

APPENDIX F—TRAVEL DEMAND TRENDS AND PROJECTIONS

NYS Route 33, Kensington Expressway Project

PIN 5512.52

December 2022

This appendix discusses three factors that affect travel demand in the Buffalo-Niagara Region: population growth, employment growth, and technological change (including telecommunications improvements and the trend of increased remote and hybrid work options). It should be noted that there are numerous factors affecting travel demand generally and in specific corridors such as NYS Route 33. These can include, but are not limited to, the ages and income levels of travelers, number of household vehicles, work/school locations, public transit availability, and traffic congestion. The Greater Buffalo-Niagara Regional Transportation Council (GBNRTC) Regional Travel Demand Model formulation includes population, households, employment and numerous other socioeconomic and land use-related travel demand factors and was used to estimate how traffic patterns would shift as a result of the various design concepts evaluated in the PSR.¹

Population

Table 1 summarizes the United States Census Bureau decennial census data for the Buffalo-Niagara Region from 1990 to 2020. The data show that a population decline occurred throughout the region between 1990 and 2010 consistent with other metropolitan areas that experienced a decline in manufacturing in the “Rust Belt” such as Detroit and Pittsburgh. The fastest rate of population decline between 1990 and 2010 in the region occurred in the City of Buffalo (-1.13% average annual growth rate). Between 2010 and 2020, the population decline trend reversed and the City of Buffalo experienced population growth for the first time in 70 years.² Based on the 2020 U.S. Census Bureau data, the population in the City of Buffalo increased by 6.5% between 2010 and 2020, and Erie County’s population grew by 3.8% over this same time period.³ Niagara County’s population continued to decline over this period; however, the percent change in total regional population between 2010 and 2020 was positive at 2.76%.

Table 1: Census Population Data for City of Buffalo, Erie County and Niagara County 1990-2020

	1990	2000	2010	2020	1990-2010 Average Annual Growth Rate*	2010-2020 Average Annual Growth Rate*
City of Buffalo	328,123	292,648	261,310	278,349	-1.13%	0.63%
Erie County	968,532	950,265	919,040	954,236	-0.26%	0.38%
Niagara County	220,756	219,846	216,469	212,666	-0.10%	-0.18%
Erie + Niagara Counties	1,189,288	1,170,111	1,135,509	1,166,902	-0.23%	0.27%

¹ GBNRTC Regional Travel Demand Model - Summary Included as an Appendix to Moving Forward 2050 Plan.
<https://www.gbnrtc.org/metropolitan-transportation-plan>

² Buffalo News. August 12, 2021. Census data shows Buffalo growing for first time in 70 years
https://buffalonews.com/news/local/census-data-shows-buffalo-growing-for-first-time-in-70-years/article_e18d79e6-fb92-11eb-8123-3f09381360f1.html

³ <https://www.census.gov/quickfacts/fact/table/eriecountynewyork,buffalocitynewyork,US/PST045221>

*Compound average annual growth rate

Table 2 summarizes the 2019 to 2050 population projection prepared by GBNRTC for the Moving Forward 2050 Plan released in 2018 and incorporated in the GBNRTC regional travel demand model.⁴ The projection is based on the One Region Forward hybrid scenario. The projection assumes the regional population would continue to grow at a slow rate through 2050, with the City of Buffalo growing in population at a slightly faster rate than the region (0.08% average annual growth rate compared to 0.06%).

Note that the GBNRTC model population levels for the 2019 base year do not take into account the 2020 Census results and were developed using different methods and data sources.^{5,6} GBNRTC is currently undertaking a demographic projection update and information on any new projections that become available will be discussed in the DDR/EA, as appropriate.

Table 2: GBNRTC 2019-2050 Population Projection Used in Travel Demand Model

	2019	2050	Projected Average Annual Growth Rate*
City of Buffalo	256,492	262,545	0.08%
Erie County	912,160	932,105	0.07%
Niagara County	218,023	220,006	0.03%
Erie + Niagara Counties	1,130,183	1,152,111	0.06%

*Compound average annual growth rate

Employment

Regional employment (Erie and Niagara Counties) has also been increasing since 2010, with a 5.5% increase in private sector jobs in the Buffalo-Niagara Region between 2010 and 2015.⁷ Examining the 2010 to 2019 time period shows private primary employment has been growing faster than population in the region (0.61% average annual growth rate). As shown in Table 3, the fastest private employment growth has occurred in the areas of Erie County outside the City of Buffalo (although Buffalo still has a positive growth rate over this time period). Total non-farm employment dropped substantially in 2020 as a result of the COVID-19 pandemic, but has rapidly recovered in 2021 and into 2022 based on U.S. Bureau of Labor Statistics data for the Buffalo Niagara Metropolitan Statistical Area (see Figure 1).

⁴ <https://www.gbnrtc.org/metropolitan-transportation-plan>

⁵ Cambridge Systematics, Inc. 2016. *GBNRTC Regional Demographic and Economic Profile Update, Projections, and Spatial Allocation Project*

⁶ Transpo Group. May 2022. *A detailed review of the current state of the GBNRTC Regional Travel Demand Model.*

⁷ <https://www.gbnrtc.org/metropolitan-transportation-plan>

Table 3: Private Primary Employment 2010-2019⁸

	2010	2019	2010-2019 Average Annual Growth Rate*
City of Buffalo	107,685	109,283	0.16%
Erie County	357,845	378,338	0.62%
Niagara County	50,252	52,806	0.55%
Erie + Niagara Counties	408,097	431,144	0.61%

*Compound average annual growth rate

Figure 1: Buffalo-Niagara Total Non-Farm Employment January 2019 – September 2022



Table 4 summarizes the 2019 to 2050 GBNRTC employment projection used in the regional travel demand model. The data show that the existing trend of employment in the region growing faster than population is expected to continue into the future. Regional employment is projected to increase by 73,798 or 10.6% percent between 2019 and 2050, an annual average growth rate of 0.33%. There are several factors that explain how employment can be expected to increase faster than population growth, including: inward commuting of workers from outside Erie and Niagara counties, increased number of part-time jobs, the widening age range of the working population, and increased job flexibility allowing people to remain employed longer.⁹

In terms of locations of employment growth, the highest growth is projected within the City of Buffalo (0.5% annual average growth rate). Employment growth locations were concentrated in GBNRTC-endorsed mixed use development corridors, and development focus areas (such as the Tesla Gigafactory

⁸ U.S. Census Bureau. Longitudinal Employer-Household Dynamics, Origin-Destination Employment Statistics Data. <https://onthemap.ces.census.gov/>

⁹ Cambridge Systematics, Inc. 2016. *GBNRTC Regional Demographic and Economic Profile Update, Projections, and Spatial Allocation Project*

2 and the Buffalo Niagara Medical Campus). As noted previously, updated demographic projections are being prepared by GBNRTC and will be discussed in the DDR/EA as appropriate.

Table 4: GBNRTC 2019-2050 Employment Projection Used in Travel Demand Model

	2019	2050	Average Annual Growth Rate*
City of Buffalo	178,747	208,610	0.50%
Erie County	595,202	660,786	0.34%
Niagara County	99,693	107,907	0.26%
Erie + Niagara Counties	694,895	768,693	0.33%

*Compound average annual growth rate

Technological Change and Adaptive Management

The trend of “telecommunications as a travel mode” has received increased attention since the prominence of remote and hybrid work options for some types of workers during the COVID-19 pandemic. High-speed internet access allows people to work, learn and shop remotely without the need for travel and this trend is growing.¹⁰ However, technology related changes do not necessarily decrease travel demand because new and different trips may replace those being reduced by technology. For example, some trips are eliminated by online shopping, but others are created in the form of deliveries of products ordered through online shopping or in encouraging consumers to make longer shopping trips due to the ease of shopping research online.¹¹ A worker at home may make different vehicle trips during the day (such as to school or daycare, grocery store or recreation) even if they are not following a typical commuter schedule. Technological and societal changes influence travel behavior through many complex interactive effects. For example, the relationship between telecommunications and travel demand has been hypothesized to include the following relationships: substitution (reduction, elimination), complementarity (stimulation, generation), modification (change time, mode, destination) and neutrality (no impact).¹²

At the national level, FHWA vehicle miles travelled (VMT) forecasts anticipate 22% growth in VMT between 2019 and 2049, with single-unit truck VMT growing the most (101% compared to 17% for light-duty vehicle VMT).¹³ This represents a slower rate of VMT growth and a convergence with population growth compared to the 30 years preceding 2019. GBNRTC’s regional travel demand model shows a much more modest 0.62% increase in VMT between 2019 and 2050, while at the same time Vehicle Hours Travelled (VHT) would decrease 3.1 percent.

Addressing risks of various technological changes (including increased teleworking) is addressed in Chapter 7 of GBNRTC’s Moving Forward 2050 (the region’s metropolitan transportation plan). Since it is difficult to predict how travel behavior will change over time in response to these trends, Moving

¹⁰ https://www.fhwa.dot.gov/policy/otps/TPS_2020_Trends_Report.pdf

¹¹ https://www.fhwa.dot.gov/policy/otps/TPS_2020_Trends_Report.pdf

¹² <https://onlinepubs.trb.org/onlinepubs/millennium/00115.pdf>
<https://onlinelibrary.wiley.com/doi/pdf/10.1162/108819802763471771>

¹³ https://www.fhwa.dot.gov/policyinformation/tables/vmt/vmt_forecast_sum.cfm

Forward 2050 includes an adaptive management framework to monitor performance and adapt to changing conditions as new data become available.

Similarly, at the project level, the impact of technological changes can be addressed through monitoring and changes in approach based on available data. The most direct indicator for adaptive management of specific corridors is traffic volumes (daily and peak hour). Despite potential COVID-19 related changes in travel patterns during 2021 traffic data collection, NYS Route 33 Average Annual Daily Traffic (AADT) remained relatively similar to 2019 pre-COVID-19 AADT, demonstrating that the functional importance of the facility has not changed. AADT decreased 4.5% between 2019 and 2021 in the NYS Route 198 to East Utica Street segment, but increased 6.2% between Best Street and Jefferson Avenue. Additional traffic data will be considered and discussed in the DDR/EA, as appropriate.

Conclusion

This appendix reviewed historical trends and available future projections for three factors influencing travel demand: population growth, employment growth, and technological change. These factors were considered in developing the preliminary transportation analyses conducted for this PSR and new applicable information related to these topics will continue to be further evaluated as part of the DDR/EA for the Project.