Scenario – Community Area Land Need

City of Hamilton Land Needs Assessment to 2051

Technical Working Paper – Draft Summary of Results

December 2020



Ambitious Density Scenario

Housing Unit Growth (LNA Table 2):



The housing forecast for Hamilton identifies a growth of 110,320 new housing units (including single detached, semi detached, townhouses, and apartments) by 2051.

Unit Growth by Unit Type - "Ambitious Density Scenario" – average of 60% intensification (LNA Table 8):

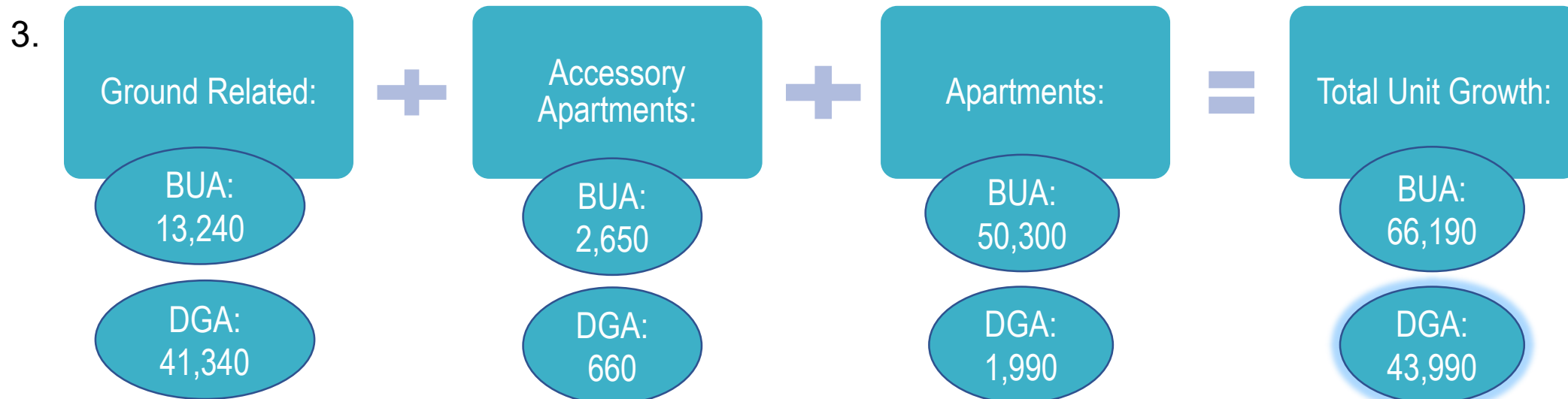


The 110,320 units need to be split up by unit type. In Line 2, the Ground-related units include single detached, semi detached and townhouse (rowhouse) units. Accessory apartments include basement apartments or detached units in an accessory building. Line 2 shows the unit breakdown by type which results when the City plans for an average rate of intensification of 60% between 2021 and 2051. In the LNA, this is referred to as the Ambitious Density Scenario. As the rate of intensification increases, the percentage of apartments also increases.

Ambitious Density Scenario

Based on Growth Plan policy areas of Built-Up Area (BUA) and Designated Greenfield Area (DGA), the expected unit growth by each type of unit is divided by the location where the new units will be developed. Click [here](#) for a map of these areas. The intensification units (60%) are assigned to the BUA. The rest of the units are assigned to the DGA. A very small portion (140 units) of the overall unit growth is assigned to the rural area, and is not shown in line 3 below.

Unit Growth by Type to Growth Plan Policy Areas (LNA Table 8 and 11):

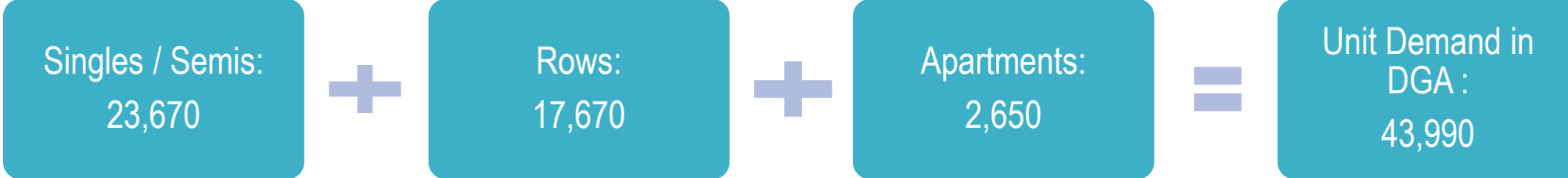


Line 3 identifies the total 'demand' for new units in the Designated Greenfield Area as 43,990 units. These 43,990 units are divided between the City's Existing DGA lands (already in the urban area) and New DGA lands (Urban Expansion Areas) in the next step.

Ambitious Density Scenario

To determine the breakdown of units between the Existing DGA and the Urban Expansion Area, we subtract the potential supply of units in the Existing DGA (line 5) from the demand of 43,990 units (line 4). For this next calculation, the Ground Related units are broken down into Single / Semi-detached units and Rowhouses (townhouses), and Accessory Apartments are grouped with Apartments.

Unit Demand in the Designated Greenfield Area to 2051 (LNA Table 11):

4. 
$$\begin{array}{l} \text{Singles / Semis:} \\ 23,670 \end{array} + \begin{array}{l} \text{Rows:} \\ 17,670 \end{array} + \begin{array}{l} \text{Apartments:} \\ 2,650 \end{array} = \begin{array}{l} \text{Unit Demand in} \\ \text{DGA:} \\ 43,990 \end{array}$$

Potential Unit Supply in the Existing Designated Greenfield Area in 2021 (LNA Table 10):

5. 
$$\begin{array}{l} \text{Singles / Semis:} \\ 5,590 \end{array} + \begin{array}{l} \text{Rows:} \\ 6,910 \end{array} + \begin{array}{l} \text{Apartments:} \\ 8,060 \end{array} = \begin{array}{l} \text{Total Unit Supply} \\ \text{Existing DGA:} \\ 20,560 \end{array}$$

Subtracting the Potential Unit Supply (Line 5) from the Unit Demand (Line 4) results in the units, by type, that will need to be built in the new DGA (Urban Expansion Area) - see Line 6 .

Ambitious Density Scenario

Unit shortfall or surplus to be accommodated in Urban Expansion Area – Line 4 minus Line 5 (LNA Table 12):

6.

$$\begin{array}{l} \text{Singles / Semis:} \\ \text{Shortfall of 18,090} \\ \text{units} \end{array} + \begin{array}{l} \text{Rows:} \\ \text{Shortfall of 10,760} \\ \text{units} \end{array} - \begin{array}{l} \text{Apartments:} \\ \text{Surplus of 5,420} \\ \text{units} \end{array} = \begin{array}{l} \text{Total Units in Urban} \\ \text{Expansion Area:} \\ 23,430 \end{array}$$

For Singles / semis and Rowhouses, there is a shortfall of available units in the Existing DGA meaning that the additional units will be built in the Urban Expansion Area. For Apartments, there is already more supply of apartments than there is demand in the Existing DGA, so there is no requirement for apartments in the Urban Expansion Area. A total of 23,430 units (28, 850 shortfall units – 5,420 surplus apartments) will be in the Urban Expansion Area.

Ambitious Density Scenario

To figure out the required land area needed to accommodate the 23,430 units in the Urban Expansion Area, a density factor by each unit type is applied, measured in units per hectare (line 7).

Density Factor by Unit Type (uph) and Resulting Net Land Need by Unit Type (LNA Table 17):

7. 

This results in a 'net' land need of 670 ha. The 'net' land need only includes the land needed for each individual housing unit (or the lot area of each new unit). The 'net' land area does not include any lands required in the Urban Expansion Area for other uses such as roads, parks, institutional uses, commercial uses, stormwater management etc. These additional uses require the land area to be doubled, as shown in line 8, which provides us with the 'gross' land area required for the Urban Expansion Area of 1,340 ha.

Net to Gross Ratio Factor = 50% (LNA Table 17):

8. 