Demonstration of growth capacity in Toronto (with Ratio City)

Technical Appendix

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	Unit	Inner Circle Non-Employment	Inner Circle Employment	Inner Circle Total	Outer Ring Non-Employment	Outer Ring Employment	Outer Ring Total	Total All
Existing								
Total area of developable lots	m²	145,371,394	50,836,760	196,208,154	63,554,191	13,814,842	77,369,033	**273,577,187**
Existing floor area	m²	64,538,434	22,229,208	86,767,642	20,248,213	5,824,084	26,072,297	**112,839,939**
Existing coverage	m²	38,183,705	13,996,559	52,180,264	16,423,686	4,234,326	20,658,012	**72,838,276**
# of parcels	#	225,935	5,835	231,770	115,739	2,123	117,862	**119,985**
Average parcel size	m²	643	8,712		549	6,507		
Existing non-residential floor area	m²	6,453,843	22,229,208	28,683,051	2,024,821	5,824,084	7,848,905	**36,531,957**
Existing residential floor area	m²	58,084,591	-	58,084,591	18,223,392	-	18,223,392	**76,307,983**
Existing residential units	#	484,038	-	484,038	151,862	-	151,862	**635,900.0**
Coverage	%	26%	28%		26%	31%		
Floor Space Index	%	44%	44%		32%	42%		
Future								
Area of lots that would redevelop	m²	101,759,975	35,585,732	137,345,708	44,487,934	9,670,389	54,158,323	**191,504,031**
Removed total floor area in these lots	m²	45,176,904	15,560,445	60,737,349	14,173,749	4,076,859	18,250,608	**78,987,957**
Removed non-residential Gross Floor Area	m²	4,517,690	15,560,445	20,078,136	1,417,375	4,076,859	5,494,234	**25,572,370**
Removed residential Gross Floor Area	m²	40,659,214	-	40,659,214	12,756,374	-	12,756,374	**53,415,588**
Removed residential net floor area	m²	38,626,253	-	38,626,253	12,118,556	-	12,118,556	**50,744,808**
Removed residential units	#	321,885	-	**321,885**	100,988	-	**100,988**	**422,873**
Removed housing for X people	#	702,296	-	**702,296**	220,337	-	**220,337**	**922,633**
New Gross Floor Area	m²	549,503,868	192,162,955	741,666,822	115,668,628	25,143,012	140,811,639	**882,478,462**
New non-residential Gross Floor Area	m²	82,425,580	67,257,034	149,682,614	17,350,294	8,800,054	26,150,348	**175,832,963**
New residential Gross Floor Area	m²	467,078,287	124,905,921	591,984,208	98,318,334	16,342,958	114,661,291	**706,645,499**
New residential net floor area	m²	397,016,544	106,170,032	503,186,577	83,570,584	13,891,514	97,462,098	**600,648,674**
New residential units	#	4,670,783	1,249,059	**5,919,842**	983,183	163,430	**1,146,613**	**7,066,455**
New housing for X people	#	7,218,483	1,930,364	**9,148,847**	1,519,465	252,573	**1,772,038**	**10,920,885**
Net new units	#	4,348,898	1,249,059	**5,597,957**	882,195	163,430	**1,045,625**	**6,643,582**
Net new housing for X people	#	6,896,598	1,930,364	**8,826,962**	1,418,477	252,573	**1,671,050**	**10,498,012**

Assumptions

Lot Selection

Distance from transit	Inner Circle	Outer Ring
Rapid Transit (GO, Subway, LRT)	400 m	800 m
Frequent Transit (Streetcar, 10-minute bus)	250 m	400 m

Land uses included

Non-Employment
- Mixed Use
- Neighbourhoods
- Apartment Neighbourhoods
- Regeneration Areas

Employment
- Employment Areas

Minimum FSI of lots that can be redeveloped

Inner Circle	2
Outer Ring	1.25

- We do not consider potential future transit infrastructure that is not underway; the focus is on existing and in-development transit.
- We do not include the (considerable) potential for small-scale intensification in areas that are less transit-accessible (than the outer rings).

Existing Conditions

Percentage of residential floor area

Non-Employment Areas	10.0%
Employment Areas	0.0%

Efficiency and gross area

Efficiency in existing residential buildings (net/gross)	95% [1]
Average gross area of existing units	120.0 m² [2]

Redevelopment

Percentage of lots that will be redeveloped at higher density

Percentage of all selected lots	70.0% [3]

Percentage of residential floor area

Non-Employment Areas	15.0%
Employment Areas	35.0% [4]

Efficiency and gross area

Efficiency in new residential buildings (net/gross)	85% [1]
Average gross area of new units	85.0 m² [4]
Average new gross area/person	55.0 m² [5]

Future average FSI (based on modelling and existing development)

Inner Circle (high-rise)	5.4 [6]
Outer Ring (mid-rise)	2.6 [6]

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Notes

1. The net area to gross area ratio is assumed to be lower in existing buildings since they are mostly low rise and mostly single-family houses.
2. Existing units are assumed to be larger on average since they are mainly comprised of single family homes and were built for larger households; newer units are assumed to be for both small and large households, but with a higher proportion of smaller households than in the past.
3. This ratio is based on assumptions about two factors: (A) lots that are not likely to be redeveloped, and (B) lots or parts of lots that should not have been included.
   A. Lots are not likely to be redeveloped even in the long term for the following reasons:
      - Preserving cultural heritage.
      - Natural heritage or slope stability considerations that preclude development.
      - High value of existing buildings that makes replacement uneconomical.
      - Smaller scale intensification to a lower density may be more cost-effective on some lots (e.g. additions).
      - Small and irregularly shaped lots that are hard to build on at high-density.

      Most of these conditions do not completely preclude redevelopment, and portions of a site may be redeveloped. Note that even before applying the ratio, only sites with low enough existing FSI were included.

   B. Lots and areas that should have been excluded, but were included because of the limitations of the available data):
      - A few large lots are only partially within close proximity to transit service; the further parts would not have been included if they were separate lots.
      - The TTC GIS data for bus lines does not separate all lines, and as a result, a few of the included lines do not have 10-minute frequency; these areas would have been excluded if access to more granular data was available.

3. In Employment Areas, we assume that after redevelopment, a high percentage of the floor area will be non-residential.
4. This floor area per person is higher than what is typical in most new development today; the population would be higher if we assumed a floor area that is typical today.
5. The target FSI values are based on modelling and the review of existing projects.