

GROWTH PROJECTIONS FOR CENTRAL TEXAS AND IMPLICATIONS FOR AIR QUALITY AND SOLID WASTE PLANNING

A&WMA Central Texas Chapter Meeting
March 28, 2019



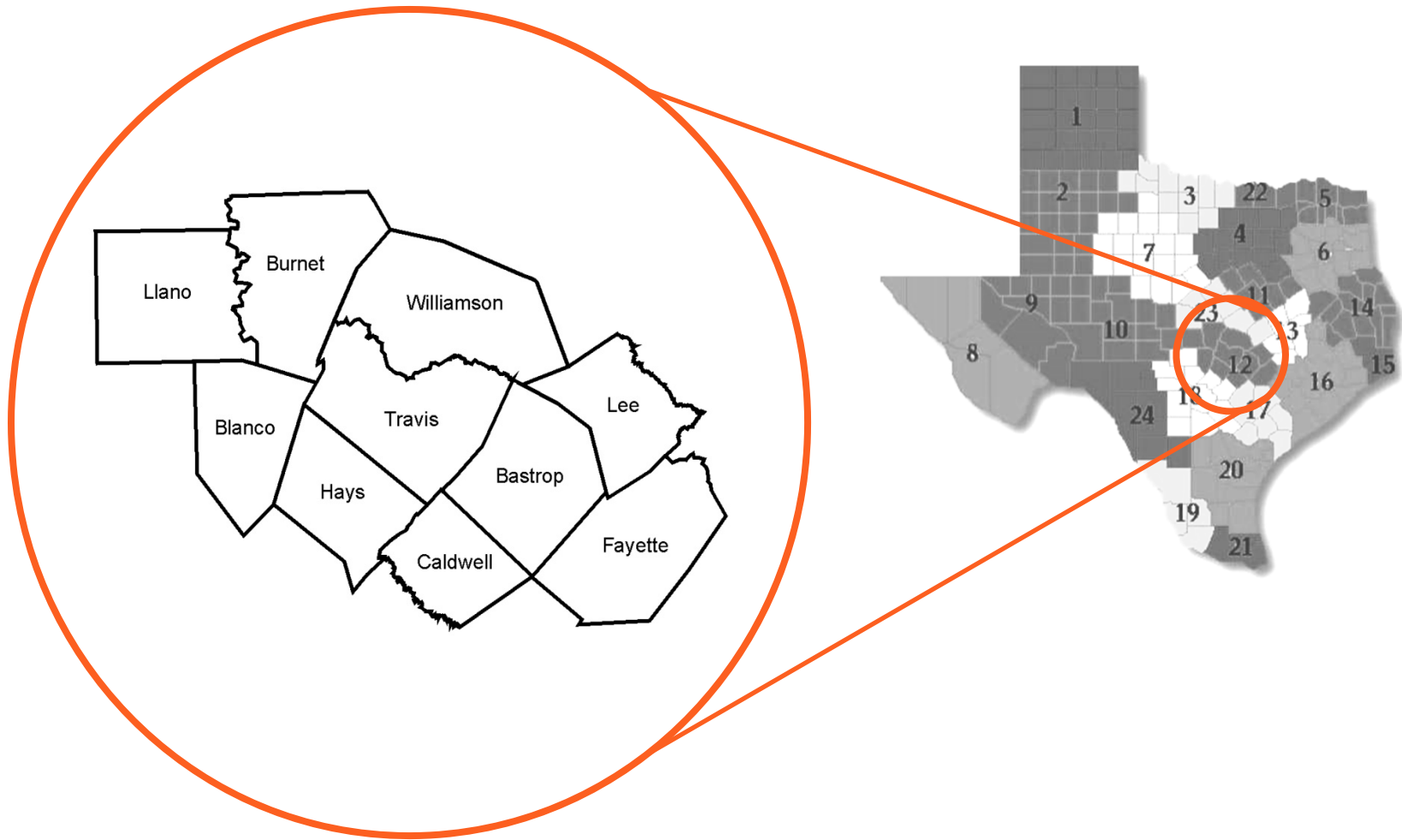
CAPITAL AREA COUNCIL OF GOVERNMENTS

CAPCOG – Regional Planning Commission in Statute;
more often called a COG.



- Emergency Communications 9-1-1
- Area Agency on Aging/Aging & Disability Resource Center
- Homeland Security Planning & Training
- Regional Law Enforcement Academy
- Air Quality Planning
- Solid Waste Planning
- Economic Development Analysis & Technical Assistance
- Transportation Planning

Ten – county service area; State of Texas planning region 12



CAPCOG Executive Committee



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	Council Member William Gordon City of Smithville	Judge James Oakley Burnet County		

CAPCOG's Air Quality Program



- Air Monitoring
- Emissions Inventories
- Control Strategy Analysis
- Technical Assistance
- Tracking Implementation of Regional AQ Plan
- Outreach and Education
- Ongoing Planning Activities
- Regulatory/Legislative Tracking

CAPCOG's Solid Waste Program



- Regional Solid Waste Management Plan
- Grants to Support the Regional Plan
- Solid Waste Facility Conformance Reviews
- Supports Regional Environmental Task Force
- Technical Assistance and Training
- Outreach and Education
- Maintain Closed Landfill Inventory

Presentation Overview



- How Growth Impacts Air Quality Planning
- How Growth Impacts Solid Waste Planning
- Review of New Population Projections and Comparison to Existing Projections

How Regional Population Growth Impacts Air Quality Planning

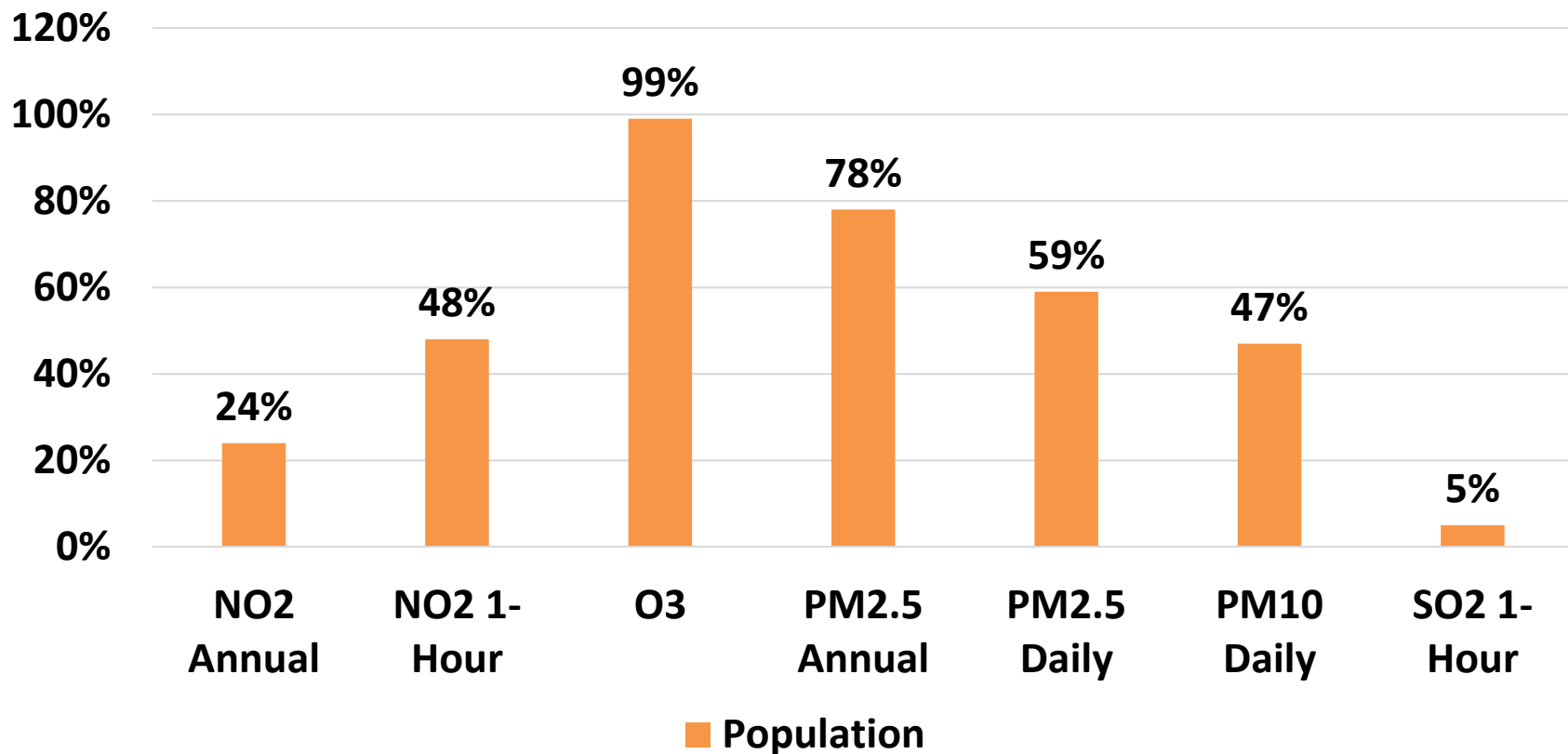


- Increases emissions-generating activity
 - vehicle miles traveled, kilowatt-hours of electricity consumed and generated, industrial output, etc.
- Increases the public health consequences of poor air quality
 - Larger numbers of sensitive groups
- High growth increases the likelihood of a “nonattainment” designation
- Growth outside of certain service areas limit the available control options

Regional Air Pollution Levels Compared to Federal Standards

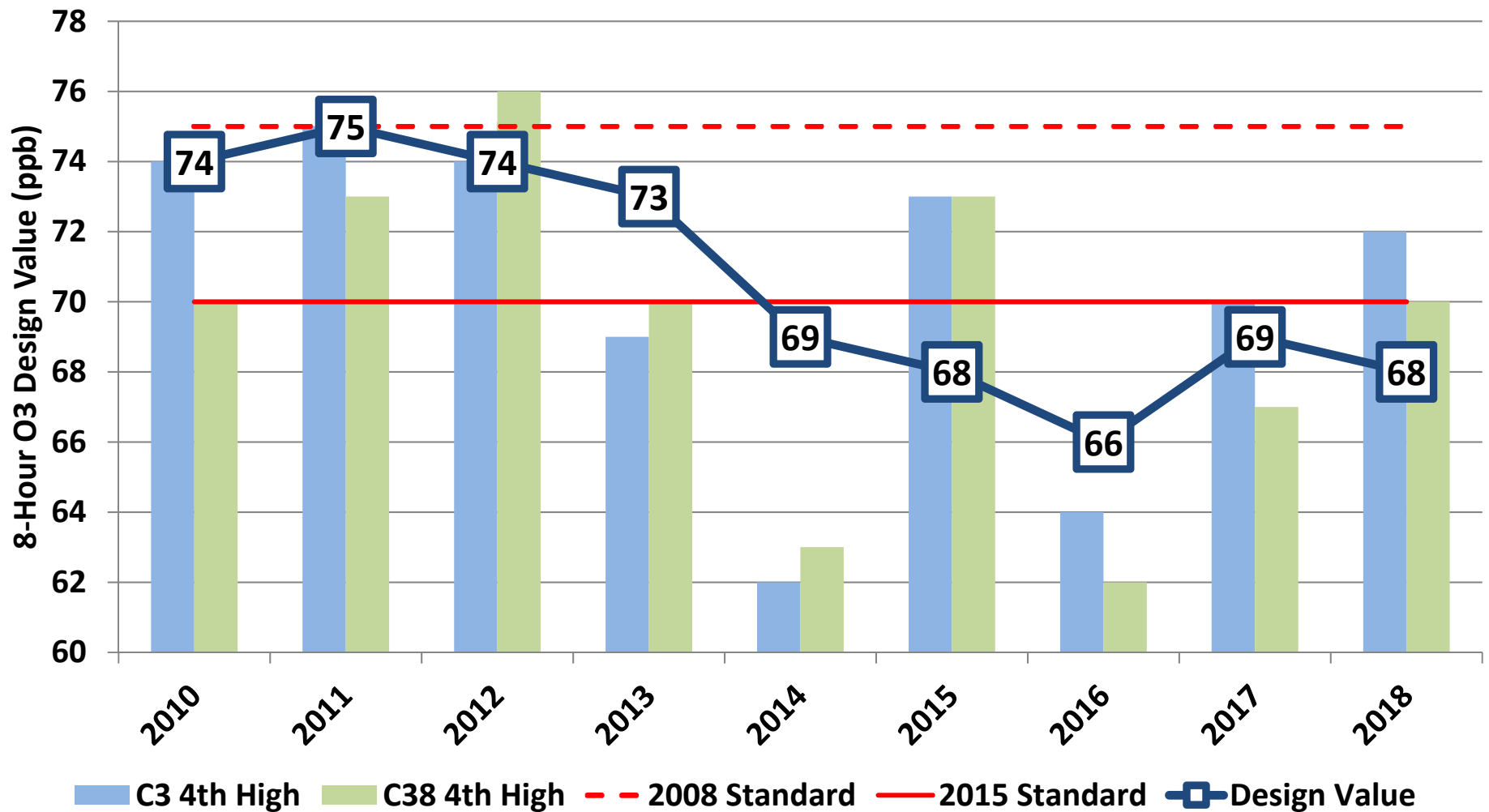


2017 Air Quality “Design Values” Compared to NAAQS



Source: EPA: <https://www.epa.gov/air-trends/air-quality-design-values>

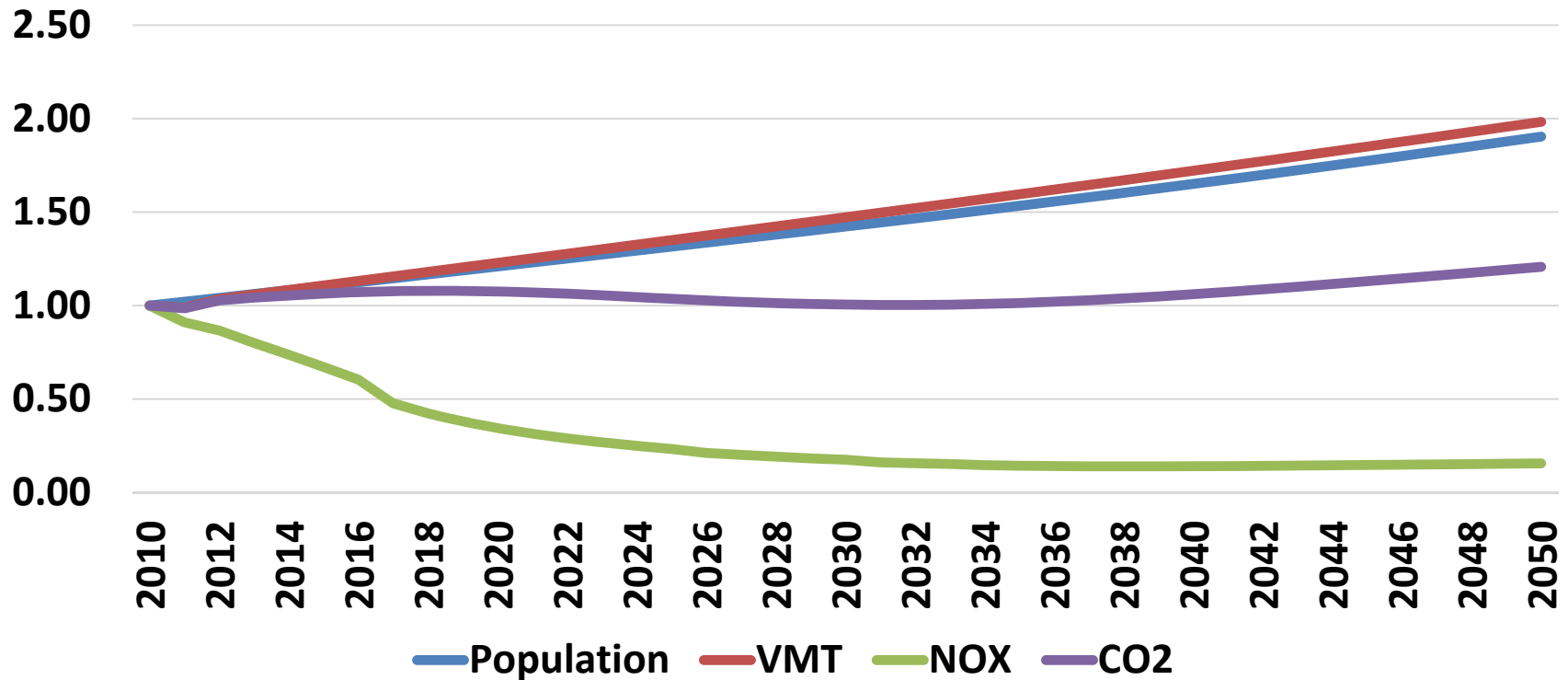
Trend in Ozone Design Value



Population Growth and On-Road Emissions



Population, VMT, and On-Road NO_x and CO₂ 2010-2050 Relative to 2010

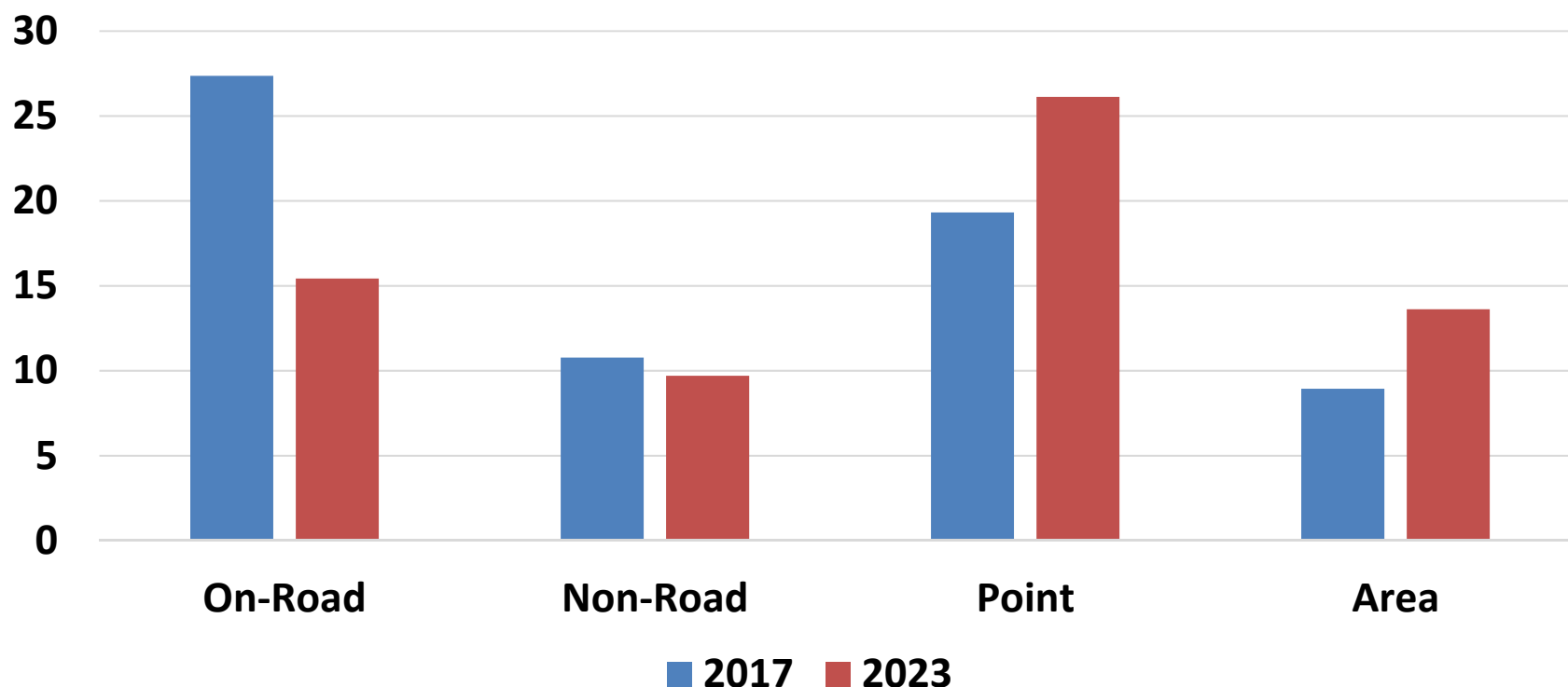


Source: TCEQ, 2015: ftp://amdaftp.tceq.texas.gov/pub/EI/onroad/mvs14_trends/



Metro Area NO_x Emissions by Source

EPA Estimates of Avg. Ozone Season NO_x Emissions in the MSA, 2017 & 2023



Source: EPA 2017ek and 2023en: <ftp://newftp.epa.gov/air/emismod/2011/v3platform/reports/>

Growth Impacts on Nonattainment Area Designations



- Population, degree of urbanization, vehicle miles traveled, and commuting patterns are factored into EPA’s decision as to whether to include a county as “contributing” to a violation nearby or not
- *“Population information such as the location and recent trends in population growth and the patterns of residential and commercial development can serve as potential indicators of probable location and magnitude of emissions sources that may contribute to ozone concentrations in a given nonattainment area.”* – EPA Guidance on 2015 Ozone NAAQS Designations:
<https://www.epa.gov/sites/production/files/2016-02/documents/ozone-designations-guidance-2015.pdf>
- Population growth also impacts jurisdictional boundaries due to impacts on the boundaries of Urbanized Areas and Urban Clusters
- Hays County and Williamson County are both adjacent to other MSAs

Location of Growth Impacts Available Controls



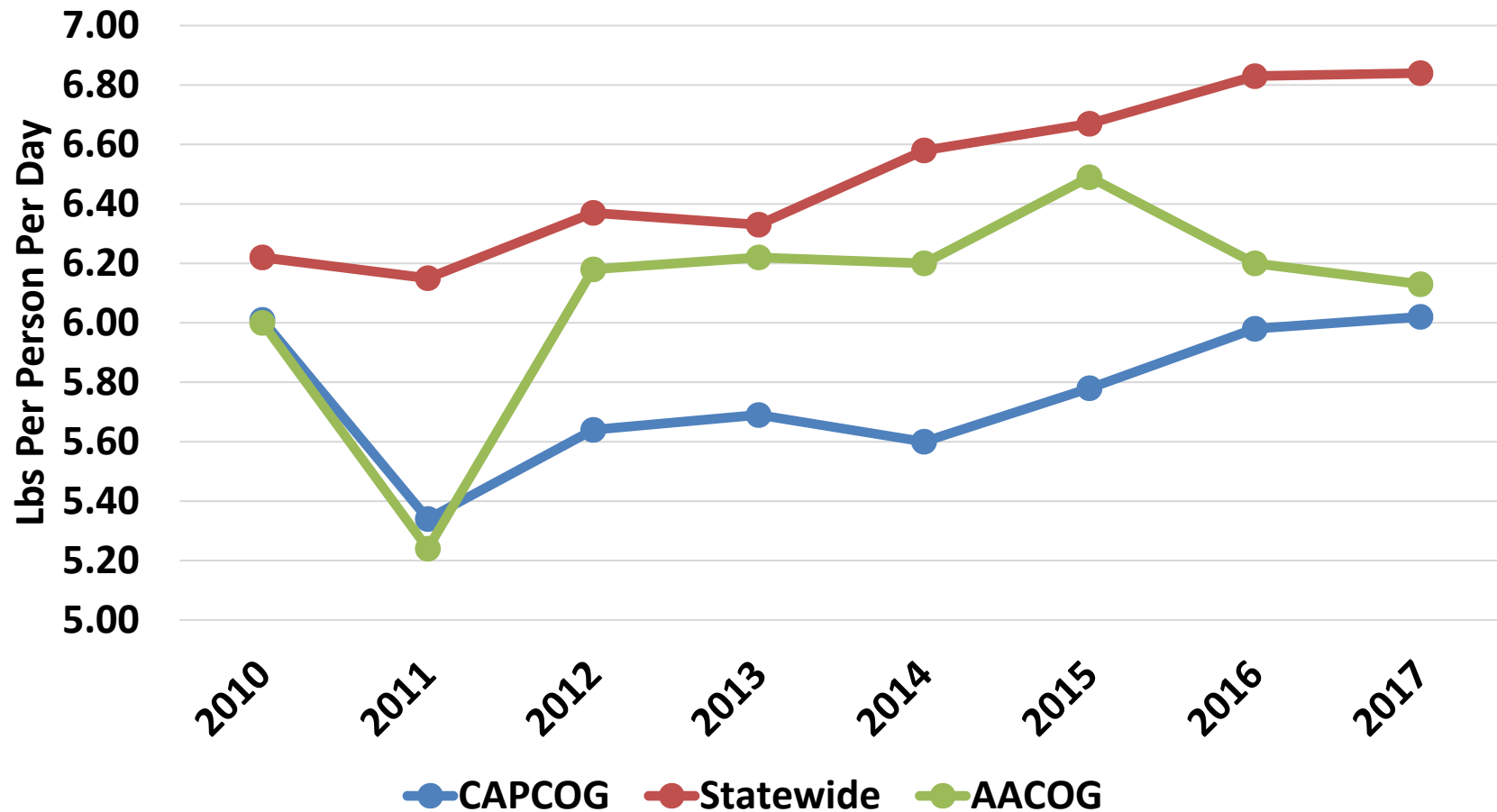
- Higher growth outside of Travis and Williamson Counties results in higher average gasoline vehicle emission rates due to the lack of a vehicle emissions inspection and maintenance program in the other counties
- Growth outside of CapMetro's service area but within the Austin Urbanized Area limits the ability to address commuting-related emissions through transit services
- Growth in unincorporated areas and jurisdictions outside of the service areas for Austin Energy and other municipal electric utilities limits the ability jurisdictions to address emissions through energy efficiency and renewable energy at the local level

How Regional Population Growth Impacts Solid Waste Planning

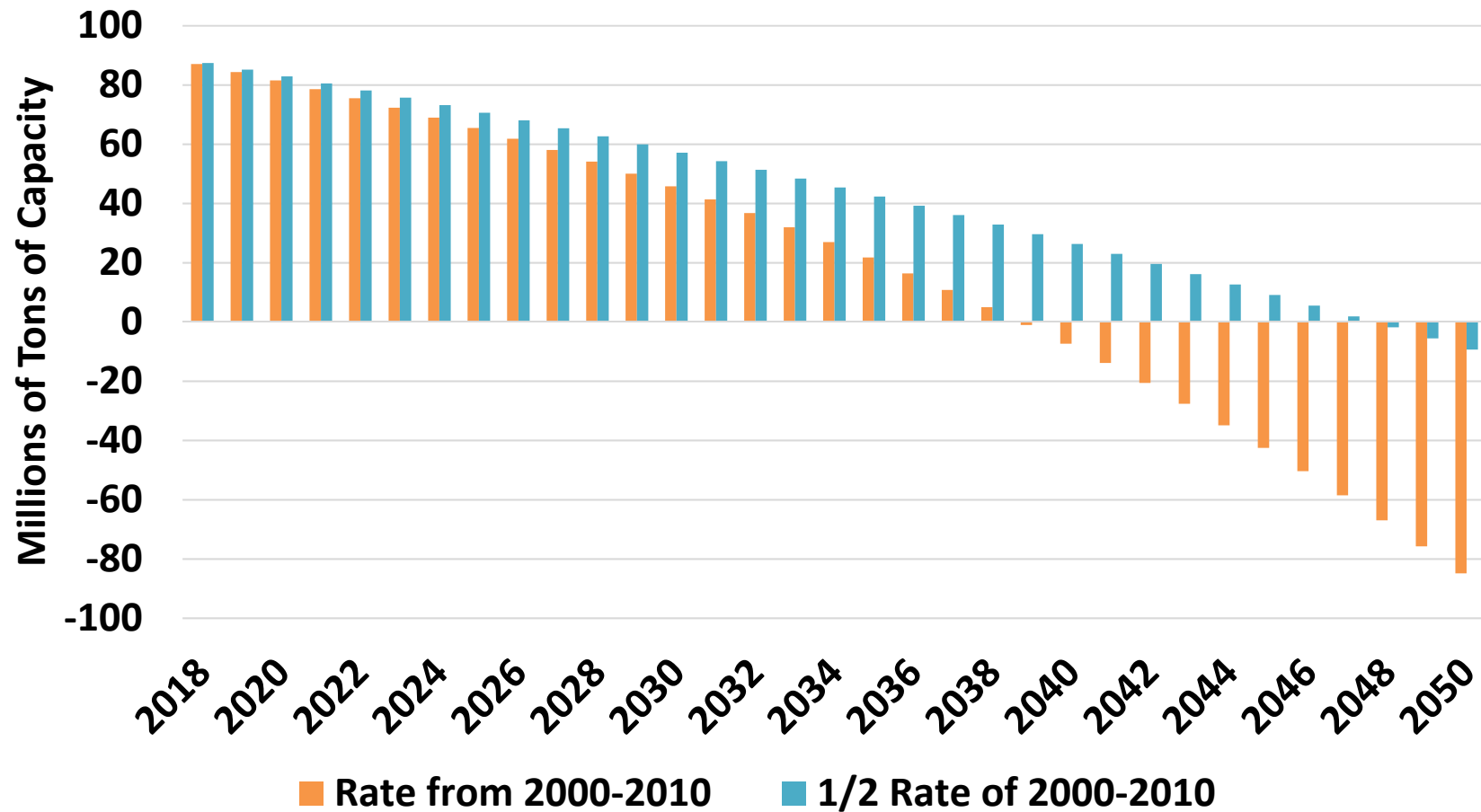


- Increased consumption, demand for materials, and waste generation
- High percentage of waste generated from construction & demolition
- Increased need for waste collection and transportation
- Increased need for markets for recycled materials
- Increased need for waste processing and disposal infrastructure
- Increased potential for land use conflict for solid waste facilities

Disposal Rates Over Time



Comparison of Landfill Capacity Projections Using Older Population Projections



Potential Land Use Conflicts for SW Facilities



- 30 TAC §330: Permit and registration applications are required to area land use information in its vicinity in order to determine if any land use conflicts exist
- **Within 500 feet:** Water wells, structures and inhabitable buildings
- **Within 1 mile:** Schools, licenses day-care facilities, churches, hospitals, cemeteries, ponds, lakes, and residential, commercial, and recreational areas, roads
- **Within 2 miles:** Zoning
- **Within 5 miles:** Growth
- **Within 6 miles:** Airports
- **Other factors:**
 - Floodplains, Wetlands, Endangered/Threatened Species, Archeological and Historic Sites
- Local siting ordinances also take these factors into account

Previous Texas Demographic Center Population Projections



- County-level estimates for 2010 - 2050 by age and race
- Based on data from 2000 – 2010
- Three growth scenarios:
 - “0.0” scenario: natural growth only (no migration)
 - “1.0” scenario: natural growth + migration
 - “0.5” scenario: half-way between 0.0 and 1.0
- 2017 State Water Plan and 2021 Regional Plans use the 0.5 growth scenario from data available in 2013
- CAMPO’s upcoming 2045 plan will be using the 1.0 growth scenario from 2014 release

2018 Texas Demographic Center Population Projections

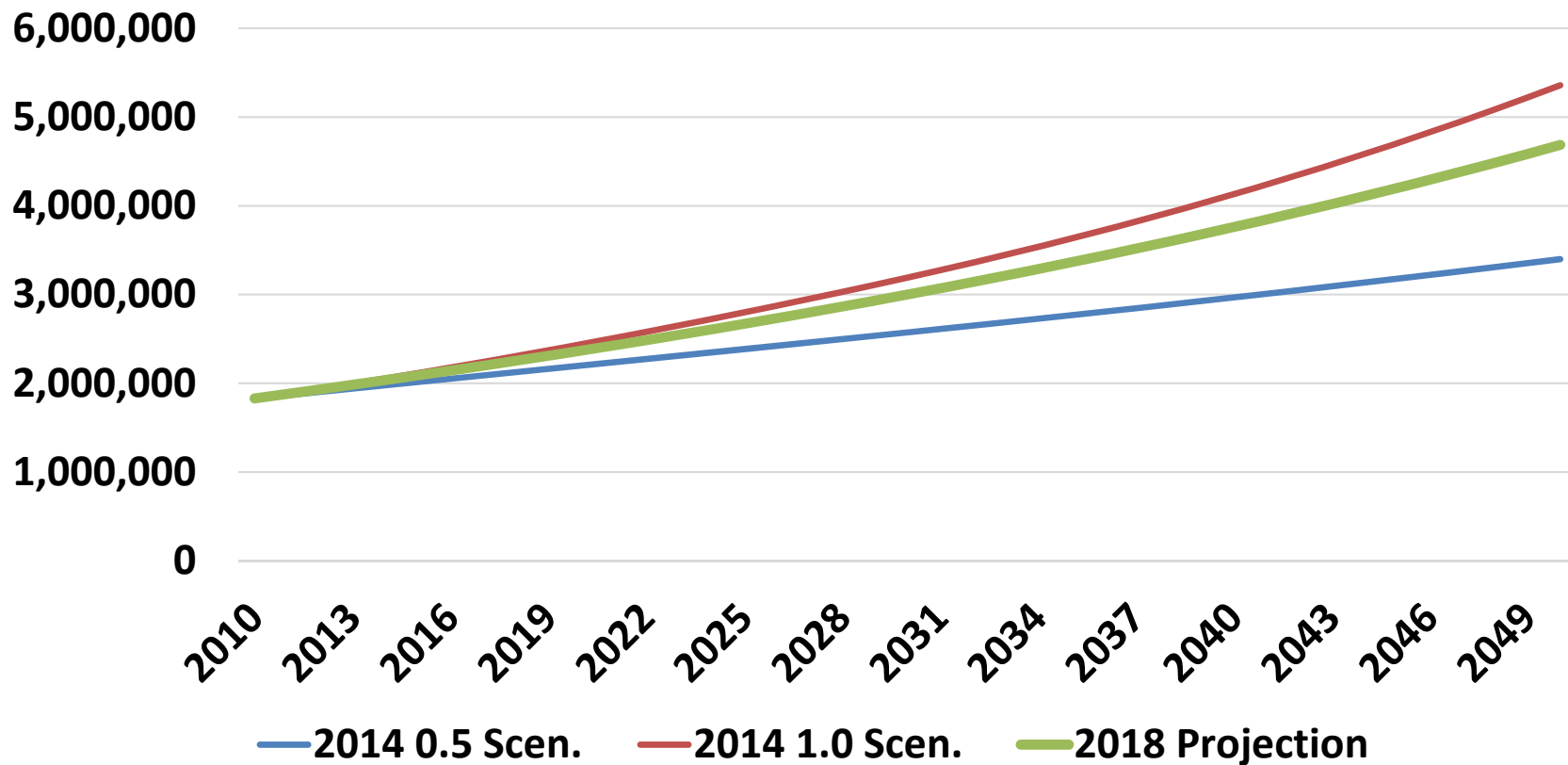


- County-level estimates for 2010 - 2050 by age and race
- Based on data from 2010 – 2015
- Only one scenario presented
- Released December 2018

Population Projections



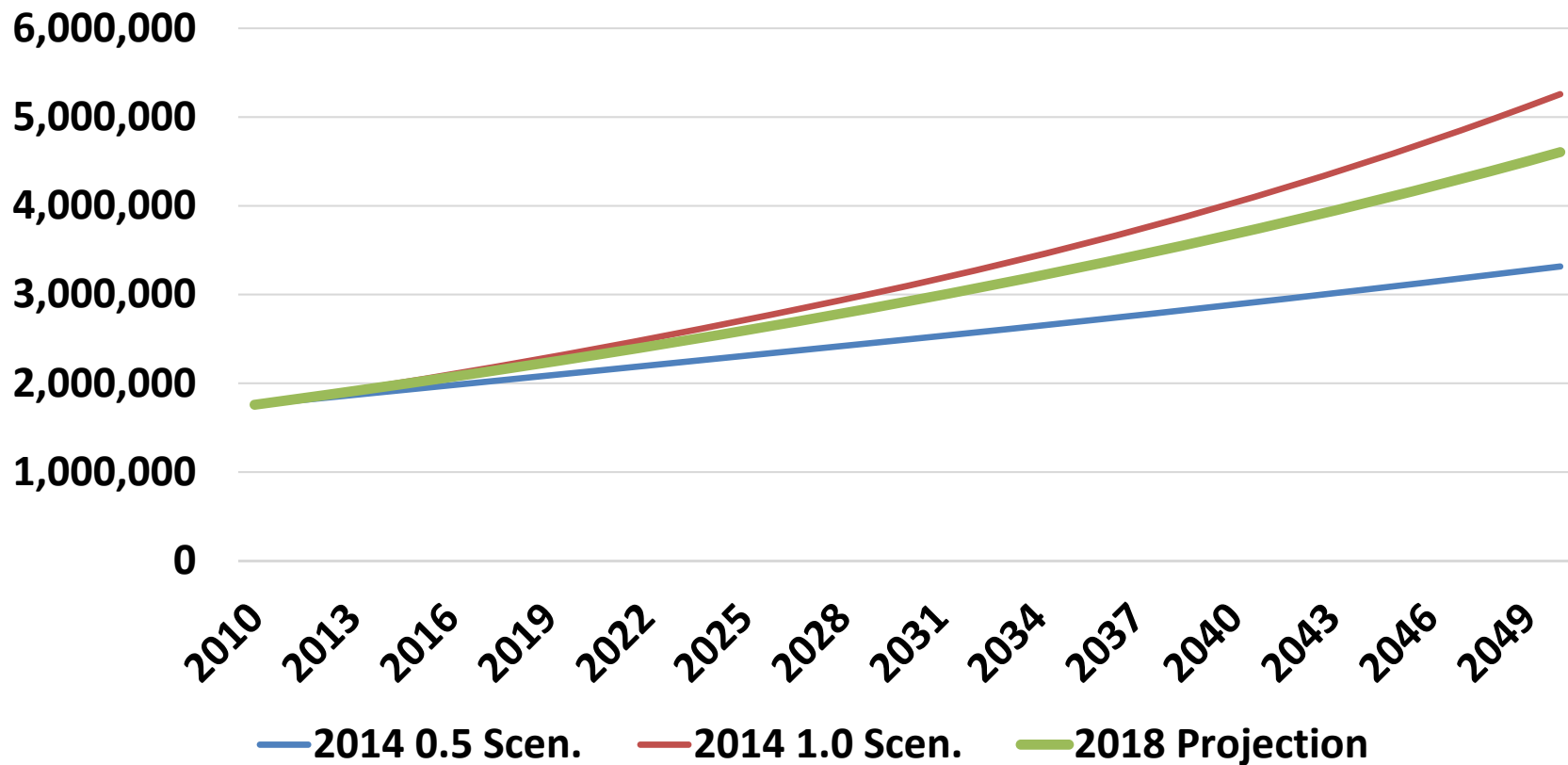
CAPCOG Region Projections by Scenario



Population Projections



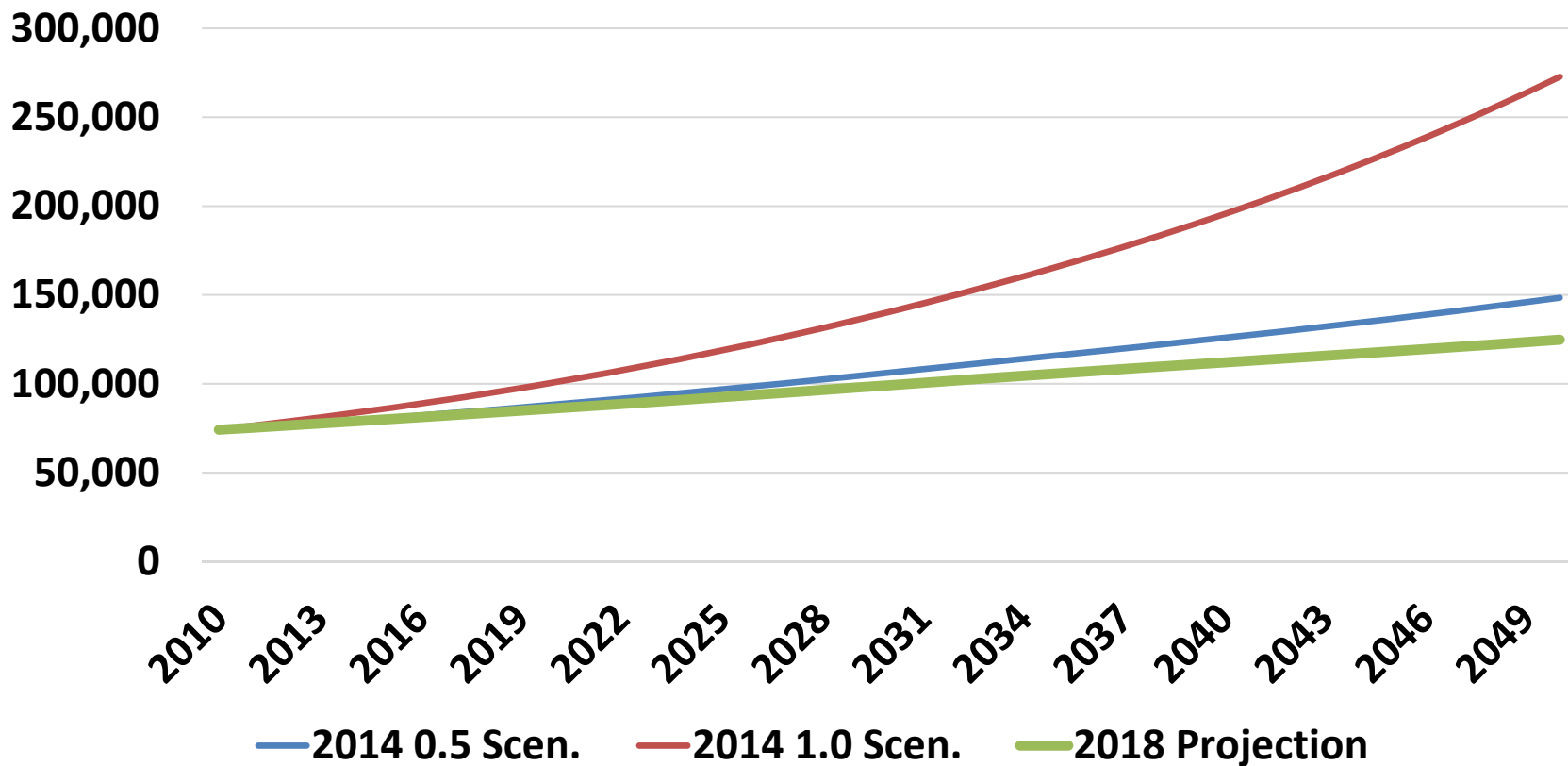
CAMPO Region Projections by Scenario



Population Projections



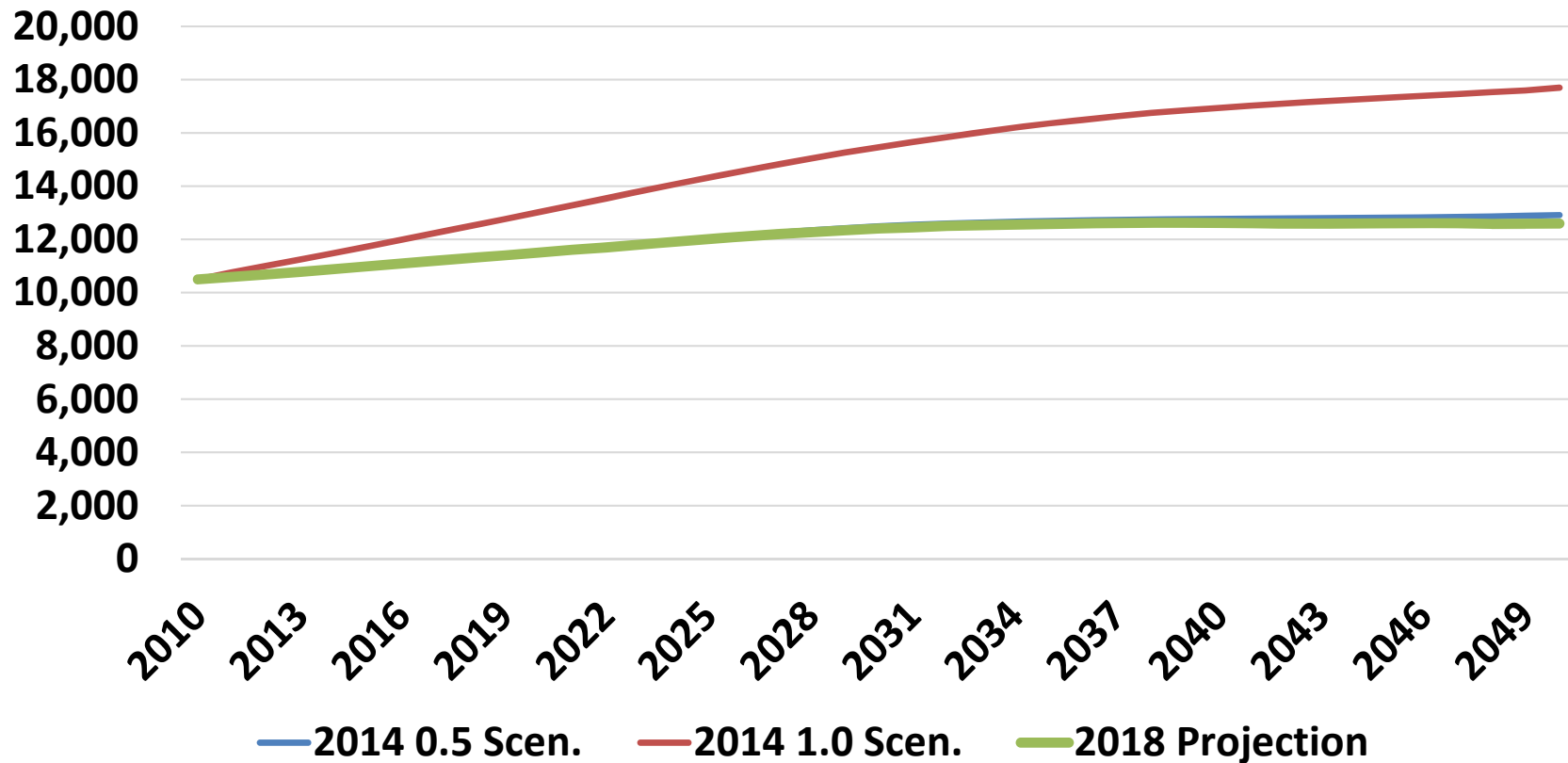
Bastrop County Projections by Scenario



Population Projections



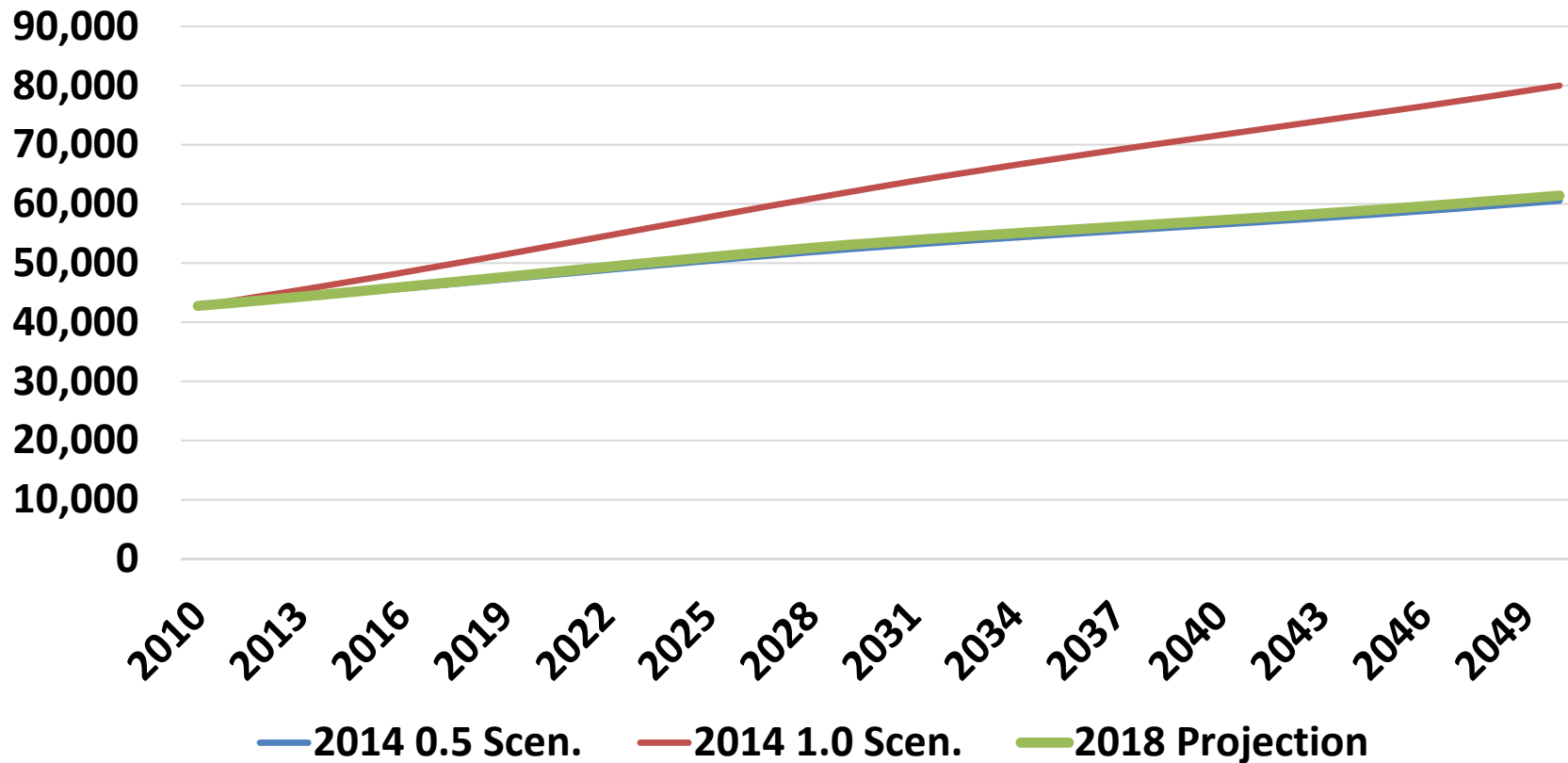
Blanco County Projections by Scenario



Population Projections



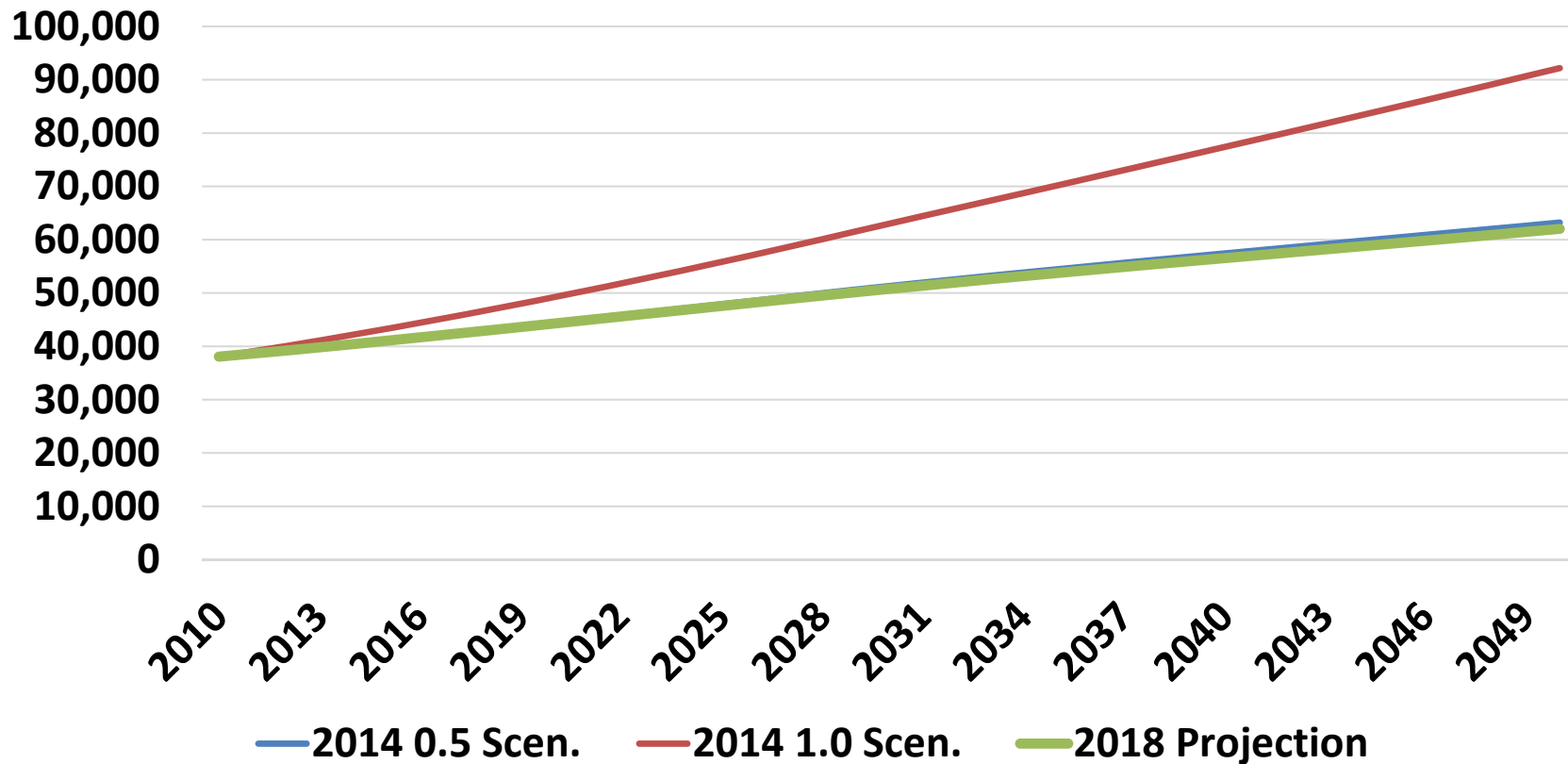
Burnet County Projections by Scenario



Population Projections



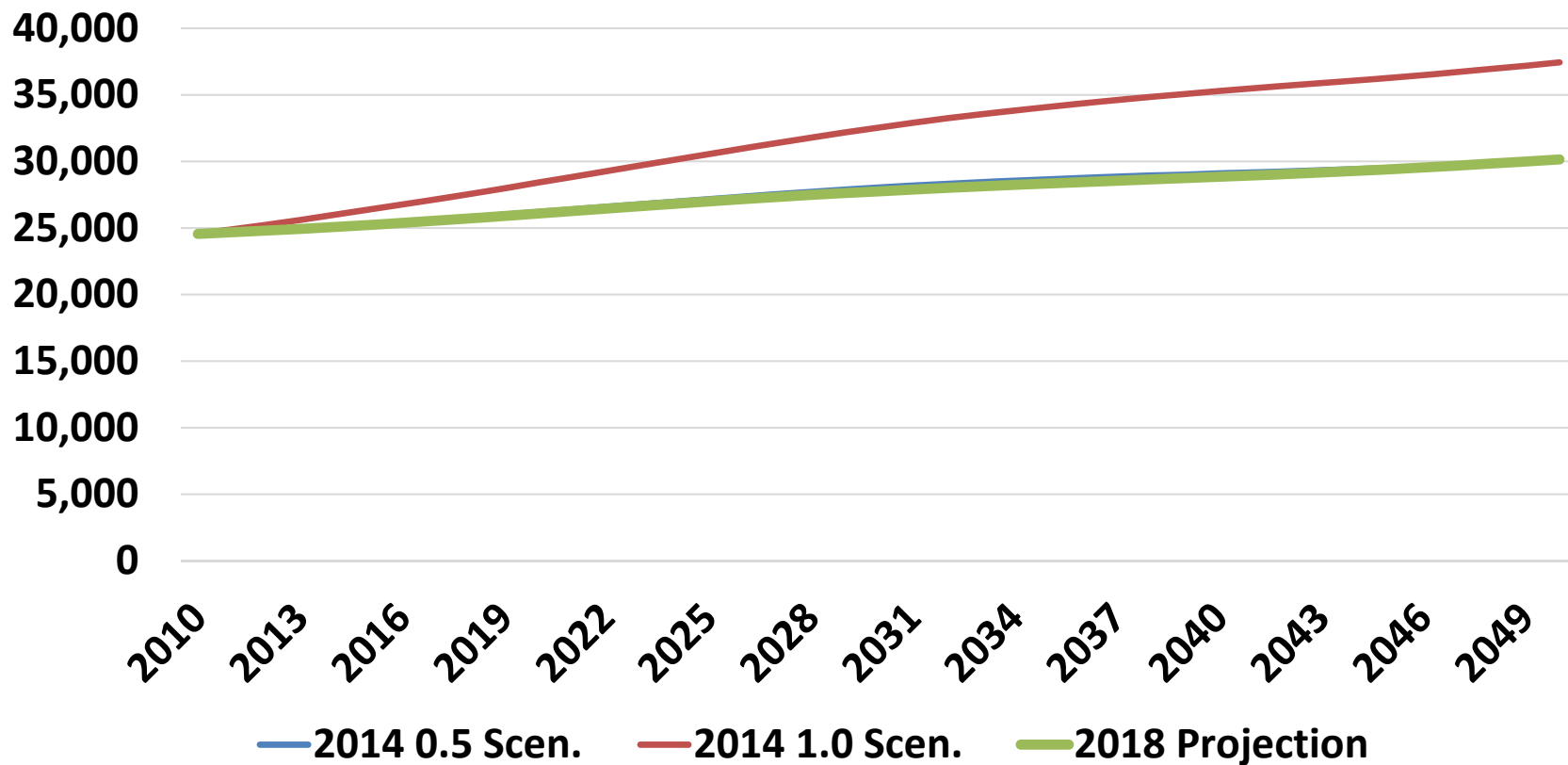
Caldwell County Projections by Scenario



Population Projections



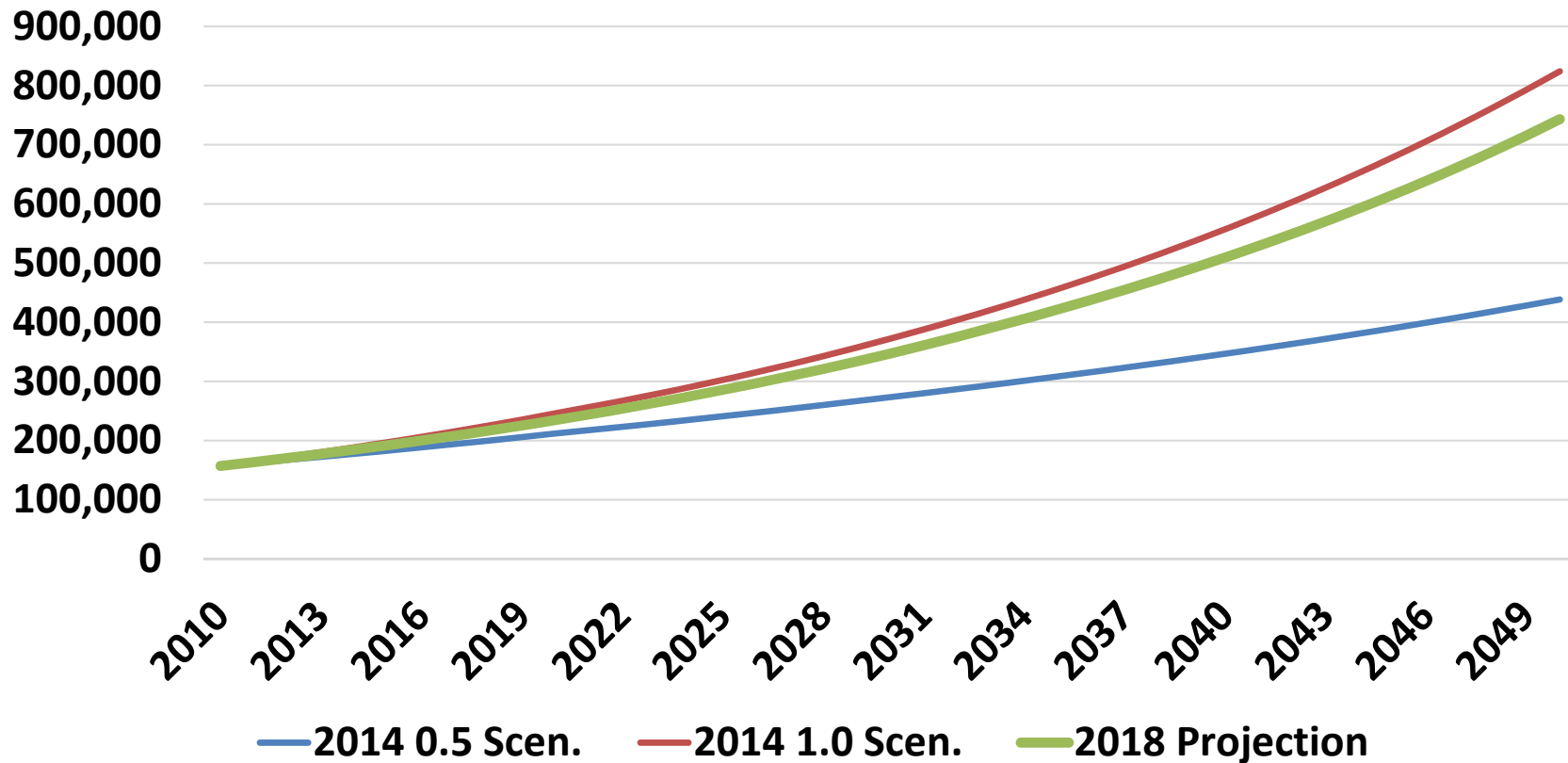
Fayette County Projections by Scenario



Population Projections



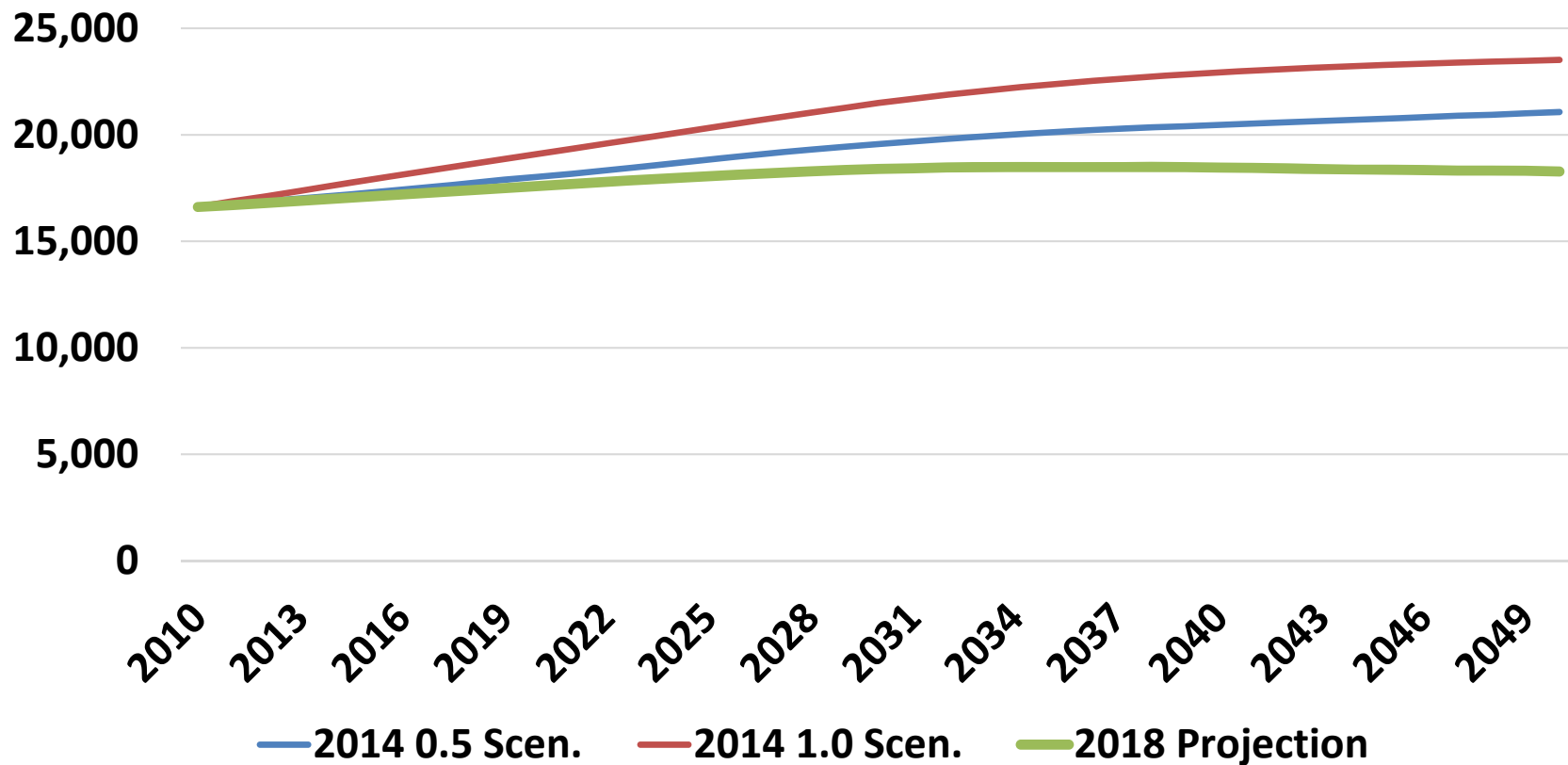
Hays County Projections by Scenario



Population Projections



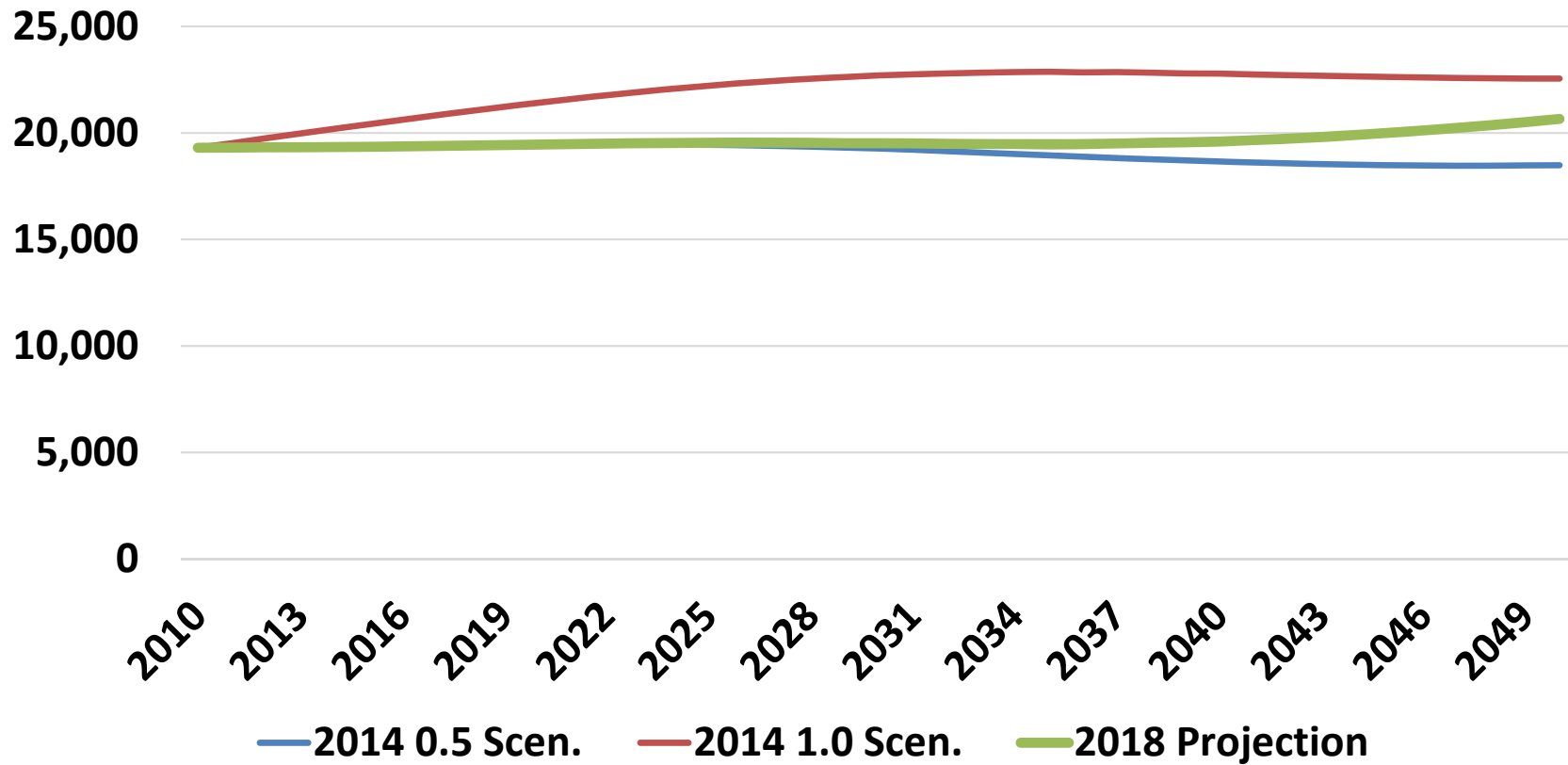
Lee County Projections by Scenario



Population Projections



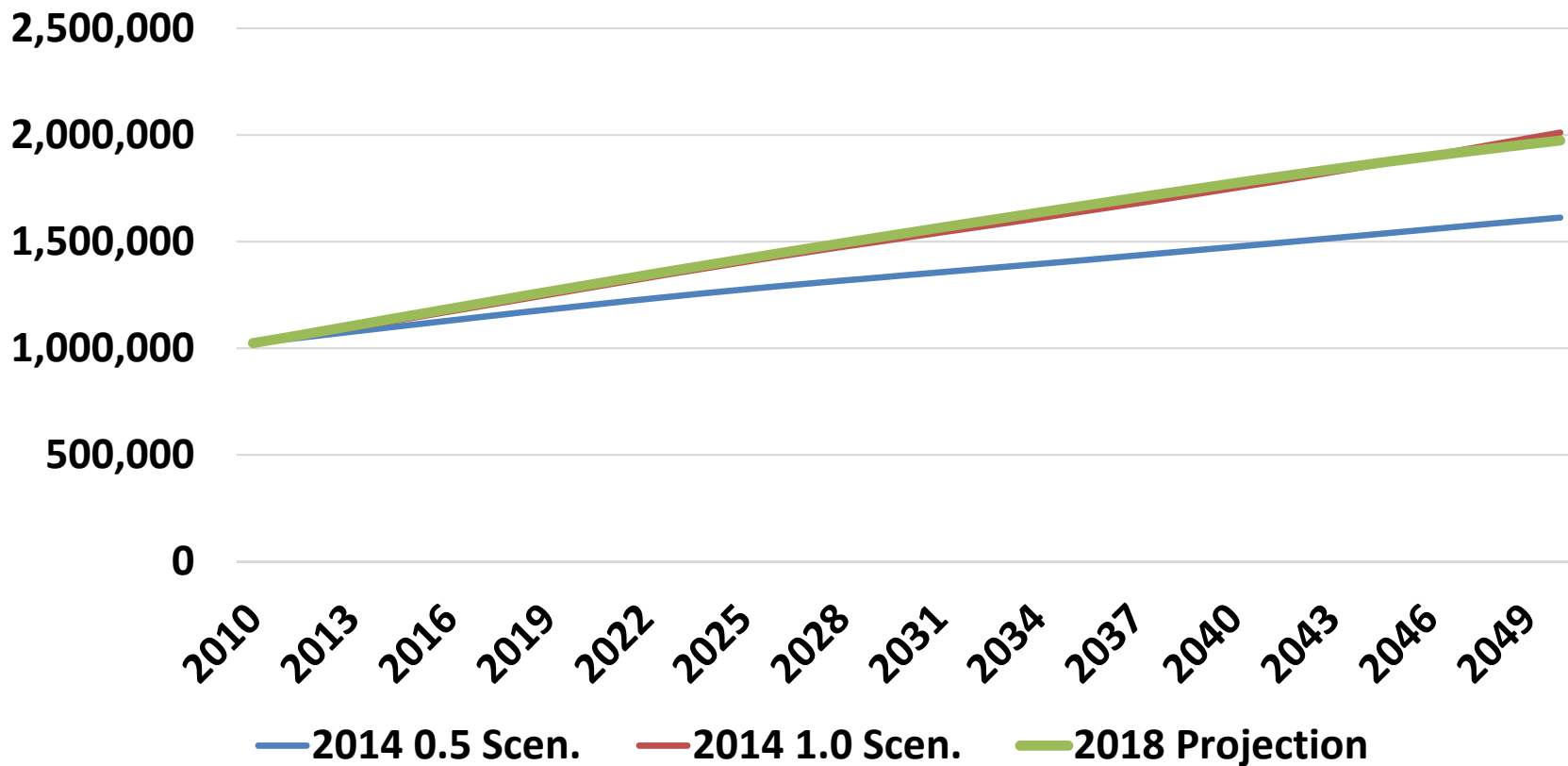
Llano County Projections by Scenario



Population Projections



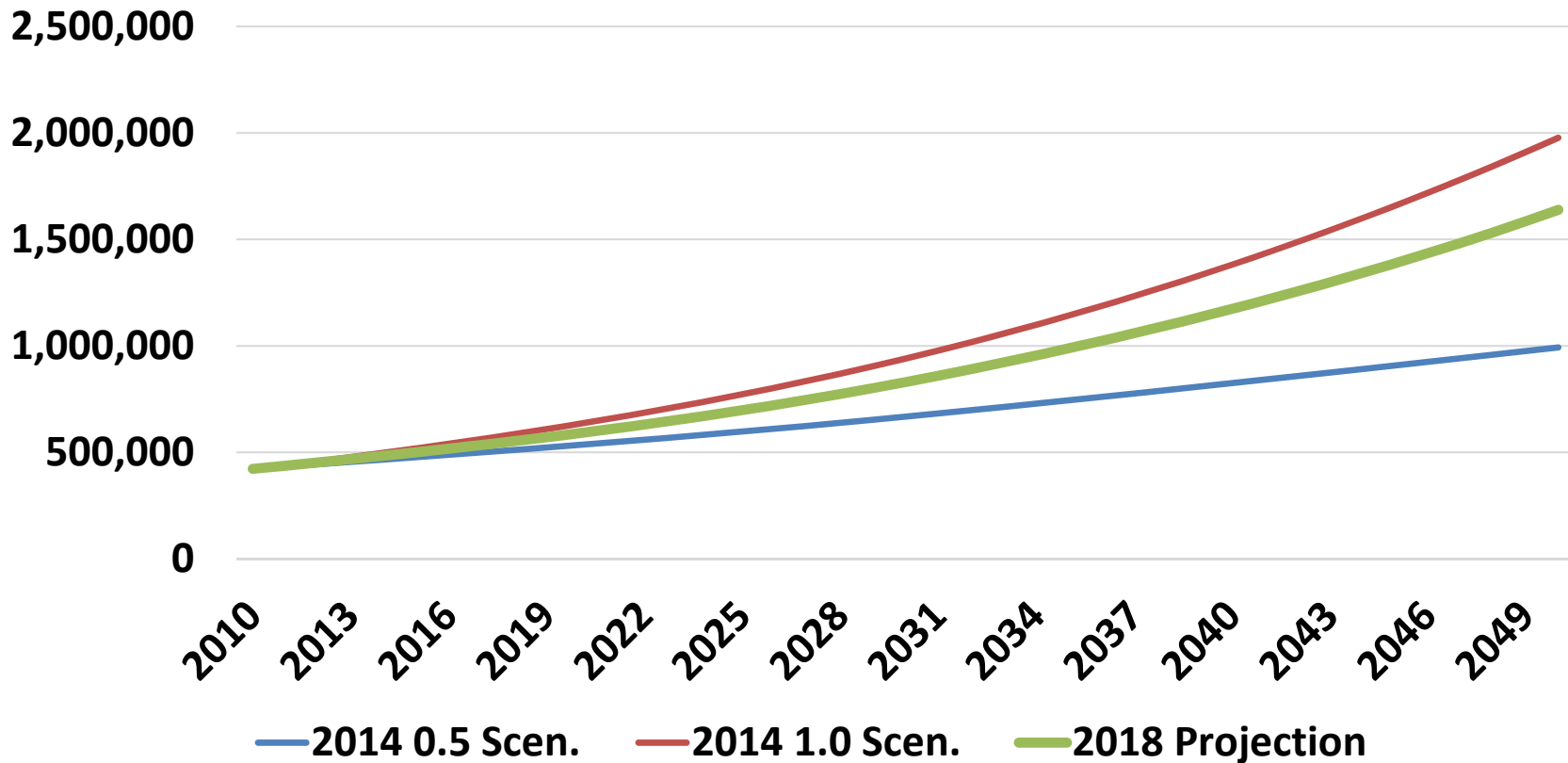
Travis County Projections by Scenario



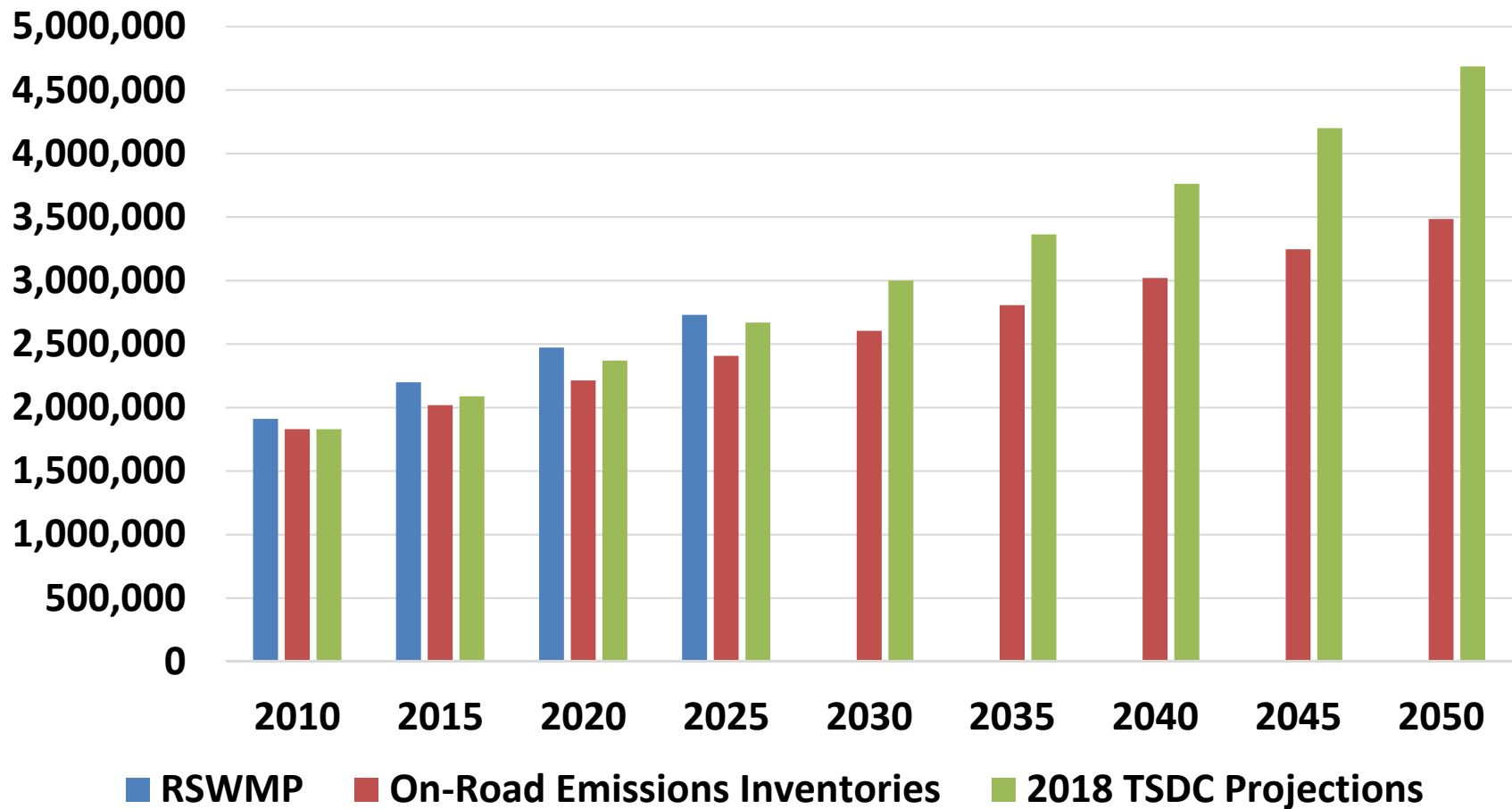
Population Projections



Williamson County Projections by Scenario



Population Projections in Air Quality and Solid Waste Plans Compared to New Projections



Population Projections



- CAPCOG region population set to double by 2050 compared to 2019
 - 67% of this growth expected to occur in Hays and Williamson Counties
 - 30% is expected to occur in Travis County
 - Only 3% expected to occur in Bastrop, Blanco, Burnet, Caldwell, Fayette, Lee, and Llano Counties combined
- Travis County projected to make up less than 50% of the region's total population by 2034

Population Projections



- Compared to previous projections, new projections:
 - Are very close to the 1.0 scenario for Travis County
 - Are slightly lower than the 1.0 scenario for Hays and Williamson Counties
 - Are very close to the 0.5 scenario for all other Counties
- CAMPO's upcoming 2045 model will use the 2014 1.0 Scenario for all counties
- Existing and upcoming state water plan use an older version of the 0.5 scenario for all counties

Key Implications



- **Short-term growth trends in the next 1-5 years would pose the greatest risk to compliance with air quality standards**
- **Air quality is improving over time, but risks of Hays and Williamson Counties being included in any potential “nonattainment” area will continue to increase as these areas grow relative to the region as a whole**
- **The projected needs for additional solid waste services outside of the I-35 corridor are lower than previous the “worst case scenario” planning assumptions**
- **Higher need for solid waste facilities outside of high-density areas and more pressure to build in these areas**

Thank You



Capital Area Council of Governments

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