

Population Change in Niagara, 1971–2021: Total population patterns

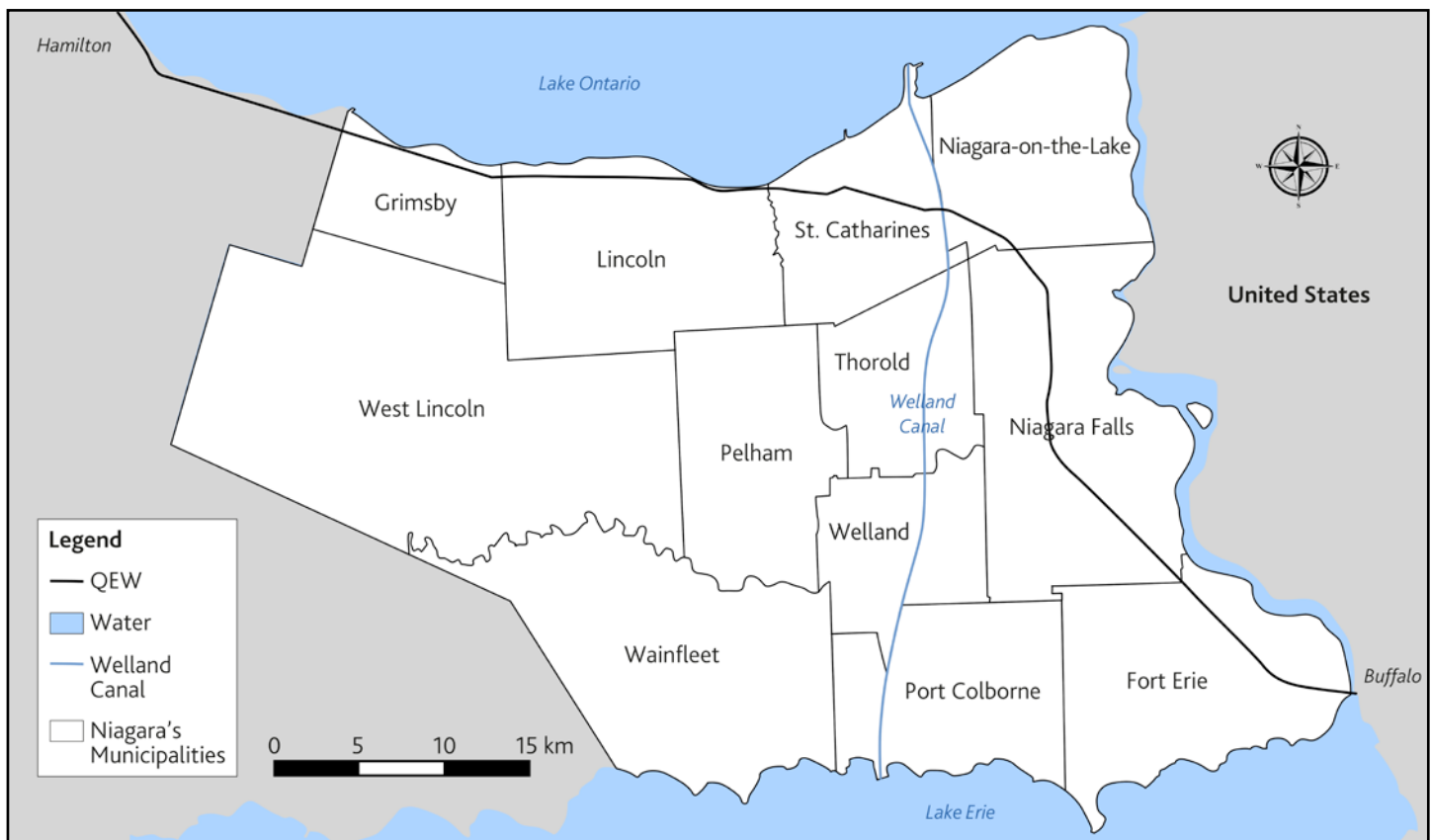
As a result of the *Regional Municipality Act of Niagara*¹, Lincoln County and Welland County were merged on Jan. 1, 1970, into the Regional Municipality of Niagara. This Act also merged their 26 subsidiary units into 12 local municipalities: Fort Erie; Grimsby; Lincoln; Niagara Falls; Niagara-on-the-Lake; Pelham; Port Colborne; St. Catharines; Thorold; Wainfleet; Welland and West Lincoln. These 12 local municipalities are mapped in Figure 1.

These brand-new municipal boundaries were incorporated into Statistics Canada’s enumeration for the 1971 *Census of Canada*. For the previous 45 years, The Dominion Bureau of Statistics² had been responsible for enumerating Canadians on a five-year basis. Those censuses incorporated the older

county and municipal boundaries. As a result, reconfiguring those boundaries to the existing 12 municipalities created in 1970 is challenging and complicated. Thus, we leave that work for a later day and instead focus our geodemographic analysis on the 11 census years between 1971 and 2021³. This paper describes Niagara’s trend for its total population during that time and is meant to thoroughly identify patterns through multiple, similar, graphs. Interpretation of these patterns is left for a later document. The appendix contains the raw data.

Note that we use the acronym CSD (census subdivision) interchangeably with municipality. In Niagara and most of Ontario, CSDs correspond identically to municipal boundaries.

Figure 1: Niagara’s 12 municipalities and nearby landmarks



TOTAL POPULATION TRENDS: ABSOLUTE CHANGES

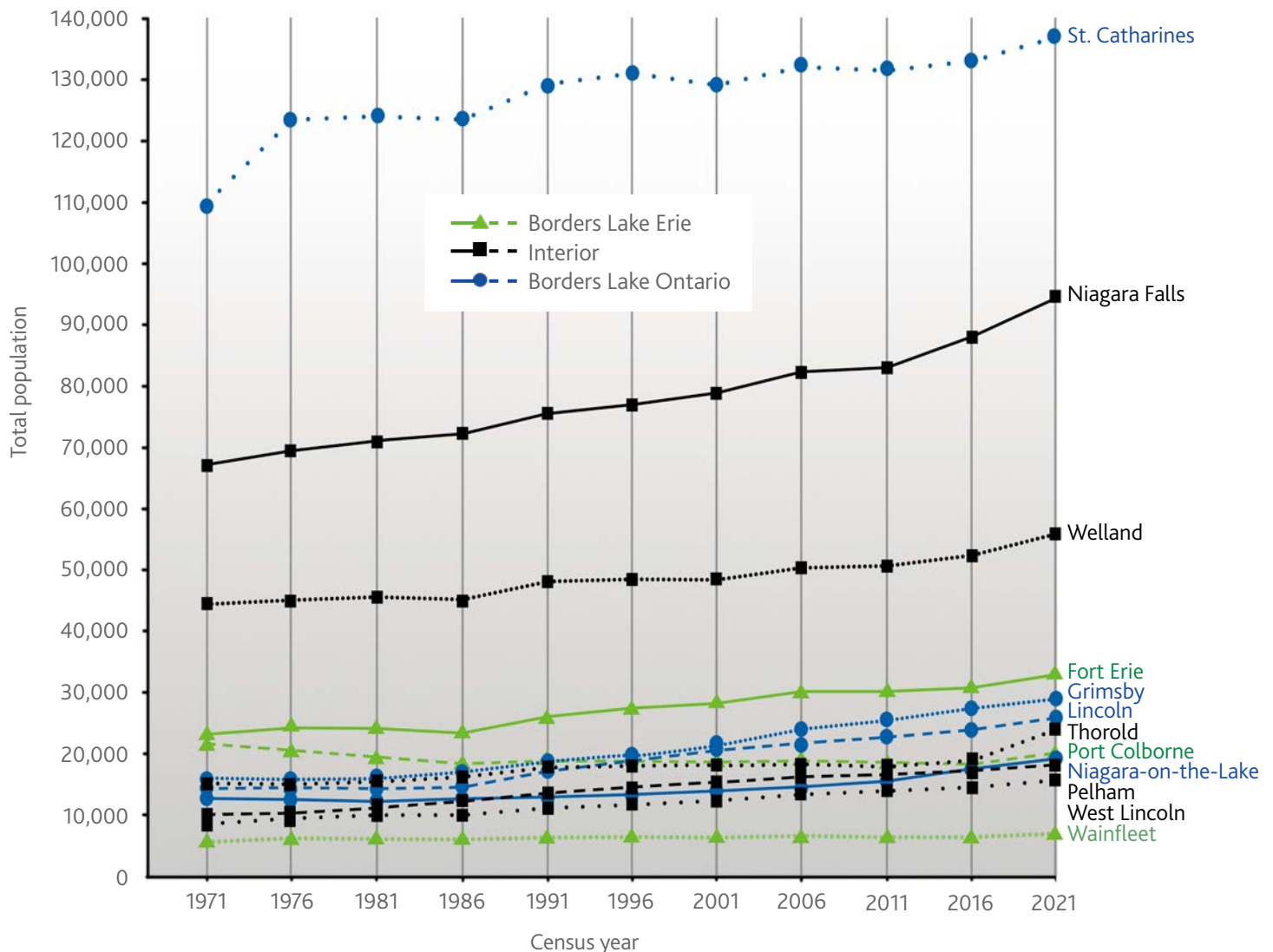
Figure 2a illustrates the population trajectories for Niagara's 12 CSDs. Each CSD has its own unique line style. Three major patterns stand out in Figure 2a.

- Total population has increased in most CSDs over most years, with few exceptions. The region's total population grew by 130,615 over the 50 years, from 347,328 in 1971 to 477,943 in 2021.
- St. Catharines, Niagara Falls and Welland capture the lion's share of total population over any one time period. St. Catharines moves from ca. 109,000 to ca. 134,000 over these 50 years. Niagara Falls increases from ca. 65,000 to ca. 90,000. Welland grows from ca. 45,000

to ca. 55,000. These three CSDs alone account for 50.3 per cent (65,686 of 130,615) of Niagara's increase in total population.

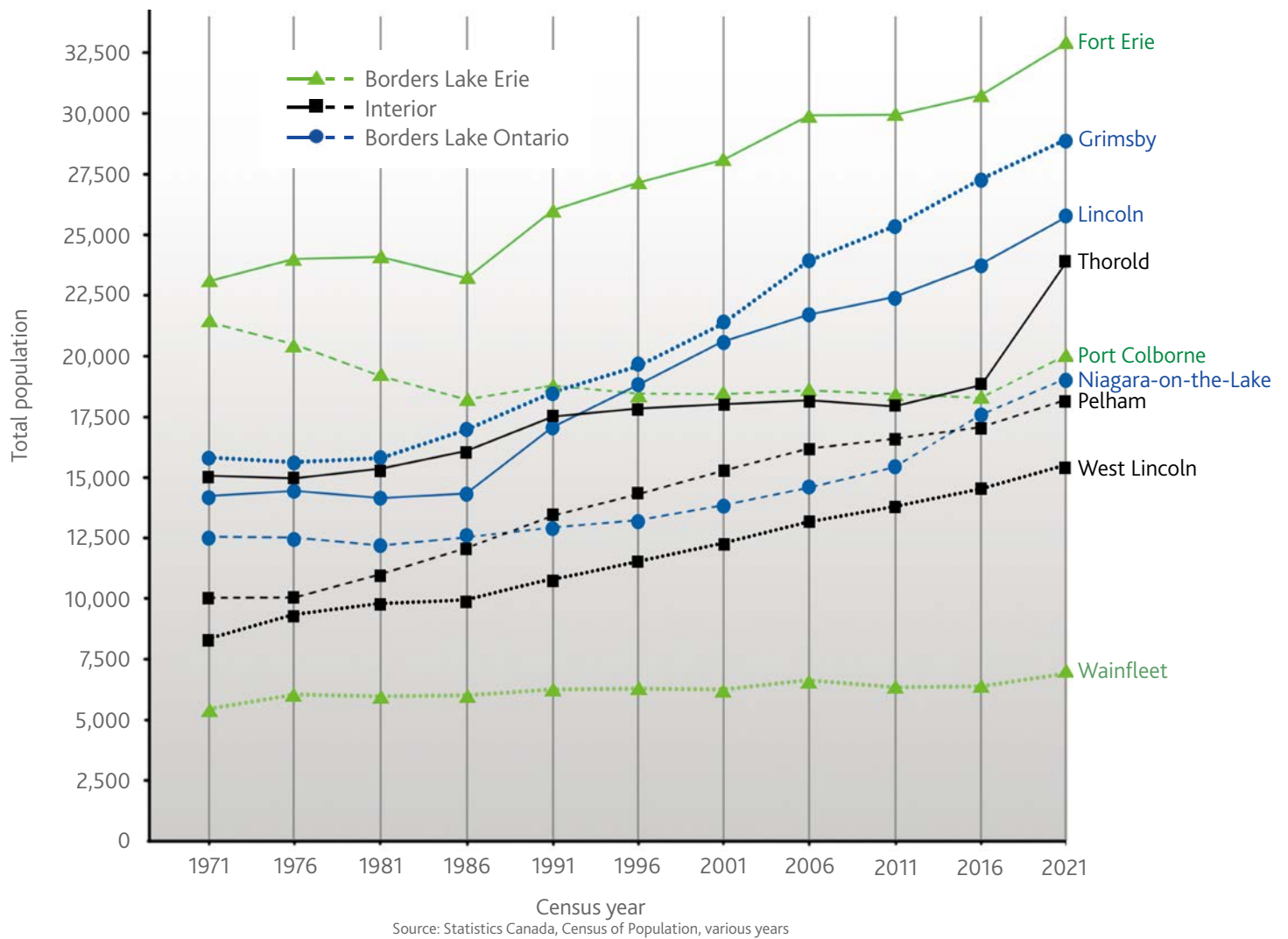
- The remaining nine CSDs contained populations of between ca. 5,500 (Wainfleet) and ca. 23,000 (Fort Erie) in 1971, whereas by 2021 the range had shifted upward to between ca. 6,900 (Wainfleet) and ca. 32,000 (Fort Erie). Over the 50 years, eight of these nine CSDs have increased their population. Port Colborne is the exception, dropping from a high of ca. 21,400 in 1971 to ca. 20,000 by 2021. Collectively, these nine CSDs account for 49.7 per cent (64,929 of 130,615) of Niagara's increase in total population.

Figure 2a: Actual population in each Niagara CSD, 1971–2021



Source: Statistics Canada, Census of Population, various years

Figure 2b: Actual population for Niagara’s nine least-populated CSDs, 1971–2021



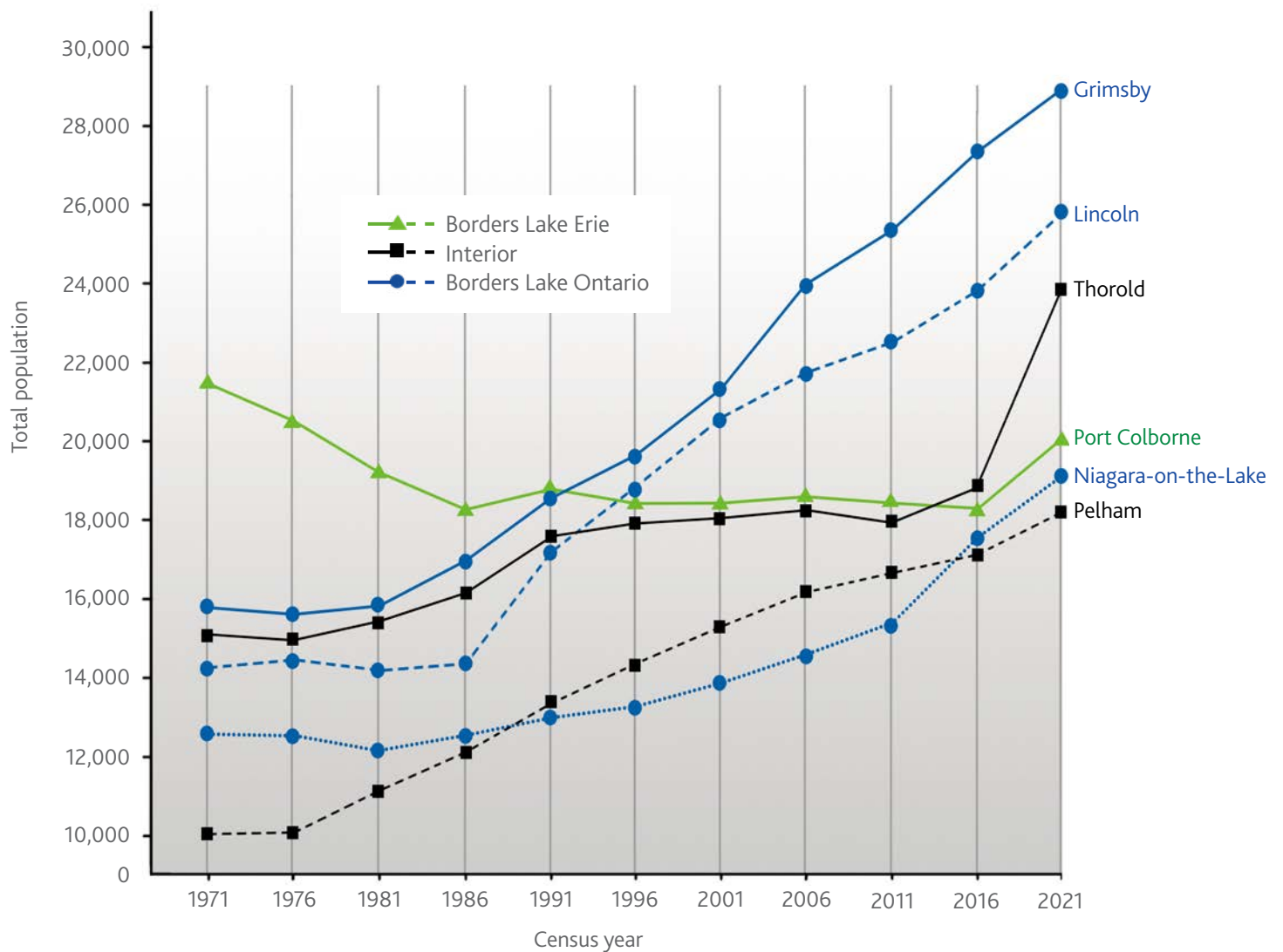
Another way to disentangle population patterns is to strip away particularly large or small CSDs. To this end, we eliminate Niagara’s three largest CSDs: St. Catharines, Niagara Falls and Welland. Doing so allows us to reduce the maximum value on the Y-axis from circa 140,000 to ca. 35,000 people. In turn, this *should* make it easier to discern year-over-year change among the remaining nine (and least populous) CSDs.

Figure 2b is useful for observing the change in ranking by total population of the nine least populated CSDs. Overall, four of these smaller CSDs have changed their rank over those 50 years and five did not (Wainfleet, West Lincoln, Pelham, Thorold and Fort Erie). Whereas Port Colborne was ranked fifth in terms of total population in 1971, by 2021 it had fallen to eighth place. Grimsby, Lincoln, and Thorold increased their rank.

While no new patterns stand out, we can discern three patterns more clearly. First, Wainfleet’s population barely increases in absolute terms between 1971 and 2021. Second, the other eight CSDs remain fairly clumped together in a band. Of these eight, seven of them have a 2021 total population that is clearly larger than its 1971 population. Fort Erie and Grimsby lead this pack. The largest single increase is Thorold, adding over 5,000 between 2016 and 2021.

Third, though less obvious, Port Colborne reveals a more complicated pattern than has been recently reported⁴ in local media. Instead of steadily declining between 1971 and 2016, we see a 15-year decline to a fairly stable state from 1986 to 2016. Over these 30 years, Port Colborne’s population hovers around 18,000. Like Wainfleet, its population remains fairly stable. Unlike Wainfleet, its population noticeably increases between 2016 and 2021. However, it does not yet surpass its 1971 population.

Figure 2c: Actual population for six selected Niagara CSDs, 1971–2021



Source: Statistics Canada, Census of Population, various years

Figure 2c removes Fort Erie, West Lincoln and Wainfleet because their growth patterns are clear. Rather, it focuses on the other small CSDs. Five of these six CSDs increased in population, though none doubled. Port Colborne (see the solid green line) is the exception, as even after 50 years, it has not yet recovered to its 1971 population of almost 22,000. At the same time, the difference between its 1971 and 2021 population is less than 2,000. Furthermore, its population decline had more-or-less stabilized by 1986, after which the population was

generally just under 19,000 until 2016, before growing by over a 1,000 between 2016 and 2021. To summarize, these three figures provide us snapshots into total population levels throughout the Regional Municipality of Niagara since its formation. Knowing these absolute changes in population allows us to appreciate better the corresponding relative changes in total population. Relative change is routinely measured by means of growth rates between two time periods or with indices with the base year set to 100⁵.

TOTAL POPULATION TRENDS: RELATIVE CHANGES

We explore relative change in total population in figures 3a, 3b and 3c. Figure 3a includes all 12 municipalities. It is best compared with Figure 2a. Figure 3b contains the nine least populated CSDs. It is best compared to Figure 2b. Figure 3c contains the six least populated CSDs. It is best compared to Figure 2c. To further ease comparison, the line-type and color scheme have been left the same.

For all three graphs, we set the 1971 total population to 100. If the population increases over the 1971 level, this is reflected in a point above 100. Likewise, if the population decreases below the 1971 level, this is reflected in a point below 100. An increase in total population from one census year to the next will be shown by an upward slope in the line connecting the two points. Likewise, a decrease in total population from the one year to the next will be shown by a downward slope.

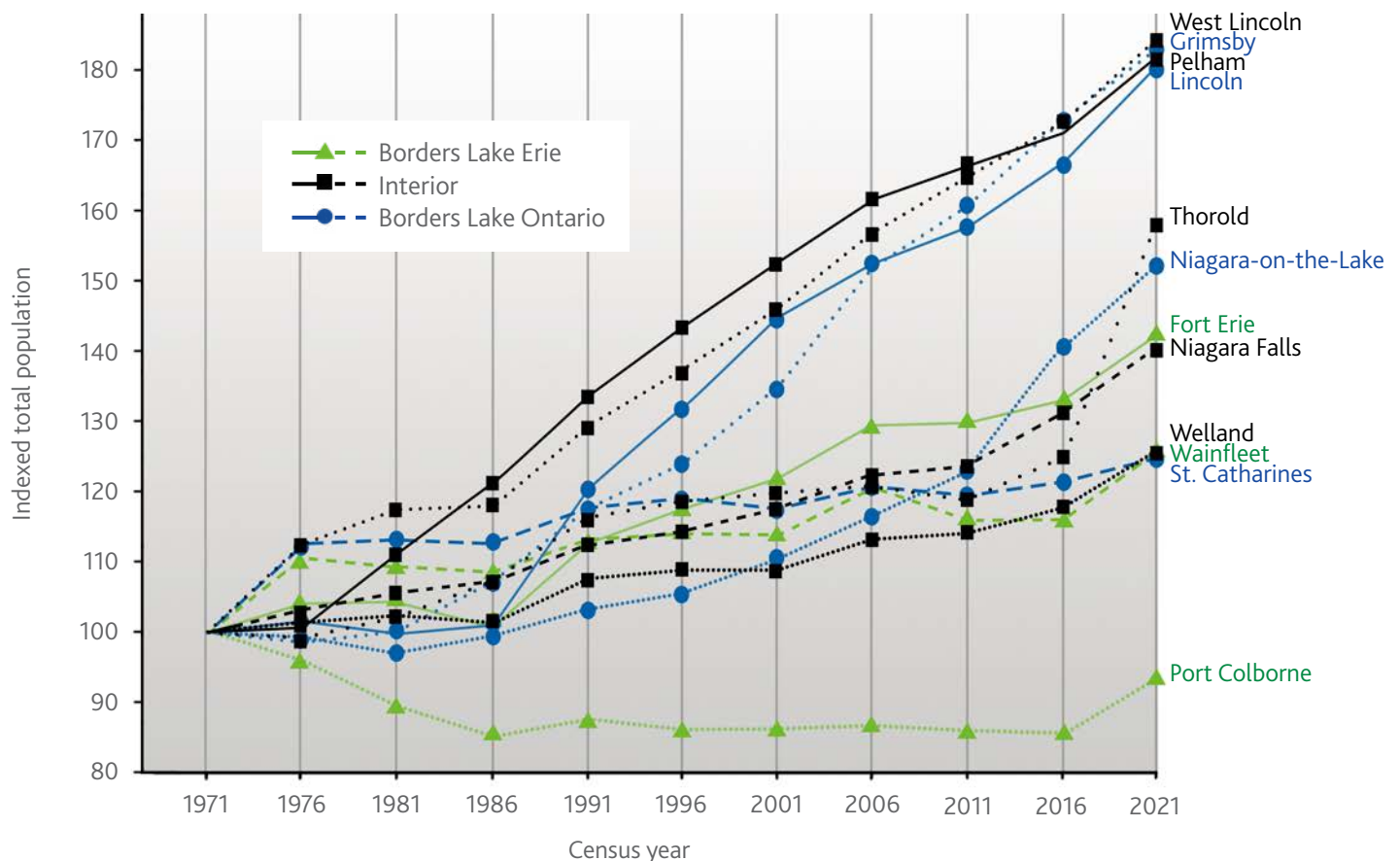
Figure 3a reveals three patterns of growth. Starting from the top of the graph, the first pattern is that four CSDs—West Lincoln, Grimsby, Pelham and Lincoln—have grown

more than 75 per cent since 1971. As revealed in our colour-coding, none of these CSDs border Lake Erie. Furthermore, consulting the map in Figure 1, we see all four are west of the Welland Canal; three contain the QEW.

The second pattern is that seven CSDs—Thorold, Niagara-on-the-Lake, Fort Erie, Niagara Falls, Welland, Wainfleet and St. Catharines—experienced modest but positive growth such that they grew by at least 25 per cent over the 50-year period. As might be expected from their large bases in 1971, Niagara Falls, Welland and St. Catharines are toward the bottom of the pack, though with Niagara Falls growing the most of these three. Two other CSDs reached 50-per-cent growth: Thorold and Niagara-on-the-Lake. In Thorold's case, half of this growth took place between 2016 and 2021.

The third pattern focuses on Port Colborne. By 1986, its population dropped to roughly 85 per cent of its 1971 level before stabilizing. Between 2016 and 2021, it increased to roughly 95 per cent of its 1971 level.

Figure 3a: Relative change in Niagara's population by CSD, 1971–2021



Source: Statistics Canada, Census of Population, various years and author calculations

Figure 3b contains Niagara's nine least populous CSDs. In absolute terms, most growth (but just barely most at 50.3 per cent) in Niagara's total population has taken place in the three largest CSDs, and the other nine CSDs account for just one half (49.7 per cent). The sole benefit of Figure 3b is that, by removing the three most populous CSDs, it is easier to discern change

in the slower growing CSDs of Thorold, Niagara-on-the-Lake, Fort Erie and Wainfleet.

Figure 3c contains the same six CSDs we observe in Figure 2c and is best understood in comparison: removing Fort Erie, West Lincoln and Wainfleet because their growth patterns are clear and focusing on the other small CSDs.

Figure 3b: Relative change for Niagara's nine least populated CSDs, 1971–2021

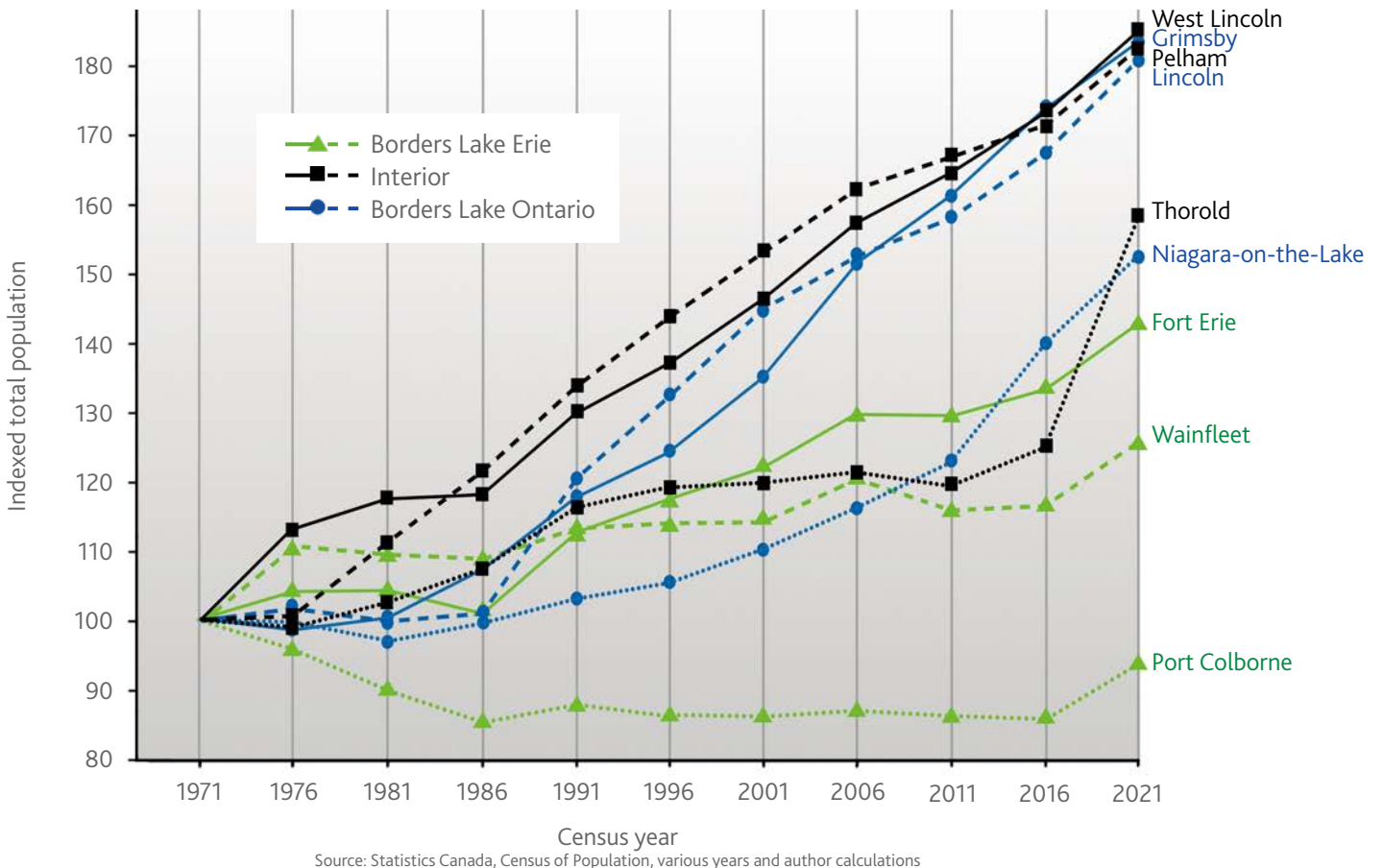
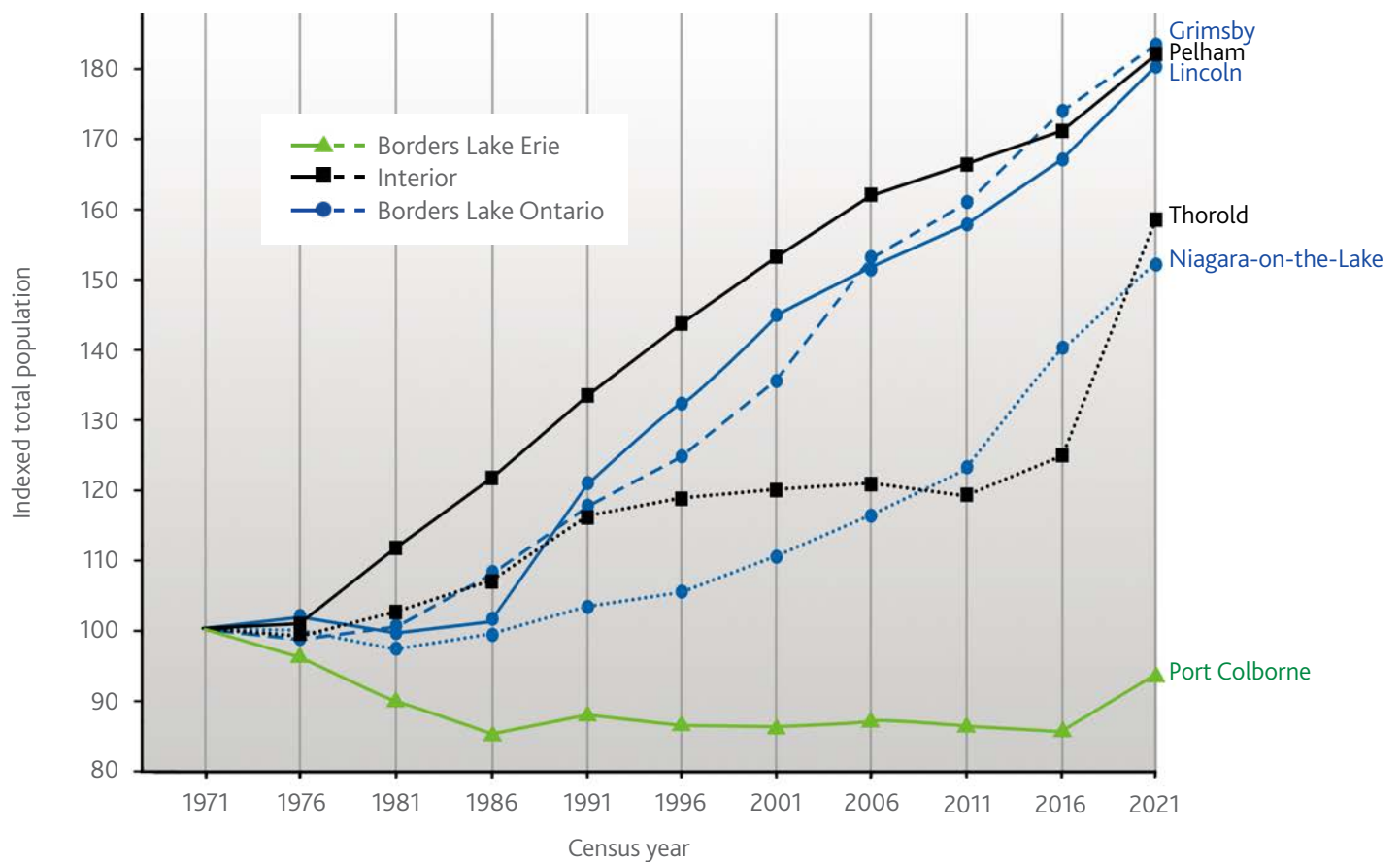


Figure 3c: Relative change for various Niagara CSDs, 1971–2021



Source: Statistics Canada, Census of Population, various years and author calculations

To summarize, Figures 3a–3c set the population levels of each CSD equal to 100 in 1971, and then reveal how much the population grew or shrank relative to that base year.

Numbers greater than 100 mean the population is larger than in 1971, whereas numbers smaller than 100 mean the population shrank. The three CSDs with the largest actual population (St. Catharines, Niagara Falls and Welland) grew at modest rates, with the 2021 Niagara Falls

population being about 40-per-cent larger than it was in 1971 (compared to about 20 per cent for the other two largest CSDs). The four CSDs with higher growth of about 80 per cent and above (Grimsby, Lincoln, West Lincoln, and Pelham) are located on or close to Niagara’s northwestern edge, adjacent to Hamilton and the GTA beyond. Overall, only four CSDs had populations in 2021 with percentage growth less than 30 per cent (St. Catharines, Wainfleet, Welland, and Port Colborne).

APPENDIX A: ORIGINAL DATA COMPILED FROM CENSUS OF POPULATION, VARIOUS YEARS

CSD	1971	1976	1981	1986	1991	1996	2001	2006	2011	2016	2021
Fort Erie	23,113	24,030	24,096	23,253	26,006	27,183	28,143	29,925	29,960	30,710	32,901
Grimsby	15,770	15,565	15,797	16,956	18,520	19,585	21,297	23,937	25,325	27,314	28,883
Lincoln	14,247	14,460	14,196	14,391	17,149	18,801	20,612	21,722	22,487	23,787	25,719
Niagara Falls	67,163	69,420	70,960	72,107	75,399	76,917	78,815	82,184	82,997	88,071	94,415
Niagara-on-the-Lake	12,552	12,485	12,186	12,494	12,945	13,238	13,839	14,587	15,400	17,511	19,090
Pelham	9,997	10,070	11,104	12,137	13,328	14,343	15,272	16,155	16,598	17,110	18,192
Port Colborne	21,420	20,535	19,225	18,281	18,766	18,451	18,450	18,599	18,424	18,306	20,033
St. Catharines	109,722	123,350	124,018	123,455	129,300	130,926	129,170	131,989	131,400	133,113	136,803
Thorold	15,065	14,945	15,412	16,131	17,542	17,883	18,048	18,224	17,931	18,801	23,816
Wainfleet	5,486	6,065	6,000	5,955	6,203	6,253	6,258	6,601	6,356	6,372	6,887
Welland	44,397	45,050	45,448	45,054	47,914	48,411	48,402	50,331	50,631	52,293	55,750
West Lincoln	8,396	9,460	9,846	9,918	10,864	11,513	12,268	13,167	13,837	14,500	15,454

Source: compiled from *Census of Population*, Statistics Canada, various years

ENDNOTES

¹ Available here: <https://bit.ly/3P8ABnr>, scanned from the original document in the *Revised Statutes of Ontario and cited as Regional Municipality of Niagara Act, RSO (Revised Statutes of Ontario) 1970, c 406*.

² The Statistics Act of 1918 authorized the formation of a Dominion Bureau of Statistics, per the timeline at <https://www.statcan.gc.ca/en/about/relevant/vscc/history>

³ Unless otherwise noted, all the following data originate in the publicly-available paper and digital publications from the 1971, 1976, 1981, 1986, 1991, 1996, 2001, 2006, 2011, 2016 and 2021 *Census of Canada* and focus on the aforementioned 12 municipalities.

⁴ <https://bit.ly/3KXnoeT> accessed on 26 May 2023.

⁵ Regardless of how we measure these relative changes, we should bear in mind that locations with a larger population will tend to exhibit lower growth rates, all other things being equal, simply because a larger base population requires a larger absolute increase in population to match the growth rate of a less populous location that grows by the same absolute amount. For instance, imagine two locations, A and B. A contains 10,000 people. B contains 1,000 people. If A adds 1,000 people so that its population becomes 11,000, its growth rate is 10 per cent. Its population has grown by one-tenth. If B adds 1,000 people so that its population becomes 2,000, its growth rate is 100 per cent. In other words, its population has doubled.