

APPENDIX A

GROWTH FORECAST

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This appendix provides the details of the growth forecast that were used in the preparation of the Development Charges Background Study for the City of Peterborough. The forecast method and the key inputs and assumptions are discussed. The results of the forecasts are provided in a series of tables.

The forecasts of population, households, employment and non-residential building space were prepared by Hemson Consulting Ltd. These forecasts are generally consistent with an ongoing forecast assignment Hemson is undertaking for the Smart Growth Secretariat of the Ministry of Public Infrastructure Renewal. These forecasts were reviewed during the preparation of the Preliminary Development Charges Background Study for Peterborough which was completed in the summer of 2004.

A. COUNTY OF PETERBOROUGH FORECAST

The forecasts presented in this appendix are based upon a “top-down” forecast model that has been prepared for the County of Peterborough within the context of the Central Ontario Smart Growth Region. The model begins by forecasting population, housing and employment for Peterborough County. This forecast is in turn distributed to the City of Peterborough based upon growth shares between 1991 and 2001. The forecasts take into consideration data from the 2001 Census and historical building permit and housing completions data. The following discusses this approach and the key data sources that were used. Unless otherwise noted all data sources are Statistics Canada.

- The population forecast is based upon a standard cohort survival model. Age specific fertility and mortality rates are applied to the population to determine changes in natural increase. The rates are based upon the most recent five year averages.
- Migration by age and sex is then added to determine total population growth. Between 1991 and 2001 net migration to Peterborough County averaged about 600 persons annually. This represented approximately 3 per cent of net migration to the Central Ontario Smart Growth Region. Over the forecast net migration will rise from 600 annually to about 1,000 annually by 2021. This increase is expected to occur as a result of the County’s share rising to almost 4 per cent but also as a result of an overall expected increase in migration to the Central Ontario Smart Growth Region.

- The household forecast is prepared by applying age specific headship rates to the forecast population. Housing units by type are determined by applying age specific occupancy patterns. 2001 headship rates and occupancy patterns have been held constant over the forecast timeframe.
- The county level employment forecasts for the Central Ontario Smart Growth Region are based upon applying activity rates (the ratio of employment to population) to the forecast population. The activity rate forecast for the counties within the Region is based upon the activity rates that result in the overall Central Ontario employment forecast.

2. City of Peterborough Forecast

The following outlines the method by which forecasts of population, housing, employment and non-residential floorspace are prepared for the City of Peterborough.

- The population forecasts for the City of Peterborough are generally based upon the City's share of population growth over the past 10 years. Over this period the City accounted for 55 per cent of the Counties population growth.

The City's household forecasts was undertaken in a similar manner. The forecast share of household growth was based upon the city's 47 per cent share in the 1991 to 2001 period.

Peterborough's employment forecast is undertaken by applying an activity rate (ratio of employment to population) to the forecast population. The 2001 activity rate of 55 per cent was held constant over the course of forecast.

Peterborough's historic population, households, and employment from 1991 to 2003 are provided in Table A.1. Average household sizes and activity rates are also provided.

- In addition to the overall population forecast, population growth that occurs only in new housing is provided. This forecast is based upon a long historic time series of population growth in housing by period of construction. This historic data for Peterborough is based on a special Census data tabulation by Statistics Canada and is provided in Table A.3.

B. RESULTS OF THE CITY OF PETERBOROUGH FORECAST

Based upon the methodology, inputs and assumptions discussed in Section A, forecasts of population, housing, employment and non-residential floor space were prepared for the City of Peterborough. The forecast results are presented in a series of four tables and are

summarized in the following:

- Table B.1: Provides the overall population, household, and employment forecast results annually from 2004 to 2021 for the City of Peterborough.
- Table B.2: Illustrates the forecast results for the 10 year period 2004 to 2013 as required for the development charge study. This table also provides the growth in new housing units versus the growth in total household units.
- Table B.3: Shows the net change in population between growth in new households versus existing households.
- Table B.4: Shows the total employment forecast and the employment growth forecast.

C. PLANNING AREA SPECIFIC DEVELOPMENT CHARGES

In addition to the city wide forecasts, area specific development charges were set for planning areas within the city. These planning area specific charges were set based upon the residential development potential within each of the planning areas. Details of the planning area specific residential development potential are provided in the attached tables. The area specific development potential is based upon the current designations in the City's Official Plan.

CITY OF PETERBOROUGH DEVELOPMENT CHARGE STUDY - 2004

TABLE A.1
Historic Population, Households & Employment

	Population	Growth	Households	Growth	HH Size	Employment	Growth	Activity Rate
1991	68,379		26,806		2.55	40,625		59.4%
1992	68,610	231	27,028	222	2.54	40,063	-562	58.4%
1993	68,841	231	27,250	222	2.53	39,501	-562	57.4%
1994	69,073	231	27,473	222	2.51	38,939	-562	56.4%
1995	69,304	231	27,695	222	2.50	38,377	-562	55.4%
1996	69,535	231	27,917	222	2.49	37,815	-562	54.4%
1996*	69,742	n/a	28,000		2.49	37,928		54.4%
1997	70,083	341	28,235	235	2.48	38,209	281	54.5%
1998	70,424	341	28,470	235	2.47	38,491	281	54.7%
1999	70,764	341	28,704	235	2.47	38,772	281	54.8%
2000	71,105	341	28,939	235	2.46	39,054	281	54.9%
2001	71,446	341	29,174	235	2.45	39,335	281	55.1%
2002	71,695	249	29,376	202	2.44	39,467	132	55.0%
2003	71,945	250	29,580	204	2.43	39,600	133	55.0%

Source: Statistics Canada, Census of Canada

* 1996 data shown twice to account for annexation between 1991 and 1996

TABLE A.2
Historic Housing Activity

	Housing Completions - Units			
	Singles/Semis	Rows	Apts.	Total
1994	167	27	73	267
1995	108	0	15	123
1996	189	56	105	350
1997	222	87	0	309
1998	154	47	0	201
1999	167	21	0	188
2000	167	50	0	217
2001	114	12	0	126
2002	207	28	4	239
2003	180	72	17	269
Total	1675	400	214	2289
Average	168	40	21	229

Source: CMHC, Detailed Housing Statistics for the Toronto Area Market

TABLE A.3

Historic Households by Period of Construction Showing Household Size

Peterborough C

	Period of Construction								Pre 1991	1991-01	Total
	Pre 1946	1946-1960	1961-1970	1971-1980	1981-1985	1986-1990	1991-1995	1996-01			
<i>Singles</i>											
Household Population	11,295	11,835	6,000	6,105	2,185	5,285	2,975	2,515	42,705	5,490	48,195
Households	4,405	4,995	2,240	2,095	760	1,715	955	920	16,210	1,875	18,085
Household Size	2.56	2.37	2.68	2.91	2.88	3.08	3.12	2.73	2.63	2.93	2.66
<i>Semis</i>											
Household Population	435	185	350	475	195	145	225	70	1,785	295	2,080
Households	170	95	110	160	50	45	80	35	630	115	745
Household Size	2.56	1.95	3.18	2.97	3.90	3.22	2.81	2.00	2.83	2.57	2.79
<i>Rows</i>											
Household Population	470	340	825	1,195	525	680	500	405	4,035	905	4,940
Households	160	110	275	465	200	310	220	210	1,520	430	1,950
Household Size	2.94	3.09	3.00	2.57	2.63	2.19	2.27	1.93	2.65	2.10	2.53
<i>Apartments</i>											
Household Population	3,725	1,935	1,905	3,460	795	1,400	795	130	13,220	925	14,145
Households	2,155	1,030	1,210	2,115	450	880	470	70	7,840	540	8,380
Household Size	1.73	1.88	1.57	1.64	1.77	1.59	1.69	1.86	1.69	1.71	1.69
<i>All Units</i>											
Household Population	15,925	14,295	9,080	11,235	3,700	7,510	4,495	3,120	61,745	7,615	69,360
Households	6,890	6,230	3,835	4,835	1,460	2,950	1,725	1,235	26,200	2,960	29,160
Household Size	2.31	2.29	2.37	2.32	2.53	2.55	2.61	2.53	2.36	2.57	2.38

Source: Statistics Canada, 2001 Census Special Run

TABLE B.1
Population, Household & Employment Forecast Summary

	Population	Households	Employment	PPH	Activity Rate
2004	72,196	29,785	39,733	2.42	55.0%
2005	72,447	29,992	39,866	2.42	55.0%
2006	72,700	30,200	40,000	2.41	55.0%
2007	73,017	30,436	40,178	2.40	55.0%
2008	73,336	30,674	40,358	2.39	55.0%
2009	73,656	30,914	40,538	2.38	55.0%
2010	73,977	31,156	40,718	2.37	55.0%
2011	74,300	31,400	40,900	2.37	55.0%
2012	74,715	31,656	41,137	2.36	55.1%
2013	75,133	31,914	41,376	2.35	55.1%
2014	75,553	32,174	41,616	2.35	55.1%
2015	75,975	32,436	41,857	2.34	55.1%
2016	76,400	32,700	42,100	2.34	55.1%
2017	76,855	32,937	42,337	2.33	55.1%
2018	77,312	33,175	42,576	2.33	55.1%
2019	77,772	33,415	42,816	2.33	55.1%
2020	78,235	33,657	43,057	2.32	55.0%
2021	78,700	33,900	43,300	2.32	55.0%

TABLE B.3
Forecast Population & Household Growth Summary

Population per Household in New Units* 2.55					
	New HH Growth	Pop'n in New HHs	Pop'n in Existing HHs	Existing HHs	Existing Base
2003			71,945	29,580	2.43
2004	205	523			
2005	207	527			
2006	208	531			
2007	236	602			
2008	238	607			
2009	240	612			
2010	242	617			
2011	244	622			
2012	256	652			
2013	258	658			
2004-2013	2,334	5,951	69,182	29,580	2.34
2014-Ultimate	6,886	23,511	66,489	29,580	2.25
2004-Ultimate	9,220	23,511	66,489	29,580	2.25

*Source: See Table A.3

TABLE B.2
Forecast Population & Household Growth Summary

	Pop'n Growth	Total Pop'n	HH Growth	Total HHs	Pop'n in New Units*
2004	251	72,196	205	29,785	523
2005	252	72,447	207	29,992	527
2006	253	72,700	208	30,200	531
2007	317	73,017	236	30,436	602
2008	319	73,336	238	30,674	607
2009	320	73,656	240	30,914	612
2010	321	73,977	242	31,156	617
2011	323	74,300	244	31,400	622
2012	415	74,715	256	31,656	652
2013	418	75,133	258	31,914	658
2004-2013	3,188	75,133	2,334	31,914	5,951
2014-Ultimate	14,867	90,000	6,886	38,800	17,560
2004-Ultimate	18,055	90,000	9,220	38,800	23,511

TABLE B.4
Forecast Employment Growth

	Employment Growth	Total Employment
2003	133	39,600
2004	133	39,733
2005	133	39,866
2006	134	40,000
2007	178	40,178
2008	179	40,358
2009	180	40,538
2010	181	40,718
2011	182	40,900
2012	237	41,137
2013	239	41,376
2004-2013	1,776	41,376
2014-Ultimate	6,524	49,950
2004-Ultimate	10,350	49,950

**CITY OF PETERBOROUGH
2004 DEVELOPMENT CHARGES STUDY
RESIDENTIAL DEVELOPMENT POTENTIAL**

TABLE C.1

Growth Areas	Residential Units			Population in New Units	
	Approved	Potential	Total	PPU	Population
A Jackson Planning Area					
Low	515	525	1,040	2.9	3,016
Medium	180	170	350	2.5	875
High	<u>174</u>	<u>60</u>	<u>234</u>	1.7	<u>398</u>
Total Jackson Planning Area	869	755	1,624		4,289
B Carnegie Planning Area					
Low	291	800	1,091	2.9	3,164
Medium	0	200	200	2.5	500
High	<u>0</u>	<u>0</u>	<u>0</u>	1.7	<u>0</u>
Total Carnegie Planning Area	291	1,000	1,291		3,664
C Lily Lake Planning Area					
Low	0	1,925	1,925	2.9	5,583
Medium	0	530	530	2.5	1,325
High	<u>0</u>	<u>380</u>	<u>380</u>	1.7	<u>646</u>
Total Lily Lake Planning Area	0	2,835	2,835		7,554
D Chemong Planning Area					
Low	0	1,300	1,300	2.9	3,770
Medium	0	400	400	2.5	1,000
High	<u>0</u>	<u>300</u>	<u>300</u>	1.7	<u>510</u>
Total Chemong Planning Area	0	2,000	2,000		5,280
E Auburn Planning Area					
Low	167	190	357	2.9	1,035
Medium	86	350	436	2.5	1,090
High	<u>0</u>	<u>0</u>	<u>0</u>	1.7	<u>0</u>
Total Auburn Planning Area	253	540	793		2,125
F Liftlock Planning Area					
Low	0	680	680	2.9	1,972
Medium	0	300	300	2.5	750
High	<u>0</u>	<u>120</u>	<u>120</u>	1.7	<u>204</u>
Total Liftlock Planning Area	0	1,100	1,100		2,926
G Cold Springs Planning Area					
Low	15	2,700	2,715	2.9	7,874
Medium	133	900	1,033	2.5	2,583
High	<u>0</u>	<u>700</u>	<u>700</u>	1.7	<u>1,190</u>
Total Cold Springs Planning Area	148	4,300	4,448		11,647
H Outside the Planning Areas					
Low	735	645	1,380	2.9	4,002
Medium	860	315	1,175	2.5	2,939
High	<u>421</u>	<u>60</u>	<u>481</u>	1.7	<u>818</u>
Total Outside the Planning Areas	2,016	1,020	3,036		7,759

**CITY OF PETERBOROUGH
2004 DEVELOPMENT CHARGES STUDY
RESIDENTIAL DEVELOPMENT POTENTIAL**

TABLE C.2

Outside the Planning Areas	Residential Units			Population in New Units	
	Approved	Potential	Total	PPU	Population
1 Trent University					
Low	0	220	220	2.9	638
Medium	0	170	170	2.5	425
High	<u>0</u>	<u>0</u>	<u>0</u>	1.7	<u>0</u>
Total Trent University	0	390	390		1,063
2 Towerhill Developments					
Low	144	0	144	2.9	418
Medium	108	0	108	2.5	270
High	<u>0</u>	<u>0</u>	<u>0</u>	1.7	<u>0</u>
Total Towerhill Developments	252	0	252		688
3 Fairhaven - Langton St.					
Low	0	0	0	2.9	0
Medium	150	0	150	2.5	375
High	<u>0</u>	<u>0</u>	<u>0</u>	1.7	<u>0</u>
Total Fairhaven - Langton St.	150	0	150		375
4 Armour Road - Hoher					
Low	0	0	0	2.9	0
Medium	6	0	6	2.5	15
High	<u>0</u>	<u>0</u>	<u>0</u>	1.7	<u>0</u>
Total Armour Road - Hoher	6	0	6		15
5 Armour Road - Aloise					
Low	0	0	0	2.9	0
Medium	62	0	62	2.5	155
High	<u>0</u>	<u>0</u>	<u>0</u>	1.7	<u>0</u>
Total Armour Road - Aloise	62	0	62		155
6 Pomeroy - Parkhill Road					
Low	0	40	40	2.9	116
Medium	0	0	0	2.5	0
High	<u>0</u>	<u>0</u>	<u>0</u>	1.7	<u>0</u>
Total Pomeroy - Parkhill Road	0	40	40		116
7 283 King Street					
Low	0	0	0	2.9	0
Medium	6	0	6	2.5	15
High	<u>0</u>	<u>0</u>	<u>0</u>	1.7	<u>0</u>
Total 283 King Street	6	0	6		15

Outside the Planning Areas	Residential Units			Population in New Units	
	Approved	Potential	Total	PPU	Population
8 Meadows Subdivision					
Low	110	70	180	2.9	522
Medium	0	0	0	2.5	0
High	<u>0</u>	<u>0</u>	<u>0</u>	1.7	<u>0</u>
Total Meadows Subdivision	110	70	180		522
9 Willowcreek - Boddy					
Low	0	40	40	2.9	116
Medium	0	0	0	2.5	0
High	<u>106</u>	<u>0</u>	<u>106</u>	1.7	<u>180</u>
Total Willowcreek - Boddy	106	40	146		296
10 Triple T - Television					
Low	0	200	200	2.9	580
Medium	0	70	70	2.5	175
High	<u>0</u>	<u>60</u>	<u>60</u>	1.7	<u>102</u>
Total Triple T - Television	0	330	330		857
11 Denure Rd - Keppler					
Low	0	0	0	2.9	0
Medium	78	0	78	2.5	195
High	<u>0</u>	<u>0</u>	<u>0</u>	1.7	<u>0</u>
Total Denure Rd - Keppler	78	0	78		195
12 32 Chamberlain Place					
Low	0	0	0	2.9	0
Medium	6	0	6	2.5	15
High	<u>0</u>	<u>0</u>	<u>0</u>	1.7	<u>0</u>
Total 32 Chamberlain Place	6	0	6		15
13 869 Clonsilla Ave					
Low	0	0	0	2.9	0
Medium	0	0	0	2.5	0
High	<u>105</u>	<u>0</u>	<u>105</u>	1.7	<u>179</u>
Total 869 Clonsilla Ave	105	0	105		179
14 Wentworth Subdivision					
Low	0	0	0	2.9	0
Medium	129	0	129	2.5	323
High	<u>0</u>	<u>0</u>	<u>0</u>	1.7	<u>0</u>
Total Wentworth Subdivision	129	0	129		323
15 Otonabee Point - Braidwood					
Low	68	0	68	2.9	197
Medium	0	0	0	2.5	0
High	<u>0</u>	<u>0</u>	<u>0</u>	1.7	<u>0</u>
Total Otonabee Point - Braidwood	68	0	68		197

Outside the Planning Areas	Residential Units			Population in New Units	
	Approved	Potential	Total	PPU	Population
16 Middlefield Subdivision					
Low	68	0	68	2.9	197
Medium	0	0	0	2.5	0
High	0	0	0	1.7	0
Total Middlefield Subdivision	68	0	68		197
17 Lansdowne/Clonsilla					
Low	0	0	0	2.9	0
Medium	0	0	0	2.5	0
High	90	0	90	1.7	153
Total Lansdowne/Clonsilla	90	0	90		153
18 Cavalry Church					
Low	0	0	0	2.9	0
Medium	140	0	140	2.5	350
High	120	0	120	1.7	204
Total Cavalry Church	260	0	260		554
19 Cuppy - Green Blvd					
Low	0	75	75	2.9	218
Medium	0	75	75	2.5	188
High	0	0	0	1.7	0
Total Cuppy - Green Blvd	0	150	150		406
20 Valleymore Subdivision					
Low	156	0	156	2.9	452
Medium	175	0	175	2.5	438
High	0	0	0	1.7	0
Total Valleymore Subdivision	331	0	331		890
21 Waverly Heights					
Low	189	0	189	2.9	548
Medium	0	0	0	2.5	0
High	0	0	0	1.7	0
Total Waverly Heights	189	0	189		548

Outside the Planning Areas				
Low	735	645	1,380	4,002
Medium	860	315	1,175	2,939
High	421	60	481	818
Total Outside the Planning Areas	2,016	1,020	3,036	7,759

CITY OF PETERBOROUGH
2004 DEVELOPMENT CHARGES STUDY
RESIDENTIAL DEVELOPMENT POTENTIAL

TABLE C.3

	Residential Units			Population in New Units	
	Approved	Potential	Total	PPU	Population
All of the Growth Area					
Low	988	8,120	9,108	2.9	26,414
Medium	399	2,850	3,249	2.5	8,123
High	174	1,560	1,734	1.7	2,948
Total All of the Growth Area	1,561	12,530	14,091		37,485
Outside the Planning Areas					
Low	735	645	1,380	2.9	4,002
Medium	860	315	1,175	2.5	2,939
High	421	60	481	1.7	818
Total Outside the Planning Areas	2,016	1,020	3,036		7,759
City Total (excl. infill potential)					
Low	1,723	8,765	10,488		30,416
Medium	1,259	3,165	4,424		11,062
High	595	1,620	2,215		3,766
Total City Total (excl. infill potential)	3,577	13,550	17,127		45,244