

Annual Evaluation of Population Scenarios

2022

REGIONAL PLAN REVIEW

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HALIFAX

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1.0 Background

The Regional Municipal Planning Strategy (the Regional Plan) is the document that Regional Council uses to guide land use. It emphasizes a balanced approach to development and establishes targets for directing the location of new housing over the life of the Regional Plan (2006-2031), which are based on population projections.

Each time the Regional Plan is reviewed, the Municipality assesses its progress toward achieving the housing growth targets. This requires evaluating population and housing forecasts and their relationship to the available supply of developable land, housing supply and demand, and the provision of a range of housing choices.

In spring 2021, HRM staff undertook a preliminary evaluation of population projection scenarios, as outlined in the [Preliminary Population & Housing Analysis Issue Paper](#) (June 2021), and fully documented in the associated technical report (July 2021). The three scenarios evaluated were:

- Low Immigration & Economic Downturn
- Moderate Immigration & Continued Growth
- High Immigration & Economic Boom

In autumn 2021, staff created an additional scenario based on new migration targets announced by the Province of Nova Scotia in September 2021¹. This scenario was presented alongside the previous ones in the [Supplementary Report on Population & Housing](#) (December 2021). In that report, this was referred to as the 'High High' scenario; but in this document, it is referred to as 'Nova Scotia Targeted Migration' (NSTM) to better reflect the intention of the scenario.

All of these population scenarios had been developed using data from Statistics Canada on the components of population change up to the year 2019/2020 (July 1st - June 30th) with July 1st, 2020 as the starting population in the projections. In January 2022, Statistics Canada released the same data for the following year: population as of July 1st, 2021² and components of population change up to 2020/2021³. This new release not only adds on the most recent year, but also amends data from the previous few years.

This report evaluates this new data release in the context of the existing population scenarios, comparing the new data to previous years, identifying trends, recommending possible changes in assumptions, and outlining the differences caused by new assumptions and a 2021 starting population.

¹ Ministerial Mandate Letter, The Honourable Tim Houston, Premier of Nova Scotia, Sept. 2021, retrieved from https://novascotia.ca/exec_council/letters-2021/ministerial-mandate-letter-2021-LSI.pdf

² [Statistics Canada table 17-10-0135-01](#)

³ [Statistics Canada table 17-10-0136-01](#)

2.0 Components of Population Change: Assumptions

In this section, each component of population change is examined individually according to the following:

- how 2020/2021 compares to 2016/2017 – 2019/2020,
- how 2016/2017 – 2019/2020 in the new release compares to the old release,
- an interpretation of what these trends mean, and
- a recommended assumption for an updated projection.

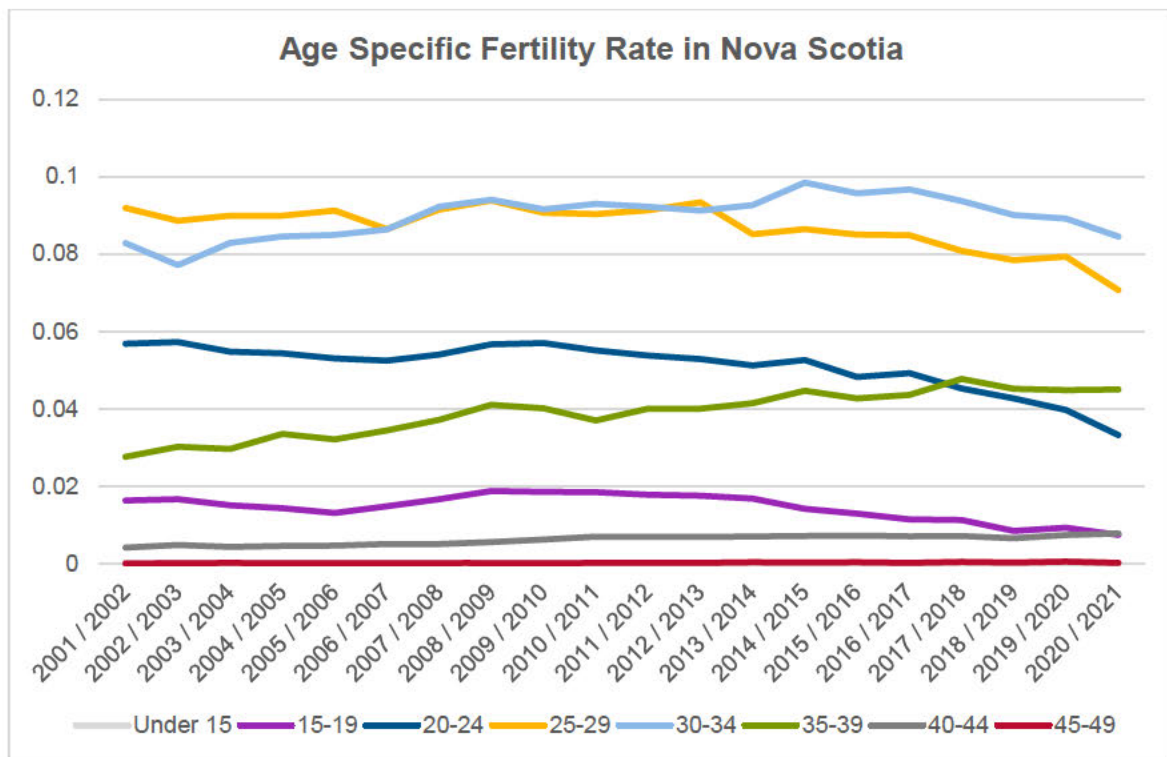
2.1 Births

2.1.1 Fertility Rate

Fertility Rate is examined in the projection according to several different age categories. Among the age groups with generally lower fertility rates (Under 15, 15-19, 35-39, 40-44, and 45-49), the rate for 2020/2021 is comparable to rates observed over the previous few years. Among age groups with generally higher fertility rates (20-24, 25-29, and 30-34), 2020/2021 saw a decrease from previous years. This is potentially reflective of a “baby bust” due to the pandemic⁴, but does follow longer term trends of decreasing fertility in these age groups. The only age groups which have experienced an increasing rate of fertility over the last few years are 35-39 and 40-44, reflecting how many are choosing to have children later in life⁵.

⁴ Stewart, A. (2021, December 3). The COVID-19 baby dilemma: Why Canadians are rethinking parenthood in 2021. *Global News*. Retrieved from <https://globalnews.ca/news/8420794/covid-19-less-babies-canada/>

⁵ Chagnon, J., Dion, P., Galbraith, N., Sirag E. & Zhang, Y. (2020). Population Projections for Canada (2018 to 2068), Provinces and Territories (2018 to 2043): Technical Report on Methodology and Assumptions. *Statistics Canada, Catalogue no. 91-620-X*. Retrieved from <https://www150.statcan.gc.ca/n1/en/pub/91-620-x/91-620-x2019001-eng.pdf?st=bbNOV20C>



In the original 2021 population projections for Halifax, the average age-specific fertility rate from 2016/2017 to 2019/2020 was used, to align with migration assumptions. It is recommended that the average age-specific fertility rate from 2018/2019 to 2020/2021 be used, since this period of time reflects:

- a plateau in fertility rate for the age groups Under 15, 15-19, 35-39, 40-44, and 45-49, and
- a lower fertility rate than previously used for the age groups experiencing a decline (20-24, 25-29, and 30-34).

The Statistics Canada projection⁶ estimates total fertility rate will stay relatively consistent into the future; in the absence of a defensible way to estimate at what point the age-specific fertility rates will stabilize, the recommendation is to keep them the same as recent years into the future.

⁶ Chagnon, J., Dion, P., Galbraith, N., Sirag E. & Zhang, Y. (2020). Population Projections for Canada (2018 to 2068), Provinces and Territories (2018 to 2043): Technical Report on Methodology and Assumptions. *Statistics Canada, Catalogue no. 91-620-X*. Retrieved from <https://www150.statcan.gc.ca/n1/en/pub/91-620-x/91-620-x2019001-eng.pdf?st=bbNOV20C>

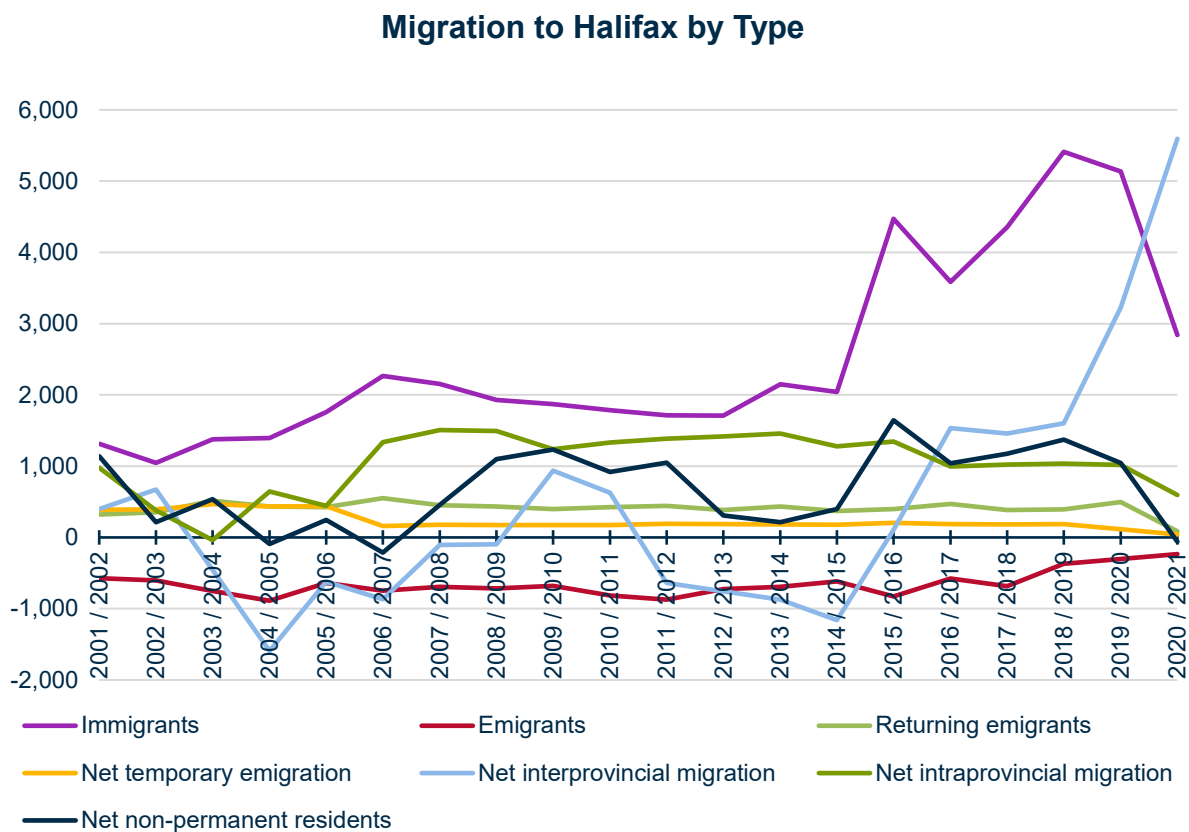
2.1.2 Birth Sex Split

The Birth Sex Split observed in 2020/2021 remains on trend with previous years, the recommendation is to include this year's data in the assumption, making it the average percentages from 2016/2017 to 2020/2021.

2.2 Deaths

Age-specific mortality rates have plateaued in recent years, the recommendation is to add 2020/2021 data to the assumption, making it the average age-specific mortality rate from 2016/2017 to 2020/2021.

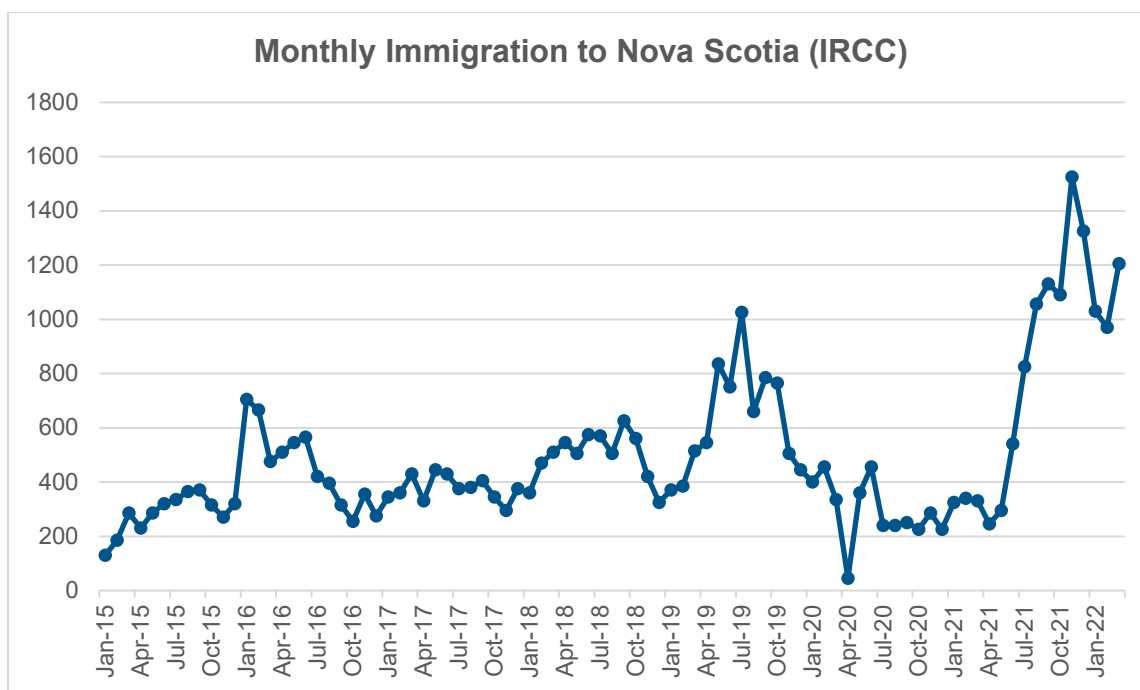
2.3 Migration



2.3.1 Immigration

Immigration to Halifax has increased substantially in the last few years, starting in 2015/2016, with particularly large increases in 2018/2019 and 2019/2020, followed by large decreases in 2020/2021 due to the pandemic.

Monthly data from Immigration, Refugees, and Citizenship Canada (IRCC)⁷ illustrates a significant drop in immigration to Nova Scotia at the start of the pandemic in April 2020. Immigration levels remained relatively low until May 2021, after which a rebound effect occurred, where it appears the IRCC was attempting to process the backlog that had accumulated over the course of the pandemic⁸. Immigration from December 2021 to March 2022 fell below the peak levels observed in November 2021, which may be the beginning of a stabilization to less extreme (although still historically high) levels.



Immigration is a particularly difficult component of population change to project, since it is significantly influenced by federal policy decisions which can change quickly. Unexpected geopolitical factors can also have a large influence, such as the influx of refugees from Ukraine⁹.

⁷ Open Government. (2022). *Permanent Residents – Monthly IRCC Updates – Canada – Admissions of permanent resident by province/territory of intended destination and immigration category*. Retrieved from <https://open.canada.ca/data/en/dataset/f7e5498e-0ad8-4417-85c9-9b8aff9b9eda/resource/5582034d-8f89-49d5-8597-483d628078a1>

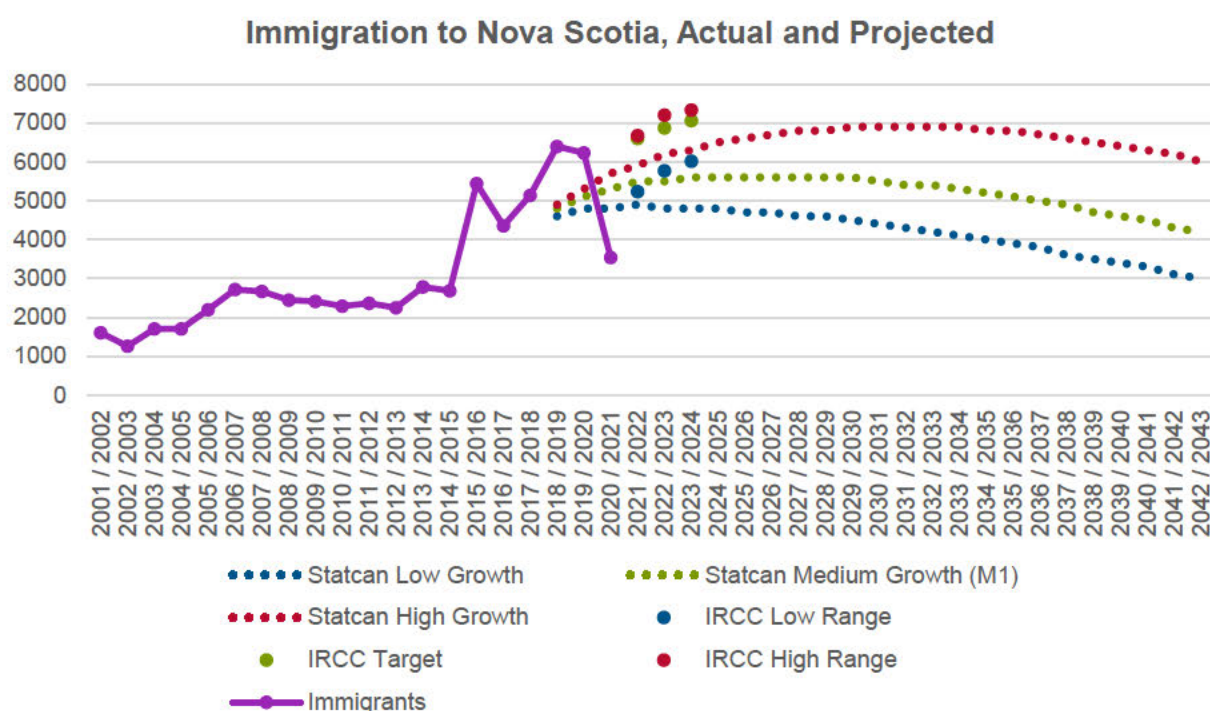
⁸ Dayal, P. (2021, December 7). Ongoing immigration-processing delays leave many in limbo in Canada and overseas. *CBC News*. Retrieved from <https://www.cbc.ca/news/canada/saskatoon/delays-across-immigration-streams-leave-many-in-limbo-in-canada-and-overseas-1.6275084>

⁹ Dayal, P. (2022, April 24). More than 100,000 Ukrainians are waiting to get visas to come to Canada. *CBC News*. Retrieved from <https://www.cbc.ca/news/canada/saskatoon/more-than-100000-ukrainians-waiting-visas-canada-1.6428527>

The following discusses the immigration assumptions in the 2021 HRM projections, but only in reference to the Low, Moderate, and High scenarios; the NSTM scenario continues to be based on the Provincial Migration Targets.

The immigration assumptions for the projection differ from the other components of population change in that they were based on Statistics Canada's *projection* of immigration for Nova Scotia (rather than recent data) and there has been no update to that projection.

The first few years of immigration assumptions for the Statistics Canada projection were based on immigration targets that IRCC announced in 2018 for the years 2019-2021. IRCC targets are updated annually, and the most recent targets published in 2021 for the years 2022-2024¹⁰ are considerably higher than the data that went into the Statistics Canada and HRM projections.



The recommendation for the immigration assumption is to create a composite approach, combining the recent IRCC targets for the short-term with the long-term data from the Statistics Canada projection. There are two stages to this process: determining the immigration to Nova Scotia and determining the share of that to Halifax.

¹⁰ IRCC. (2021). Annual Report to Parliament on Immigration. Retrieved from <https://www.canada.ca/en/immigration-refugees-citizenship/corporate/publications-manuals/annual-report-parliament-immigration-2021.html>

2.3.1.1 Immigration to Nova Scotia

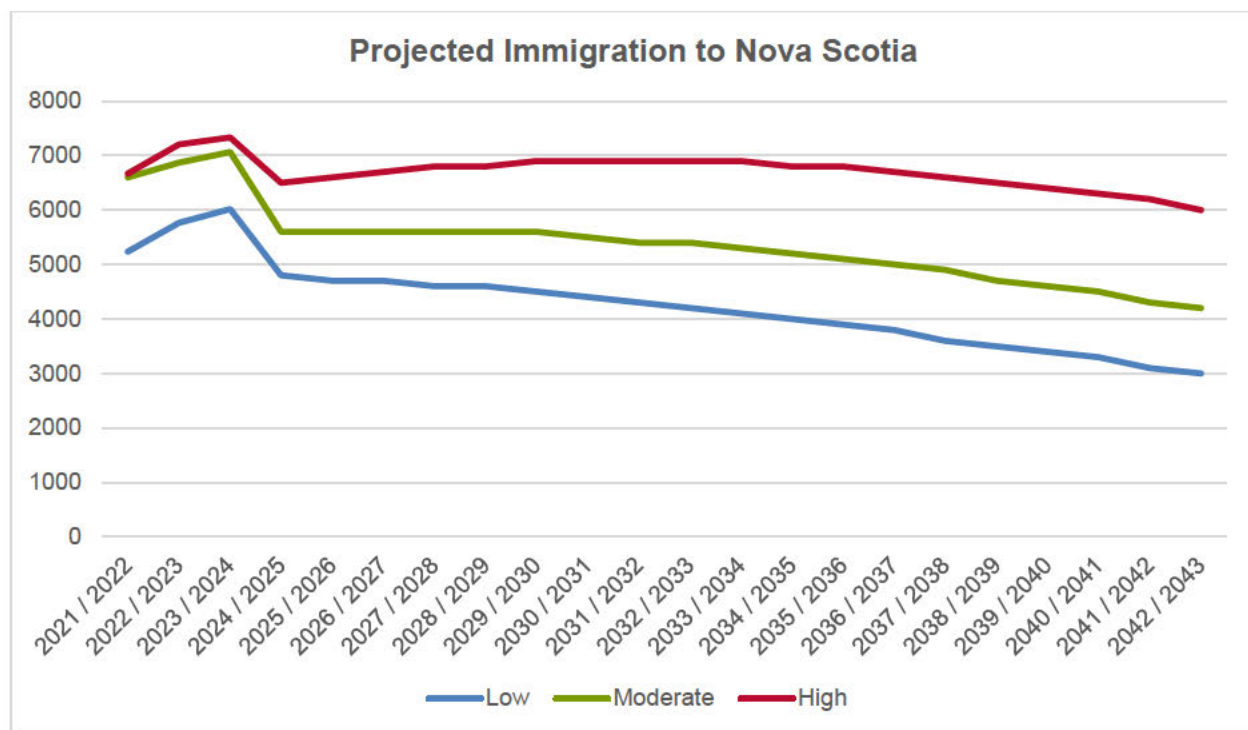
Firstly, the IRCC targets can be converted from calendar year to July-June year to align with how the Statistics Canada data is organized.

$(\text{IRCC Target for 2021} * 0.5) + (\text{IRCC Target for 2022} * 0.5)$	2021/2022
$(\text{IRCC Target for 2022} * 0.5) + (\text{IRCC Target for 2023} * 0.5)$	2022/2023
$(\text{IRCC Target for 2023} * 0.5) + (\text{IRCC Target for 2024} * 0.5)$	2023/2024

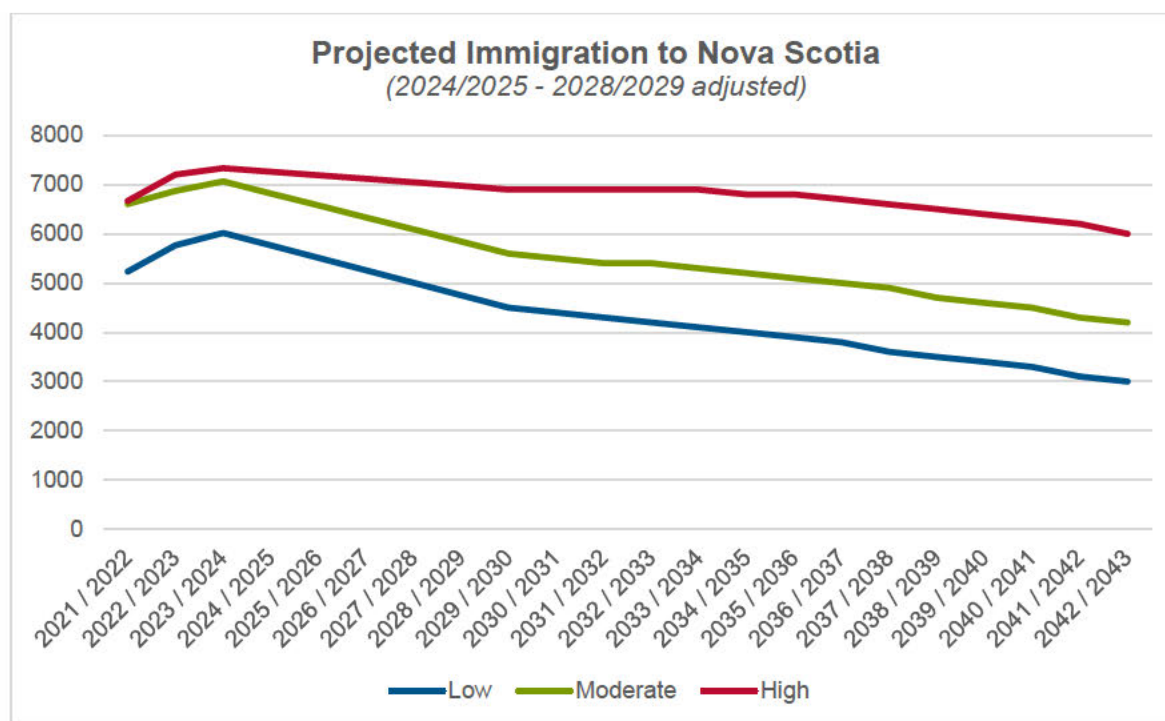
The immigration to Nova Scotia can be determined by applying the percentage of immigration allocated to Nova Scotia for each of these years from the Statistics Canada Projection to the IRCC target data.

Year	Statistics Canada Projection: Immigration to Canada	Statistics Canada Projection: Immigration to NS	Percentage NS of Canada	IRCC Target for Canada	IRCC Target allocation to NS (based on % to NS from Statistics Canada Projection)
2021/2022	346,800	5,500	1.6%	416,323	6,603
2022/2023	351,700	5,500	1.6%	439,350	6,871
2023/2024	355,900	5,600	1.6%	449,028	7,065

By using the IRCC targets for the first 3 years of the projection in combination with the Statistics Canada projection over the long-term, there is a sharp drop in immigration in the 2024/2025 year.



One of the foundational principles employed in Statistics Canada’s projection is responding to recent trends in the short-term while gradually converging toward an anticipated trend in the long term. Following this principle, it is recommended to adjust the five years following the IRCC Targets to gradually converge with the Statistics Canada projection. In the 2029/2030 year all three Statistics Canada scenarios are either at their peak or just beginning to descend from their peak, which is why this point was chosen to return to those assumptions while achieving a gradual bridge with the new IRCC targets.

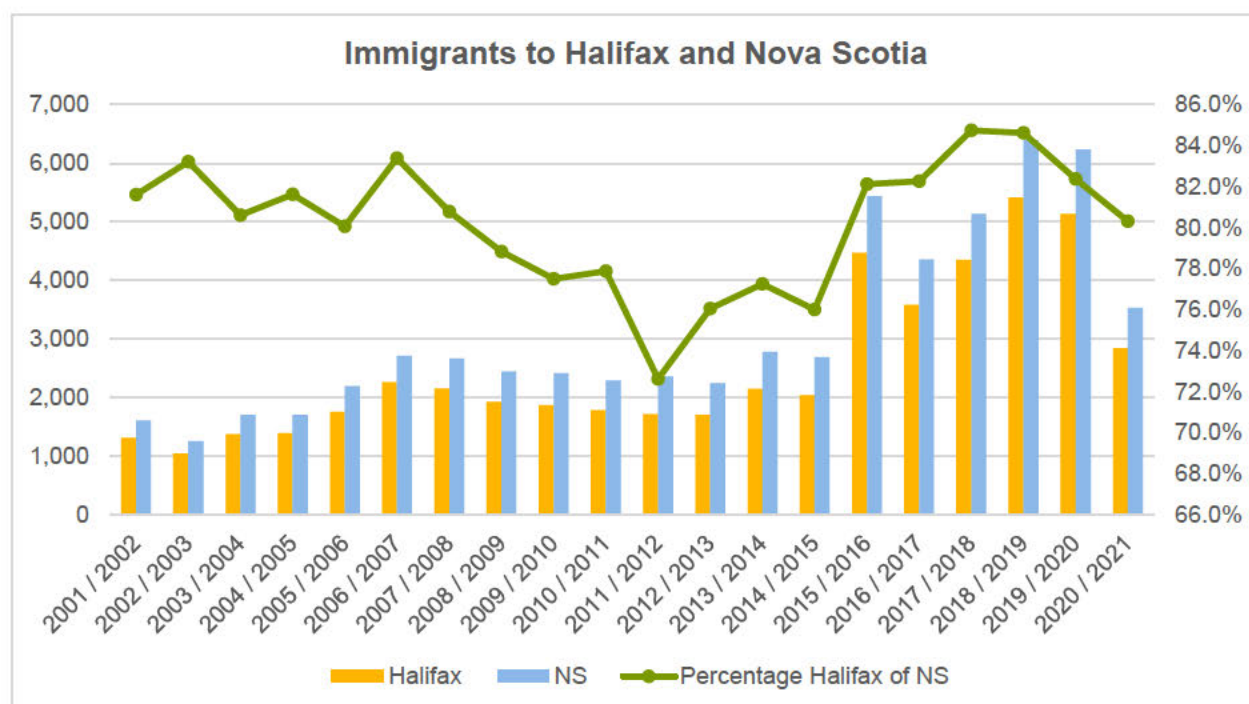


The scenarios were evaluated accordingly:

Years	Low	Moderate	High
2021/2022 to 2023/2024	IRCC Low Range	IRCC Target	IRCC High Range
2024/2025 to 2028/2029	Linear trend between 2023/2024 and 2029/2030	Linear trend between 2023/2024 and 2029/2030	Linear trend between 2023/2024 and 2029/2030
2029/2030 to 2042/2043	Statistics Canada Projection	Statistics Canada Projection	Statistics Canada Projection
2043/2044 to 2049/2050	Linear Extrapolation of Statistics Canada Projection	Linear Extrapolation of Statistics Canada Projection	Linear Extrapolation of Statistics Canada Projection

2.3.1.2 Immigration to Halifax

In the projection from 2021, the immigration to Halifax was determined based on the average percent of immigrants to Nova Scotia that were coming to Halifax from 2016/2017 to 2019/2020 (83.5%). In 2020/2021, 80.3% of immigrants to Nova Scotia came to Halifax. This is a drop below what had been observed in the last five years, but this measure has fluctuated over time and the goal is for more immigrants to Nova Scotia to be directed to rural areas¹¹. Therefore, it is recommended to factor in this new data, making the assumption based on the average from 2016/2017 to 2020/2021, resulting in a percentage of 82.9% of Nova Scotia immigrants to Halifax.

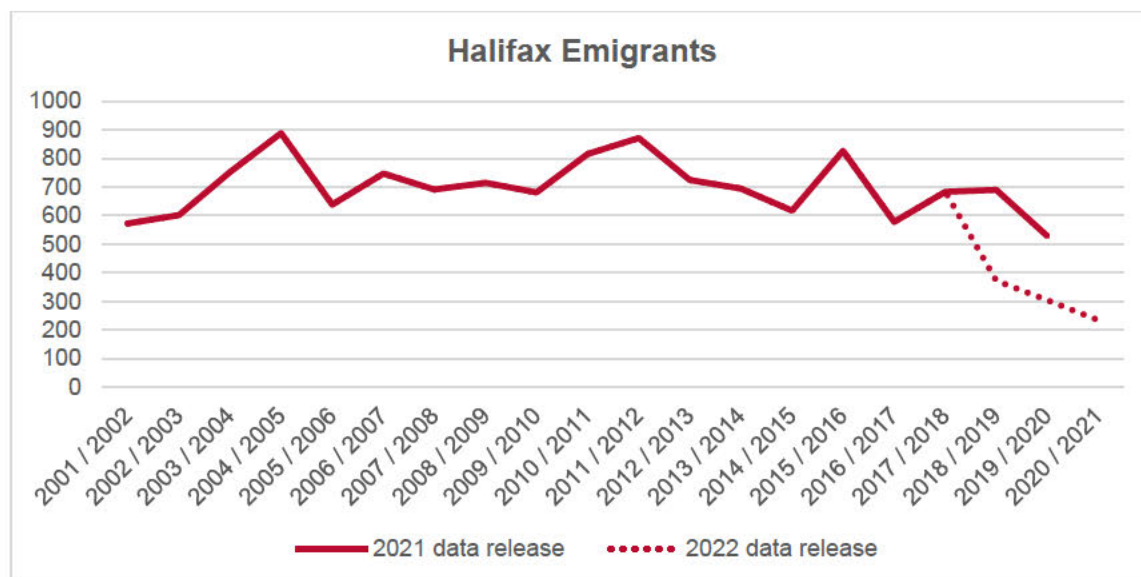


2.3.2 Emigration

Emigration in 2020/2021 decreased, even as population grew, leading to a decreasing rate of emigration. This is likely partly due to pandemic effects making international travel challenging, which will not continue in the long term.

According to the data released in early 2021 approximately 600 people were emigrating annually from 2016/2017 to 2019/2020. The new data released in early 2022 shows a drop to approximately 300 annual emigrants starting in 2018/2019.

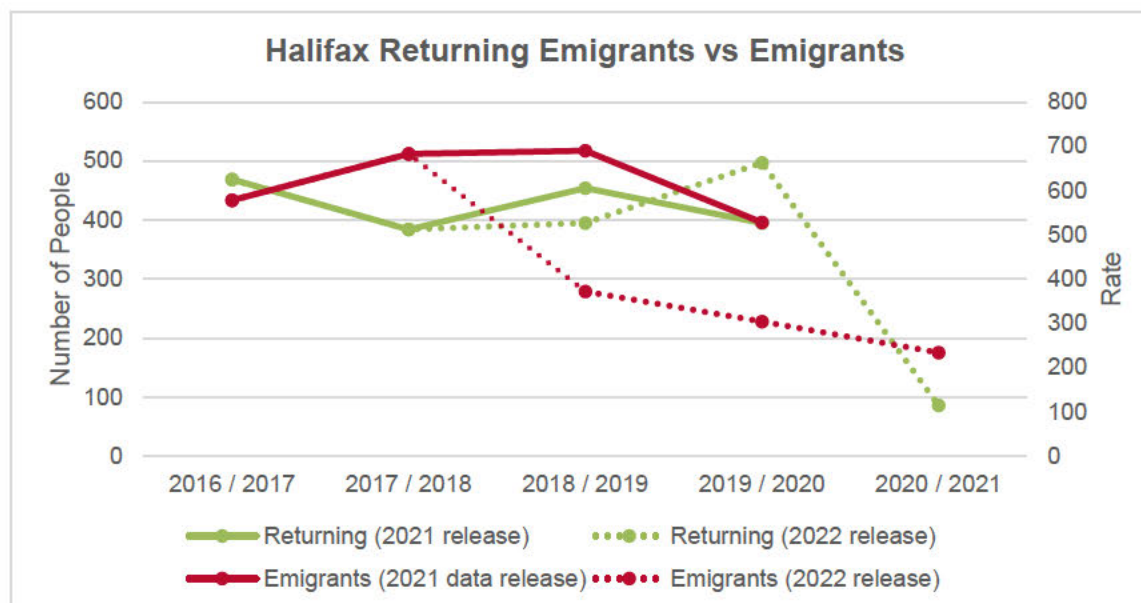
¹¹ Ministerial Mandate Letter, The Honourable Tim Houston, Premier of Nova Scotia, Sept. 2021, retrieved from https://novascotia.ca/exec_council/letters-2021/ministerial-mandate-letter-2021-LSI.pdf



The recommendation is to change the emigration rate from the average from 2016/2017 to 2019/2020 to the average from 2018/2019 to 2020/2021, to better consider this recent trend of lower emigration that began before the pandemic.

2.3.3 Returning Emigrants

The number of returning emigrants decreased in 2020/2021, another reflection of the pandemic reducing international migration. The ratio of returning to new emigrants dropped from over 1 in the last couple of years to 0.36 in 2020/2021. However, in the previous data release, the observed rate was approximately 0.69 from 2016/2017 to 2019/2020; the change to a ratio above 1 occurred because of fewer emigrants, rather than significantly more returning emigrants.



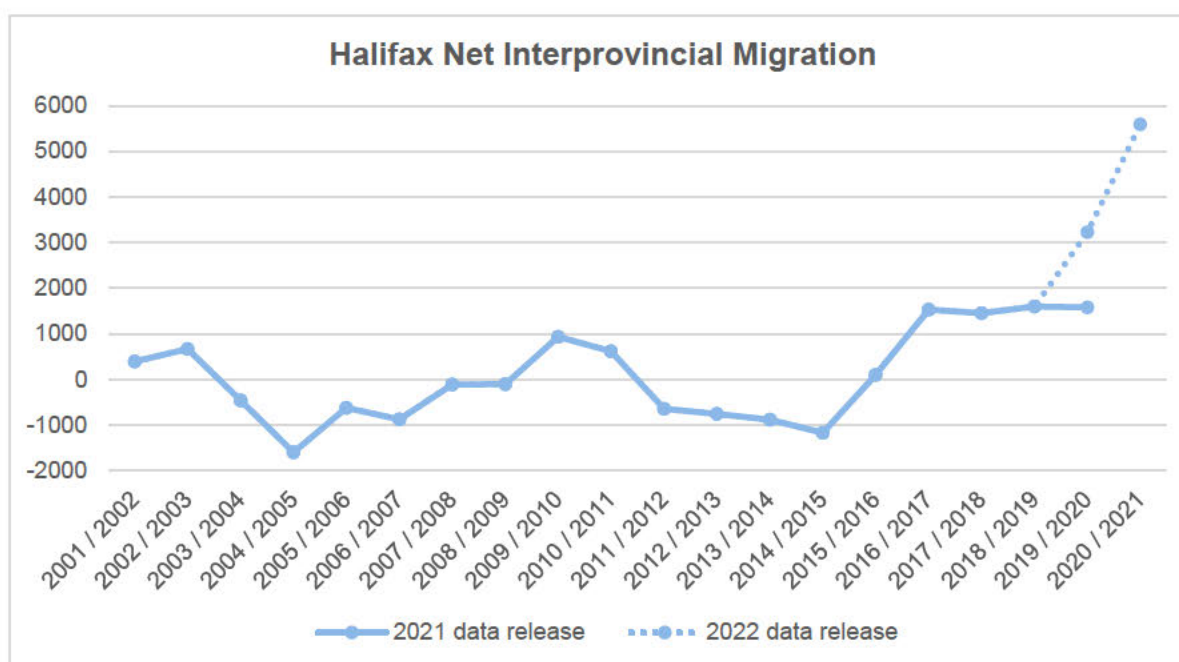
The recommendation is to incorporate the most recent year of data, making the assumption the average rate of returning emigrants to emigrants from 2016/2017 to 2020/2021. The result is a return rate of 0.89, which is higher than the rate used in the 2021 projection, while remaining below 1, since a continued trend of more emigrants returning than leaving is not logical in the long term (ultimately, the number of emigrants *returning* cannot exceed the pool of people who emigrated in the first place).

2.3.4 Temporary Emigrants

The number of net temporary emigrants was unusually low in 2020/2021, which is likely another pandemic impact that will not last. The recommendation is to maintain the assumption as the average rate from 2016/2017 to 2019/2020.

2.3.5 Interprovincial Migration

There was a very large increase in interprovincial migration in the 2022 data release, both in terms of adjusting the 2019/2020 number (1,584 became 3,327) and adding in 2020/2021 (5,594, compared to the 2016/2017 to 2019/2020 average of approximately 1,500). The impact of accounting for the last two years in the interprovincial assumption effectively doubles the rate of this component of migration compared to the assumption used in the 2021 projection.



COVID-19 has brought forward several trends that have contributed to interprovincial migration to Nova Scotia and other Atlantic Provinces throughout the pandemic:

- spending more time at home and a resulting desire for more space,
- loss of many of the activities that made living in large urban centres attractive,
- desire for better access to wilderness and outdoor recreation when indoor recreation is not possible,

- remote work options increasing the ability to live at a distance from employment,
- stability of Nova Scotia and other Atlantic Provinces relative to the spread of the virus and shorter periods of lockdown compared to other parts of Canada.

There are several reasons to expect continued high rates of interprovincial migration in the coming years:

- Halifax (and Nova Scotia overall) has *relatively* low housing prices when compared to other large Canadian markets, which is unlikely to change in the near-term.
- Remote work appears to be remaining in some capacity, even when no longer explicitly required by public health measures, allowing more opportunities for people who work in larger Canadian cities to move to Halifax while keeping their jobs.
- Halifax is the largest city in the Atlantic Provinces, and as it continues to grow, the growth in opportunity will likely inspire further growth.
- The Greater Halifax Partnership already promotes Halifax as a place to live and do business; their work along with other advertising campaigns (for example, from the Provincial Government, both existing and planned) draws attention to Halifax and Nova Scotia as a destination, making it more attractive for individuals and businesses to locate here.

However, there are also arguments that this growth may not be as substantial:

- People who made hurried decisions about moving here to escape the pandemic may not stay as restrictions lift and we return to more of a pre-pandemic way of life.
- Low vacancy rates in HRM, combined with lower salaries and higher costs of living in Nova Scotia relative to other parts of the country may discourage further interprovincial migration.
- Some large industry boom on the scale of the Alberta Oil Patch may draw people away from Nova Scotia, like in the 2011-2015 period.

In terms of the assumption for the projections, the NSTM scenario will remain based on the provincial target, and it is recommended to continue using the average rate from 2011/2012 to 2014/2015 for the Low scenario, as it represents a recent period of outmigration to other provinces. However, it is recommended to change the Moderate scenario to use the average rate from 2016/2017 to 2018/2019 (i.e. continued *pre-pandemic* growth), and for the High scenario to use the average rate from 2019/2020 to 2020/2021, since Halifax now has an example of very high interprovincial migration.

This approach provides the opportunity to see what would happen if Halifax returns to more pre-pandemic levels of higher interprovincial migration, while also exploring a high scenario with a basis in real-world data.

2.3.6 Intraprovincial Migration

The number of intraprovincial migrants fell by about half in 2020/2021. This is also likely due to pandemic impacts – there may be less perceived value in moving from rural to urban areas

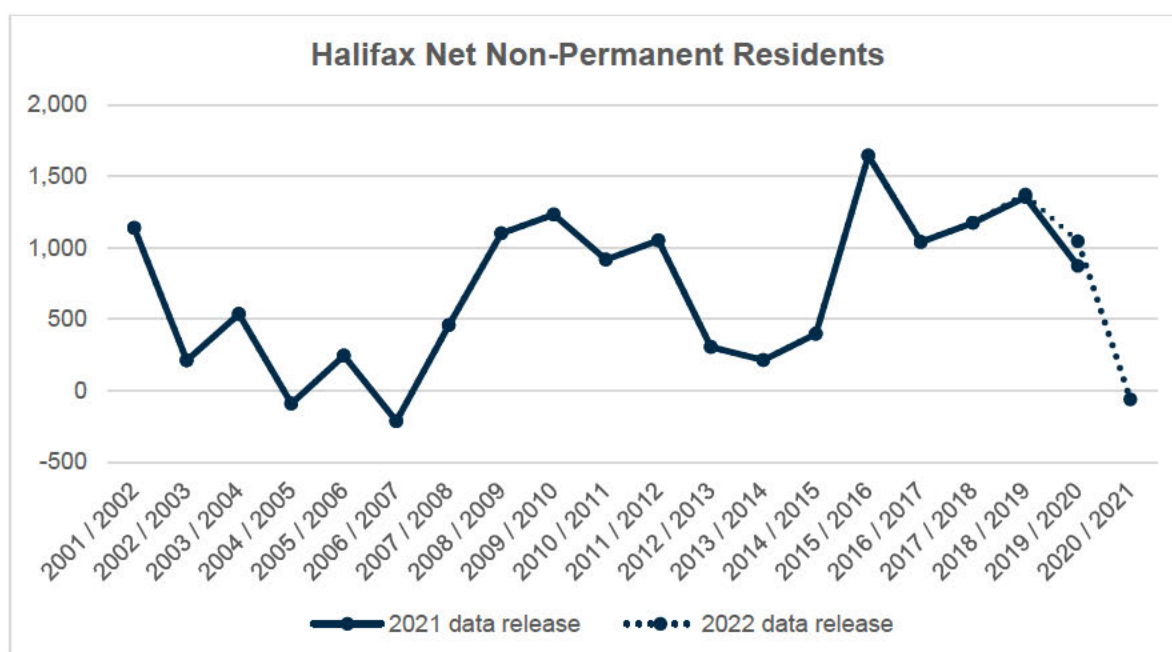
when lockdowns are in place and when work from home is possible. Further, pandemic-related economic hardship may have prevented people from moving to urban areas as well, or delayed a potential move.

The new data release did not significantly change the data for the previous few years.

The recommendation is to keep the assumption as the average number from 2016/2017 to 2019/2020, since the pandemic impacts likely will not continue.

2.3.7 Non-permanent Residents

In 2020/2021, the net number of non-permanent residents was negative for the first time since 2006. From 2016/2017 to 2019/2020, it had been averaging approximately 1,100.



This is also likely an impact of the pandemic making international travel difficult and many universities operating on a virtual model. The recommendation is to keep the assumption as the average rate for 2016/2017 to 2019/2020, since this reduction in non-permanent residents is not likely to continue in the long term.

2.3.8 Age and Sex Distribution of Migrants

There were no major changes in trends for the age and sex distribution of migrants in 2020/2021, it is recommended to incorporate the new year of data into the assumption, making it the average percentage from 2016/2017 to 2020/2021 for each cohort within each component of migration.

2.4 Summary of Recommended Changes to Assumptions

Component of Change	Low Immigration & Economic Downturn	Moderate Immigration & Continued Pre-pandemic growth	High Immigration & Economic Boom	Nova Scotia Targeted Migration (NSTM)
Original Scenarios				
Base Year	2020			
Fertility	Average age-specific rate 2016-2019, held constant			
Birth sex split	Average percent 2016-2019, held constant			
Mortality	Average age-specific rate 2016-2019, held constant			
NS Immigration	Statistics Canada Low Scenario	Statistics Canada Medium Scenario	Statistics Canada High Scenario	15,000 immigrants to NS annually
% Halifax Immigration of NS	Average 2016-2019, held constant (83.5%)			
Emigration	Average rate 2016-2019, held constant			
Returning Emigrants	Average ratio to emigrants, 2016-2019, held constant			
Temporary Emigrants	Average rate 2016-2019, held constant			
Interprovincial	Average rate 2011-2014, held constant	Average rate 2016-2019, held constant	Moderate + (Moderate – Low)	10,000 interprovincial migrants to NS Annually
Intraprovincial	Net zero	Average number 2016-2019, held constant	Moderate + (Moderate – Low)	Average number 2016-2019, held constant
NPR	Average rate 2016-2019, held constant			
Age split of each component of migration	Average percentage 2016-2019, held constant			

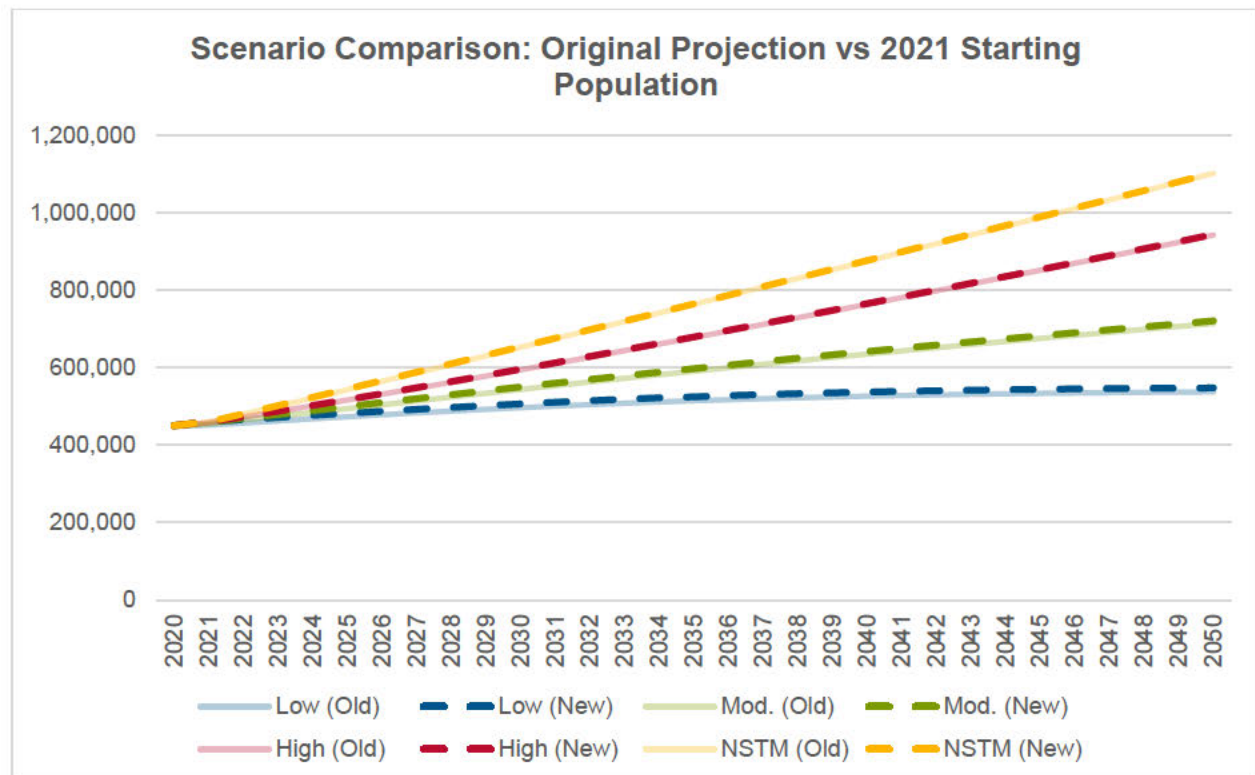
Proposed Updated Scenarios				
Base Year	2021			
Fertility	Average age-specific rate 2018-2020, held constant			
Birth sex split	Average percent 2016-2020, held constant			
Mortality	Average age-specific rate 2016-2020, held constant			
NS Immigration	IRCC low range + Statistics Canada Low Scenario	IRCC target + Statistics Canada Medium Scenario	IRCC high range + Statistics Canada High Scenario	15,000 immigrants to NS annually
% Halifax Immigration of NS	Average 2016-2020, held constant (82.9%)			
Emigration	Average rate 2018-2020, held constant			
Returning Emigrants	Average ratio 2016-2020, held constant			
Temporary Emigrants	Average rate 2016-2019, held constant			
Interprovincial	Average rate 2011-2014, held constant	Average rate 2016- 2018, held constant	Average rate 2019-2020, held constant	10,000 interprovincial migrants to NS Annually
Intraprovincial	Net zero	Average number 2016-2019, held constant	Moderate + (Moderate – Low)	Average number 2016-2019, held constant
NPR	Average rate 2016-2019, held constant			
Age split of each component of migration	Average percentage 2016-2020, held constant			

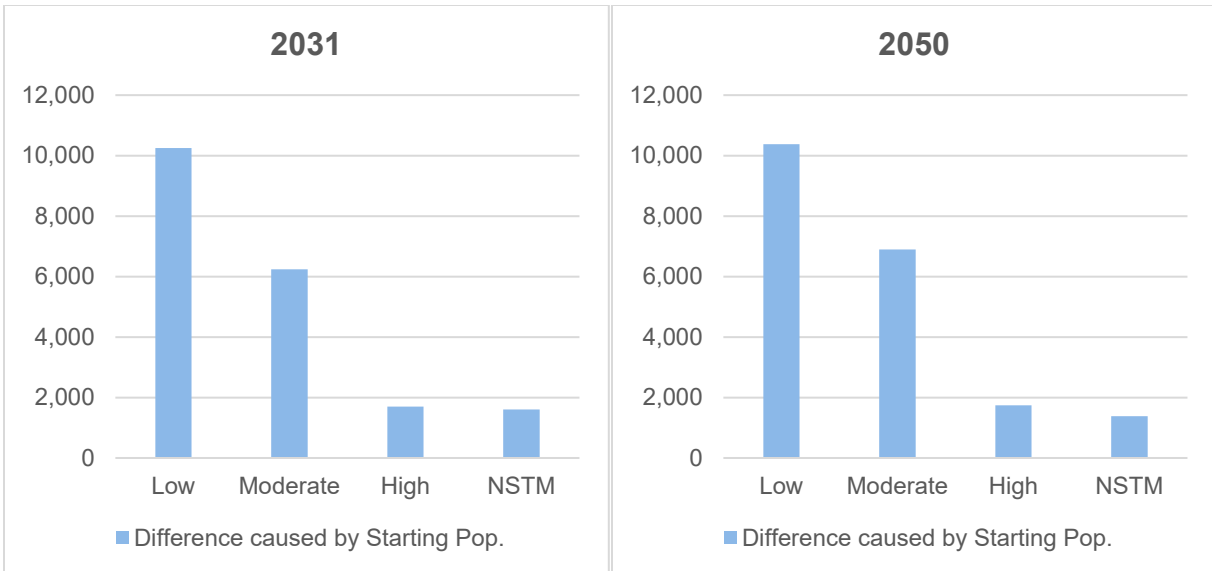
3.0 Scenario Comparisons

The following sections outline the differences in resulting scenarios, firstly by using 2021 as the new starting population, and secondly by using 2021 as the starting population *and* implementing the new recommended assumptions discussed in section 2.0 of this report.

3.1 Effects of an Updated Starting Population

Using 2021 as the new starting population – rather than 2020 – allows us to account for the anomalies of the pandemic (like lower immigration and higher interprovincial migration than previous years) as the new starting place for the projection, rather than beginning with assumptions that will result in known inaccuracies in the first year.

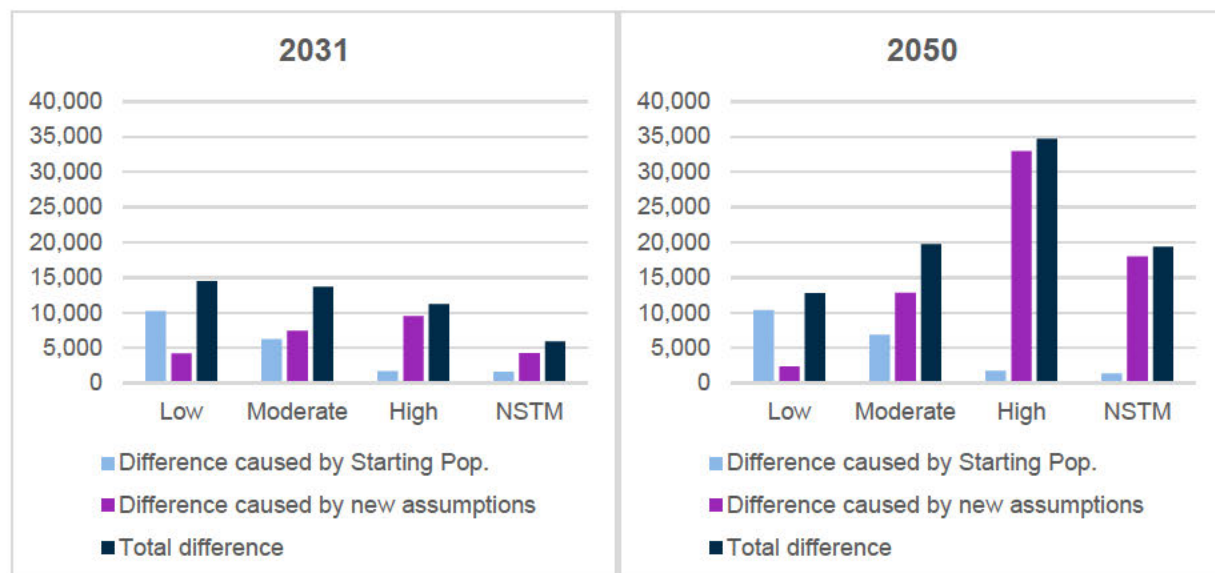
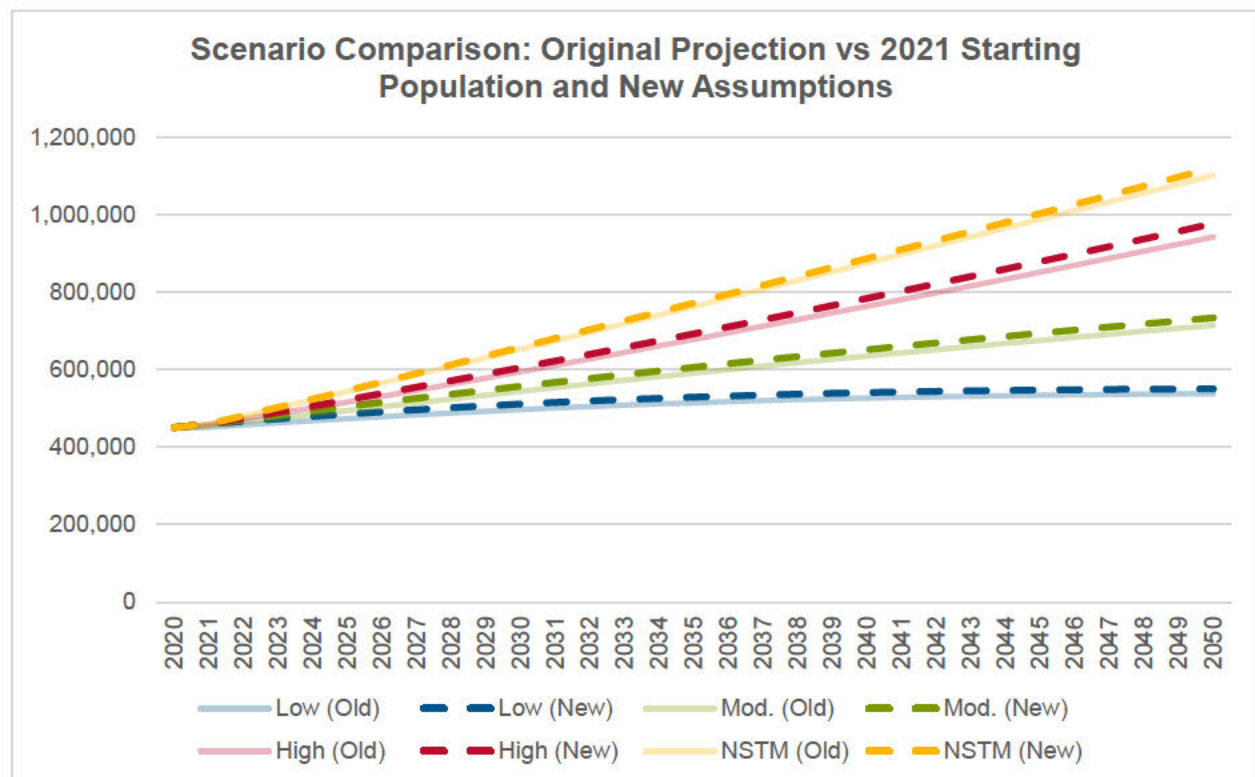




The changes made by updating the starting population are quite similar between 2031 and 2050. The highest impact is in the Low and Moderate scenarios, which would be because the estimated 2021 population is closest to the projected High scenario.

3.2 Effects of Updated Assumptions

Using 2021 as the starting population in addition to the adjusted population change assumptions has a larger impact on the projected population, and this impact increases over time.



The differences earlier on in the projection are primarily caused by the new starting population (as shown in section 3.1), as well as increased immigration assumptions following the IRCC targets.

With the new assumptions on top of the new starting population, the High scenario is the most different from the original projection by 2050. This is primarily due to the assumption around interprovincial migration as the average from 2019/2020 to 2020/2021. Although the difference in the rate of interprovincial migration does not appear large (0.00987 compared to the original 0.00924) it is enough to make a difference of approximately 300 people annually at the start of the projection, 400 people by 2031, and 600 people by 2050. This has a compounding effect, especially when considering that the additional population will have fertility assumptions applied to them for the remainder of the projection.

Although the assumptions around immigration and interprovincial migration to Nova Scotia were not changed in the NSTM scenario, slight changes to the *share* of those migrants coming to Halifax can have a large impact. Notably, the increase in interprovincial migrants to Halifax that results from basing this assumption on the average percentage from 2016/2017 to 2020/2021 results in an annual increase of 400 people to Halifax. By 2050, this adjustment translates to an additional 12,500 people just in interprovincial migrants over the course of the projection. The new births that would occur as a result of this added population would further increase the gap between the original projection and the updated one for this scenario.

4.0 Conclusion

As new data becomes available, it is critical to re-examine population projections to observe new trends and determine whether the assumptions remain reasonable. Failing to be aware of changes for several years in a row can result in planning that will not suit the needs of a dynamic population. The annual update will be scheduled in future to occur early in the year, as soon as Statistics Canada releases new population estimate and population change data.

Updating the base year of the projection to 2021 allows us to take into account population change during the pandemic that was challenging to predict, and eliminate known inaccuracies from the first year of the projection. Making this change in the projection has the most impact on the Low and Moderate scenarios, but not a large impact on the projection overall.

Updating assumptions had larger impacts on the population in the Moderate, High, and NSTM Scenarios, mainly due to the changes in assumptions around immigration and interprovincial migration. Both of these components are large contributors to population growth in Halifax, have fluctuated significantly in the past, and are difficult to predict due to their volatility.

The changes in immigration assumptions result from an attempt to align the Statistics Canada projection with updated IRCC targets for immigration to Canada (which are already significantly higher than the targets that went into Statistics Canada's projection).

Although the change to the interprovincial migration assumption in the High Scenario results in a large increase in population, this is perhaps a more reasonable assumption given that it is based on actual data for Halifax rather than being based on the difference between the Low and Moderate scenarios.

The NSTM scenario appears to have a high sensitivity to changes in the share of migrants coming to Halifax, because this scenario envisions such a large number of immigrants and interprovincial migrants to Nova Scotia. While this sensitivity means that slight changes in percentages of migrants to Halifax could have large impacts on the population by 2050, this scenario was never intended to be particularly precise. The provincial targets are broad and ambitious, and incorporating them in this highest scenario served to achieve a rough idea of what very high sustained migration could look like for Halifax.

Whether the recommended assumptions outlined in this report are used to update Halifax's population scenarios this year or not, the concluding key recommendations are to continue to examine new data annually to keep up with changing conditions and the potential they have to impact population, and to acknowledge the uncertainty in projections of the future, especially in the long-range.