RMAP Update

2022 County and Subcounty Population Projections

October 18, 2023

Transportation Planning Committee (TPC)

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Pima Association of Governments

Overview

- Background of Population Projections
- County Population Projections
- Subcounty Population Projections
- RMAP Timeline Update

Background of Population Projections

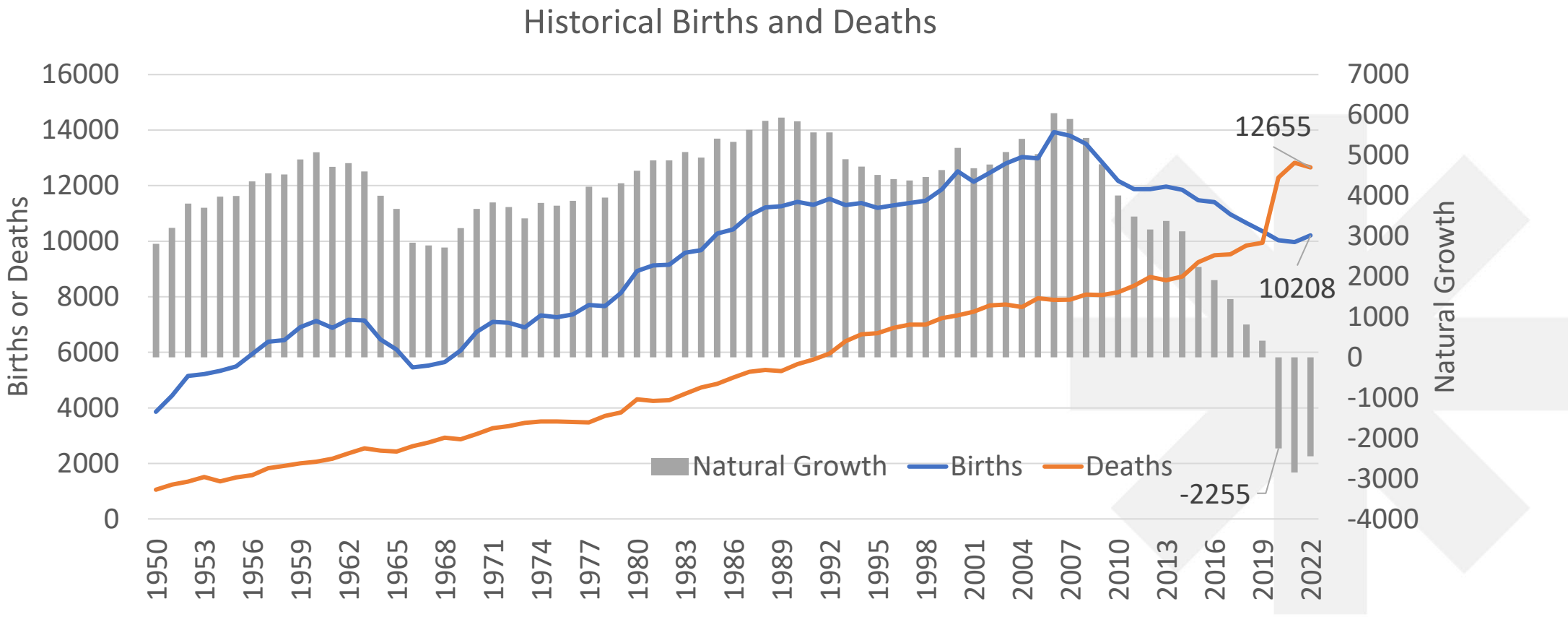
- The Arizona Office of Economic Opportunity (AOEO) generates population projections - Executive Order 2011-04:
  - Release county population projections by Dec. 31 in years ending in 2, 5, and 8 for a decade.
  - Release subcounty projections within nine months after county projections.
  - Allow AOEO to accept population projections generated by regional council of governments (COGs) for subcounty population projections.
  - Require to use the AOEO projections for state agencies.
  - Incorporate the county and subcounty population projections into PAG planning initiatives, which encompass RMAP and TIP.
  - Data and references available at AOEO website: https://www.azcommerce.com/oeo/population/population-projections/

Background of Population Projections

- 2022 county population projections
  - Reviewed the historical trends and draft/revised projections of births, deaths, and migrations through PopTech in 2022 Q4.
  - Released 2022 County Population Projections in December 2022.
- 2022 subcounty population projections
  - Align with the updated county projection totals.
  - Developed and introduced a time-series method and a 2019 county share method at PopTech Subcommittee in 2023 Q1 and Q2.
  - PopTech Subcommittee put forward an average of two methods, each incorporating the South Tucson constant, for consideration by the Management Committee and Regional Council.
  - Regional Council approved the subcounty population projections in May 2023.

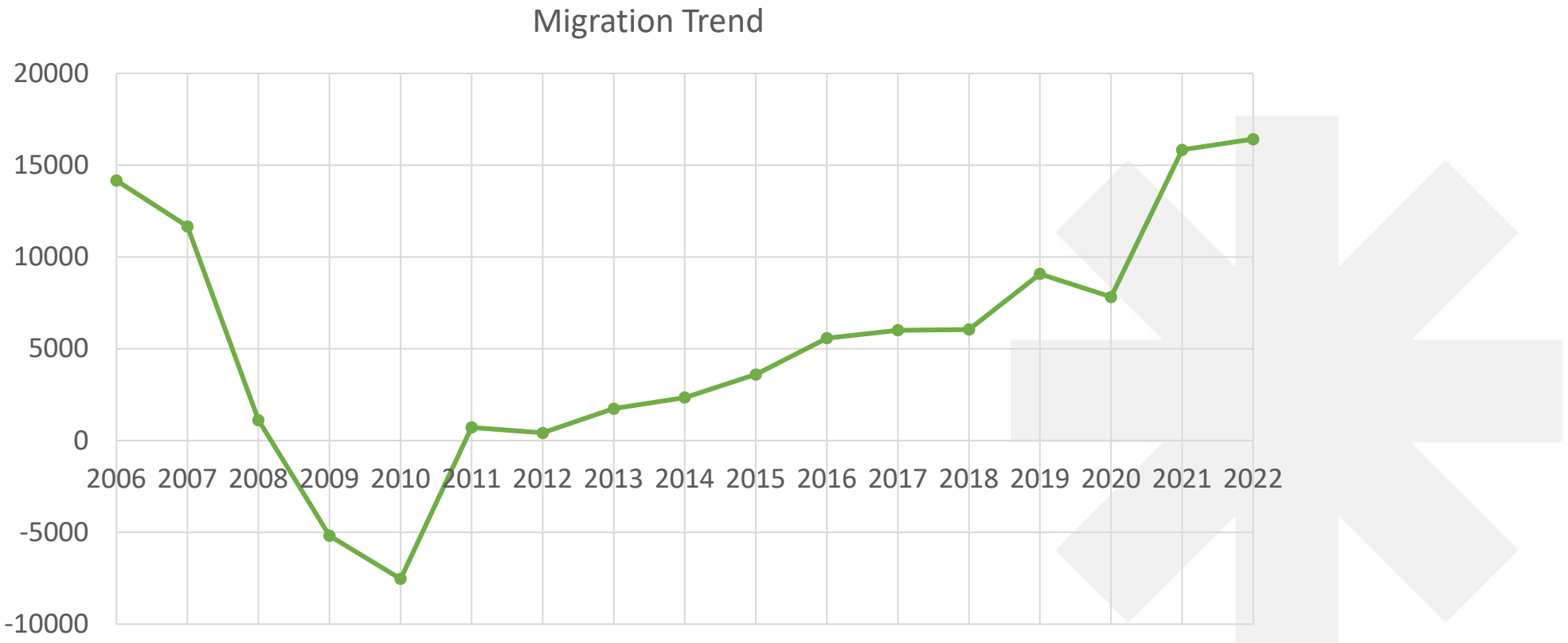
County Population Projection

- Historical Regional Population Trend – Births and Deaths



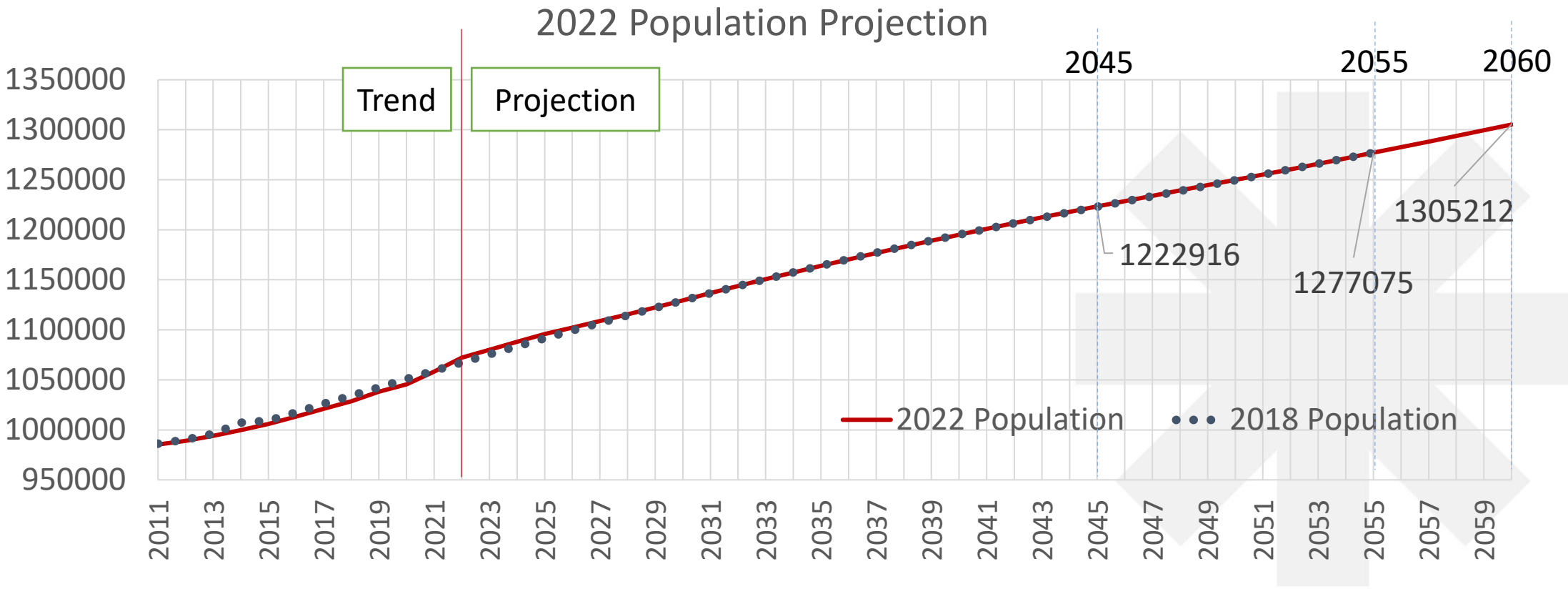
County Population Projection

- Historical Regional Population Trend – Migration



County Population Projection

- 2022 Population Projection



County Population Projection

- 2022 population projection summary
  - Natural Growths (= Births-Deaths)
    - Pandemic accelerated the decrease of natural growth which affected significantly for the projection period.
  - Migration
    - Estimated recent high increase in migration trend will affect the migration projection period.
- Population forecasted 1.31 million in 2060
  - Population increase is close to the 2018 projection.
  - For 38 years, the projection estimated annual 6.1K net population increase with 0.57% annual growth, contributed mainly by migration population.

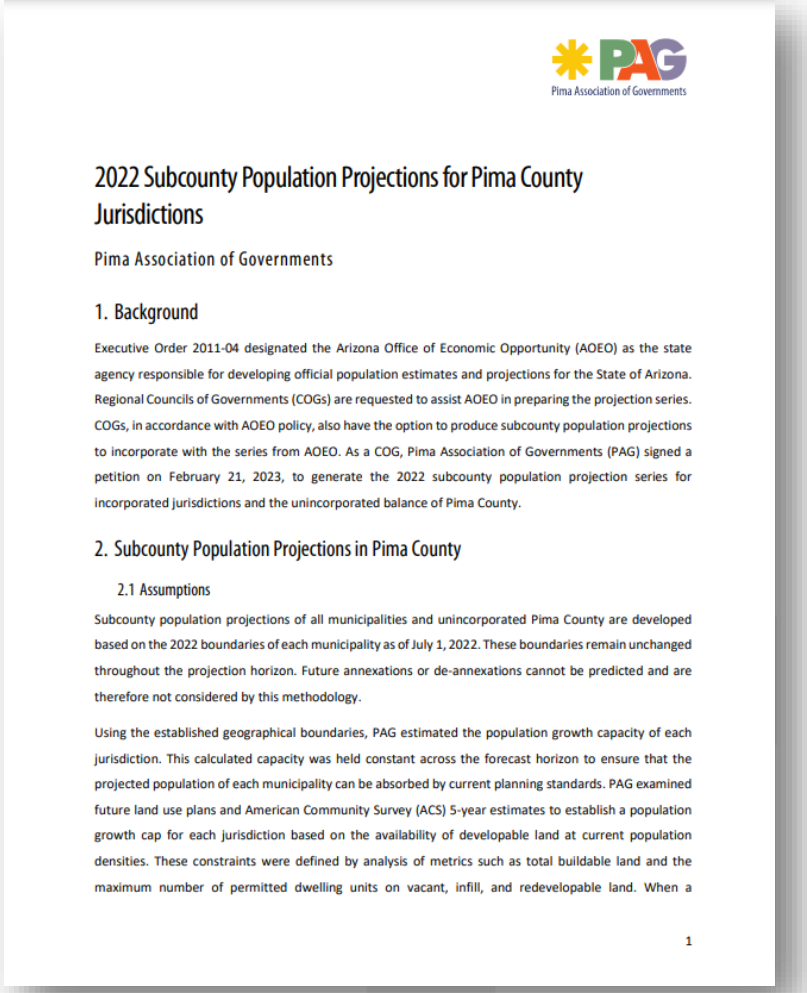
Subcounty Population Projections

- Historical Growth Pattern

	2010	2022	2010-2022 Growth	Average Annual Growth Rate	Share of Total Growth (2010-2022)	Share of Total Growth (1980-2022)
Marana	35,071	56,758	21,687	5.15%	23.76%	10.27%
Oro Valley	41,026	48,906	7,880	1.60%	8.63%	8.84%
Sahuarita	26,119	36,179	10,060	3.21%	11.02%	6.31%
South Tucson	5,642	4,599	-1,043	-1.54%	-1.14%	-0.36%
Tucson	527,518	554,021	26,503	0.42%	29.03%	39.77%
Pima County	345,640	371,835	26,195	0.63%	28.70%	34.73%
Total	**981,015**	**1,072,298**	**91,283**	**0.78%**	**100.00%**	**100.00%**

Subcounty Population Projections

- Proposed major methods
  - **Time-Series Model:** Using 2018-2022 population inputs, considered time-series models including ARIMA, Holt and Brown, with calibration for each jurisdiction.
  - **2019 Growth of County Share:** Assumed the same population share of the county total approved in 2019.
  - Methodologies and projections found at
    - https://pagregion.com/wp-content/docs/pag/2023/08/2022-Sub-county-Population-Projection-Method_20230825-Final.pdf.



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2022 Subcounty Population Projections for Pima County Jurisdictions

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1. Background

Executive Order 2011-04 designated the Arizona Office of Economic Opportunity (AOEO) as the state agency responsible for developing official population estimates and projections for the State of Arizona. Regional Councils of Governments (COGs) are requested to assist AOEO in preparing the projection series. COGs, in accordance with AOEO policy, also have the option to produce subcounty population projections to incorporate with the series from AOEO. As a COG, Pima Association of Governments (PAG) signed a petition on February 21, 2023, to generate the 2022 subcounty population projection series for incorporated jurisdictions and the unincorporated balance of Pima County.

2. Subcounty Population Projections in Pima County

2.1 Assumptions

Subcounty population projections of all municipalities and unincorporated Pima County are developed based on the 2022 boundaries of each municipality as of July 1, 2022. These boundaries remain unchanged throughout the projection horizon. Future annexations or de-annexations cannot be predicted and are therefore not considered by this methodology.

Using the established geographical boundaries, PAG estimated the population growth capacity of each jurisdiction. This calculated capacity was held constant across the forecast horizon to ensure that the projected population of each municipality can be absorbed by current planning standards. PAG examined future land use plans and American Community Survey (ACS) 5-year estimates to establish a population growth cap for each jurisdiction based on the availability of developable land at current population densities. These constraints were defined by analysis of metrics such as total buildable land and the maximum number of permitted dwelling units on vacant, infill, and redevelopable land. When a

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Subcounty Population Projections

- Discussed with jurisdictions
  - Set up a maximum growth capacity for Oro Valley due to the limited build-out capacity left.
  - Assumed South Tucson population constant through the projection period for any possible Census data collection issues during COVID-19.
  - Proposed an average method of the time-series and the 2019 population share method to adjust strong population increase in City of Tucson and Pima County during the pandemic.

Subcounty Projection Summary

- Summary Table

	MAR	OV	SAH	STUC	TUC	PC	TOTAL
2022 Population	56,758	48,906	36,179	4,599	554,021	371,835	**1,072,298**
2030 Population	70,024	53,573	41,837	4,599	571,827	387,554	**1,129,414**
2040 Population	86,235	55,751	47,833	4,599	594,332	406,320	**1,195,070**
2050 Population	101,359	55,850	52,531	4,599	612,203	423,286	**1,249,828**
2055 Population	**108,709**	**55,850**	**54,803**	**4,599**	**621,385**	**431,642**	**1,276,988**
2060 Population	116,239	55,850	57,156	4,599	631,112	440,256	**1,305,212**
Growth (22-60)	59,481	6,944	20,977	-	77,091	68,421	**232,914**
Annual Growth	1,565	183	552	-	2,029	1,801	**6,129**
Annual Growth Rate	2.76%	0.37%	1.53%	0.00%	0.37%	0.48%	**0.57%**
Annual Growth Rate (10-22)	5.15%	1.60%	3.21%	-1.54%	0.42%	0.63%	**0.78%**
Share of County Growth	25.54%	2.98%	9.01%	0.00%	33.10%	29.38%	**100.00%**
Share of County Growth (10-22)	23.76%	8.63%	11.02%	-1.14%	29.03%	28.70%	**100.00%**
2022 County Share	5.29%	4.56%	3.37%	0.43%	51.67%	34.68%	**100.00%**
2060 County Share	8.91%	4.28%	4.38%	0.35%	48.35%	33.73%	**100.00%**

RMAP Timeline Update

- 2023 Q4
  - (TPC) Update RMAP project list.
  - (PopTech) Release AOEO population estimates.
  - (PopTech) Discuss employment data update and base and forecast year projections.
  - (PopTech) Collect jurisdiction's land use, known projects, and other inputs for PAG's land use model (LUM).
- 2024 Q1-Q2
  - (PopTech) Model RMAP scenarios with PAG LUM and ABM, and air quality model, MOVES.
  - (PopTech) Review RMAP scenario population and employment allocation.

Comments and Questions?

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