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April 22, 2015

File: 133346725

Attention: Mr. Jason MacDonald, LPP, MCIP, Deputy CAO – Operations

Town of Amherst
98 East Victoria Street
Amherst, Nova Scotia
B4H 1X6

Dear Mr. MacDonald,

Reference: Town of Amherst Population Projection and Shift-Share Analysis (DRAFT)

The demographic challenges faced by rural and small town Nova Scotia are substantial and are becoming very familiar to Nova Scotians. Aside from Halifax and the municipalities within commuting distance of Halifax (i.e., the counties of Lunenburg, Hants, Kings, and Colchester), most Nova Scotia municipalities are losing population. The Town of Amherst however made modest gains in the most recent census period from 2006 to 2011.

POPULATION CHANGE

The Town of Amherst is fortunate to be among Nova Scotia's larger towns. Whereas many smaller towns are losing residents, Amherst has at least been able to maintain its population. In some cases where population losses are associated with severe economic challenges, such as in Springhill, this has led to municipal dissolution. While Amherst should be able to continue to maintain itself with its larger population base and more diverse economy, it is not immune from the negative trends that are shaping much of rural and small town Nova Scotia.

The last national census was conducted in 2011 and the population recorded for Amherst was the second largest among 30 Nova Scotia towns. It held the same position in 2006 (the preceding Census), with Truro first on both occasions. On the whole, in fact, the list of the province's town's is stable. Only 10 of 30 moved up or down the list by rank and seven of those only moved one place. Wolfville, which was the province's fastest growing community, moved up three places from twelfth to ninth. The Town of Pictou, which lost nearly 10% of its population, dropped three places.

This stability reflects lack of change. As a group, Nova Scotia's 30 towns increased their population by just 0.2% from 2006 to 2011. Amherst added 2.2% to its population, which was the ninth largest increase among 13 towns that did not lose population during the 5-year period.

Reference: Town of Amherst Population Projection and Shift-Share Analysis (DRAFT)

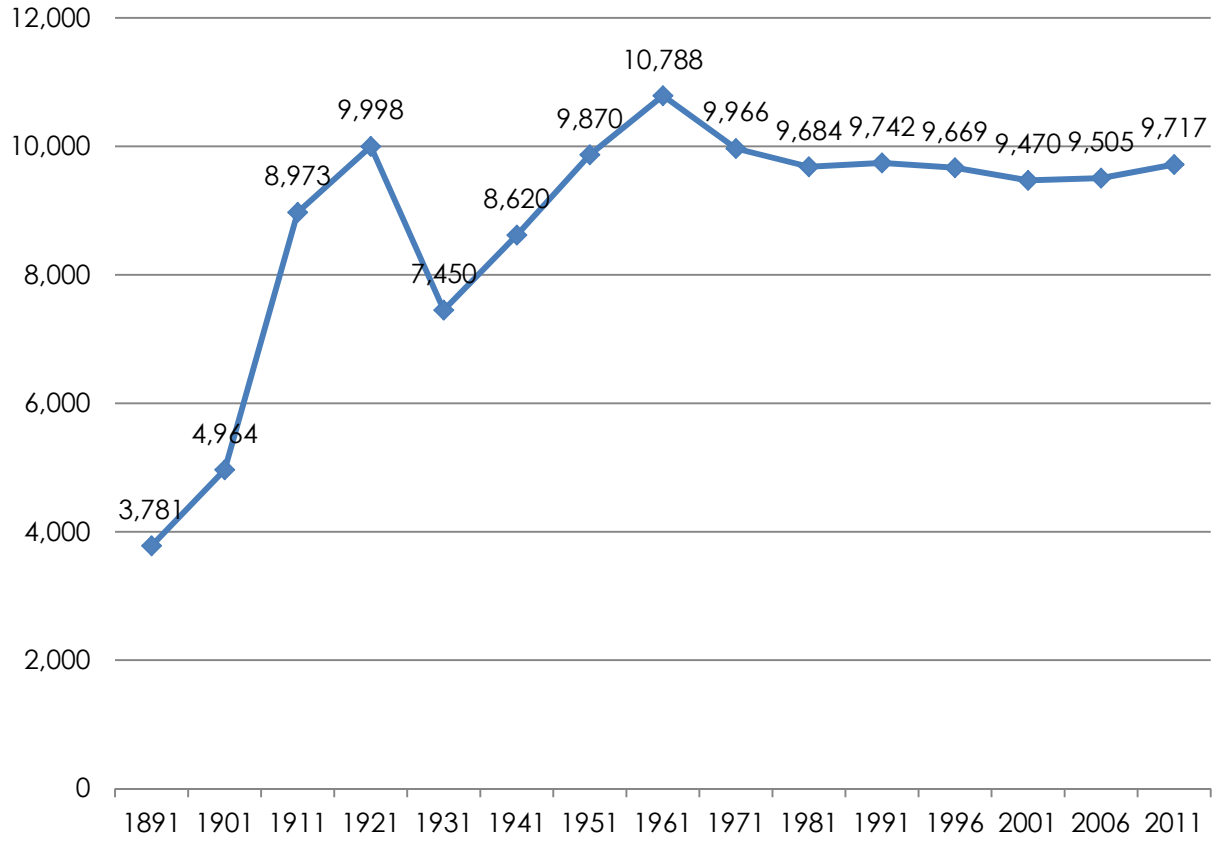
Table 1 Population, Dwelling Units and Population Density, Nova Scotia Towns, 2006-2011

	Population				2011 Census			
Town	2011	2006	% change	% Change Rank	Dwelling Units	Occupied Dwelling Units	Area (km²)	Population Density (km²)
Truro	12,059	11,765	2.5%	8	6,262	5,756	37.6	320.5
Amherst	9,717	9,505	2.2%	9	4,811	4,403	12.0	808.4
New Glasgow	9,562	9,455	1.1%	12	4,548	4,270	9.9	963.3
Bridgewater	8,241	7,944	3.7%	6	3,996	3,795	13.6	605.8
Yarmouth	6,761	7,162	-5.6%	25	3,539	3,144	10.6	640.3
Kentville	6,094	5,815	4.8%	4	2,782	2,660	17.4	351.2
Antigonish	4,524	4,236	6.8%	3	2,606	2,021	5.1	879.2
Stellarton	4,485	4,717	-4.9%	24	2,098	1,995	9.0	498.8
Wolfville	4,269	3,772	13.2%	1	2,463	1,985	6.5	661.7
Springhill	3,868	3,941	-1.9%	16	1,718	1,550	11.2	346.8
Westville	3,798	3,805	-0.2%	15	1,650	1,568	14.4	264.0
Windsor	3,785	3,709	2.0%	10	1,669	1,600	9.1	417.8
Pictou	3,437	3,813	-9.9%	29	1,580	1,483	7.9	432.9
Port Hawkesbury	3,366	3,517	-4.3%	20	1,562	1,415	8.1	414.8
Trenton	2,616	2,741	-4.6%	22	1,169	1,114	6.0	435.7
Berwick	2,454	2,454	0.0%	13	1,024	1,000	6.7	368.6
Lunenburg	2,313	2,317	-0.2%	14	1,155	1,039	4.0	576.9
Digby	2,152	2,092	2.9%	7	1,117	1,025	3.1	686.1
Middleton	1,749	1,829	-4.4%	21	935	846	5.4	321.6
Shelburne	1,686	1,879	-10.3%	30	903	797	9.0	187.3
Stewiacke	1,438	1,421	1.2%	11	644	636	17.7	81.4
Parrsboro	1,305	1,401	-6.9%	26	768	639	14.9	87.7
Hantsport	1,159	1,191	-2.7%	19	505	496	2.1	544.6
Oxford	1,151	1,178	-2.3%	17	558	510	10.8	106.9
Bridgetown	949	972	-2.4%	18	487	448	3.5	267.8
Mahone Bay	943	904	4.3%	5	518	444	3.1	301.4
Clark's Harbour	820	860	-4.7%	23	422	369	2.9	282.7
Mulgrave	794	879	-9.7%	28	367	328	17.8	44.6
Lockeport	588	646	-9.0%	27	321	257	2.3	253.4
Annapolis Royal	481	444	8.3%	2	323	276	2.0	235.8
ALL TOWNS	**106,564**	**106,364**	**0.2%**				**283.8**	**375.5**

Source Census of Canada 2006 and 2011

Although, the 2.2% increase experienced by the town is modest, it was the largest increase Amherst has recorded in any census since 1961 when the Town's population peaked at nearly 11,000 people. Since the large drop that followed between 1961 and 1971, the population of Amherst has hovered in the mid-9,000 range.

Figure 1 Town of Amherst Population, 1891-2011



Source Census of Canada 1891-2011

POPULATION STRUCTURE

The structure of population refers to the representation of age and gender groups. Population age has become a dominant issue in demographic discussions over the past 20 years. Most people are aware of the Baby Boom and its influence on Canada's population. Some are also aware of the Echo generation that followed from the Baby Boom.

Reference: Town of Amherst Population Projection and Shift-Share Analysis (DRAFT)

Baby Boomers were born in Canada between 1946 and 1965, in the immediate wake of World War II, following smaller generations from the 1930s and early 1940s when family formation was suppressed by the Great Depression and World War II. The Echo Generation refers to the children of Baby Boomers, who were predominantly born between 1972 and 1992 and were between 19 and 39 years of age in 2011 (see http://www12.statcan.gc.ca/census-recensement/2011/as-sa/98-311-x/98-311-x2011003_2-eng.cfm for detailed definitions of Canadian generations from 1946 on).

Baby Boomers are readily discerned through the wider bars for the 45 to 65-year age groups in all three charts presented in **Figure 2**. Members of the Echo Generation are less easy to spot. In the figure for Canada they are distinguished by bars that are wider than for the age groups 14 years and under. They are less evident in the figures for Nova Scotia and Amherst where the groups from 25 to 34 in Nova Scotia and from 20 to 29 in Amherst are smaller than both preceding and succeeding age groups.

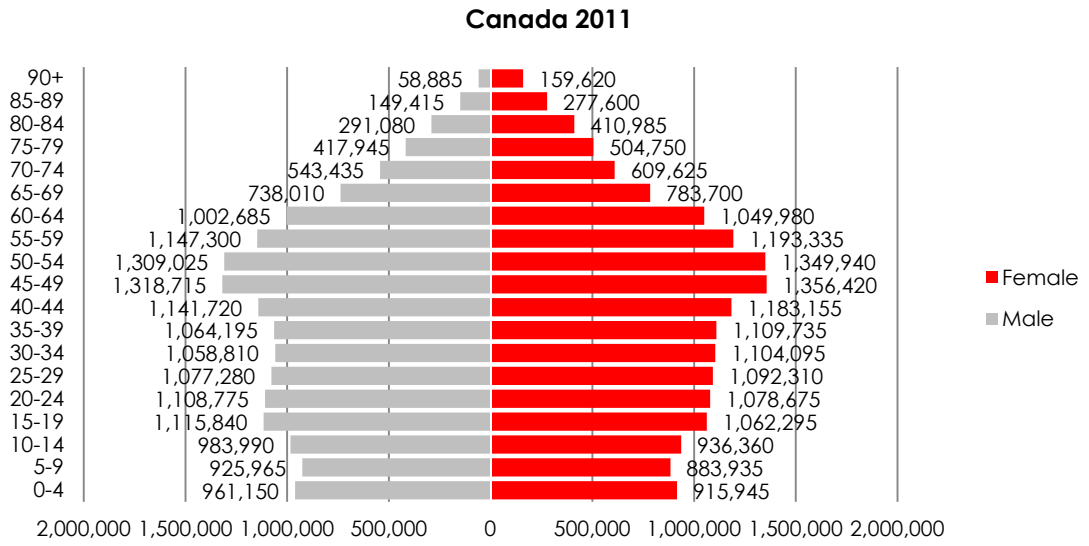
The progression of these groups within the Town's population through past censuses (i.e., 1996, 2001, 2006, and 2011) can be observed in the first four tables in **Appendix A** to this letter report. In the 1990s, for example, Boomers were in their 30s and 40s and swelled the community's labour force. Their children are discernible in cohorts of children numbering about 600 dropped closer to 500 in groups born after 1991. The Boomers are now entering their retirement and the smaller Echo generation is taking their place in the labour force. The number of children is holding fairly steady at about 500 in each 5-year cohort.

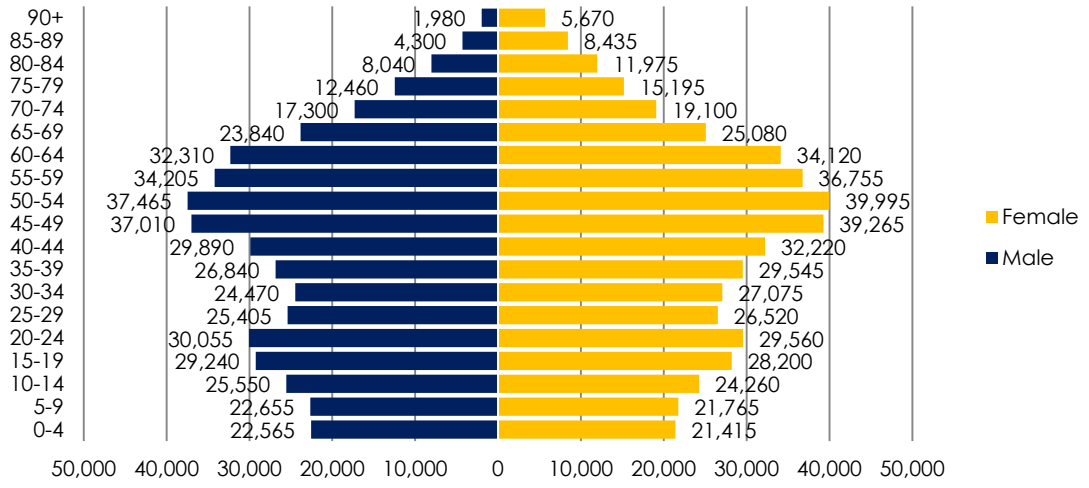
Nova Scotia has Canada's second oldest population following only Newfoundland and Labrador, and tied with New Brunswick according to the 2011 Census. The province has a median age of 43.7 as opposed to 40.6 for Canada. Amherst's population is even older than the Nova Scotia's with a median age of 45.9. Amherst is typical of rural and small town Nova Scotia in that respect and not an extreme case. The median age for Cumberland County (i.e., the Municipal County of Cumberland and the Towns of Amherst, Oxford, Parrsboro, and Springhill) was 48.3 according to the 2011 Census.

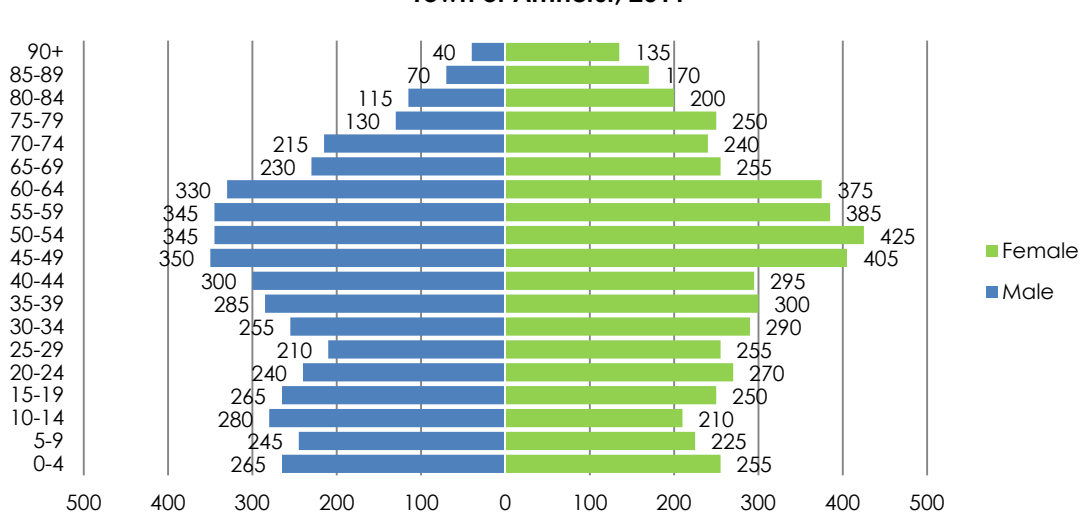
Nova Scotia's older population relative to Canada is a function of the out-migration of its youth. While the province actually increases its population in the 15 to 19 and 20 to 24-year age groups, thanks primarily to its relatively large number of universities, it loses substantial numbers in the post-university age groups over 25. It is notable, as well, that this tendency is stronger for males who tend to be more willing to migrate in search of work than their female counterparts.

For Amherst, out-migration is apparent for males five years earlier, although contraction of Amherst's population in the 20 to 24-year age group is not as pronounced as in many other small towns and rural communities in Nova Scotia, probably because local students have reasonable access to Mount Allison University in Sackville and the Nova Scotia Community College Campus in Springhill. The town's population, however, contracts notably in the 25 to 29-year age group, the age at which it is usually imperative for a young person to find a job.

Figure 2 Age-Sex Profiles, Canada, Nova Scotia and Town of Amherst, 2011







Source Census of Canada 2011

It is also notable that Amherst has a disproportionate number of adult females. According to the 2011 Census, 53.5% of the town's population was female. By contrast, 51.7% of Nova Scotians are female and 51.0% of all Canadians. Over the age of 20, the Census recorded 790 more women than men in the town.

MODELLING POPULATION CHANGE

Population change is a function of three features of population: births, deaths, and migration. In Canada, birth rates have declined significantly over the long-term, although there has been a very moderate increase in recent years. Death rates have declined steadily throughout the country's history. Migration rates, on the other hand, vary considerably from place to place. Canada is normally a destination for immigrants and they are a major factor in the country's steadily moderate increase in population. Nova Scotia, on the other hand, attracts relatively few in-migrants either from other countries or from other provinces. Within Nova Scotia, movement also tends to be from rural and small town Nova Scotia to Halifax.

Stantec staff have developed a model to take all these factors into account. We apply the model frequently to assess population change in communities across Canada. The model is a type of cohort-survival model. A cohort-survival model takes into account births, deaths, and migration. It estimates births by applying birth rates to the number of women of child-bearing age in five-year age groups in a locality (i.e., 15 to 45 years of age). It estimates deaths by multiplying the numbers of people in each five-year age group by the appropriate survival rate for that group.

Birth and survival rates are recorded for provinces. Birth rates tend to be highest for women in their 20s and 30s. Survival rates are lower for the very young (0-4 years), who are subject to childhood diseases and birth-related challenges, but increase significantly afterward, with the exception of teen and adult years when risky behaviors have an impact. Eventually, however, rates of survival gradually and steadily fall with advancing age. These factors combine to create natural increase in the population or the net difference between births and deaths. Natural increase is maximized where a high proportion of members of the population are in family forming age groups (i.e., 20-39 years). It is also beneficial to have high survival rates but their variation within most of Canada is generally insufficient to have a significant influence on absolute numbers in one location relative to others.

The much more influential determinant of population change is migration. The western provinces have grown strongly because economic opportunities there attract in-migrants. The propensity to migrate, furthermore, is highest among young adults, which means that areas that attract proportionately more in-migrants will also tend augment their populations through higher rates of natural increase. Migration is calculated in our model by estimating natural increase in the subject population in isolation for past periods as if all residents were stationary (i.e., assuming no in or out-migration) and then comparing the result to the actual population recorded by the census. The residual or the difference between the population estimated based on natural increase and the actual population counted by the census is an estimate of net migration (the only factor other than natural increase that will influence population). With these estimates from past census periods, the model develops percentage rates of net migration for each five-year age-sex cohort.

Reference: Town of Amherst Population Projection and Shift-Share Analysis (DRAFT)

Amherst's growth is inhibited by the fact that its population in the key child-bearing years from 20 to 39 is small and declining. There were, for example, only 465 town residents between the ages of 25 and 29 in 2011 compared to 770 between 55 and 59, a difference of nearly 66%. Only 21.7% of Amherst's population was between 20 and 39 years of age as opposed to 23.8% for Nova Scotia and 26.0% for Canada.

While the shortfall in Cumberland is not as severe as in much of rural Nova Scotia (e.g., only 18.8% of the population in Cumberland County is between 20 and 39), it is influential. Only 15.4% of the town's population is under the age of 15. Although this proportion is slightly higher than the Nova Scotia average of 15.0%, it is considerably behind the Canadian norm of 16.8%.

Our estimates of migration for Amherst do not show dramatic shifts that we have seen in many other Nova Scotia communities (**Figure 3**). Amherst, in fact, appears to experience moderate in-migration in most age groups. The only age group in which our calculations suggest consistent out-migration is the 25 to 29 cohort, for which we have estimated net out migration in all three of the most recent census periods.

Although most age groups have experienced in migration more often than not, the gains are generally modest. The only group for which we estimated substantial gains was infants (i.e., 0 to 4 years) and that may be a mathematical consequence of our modelling methodology rather than actual evidence of movement into the town by toddlers.

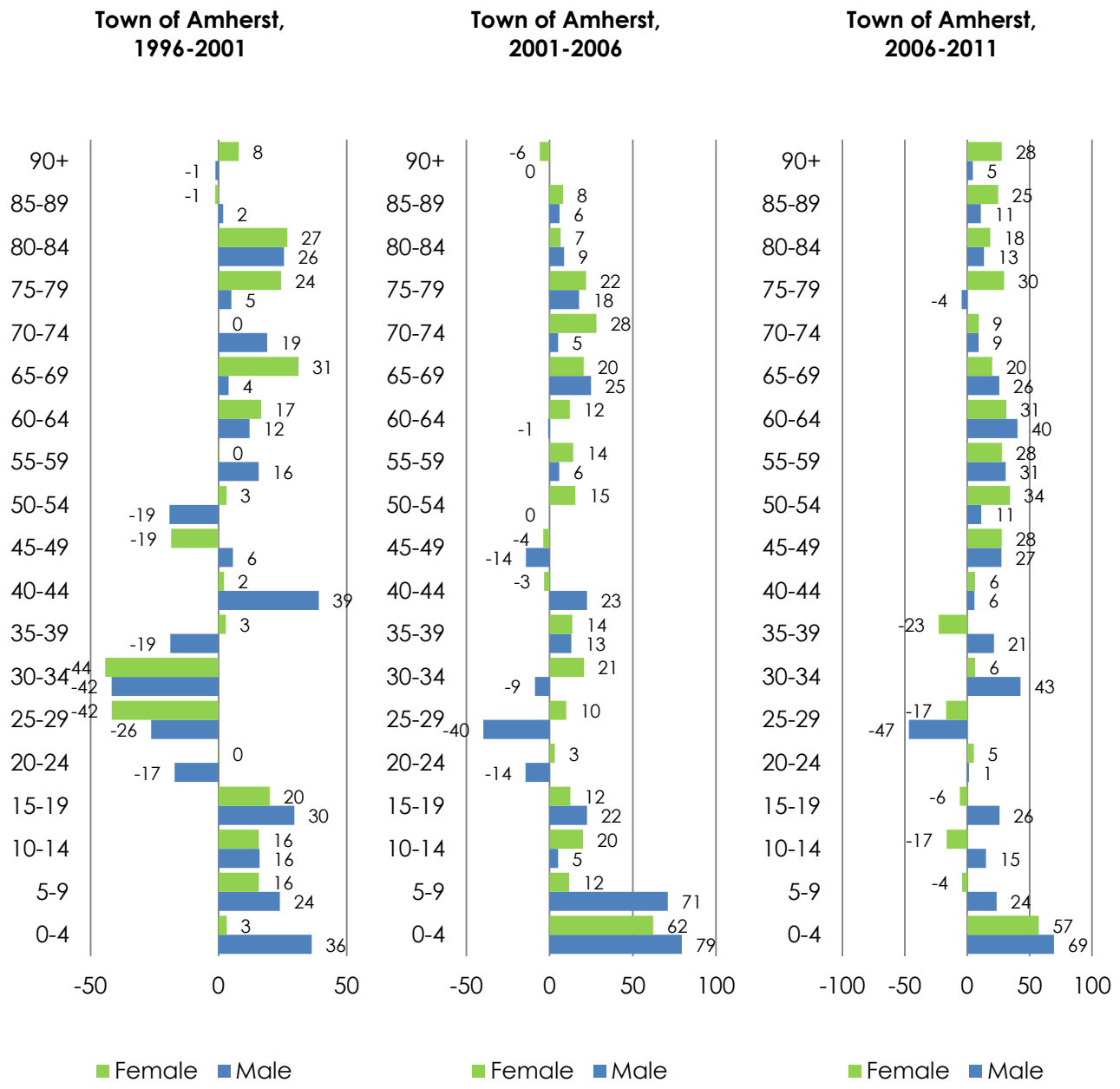
Very young children, of course, usually move with their parents. Net in migration of infants will therefore usually be associated with in migration of people in the twenties and thirties. Amherst, however, has experienced essentially neutral movement across the key child-rearing age groups and in the 1996 to 2001 period saw fairly substantial out-migration.

What we suspect is at work is a higher birthrate in Amherst than is the norm for Nova Scotia. As we noted, Amherst has a lower proportion of its population in the 20 to 39 year age groups than Nova Scotia as a whole but a slightly higher proportion of children. Generating more children from fewer people obviously requires a higher birthrate.

Our model uses provincial birth rates because the age-specific rates required by our model are not available at the local level. Consequently, areas with birth rates higher than the provincial average will show more babies than our model will predict, augmenting the residual that we assume to be migration. The same effect is present in our model if an area has a higher than average survival rate for a particular age group, although those effects are usually very moderate.

Reference: Town of Amherst Population Projection and Shift-Share Analysis (DRAFT)

Figure 3 Estimated Migration, Town of Amherst, 1996-2011



Source Stantec Consulting Ltd.

Reference: Town of Amherst Population Projection and Shift-Share Analysis (DRAFT)

POPULATION PROJECTION

By applying our estimates of migration with projected Nova Scotia birth and survival rates for each age and sex group, we can develop very detail population projections. Our projection for the Town of Amherst summarized in **Table 2** suggests a very moderate increase over the next census period to 2016 but very slow decline thereafter.

Table 2Past and Projected Population by Age Group, Town of Amherst, 1996-2031

Age	1996	2001	2006	2011	2016	2021	2026	2031
Population								
0-14	1,780	1,640	1,540	1,480	1,420	1,350	1,215	1,065
15-24	1,245	1,135	1,135	1,025	885	820	795	800
25-64	4,845	4,880	4,920	5,150	5,090	4,885	4,565	4,135
65+	1,810	1,840	1,910	2,050	2,370	2,690	3,105	3,480
TOTAL	**9,670**	**9,470**	**9,510**	**9,720**	**9,760**	**9,765**	**9,675**	**9,470**
% Change		*-2.1%*	*0.4%*	*2.2%*	*0.4%*	*0.1%*	*-0.9%*	*-2.1%*
Percentage of Total Population								
0-14	18.4%	17.3%	16.2%	15.2%	14.5%	13.8%	12.6%	11.2%
15-24	12.9%	12.0%	11.9%	10.5%	9.1%	8.4%	8.2%	8.4%
25-64	50.1%	51.5%	51.7%	53.0%	52.2%	50.0%	47.2%	43.7%
65+	18.7%	19.4%	20.1%	21.1%	24.3%	27.5%	32.1%	36.7%

The projection is based on the town's most recent experience from 2006 to 2011 during which time Amherst increased its population. We also generated a projection based on the more extended period from 1996 to 2011 which was characterized by two census periods during which the town lost population prior to its modest gain from 2006 to 2011. The result was an immediate decrease in population from 2011 to 2016 followed by further decreases of increasing magnitude over each successive census leading to a predicted 2031 population of 8,835.

The future trend shown in **Table 2** is more moderate and not much different from the town's demographic experience since 1971 over which time the population of the community has undulated slightly up and down. Our predicted populations for 2026 and 2031, as a matter of fact, are almost identical to the populations recorded for the town in 1996 and 2001.

The critical factor that influences our projection over the 2011 to 2031 period is the ongoing aging of the population. As can be seen in the lower half of **Table 2** in which the percentage of population in broad age groups is detailed, the proportion of Amherst residents over 65 is about to nearly double (see also **Appendix A**). The shares of population in all other age groups can be expected to fall in relation to this rapidly expanding group.

The number of people in other age groups can in fact be expected to fall in absolute terms. With fewer and fewer people of child-rearing age in the community, births can be expected to fall further. With more elderly residents in the population, of course, deaths will rise. The result is a

population with a declining ability to reproduce that will be losing greater numbers to death and will therefore have an increasing need for in migration to sustain its size.

As dire as this may sound, the situation is far more pronounced in many other Nova Scotia communities than in Amherst. The Town of Amherst, as we have noted, attracts in migrants even if their numbers are modest. In some census periods such as 1996 to 2001 the town has sustained a loss in population despite a slight net gain through migration. In the 2006 to 2011 period, in migration was more substantial and was sufficient counter declining reproduction. As time advances, however, the reproductive deficit can be expected to grow and the ability of in migration to make it up will be challenged.

The situation is not unique to Amherst nor is it difficult to foresee. The 1989 Health and Welfare Canada publication *Charting Canada's Future: A Report of the Demographic Review* stated on the basis of the 1986 Census and trends apparent at that time that in 2026 "the population of [Canada] would begin a long, slow decline" (p. 1). That is the date at which our model suggests the curve of Amherst's population change will also start downward. Without either a very significant change in the birth rate comparable to the change that took place in the Baby Boom or substantially increased in migration to the town, this decline will be irreversible.

SHIFT-SHARE ANALYSIS

Shift-share is a common method of regional economic analysis that has been used by regional economists and planners since the 1960s. It examines changes in a selected economic variable between two years. The variable most frequently used is employment. Changes are calculated for each industry in the analysis, both regionally and nationally in terms of the following three components:

1. *National Share Effect* is the portion of the change attributed to the total growth of the national economy. It equals the theoretical change in the regional variable had it increased by the same percentage as the national economy.

2. *Industry Mix Effect* is the portion of the change attributed to the performance of the specific economic industry. It equals the theoretical change in the regional variable had it increased by the same percentage as the industry nation-wide, minus the national growth effect.

3. *Regional Shift Effect* is the portion of the change attributed to regional influences, and is the component of primary concern to regional analysts. It equals the actual change in the regional variable, minus the previous two effects.

The three factors sum to total change for each sector and the economy as a whole. They provide relative measures of the contribution of each component to that change.

Reference: Town of Amherst Population Projection and Shift-Share Analysis (DRAFT)

Table 3 summarizes changes in employment in Amherst from 2006 to 2011 in major industry groups defined by the North American Industry Classification System (NAICS) with the contributions of the national, industry mix, and regional effects. The table also includes location quotients (LQ) for each industry in Amherst in 2006 and 2011. Employment data is recorded for residents of the town and, therefore, includes jobs located outside the community. Data for employment by place of work would be preferable but is not available at the level of census subdivisions like the Town of Amherst. It is available for Cumberland County, which is a census division.

Location quotients are measures of the specialization of a local economy in a particular sector. They are calculated for Amherst by dividing the percentage of employment in an industry group within the town by the percentage of the Canadian employment in the same group. If Amherst has a larger percentage of its employment in a particular industry group than Canada as a whole, its location quotient for that sector will be greater than 1 and the town can be considered to be "specialized" in that type of industry.

The largest location quotient among the 20 industry groups summarized in the table for 2011 is 1.63 for retail trade. Retail employment accounts for 18.8% of all jobs in Amherst in contrast to Canada, which recorded 2,031,665 Retail Trade jobs constituting 11.6% of the nation's employment. Dividing 18.8% by 11.6% equals 1.62 (in our spreadsheet, the percentages are taken to multiple decimal places resulting in a slightly larger quotient of 1.63). In addition to Retail Trade, location quotients indicate the Town of Amherst is specialized in Mining & Oil & Gas Extraction; Manufacturing; Administrative & Support; Waste Management & Remediation Services; Health Care & Social Assistance; Accommodation & Food Services; Other Services (except Public Admin); and Public Administration. The second largest economic sector in Amherst based on the number of town residents it employs is Health Care & Social Assistance. Between 2006 and 2011, it overtook Manufacturing in terms of importance within the town. The specialization in Oil and Gas is deceptive. It appears likely that the town's 75 jobs are largely offshore (100 residents of Cumberland County worked in Division 16 in Alberta, which contains Fort McMurray and Division1 in Newfoundland, which is the Avalon Peninsula).

Overall, the number employed residents in the Town of Amherst declined by 125 between 2006 and 2011, although much of this loss is compensated by an increase of 100 in jobs that could not be classified by the Census (and are not included in calculations of location quotients or the shift-share analysis). The largest loss was in Manufacturing where jobs declined by 215 (-28.9%). Manufacturing was a weak sector nationally, shedding nearly 20% of its employees across Canada. The town also lost significant jobs in the Administrative & Support, Waste Management & Remediation Services (-130), and Real Estate & Rental & Leasing (-95) groups. In contrast to Manufacturing, all three of those sectors made slight to moderate gains nationally. The town also lost 75 jobs in Public Administration, which was the fastest growing sector in the Canadian economy.

Table 3 Employment by Sector, Shift-Share Analysis and Location Quotients, Town of Amherst, 2006-2011

Industry Group	Employment 2006	Employment 2011	Change	% Change Amherst	% Change Canada	National Share	Industry Mix	Regional Shift	LQ 2006	LQ 2011
11 Agriculture, Forestry, Fishing & Hunting	85	30	-55	-64.7%	-16.4%	3.66	-17.62	-41.04	0.59	0.27
21 Mining & Oil & Gas Extraction	15	75	60	400.0%	9.3%	0.65	0.75	58.60	0.23	1.15
22 Utilities	15	25	10	66.7%	12.8%	0.65	1.27	8.08	0.41	0.66
23 Construction	220	195	-25	-11.4%	13.7%	9.48	20.62	-55.10	0.75	0.64
31-33 Manufacturing	745	530	-215	-28.9%	-19.3%	32.10	-175.71	-71.39	1.35	1.31
41 Wholesale Trade	170	130	-40	-23.5%	-0.8%	7.32	-8.67	-38.65	0.83	0.71
44-45 Retail Trade	795	830	35	4.4%	6.0%	34.25	13.23	-12.48	1.51	1.63
48-49 Transportation & Warehousing	165	120	-45	-27.3%	0.9%	7.11	-5.58	-46.53	0.73	0.58
51 Information & Cultural Industries	90	85	-5	-5.6%	0.8%	3.88	-3.12	-5.76	0.78	0.81
52 Finance & Insurance	110	160	50	45.5%	11.4%	4.74	7.83	37.43	0.58	0.83
53 Real Estate & Rental & Leasing	125	30	-95	-76.0%	6.1%	5.39	2.19	-102.57	1.49	0.37
54 Professional, Scientific & Technical Services	110	205	95	86.4%	10.5%	4.74	6.86	83.40	0.36	0.66
55 Management of Companies & Enterprises	0	0	0	0.0%	-15.0%	0.00	0.00	-	0.00	0.00
56 Administrative & Support, Waste Management & Remediation Services	325	195	-130	-40.0%	0.8%	14.00	-11.47	-132.53	1.63	1.07
61 Educational Services	265	290	25	9.4%	13.1%	11.42	23.34	-9.76	0.84	0.89
62 Health Care & Social Assistance	455	560	105	23.1%	13.6%	19.60	42.27	43.12	0.96	1.15
71 Arts, Entertainment & Recreation	55	55	0	0.0%	4.9%	2.37	0.34	-2.71	0.58	0.60
72 Accommodation & Food Services	280	360	80	28.6%	0.4%	12.06	-11.06	78.99	0.90	1.27
81 Other Services (except Public Admin)	210	205	-5	-2.4%	-1.5%	9.05	-12.14	-1.91	0.93	1.01
91 Public Administration	415	340	-75	-18.1%	28.9%	17.88	101.89	-194.77	1.54	1.08
All Industries	**4,645**	**4,410**	**-235**	**-5.1%**	**4.3%**	**200.34**	**-24.77**	**-405.57**		
Industry - Not applicable	**45**	**145**	**100**	**222.2%**	**41.2%**					

Source Census of Canada 2006 and 2011, shift-share and location quotient calculations by Stantec

Reference: Town of Amherst Population Projection and Shift-Share Analysis (DRAFT)

In some other industry groups, the town made gains. The largest was in Health Care & Social Assistance where it gained 105 jobs. The town also added 95 jobs in Professional, Scientific & Technical Services and 80 jobs in Accommodation & Food Services. All three sectors grew nationally, although the change in Accommodation & Food Services employment was slight.

Overall, Canada's economy grew between 2006 and 2011 and the number of Canadians employed increased by 4.3%, in contrast to Amherst's loss of 5.1% of its classifiable jobs. Given the upward trend in the number of jobs national-wide, our calculation of the National Share effect in the shift-share analysis suggests Amherst should have added approximately 200 jobs.

The town did not however benefit from the mix of industries that it has. In particular, its concentration on Manufacturing had a negative effect with the national trend in the sector being sufficient to explain the loss of 175 jobs. Overall, upward and downward trends in the various sectors listed in **Table 3**, explain the loss of about 25 jobs in the town attributable to its Industry Mix.

The much more substantial influence on employment change in Amherst, however, was the Regional Shift effect. As noted, the Regional Shift calculation is the result of subtracting the contributions of the National Share and Industry Mix effects from the total change actually experience. For All Industries in Amherst, the Regional Shift is (-235) - 200.34 - (-24.77) = -405.57. The Regional Shift had twice the effect of the National Share and Industry Mix factors on change in Amherst.

The factors that contribute to the Regional Shift are not strictly defined. Basically, it encompasses the various pluses and minuses that attract and discourage industry. Amherst, for example, was founded and grew because of its strategic location on the Isthmus of Chignecto, which has allowed it to exploit rail and road transportation links. On the other hand, Amherst and Nova Scotia in general is in a peripheral location within North America. The province and town are also hindered by relatively small domestic markets and by relatively older populations that are less likely to pursue new business opportunities. The latter factor is, of course, exacerbated by the out-migration of young adults who not only see better employment prospects elsewhere in Canada but also better opportunities for entrepreneurship.

The large negative number for the Regional Shift obviously indicates that the mix of influences that it encompasses is currently working against the Town of Amherst. It has likely worked against the community over many past Census periods given that the town has grown modestly over a lengthy period since the 1960s even as Canada has grown steadily and, at times, strongly.

Reference: Town of Amherst Population Projection and Shift-Share Analysis (DRAFT)

CENSUS UNDERCOVERAGE AND EMPLOYMENT DATA

The foregoing population numbers and projections are Census numbers and projections of Census numbers. Some citizens are typically missed by the Census and are not included in Census numbers. These errors in census recording that apply to all areas in Canada, most notably undercount resulting from residents who do not fill out the Census form. Estimates published by Statistics Canada set net undercoverage (i.e., undercount less errors that result in double counting or otherwise adding to Census counts) at 2.3% for Nova Scotia in 2011 down from 2.6% in the 2006 Census. The most relevant data needed to assess these influences is available from the Census of Canada and the closely related National Household Survey, as well as other Statistics Canada sources. Statistics Canada also has many publications that explain census procedures and the quality of data collected. Interim estimates of population provided by Statistics Canada normally correct for undercoverage and a therefore present higher population figures than census counts.

The economy of Amherst is reflected in the jobs that are located within the town's limits. As noted, employment data by place of work is not available for the Town of Amherst or other census subdivisions in Canada. The data used above is employment by place of residence and reflects the sectors in which people who live in Amherst are employed.

Table 4 summarizes the locations where residents of Cumberland County work and locations from which Cumberland County draws workers for its industries, which is available because the county, which is comprises not only the Municipality of the County of Cumberland but also the Towns of Amherst, Oxford, Parrsboro, and Springhill, is a census division or the next level above census subdivisions in Statistics Canada's geographic heirarchy. Data in **Table 4** indicates that nearly 90% of Cumberland County workers live within the county (88.7%) and we would expect only a slightly lower percentage for employment in the town (slightly lower because the town is a smaller area and it is relatively easy for residents of the county and the Towns of Oxford, Parrsboro, and Springhill to commute to jobs there). As such, while employment by place of residence is not the ideal data for shift-share analysis, it is a reasonable proxy.

CLOSING

The overall picture of population and housing in the Town of Amherst is dictated by broad provincial and national trends. Amherst has a reasonably diverse and stable economy, although it is subject to influences such as the decline of domestic manufacturing that have reduced the number of jobs in the community. It is also subject to Canada's predominant demographic reality, the continued aging of our population, which is exaggerated in Nova Scotia relative to other provinces and exaggerated within Nova Scotia between the Halifax area, and small towns and rural communities. Amherst is certainly less influenced by population aging than many smaller towns and more peripheral rural areas, but it is still a major factor that will continue to lower the number of children born to the local population and increase the challenge to the town of sustaining its current population level.

Reference: Town of Amherst Population Projection and Shift-Share Analysis (DRAFT)

Table 4 Employment By Place of Residence and Place of Work, Cumberland County, 2011

	Work in Cumberland by Place of Residence		Residents of Cumberland by Place of Work	
Census Division	Employees	% of Employees	Employees	% of Employees
Prince Edward Island	**75**	**0.6%**		**0.0%**
- Prince	65	0.5%		0.0%
Nova Scotia	**12,615**	**93.5%**	**12,680**	**94.4%**
- Cumberland	11,965	88.7%	11,965	89.1%
- Colchester	230	1.7%	360	2.7%
- Lunenburg	125	0.9%	70	0.5%
- Halifax	120	0.9%	235	1.7%
- Pictou	65	0.5%		0.0%
- Kings, NS	40	0.3%	25	0.2%
- Hants	35	0.3%	25	0.2%
New Brunswick	**805**	**6.0%**	**655**	**4.9%**
- Westmorland	625	4.6%	655	4.9%
- Albert	45	0.3%		0.0%
- Northumberland	35	0.3%		0.0%
- Gloucester	35	0.3%		0.0%
- Kings, NB	25	0.2%		0.0%
- York	25	0.2%		0.0%
Division No. 16, AB		**0.0%**	**75**	**0.6%**
Division No. 1, NL		**0.0%**	**25**	**0.2%**
TOTAL	**13,495**		**13,435**	
No fixed workplace address			1,525	

Source Census of Canada 2011

We have found historical data applied in a comprehensive cohort-survival model to be a very sound foundation for projecting population and housing demand in many past applications. While the age structure of a population cannot be changed quickly, except in situations of extreme growth or decline, migration can change very rapidly under the influence of economic opportunities. This possibility seems very uncertain for Amherst in the future. The results of our shift-share analysis suggest that the major influences on employment growth in the community are local factors – if the town could keep pace with the national economy, it would add jobs. Some local factors such as the location of the town are obviously intractable but others like promotion of the community are, to some degree, within the capacity of municipal government. Strategies to raise the profile of Amherst and to work with other communities and local governments within

Reference: Town of Amherst Population Projection and Shift-Share Analysis (DRAFT)

Cumberland and the Halifax-Moncton highway corridor are most likely approaches to address this challenge.

Our shift-share analysis

Regards,

Stantec Consulting Ltd.

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Attachment: Attachment

c. Cc List

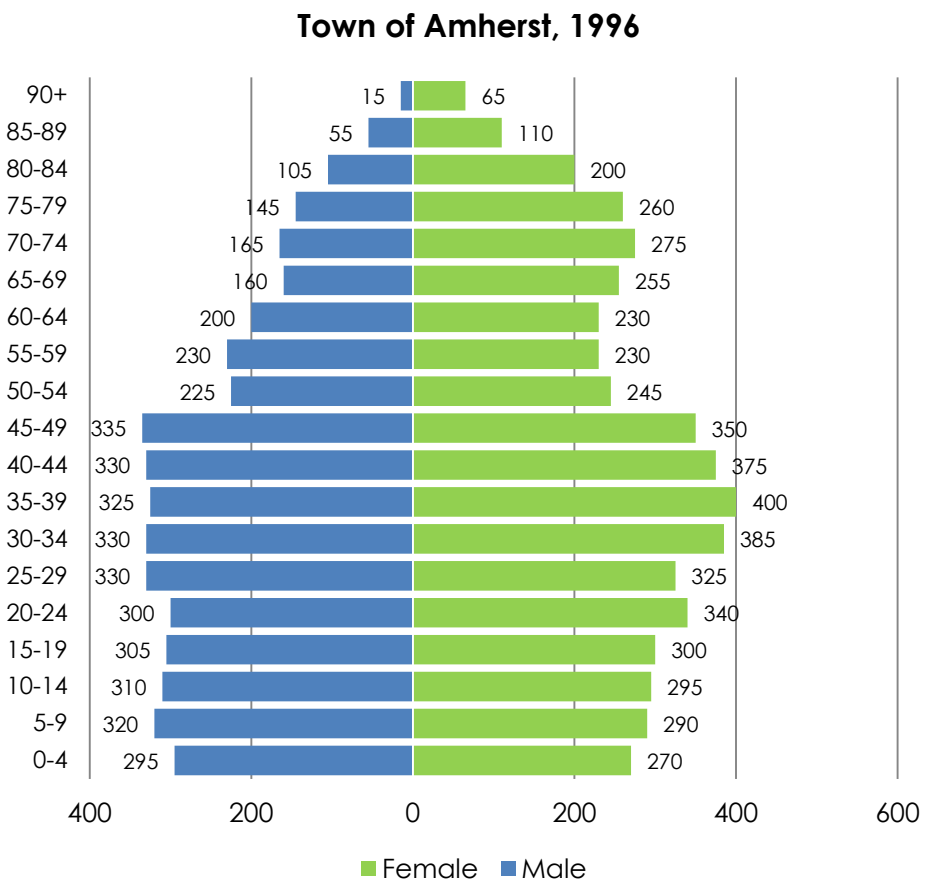
hj document28w

Appendix A

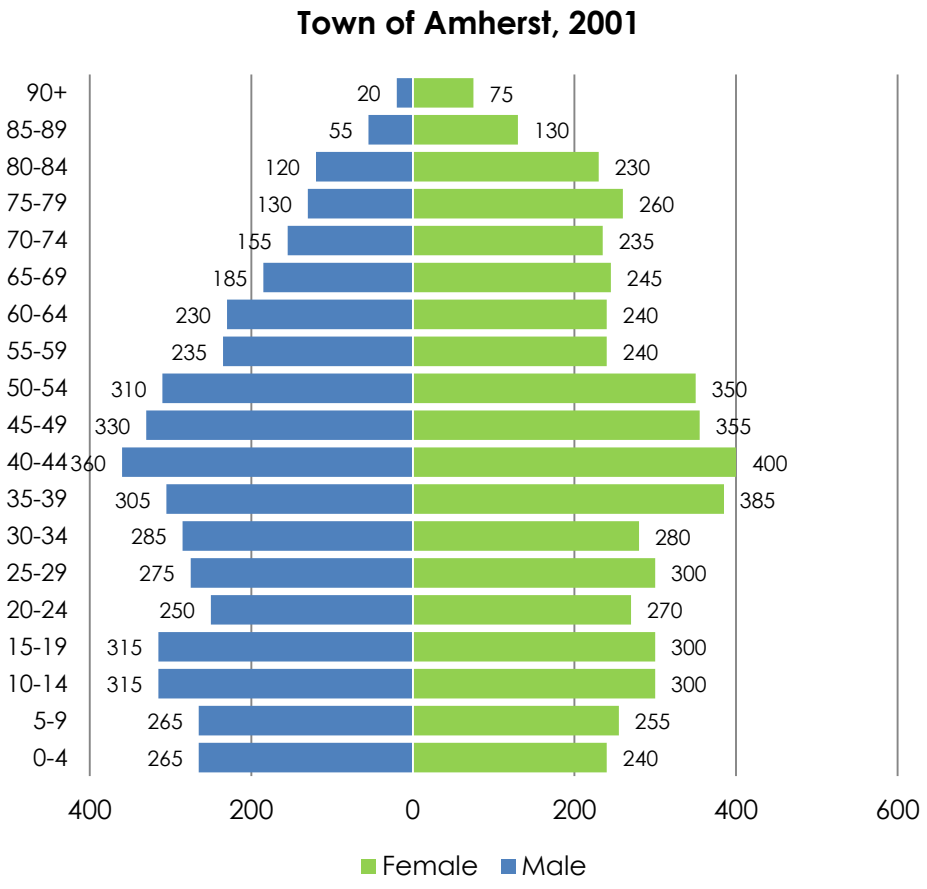
Town of Amherst Age-Sex Profiles

1996-2031

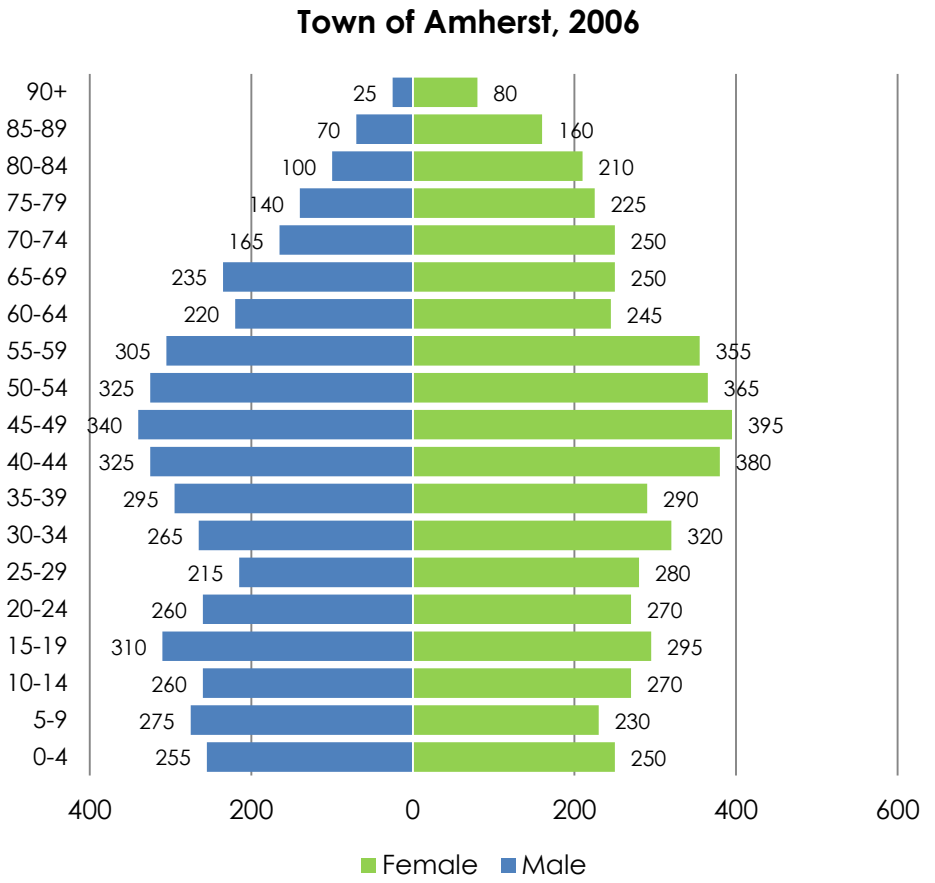
Town of Amherst		
	1996	
Cohort	Male	Female
0-4	295	270
5-9	320	290
10-14	310	295
15-19	305	300
20-24	300	340
25-29	330	325
30-34	330	385
35-39	325	400
40-44	330	375
45-49	335	350
50-54	225	245
55-59	230	230
60-64	200	230
65-69	160	255
70-74	165	275
75-79	145	260
80-84	105	200
85-89	55	110
90+	15	65
TOTAL	4,475	5,195



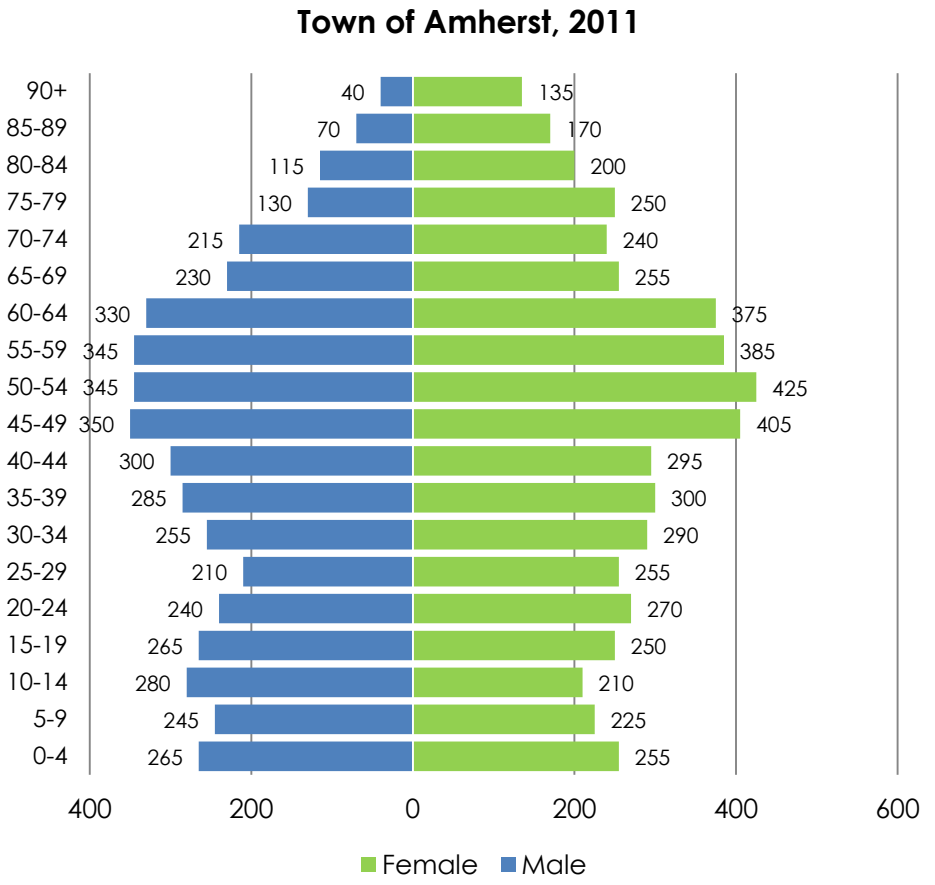
Town of Amherst		
	2001	
Cohort	Male	Female
0-4	265	240
5-9	265	255
10-14	315	300
15-19	315	300
20-24	250	270
25-29	275	300
30-34	285	280
35-39	305	385
40-44	360	400
45-49	330	355
50-54	310	350
55-59	235	240
60-64	230	240
65-69	185	245
70-74	155	235
75-79	130	260
80-84	120	230
85-89	55	130
90+	20	75
TOTAL	4,405	5,065



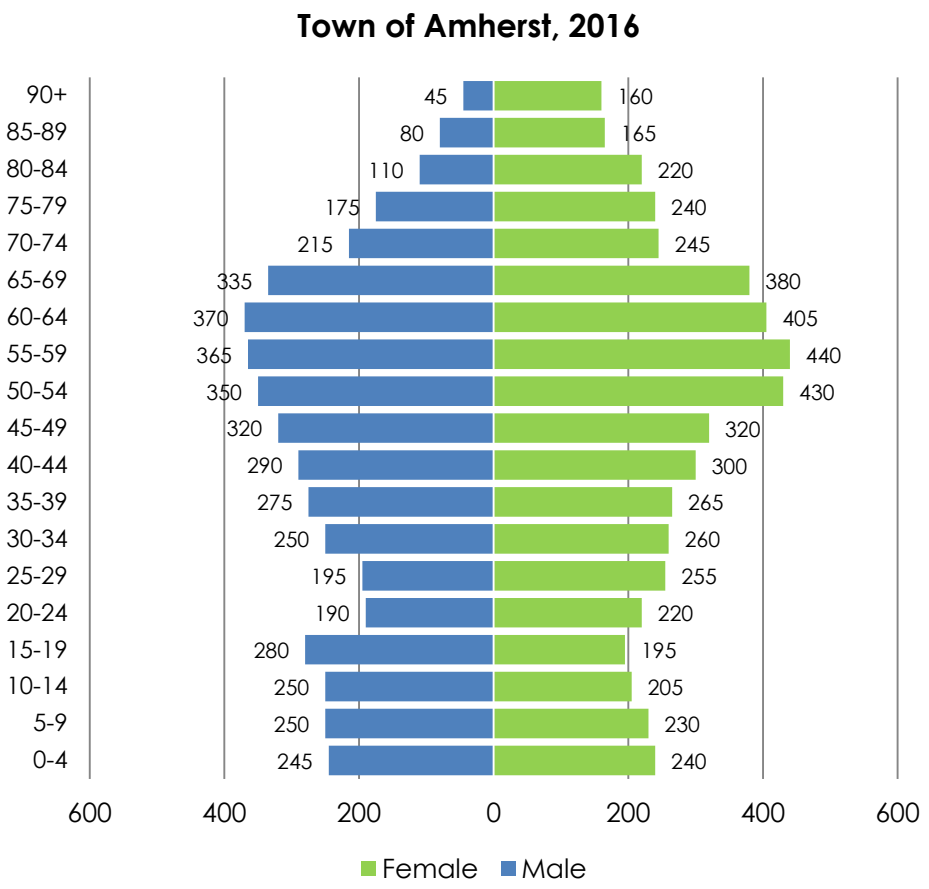
Town of Amherst		
	2006	
Cohort	Male	Female
0-4	255	250
5-9	275	230
10-14	260	270
15-19	310	295
20-24	260	270
25-29	215	280
30-34	265	320
35-39	295	290
40-44	325	380
45-49	340	395
50-54	325	365
55-59	305	355
60-64	220	245
65-69	235	250
70-74	165	250
75-79	140	225
80-84	100	210
85-89	70	160
90+	25	80
TOTAL	4,390	5,120



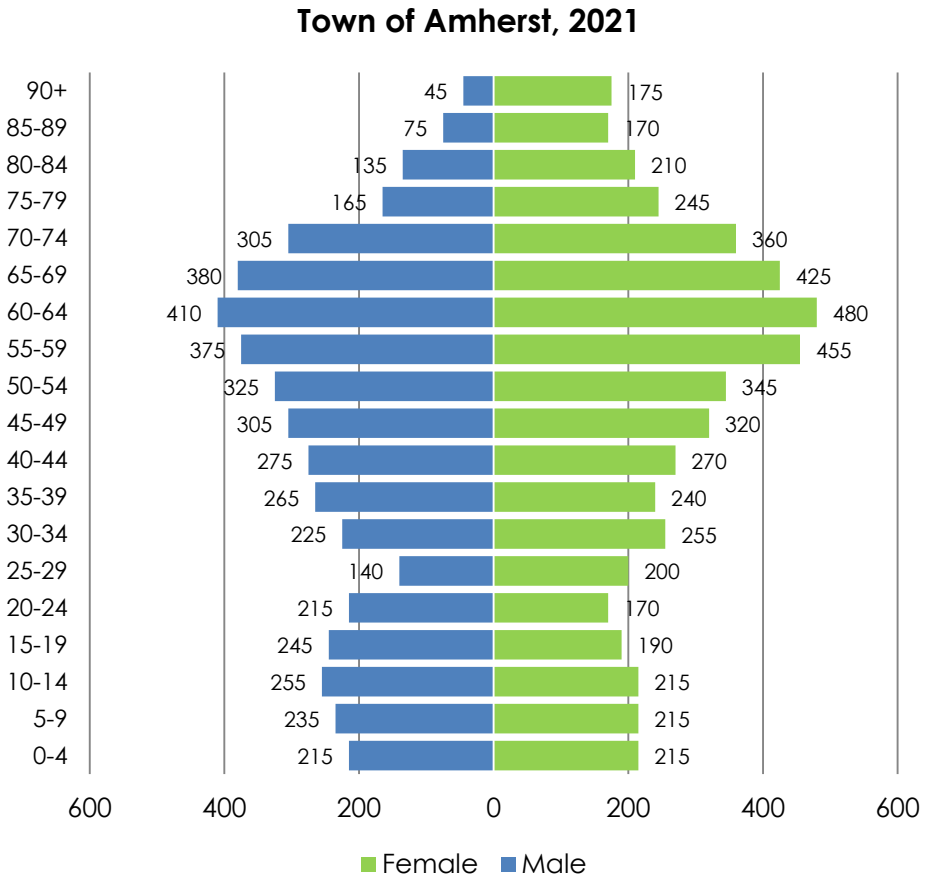
Town of Amherst		
	2011	
Cohort	Male	Female
0-4	265	255
5-9	245	225
10-14	280	210
15-19	265	250
20-24	240	270
25-29	210	255
30-34	255	290
35-39	285	300
40-44	300	295
45-49	350	405
50-54	345	425
55-59	345	385
60-64	330	375
65-69	230	255
70-74	215	240
75-79	130	250
80-84	115	200
85-89	70	170
90+	40	135
TOTAL	4,520	5,200



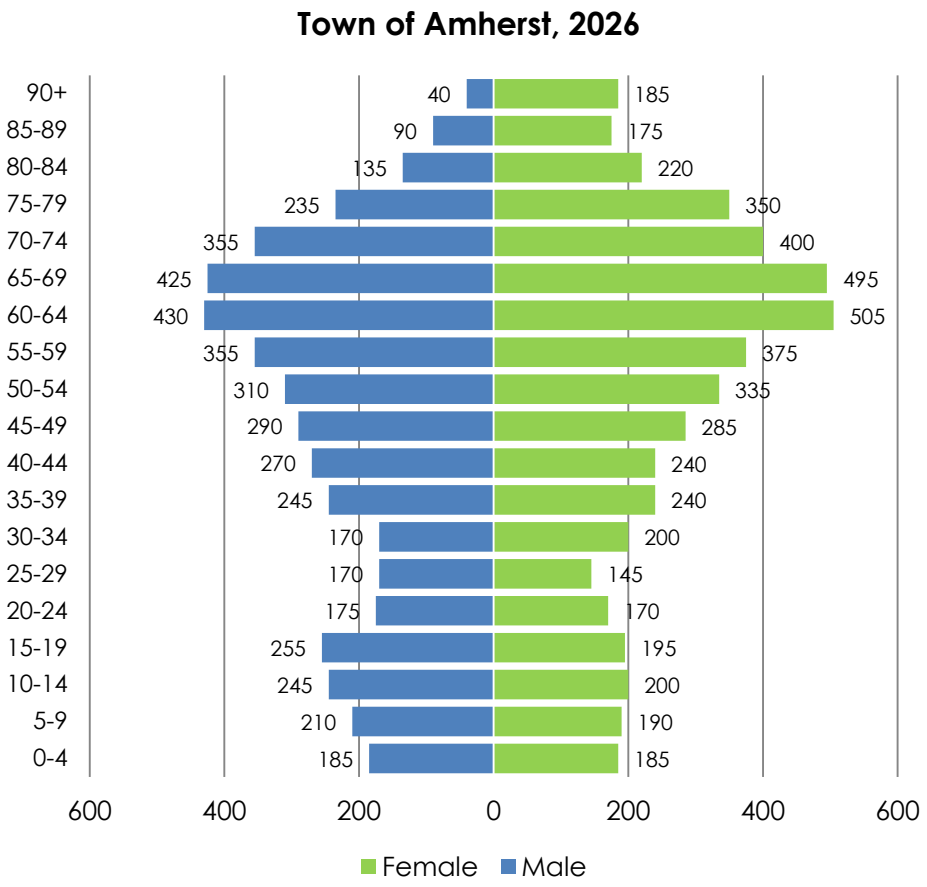
Town of Amherst		
	2016	
Cohort	Male	Female
0-4	245	240
5-9	250	230
10-14	250	205
15-19	280	195
20-24	190	220
25-29	195	255
30-34	250	260
35-39	275	265
40-44	290	300
45-49	320	320
50-54	350	430
55-59	365	440
60-64	370	405
65-69	335	380
70-74	215	245
75-79	175	240
80-84	110	220
85-89	80	165
90+	45	160
TOTAL	4,585	5,175



Town of Amherst		
	2021	
Cohort	Male	Female
0-4	215	215
5-9	235	215
10-14	255	215
15-19	245	190
20-24	215	170
25-29	140	200
30-34	225	255
35-39	265	240
40-44	275	270
45-49	305	320
50-54	325	345
55-59	375	455
60-64	410	480
65-69	380	425
70-74	305	360
75-79	165	245
80-84	135	210
85-89	75	170
90+	45	175
TOTAL	4,610	5,155



Town of Amherst		
	2026	
Cohort	Male	Female
0-4	185	185
5-9	210	190
10-14	245	200
15-19	255	195
20-24	175	170
25-29	170	145
30-34	170	200
35-39	245	240
40-44	270	240
45-49	290	285
50-54	310	335
55-59	355	375
60-64	430	505
65-69	425	495
70-74	355	400
75-79	235	350
80-84	135	220
85-89	90	175
90+	40	185
TOTAL	4,585	5,090



Town of Amherst		
	2031	
Cohort	Male	Female
0-4	160	160
5-9	180	165
10-14	220	180
15-19	240	185
20-24	195	180
25-29	125	155
30-34	190	145
35-39	185	185
40-44	250	240
45-49	280	260
50-54	295	300
55-59	335	355
60-64	410	425
65-69	445	520
70-74	390	465
75-79	270	400
80-84	185	300
85-89	95	175
90+	45	190
TOTAL	4,490	4,980