

**To:** Brian Gibson, Executive Director  
St. Cloud Area Planning Organization (APO)

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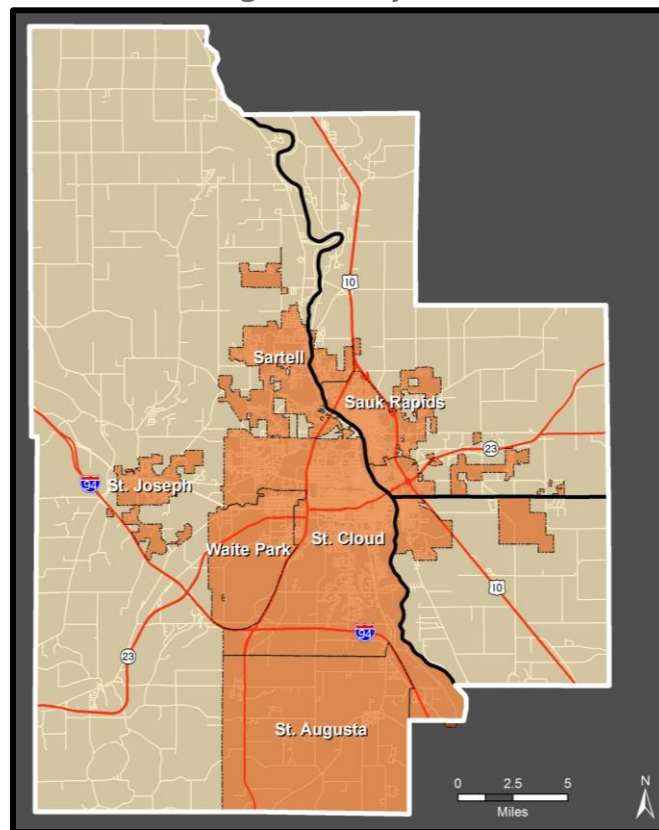
**Date:** June 5, 2017

**Subject:** St. Cloud APO Regional Transportation Planning Assistance, Element 2 –  
Population Forecast

## Introduction

SRF has developed a population forecast to the target year 2045 for the St. Cloud APO (Area Planning Organization) area. The forecasts are representative of the entire study area as illustrated in Figure 1, including the six municipalities shown (i.e. St. Cloud, Sartell, etc.). Note that the municipal boundaries shown in Figure 1 were applied in the forecasts, are derived from the U.S. Census, and are assumed to remain static during the forecast horizon (2045). This memorandum provides an overview of current growth and population, a breakdown of the forecast methodology, descriptions of forecast results, and a brief discussion of important considerations and next steps.

**Figure 1. Study Area**



Source: U.S. Census Municipal Boundaries and St. Cloud APO.

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## Current Growth and Population Estimates

### APO's Municipalities

Between 2009 and 2016, the municipalities within the APO experienced relatively minor fluctuations of population change as evident by the quantities outlined in Table 1. The U.S. Census and Minnesota Demographic Center estimate that the APO's municipal population has grown to approximately 116,422 or an increase of ten (10) percent since 2009. This suggests the APO's cities have experienced an average annual growth rate of around 1.4 percent in the last seven years. During this base period, St. Cloud, Sartell, and Sauk Rapids have continued to remained the top population centers of the APO. The most notable anomaly regarding population change occurred between 2012 and 2014, where both St. Cloud and Waite Park were the only municipalities within the APO to experience population declines. Finally, the ordinal position of the municipalities in regards to total population never changed during this base period.

**Table 1. Observed Population of APO Municipalities**

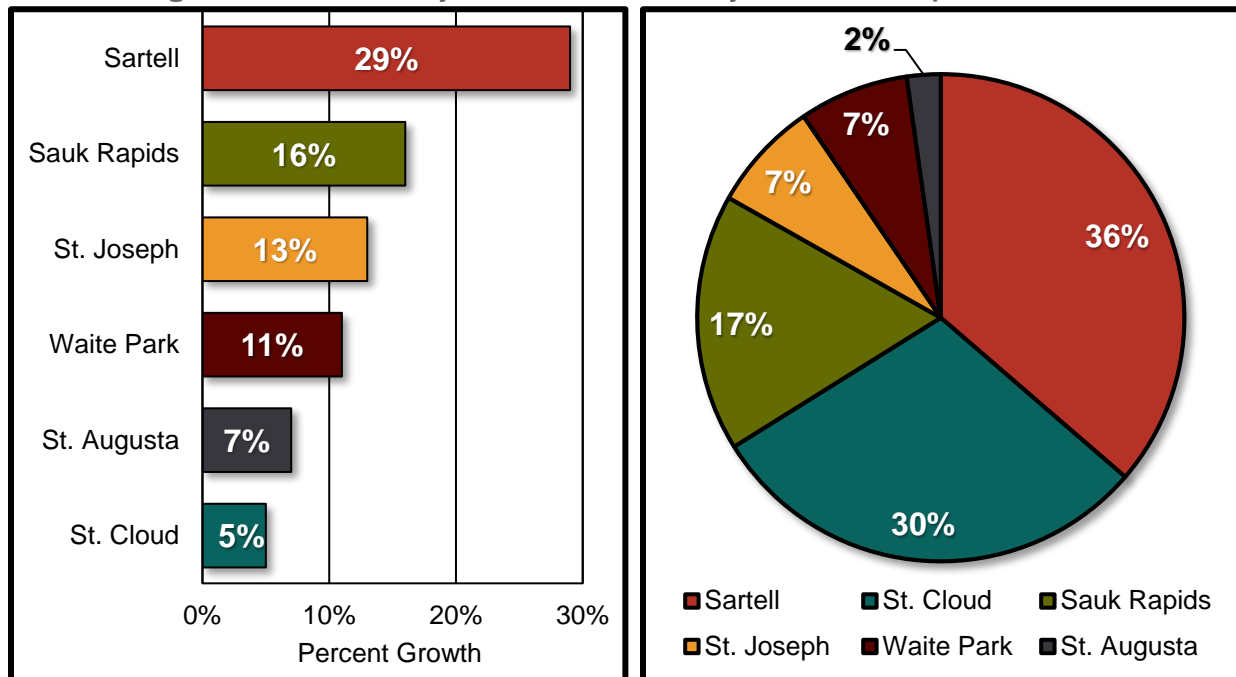
Year	St. Cloud	Sartell	Waite Park	Sauk Rapids	St. Joseph	St. Augusta	Total
2009	64,126	13,657	6,853	11,787	5,951	3,245	105,619
2010	65,885	14,756	6,720	12,482	6,246	3,222	109,311
2011	68,066	15,175	6,729	12,635	6,383	3,265	112,253
2012	64,949	15,545	6,702	12,784	6,503	3,321	109,804
2013	67,754	15,851	6,678	12,943	6,583	3,381	113,190
2014	64,221	16,123	7,391	13,079	6,694	3,434	110,942
2015	68,253	16,274	7,429	13,196	6,749	3,486	115,387
2016	67,344	17,582	7,639	13,631	6,739	3,487	116,422

Sources: U.S. Census, American Community Survey, 2009-2015. MN Demographic Center Annual Estimates, 2016.

Figure 2 displays each city's percent growth during this base period and their share of the overall municipal growth in the APO. This comparison can help depict how each municipality is experiencing growth from the regional perspective. For example, while St. Cloud did experience the lowest growth rate (due to the already high population), it possessed the second largest share overall to growth in the area. This finding suggests that St. Cloud is continuing to experience modest growth (~0.7% annually) and will remain the primary population center in the foreseeable future (due to its significant share).

In comparison, Sartell experienced the fastest growth rate within the APO region and possessed the highest contribution of growth during the base period. This finding suggests that Sartell is experiencing both significant and rapid growth (~4% annually) and the city's share of growth within the APO will likely increase in the foreseeable future. Additional coordination with the municipalities will help determine what the driving forces for growth are in each community, and how each municipality envisions growth and development in the future.

**Figure 2. 2009-2016 City Percent Growth and City Share of Municipal APO Growth**



Sources: U.S. Census, American Community Survey, 2009-2015. MN Demographic Center Annual Estimates, 2016.

### APO's Unincorporated Areas

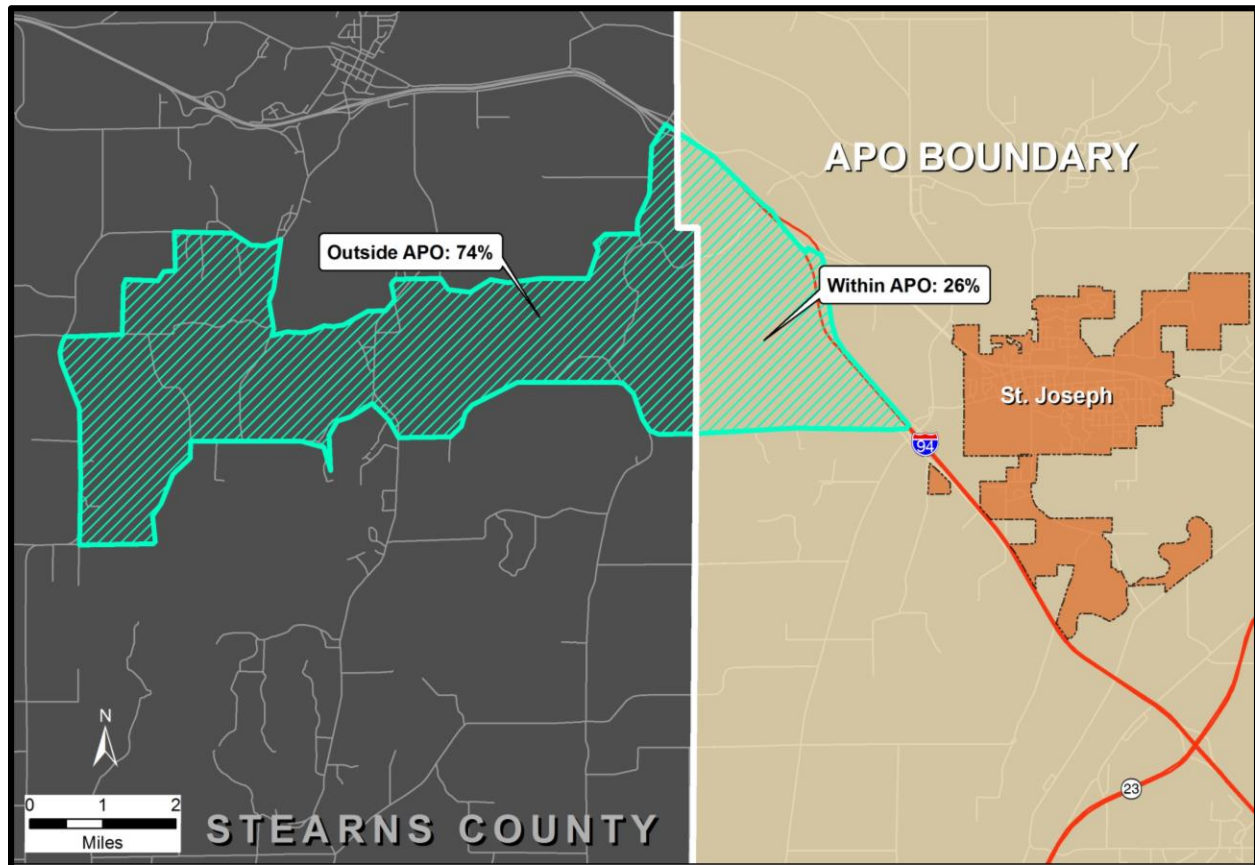
While the six municipalities continue to be the major population centers of the APO, roughly 72% of the APO has remained as unincorporated land. In addition, the unincorporated land and population is separated into three different counties (i.e. Stearns, Benton, and Sherburne). To ensure the population within the APO's unincorporated areas are accounted for to the best extent, a simple methodology using census block groups was pursued. While some census block groups fell entirely within the APO and did not conflict with the census municipal boundaries, there were several instances where this was not the case.

To address this, as evident by Figure 3, the acreage within the APO (and not conflicting with a municipality) was divided by the total block group acreage resulting in a ratio. This ratio was then multiplied by the total block group population to determine an estimated population. In cases where there was a clear presence of a residential subdivision, adjustments were made to the ratio. Since the Minnesota Demographic Center's annual estimates do not break down to block groups, 2015 ACS data was utilized. The method determined that the APO's 2015 unincorporated population was approximately 4,556 (Stearns 2,462, Benton 1,267, and Sherburne 828). While this method cannot provide the exact population for this unincorporated area, it does provide a reasonably acceptable estimate.

### Entire Study Area

Using the sources and applying the methodologies mentioned in the section, it is estimated that the 2015 observed population for the APO's jurisdiction was approximately 119,943. Collection of all this data and refining the quantities when necessary was significant since they provided the starting point of data to perform population forecasts for the study area.

**Figure 3. Example of Census Block Group with Acreage Percent within APO**



Source: U.S. Census, Topologically Integrated Geographic Encoding and Referencing (TIGER) Products, 2015.

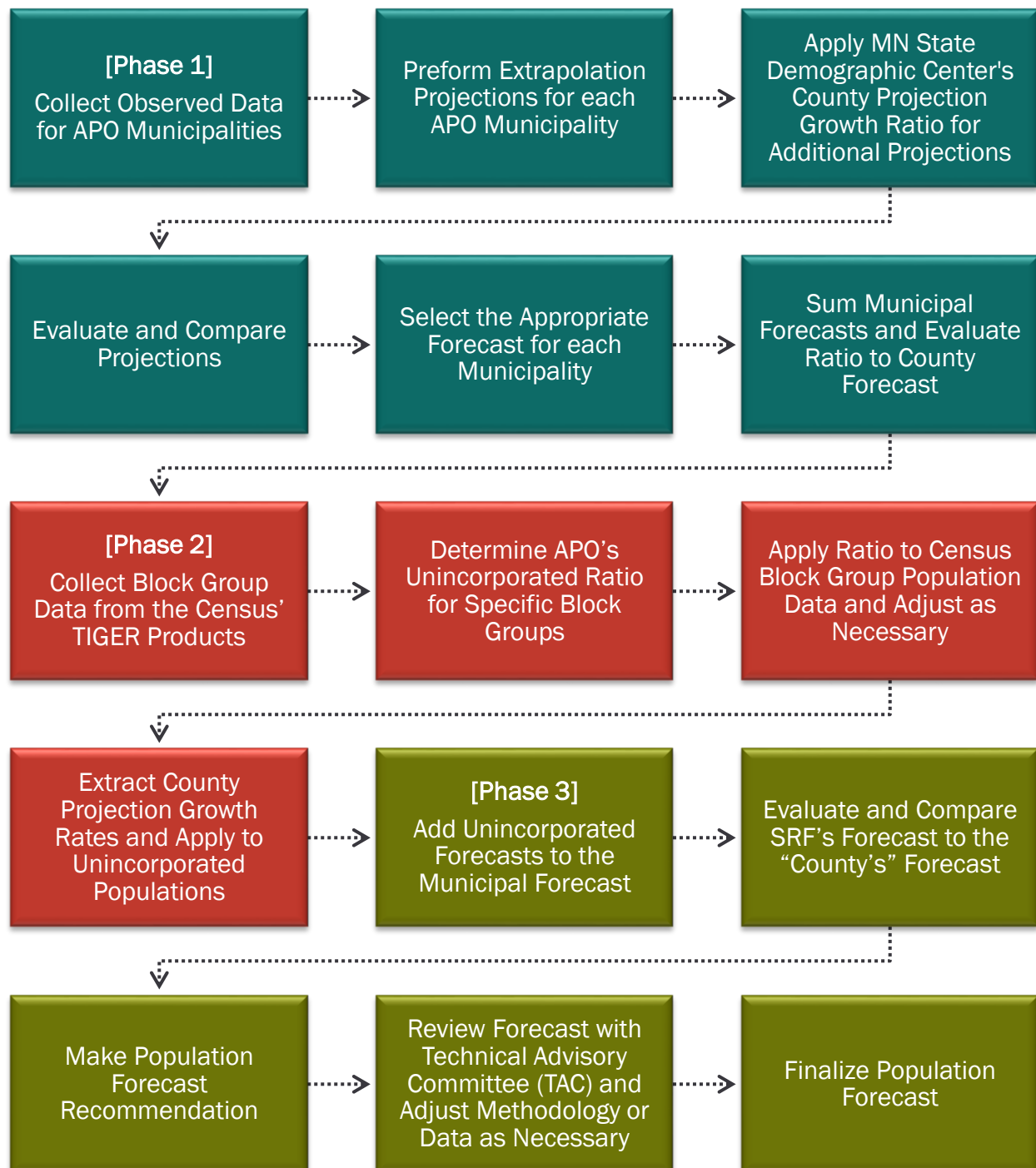
### Population Forecast Methodology

In order to provide a reasonable population forecast for a study area that does not follow conventional statistical boundaries (is not part of an easily defined census area), a mixed-method approach using various sources was developed. The primary sources for data and quality control included the following:

- Minnesota State Demographic Center County Projections
- Minnesota State Demographic Center Annual Estimates
- U.S. Census Bureau's American Community Surveys
- U.S. Census Bureau's Topologically Integrated Geographic Encoding and Referencing (TIGER) Products

Figure 3 outlines the general methodology applied to develop the population projections and final forecast for the study area. The methodology consisted of three phases including: 1) Forecast APO Municipal Population Growth, 2) Determine Unincorporated Population and Forecast Population Growth, and 3) Combine Previous Forecasts then Evaluate, Adjust, and Finalize.

Figure 4. Population Forecast Methodology



## 2045 Population Forecasts

### APO's Municipalities

The forecasted population for the municipalities within the study area is expected to reach about 142,572 by 2045. This suggests that between 2016 and 2045, the municipalities of the study area will increase in population by around 23 percent with an average annual growth rate of 0.8 percent. Table 2 outlines the forecasts for each municipality within the APO, in addition to the 2045 forecast based solely on the MN Demographic Center's county growth rate projections. When comparing SRF's forecast to the forecast derived from the MN Demographic Center's county growth rate, there is an approximately 21,000 difference in population.

Since the growth rates from the Demographic Center are derived from county projections, any assumptions, quantities, and calculations were treated the same for both rural and urban areas. Unlike urban areas such as the APO, rural unincorporated areas typically have a low or nonexistent growth rate. Therefore, it is anticipated that any forecast using the county's growth projection rate will be less than what will actually occur within the APO. By examining the ACS 2015 estimates and applying the county's projection growth rate to the APO, we find that the result is below the estimation by about 1,000. If this margin of error continued throughout the 30-year forecast horizon, the forecast can be short by about 30,000 people. Collectively, while the county growth rates do provide a means for quality control, they do not necessarily provide the most accurate means to forecast growth within the APO. As a result, SRF's forecast of 142,572 for the APO's municipalities is believed to be a better representation of future growth and is the recommended quantity to move forward with other projections (i.e. housing, employment, etc.).

**Table 2. Population Forecasts for APO Municipalities**

Year	St. Cloud	Sartell	Waite Park	Sauk Rapids	St. Joseph	St. Augusta	Total
2016	67,344	17,582	7,639	13,631	6,739	3,487	<b>116,422</b>
2020	68,667	18,558	7,909	13,756	7,036	3,669	<b>119,595</b>
2025	70,237	20,568	8,389	14,180	7,185	3,862	<b>124,421</b>
2030	71,798	22,579	8,869	14,504	7,265	4,064	<b>129,079</b>
2035	73,359	24,590	9,349	14,752	7,308	4,278	<b>133,636</b>
2040	74,920	26,601	9,829	14,942	7,331	4,502	<b>138,125</b>
2045	76,481	28,612	10,309	15,087	7,344	4,739	<b>142,572</b>
2045*	71,707*	17,098*	7,805*	13,864*	7,091*	3,662*	<b>121,227*</b>

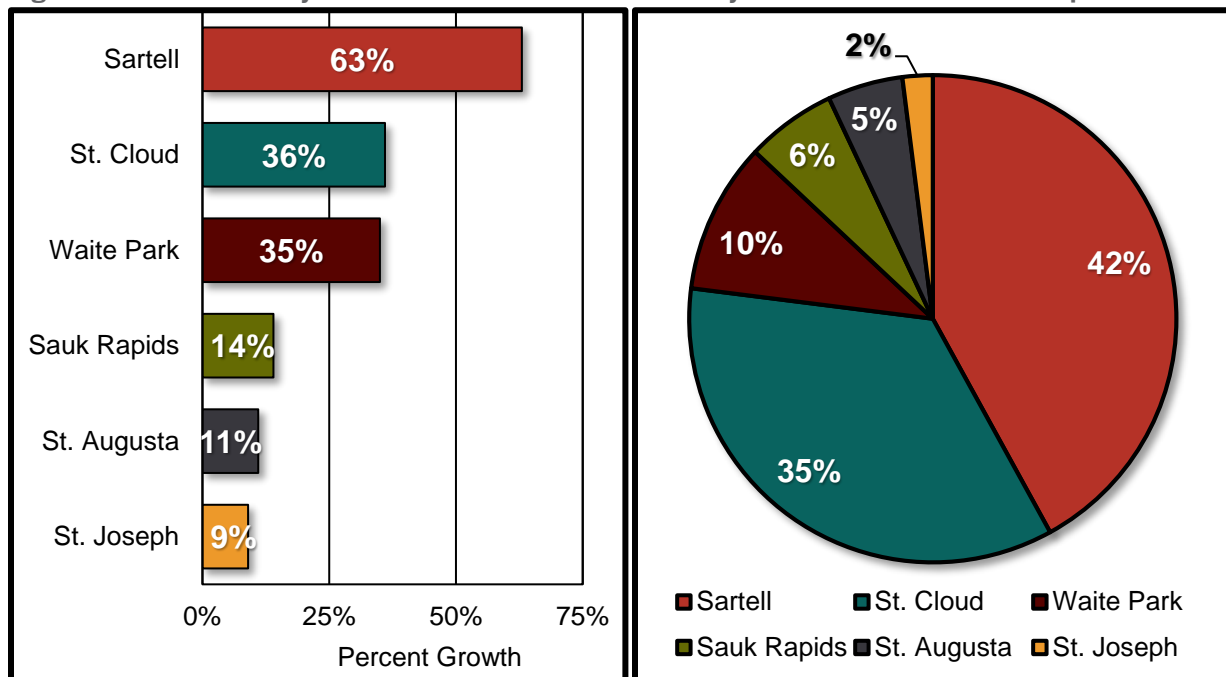
Sources: U.S. Census, American Community Survey, 2009-2015. MN Demographic Center Annual Estimates, 2016. MN Demographic Center Projections, 2017. Note\*: Applies Minnesota County Projection Growth Rate for specific county.

Comparable to Figure 2, Figure 5 displays each city's forecasted percent growth and their share of the forecasted municipal growth in the APO. This comparison helps depict how each municipality may experience future growth from the regional perspective. For example, St. Cloud is expected to see a noticeable change in growth rate while remaining one of the largest shareholders of growth in the area. This forecast suggests St. Cloud will acquire modest growth (~1.2% annually) and remain the primary population center of the region in the foreseeable future.



In comparison, Sartell is forecasted to remain as the fastest growing municipality within the APO region and extend its share as the highest contributor to growth during the forecast horizon. This finding suggests that Sartell will continue to experience both significant and rapid growth (~2.2% annually) and the city’s share of growth within the APO will likely remain substantial in the foreseeable future. Additional coordination with the municipalities will help determine what the driving forces will be for growth in each community (and if it is reasonable to assume that they may change) and if the forecasts seem reasonable.

**Figure 5. 2016-2045 City Forecasted Percent Growth and City Forecasted Share of Municipal APO Growth**



Sources: MN Demographic Center Annual Estimates, 2016. MN Demographic Center Projections, 2017. Note\*: Applies Minnesota County Projection Growth Rate for specific county.

**APO’s Unincorporated Areas**

The forecasted population for the unincorporated areas of the APO (as determined by the Census) is expected to reach to about 4,786 by 2045. This suggests that between now (2015) and the target year (2045), the unincorporated areas will increase in population by around five (5) percent. Table 3 outlines the forecasts for each unincorporated area by county within the APO. Compared to the municipal forecasts, the unincorporated forecasts were based solely on the MN Demographic Center’s county growth rate projections.

**Table 3. Population Forecasts for APO Unincorporated Areas**

Year	Stearns County	Benton County	Sherburne	Total
2015	2,462	1,267	828	4,557
2020	2,499	1,286	840	4,625
2025	2,528	1,301	850	4,679
2030	2,549	1,312	857	4,718
2035	2,565	1,320	862	4,747
2040	2,577	1,330	866	4,773
2045	2,586	1,331	869	4,786

Source: U.S. Census, American Community Survey, 2015. MN Demographic Center Projections, 2017.

### Entire Study Area

Throughout the forecast horizon, the study area can expect continued fluctuations of growth. Using the sources and applying the methodologies mentioned in the previous sections, it is forecasted that by 2045 the total population of the APO’s jurisdiction will be approximately 147,358 or an increase of about 23%.

### Important Considerations & Next Steps

The growing population suggests that all municipalities within the APO should continue to be proactive and communicative in the anticipation of future development. As more observed data is subsequently released, the cities and APO can compare the data to the forecasts and therefore plan, fund, and prepare accordingly. While the population forecast assumes that the study area boundary will remain static throughout the plan horizon, it is recognized that growth within and around the cities in the APO will likely change.

Nevertheless, the information provided in this memorandum provides a reasonable perspective of how population will change within the APO by 2045 with the information available today. With the preliminary population forecast now completed, the next step is to disseminate the forecast to the Technical Advisory Committee (TAC) to ensure both the data, methodologies, and results appear accurate. Once any adjustments are made, the next priority is projecting housing and employment throughout the study area among other items identified in the scope. The following GIS data will be needed to perform the next steps:

- Future Land Use Plans for all Municipalities (i.e. St. Cloud, Sartell, Waite Park etc.)
- Future Land Use Plans for all Counties (Stearns, Benton, and Sherburne)
- Updated Parcel Layers for all Counties (Stearns, Benton, and Sherburne)