A Study on Workers' Historical Travel Patterns to Employment Centers in the San Diego Region

U.S. Census 2023 Local Employment Dynamics Partnership Workshop

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Agenda

- Introduction
- Problem Statement
- SANDAG Employment Centers
- Methodology and Findings
- Applications

About SANDAG

Metropolitan Planning Organization

- Federal Designation: transportation funding – Regional Plan

Regional Transportation Planning Agency

- State Designation: transportation funding – Regional Plan

Council of Governments

- State Designation: Regional Housing Needs Assessment (RHNA)

Consolidated Agency

- State Law: plan and build transportation projects

Regional Transportation Commission

- TransNet Program: oversight and funding

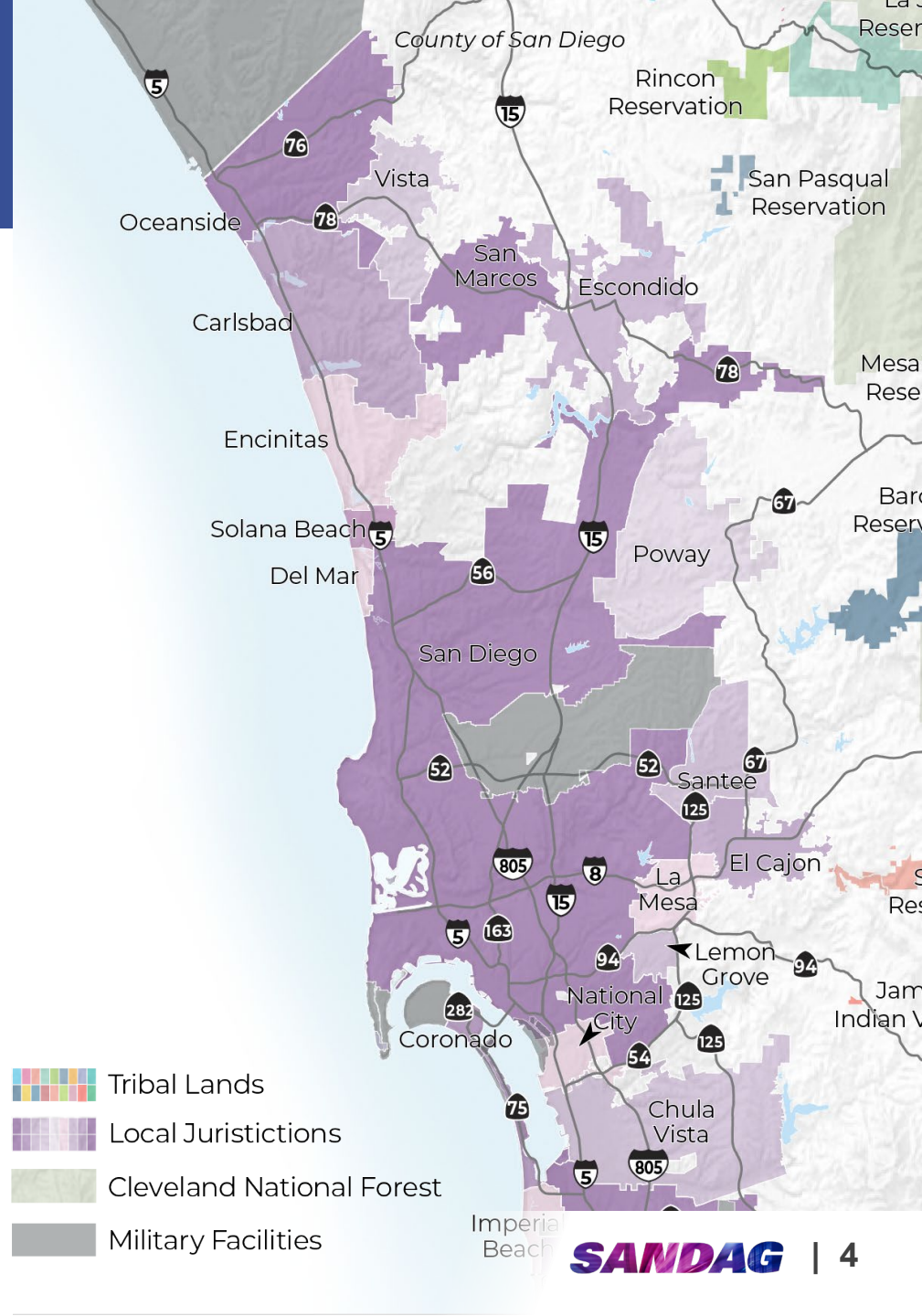
San Diego Region

3,298,634
total population

2,054,042
full-time and part-time jobs

58%
households with income above $60,000

1,228,505
housing units



Source: 2020 Census Redistricting Data (P.L. 94-171) Summary File; SANDAG 2020 Population and Housing Estimates; Bureau of Economic Analysis, 2021 Total full-time and part-time employment

Problem Statement

- What are the **Employment Centers** in the region?
- What have the overall **job growth** trends been over time?
- Have there been changes in **gender distribution** by industries over time?
- How have **workers' age distributions** changed over time?
- Are certain industries attracting workers with **different levels of education**?
- Have there been **income inequities** over time?
- Have there been changes in workplace **proximities** over time?

Employment Centers

Tier	Count	# Employees
1	3	75K+
2	10	25-75K
3	15	15-25K
4	51	2.5-15K
Total	79	

[SANDAG Employment Centers Methodology](https://www.sandag.org/data-and-research/socioeconomics/estimates-and-forecasts)
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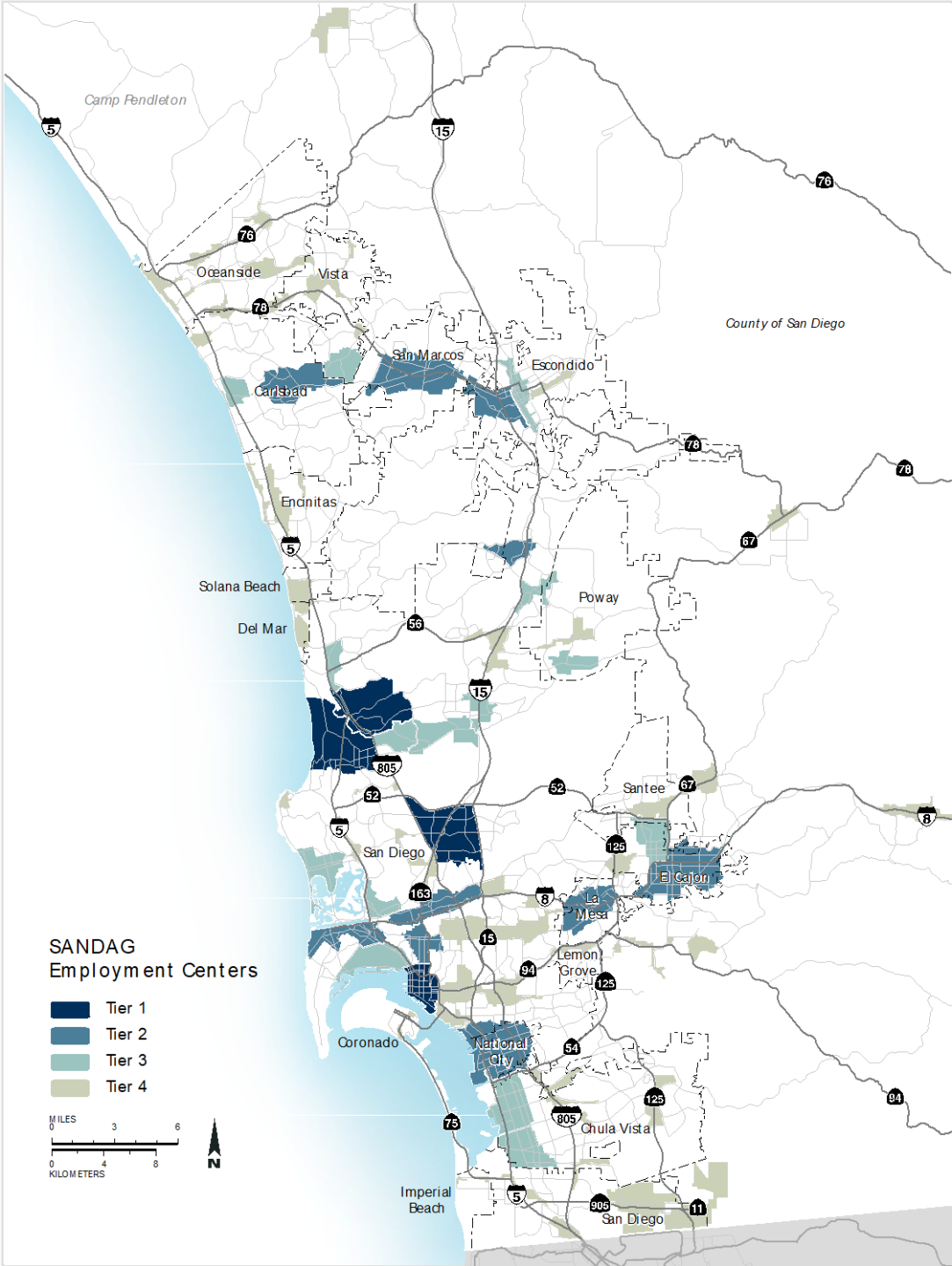
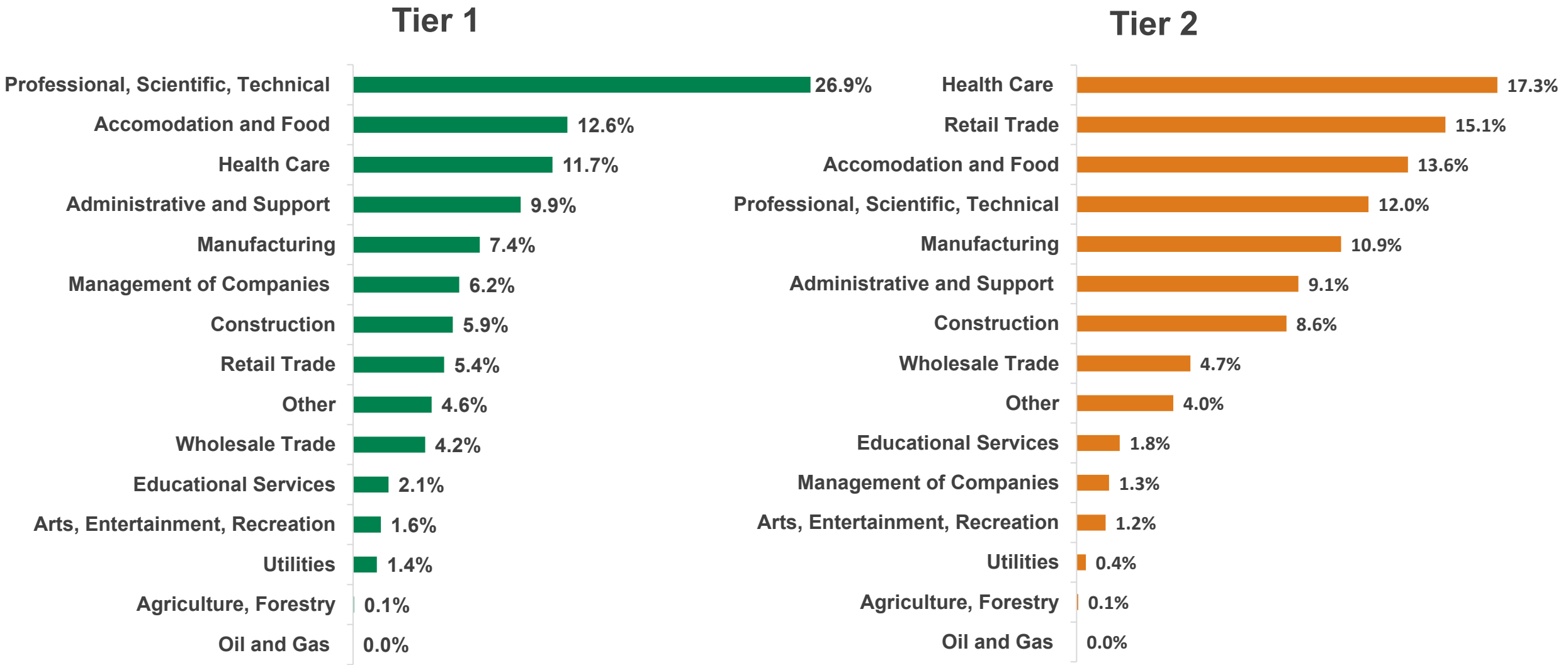


Sectors by Employment Center Tiers (2019)



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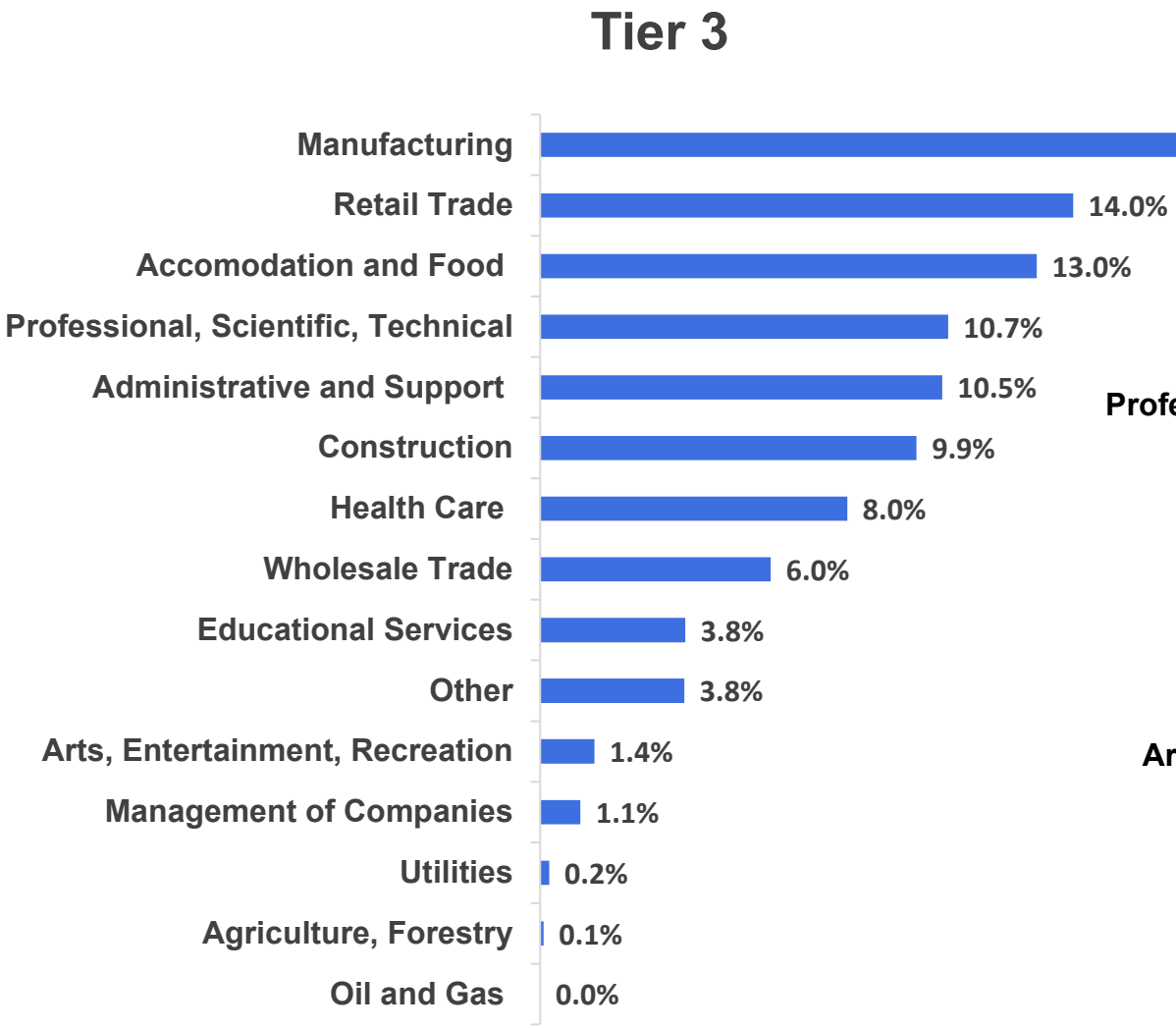
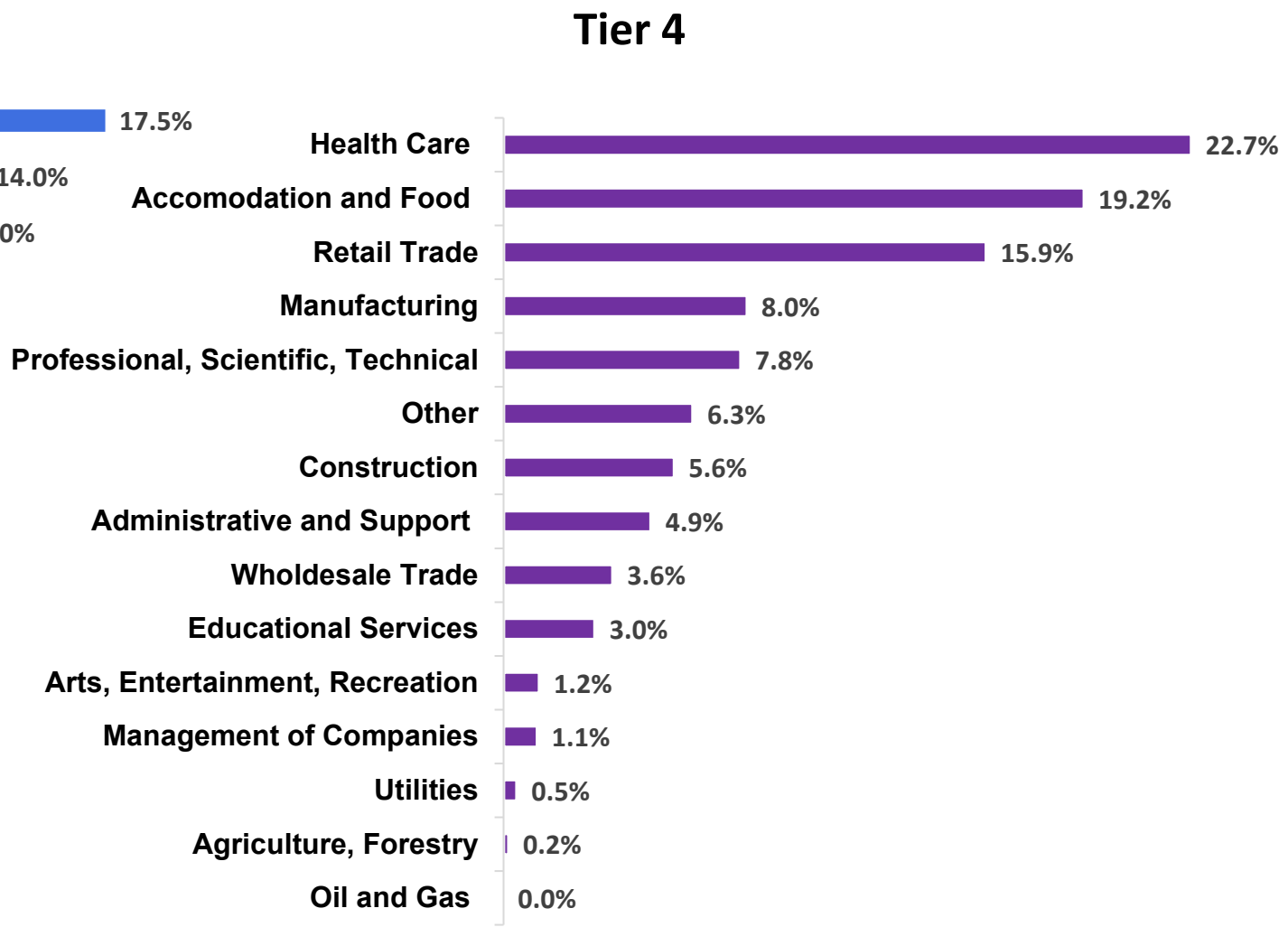




Methodology and Research Findings

Data

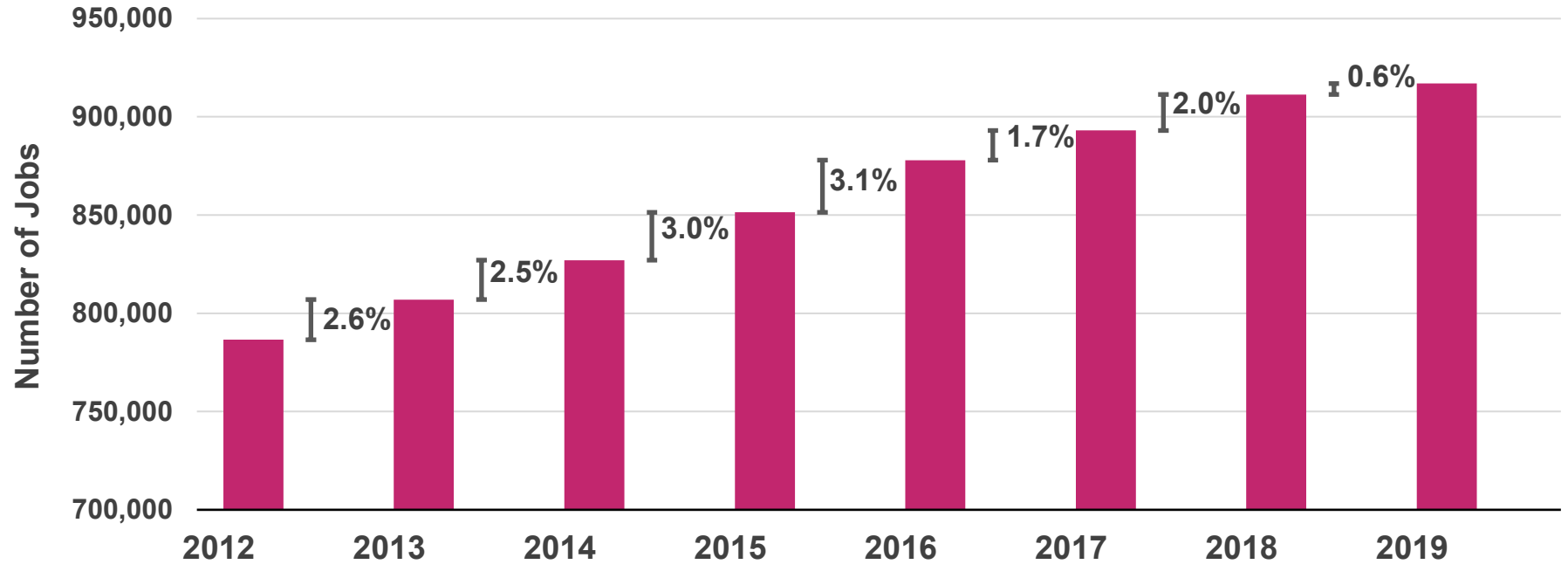
- LEHD Origin-Destination Employment Statistics (LODES) Version 7.5
  - Employment and residential areas
  - Census block level
  - Private primary jobs (JT03)
  - 2012-2019 time period

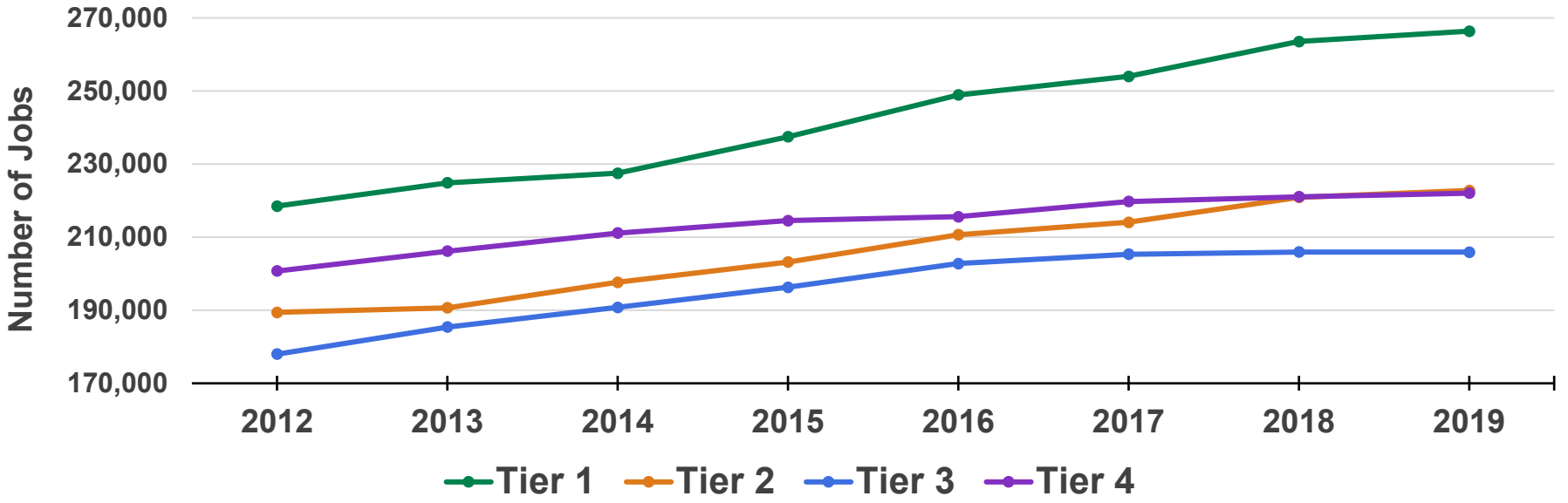
Analysis Process

- Explore historical patterns to better understand:
  - Relationship between **socio-demographic characteristics** and **Employment Center** Tiers
- Primary Characteristics:
  - Job growth
  - Gender
  - Age
  - Income distribution
  - Education attainment
  - Proximity (direct distance between employment and residential areas)

Job Growth

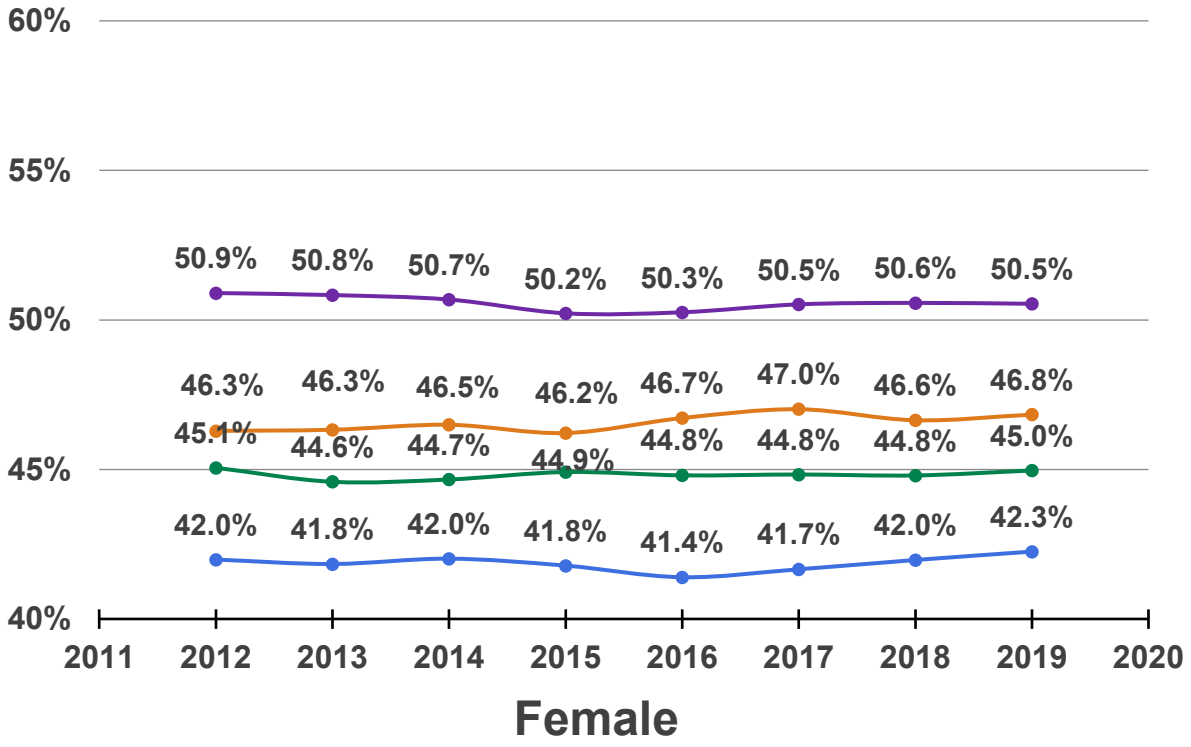
- The region experienced largest year-over-year job growth in 2016
- Significant and steady job growth in Tier 1 across all years
- Job growth remains flat starting 2016 in Tier 3 and Tier 4

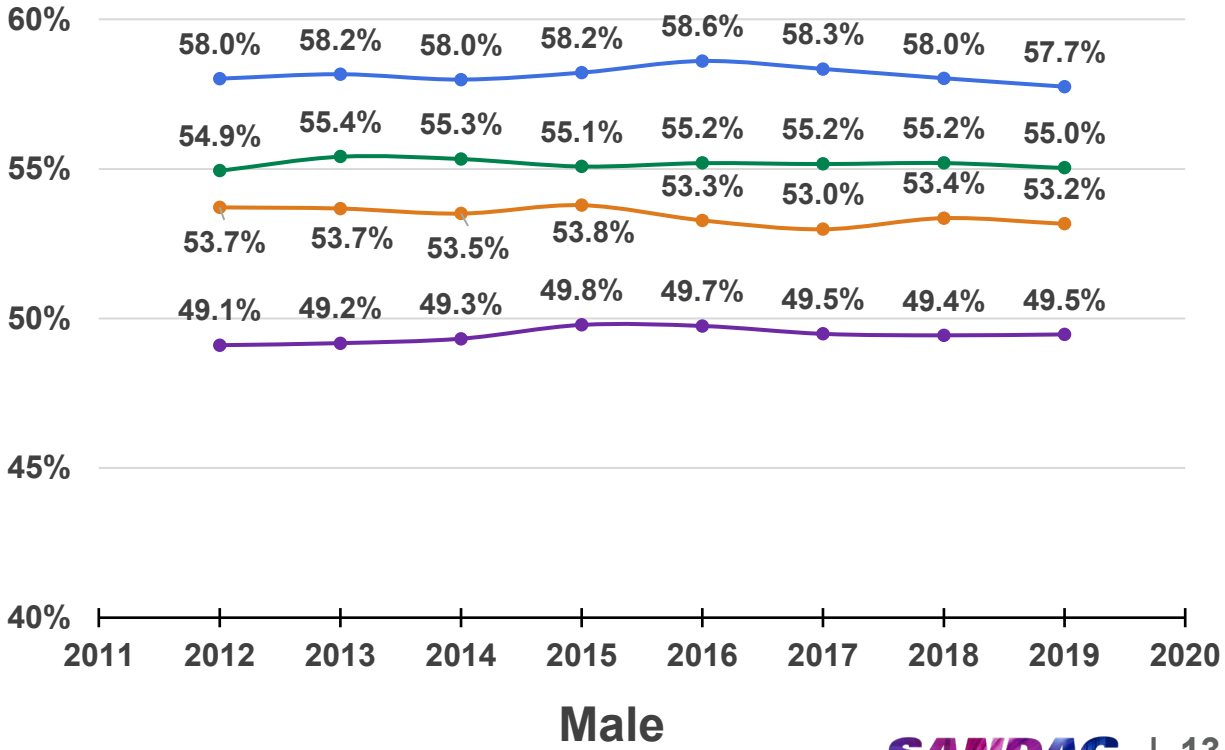




Gender Distribution

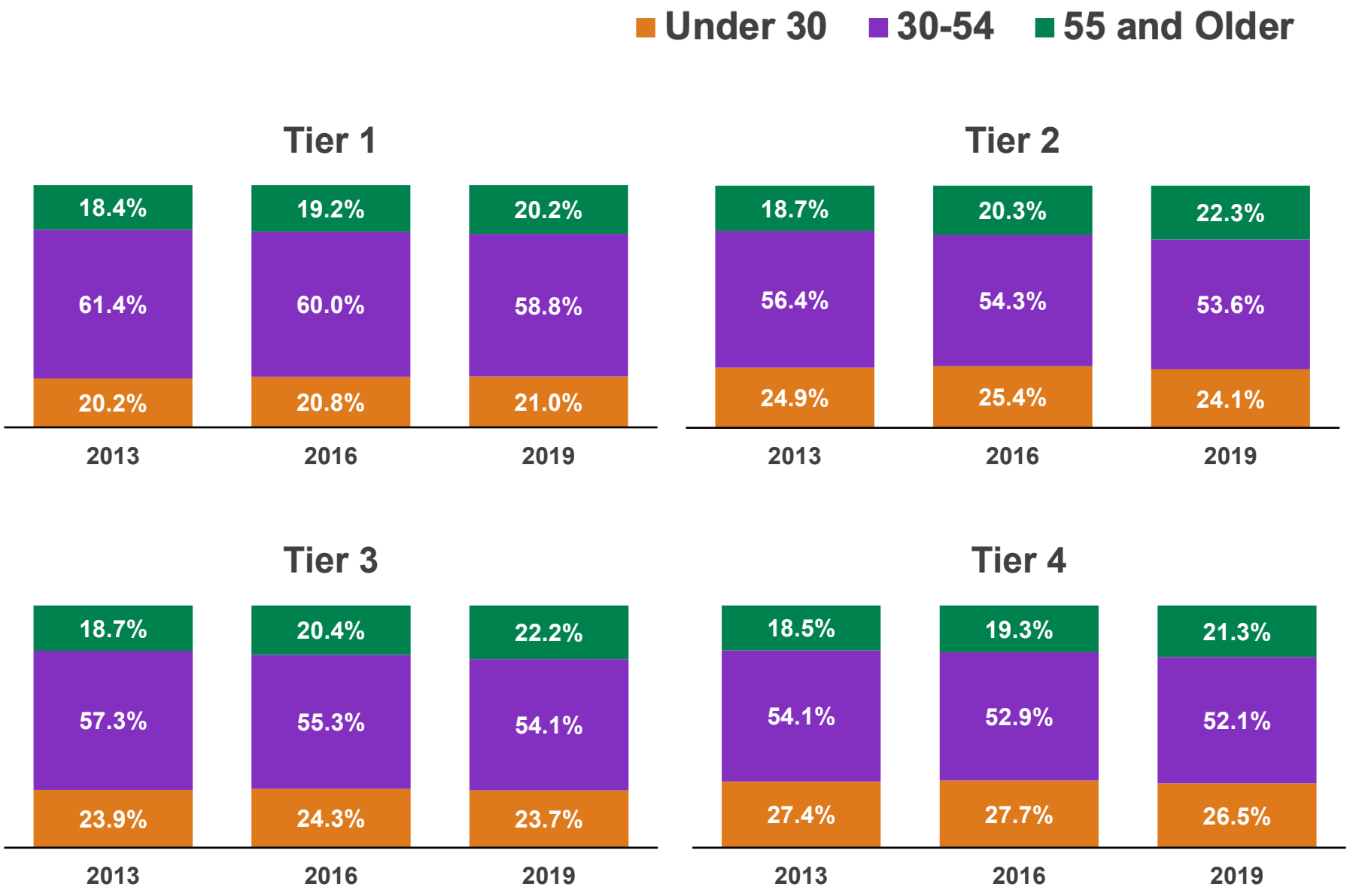
- Tier 4 Employment Centers have the smallest difference (less than 1%)
- Tier 3 Employment Centers have the largest difference
- Gender distribution relatively stable for all Employment Centers over time





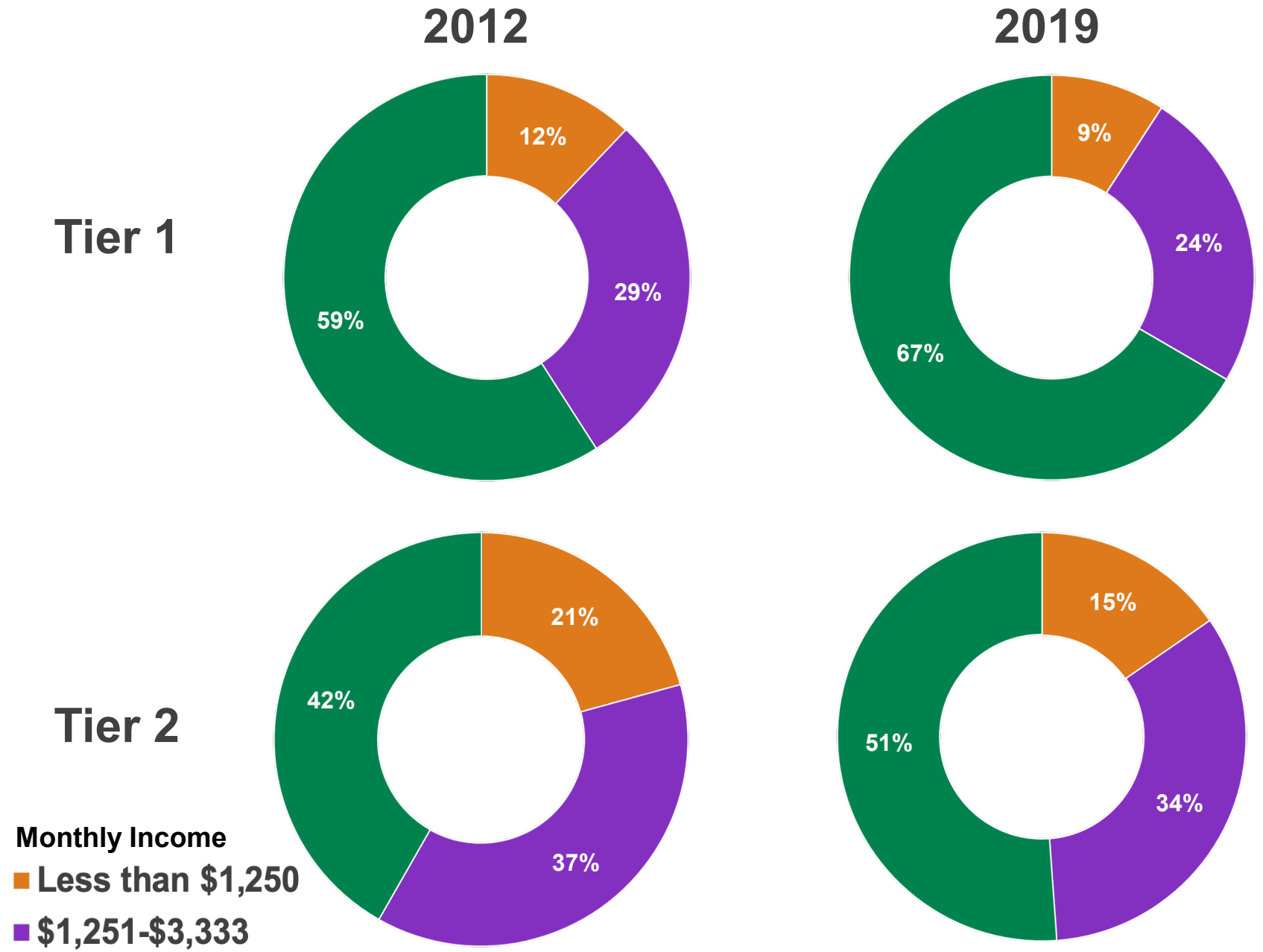
Workers Age Distribution

- Proportion of 55+ workers increasing over time for all Tiers
- Proportion of workers under 30 decreasing over time, except for Tier 1
- Tier 4 has largest proportion of workers under 30 comparing to other Tiers



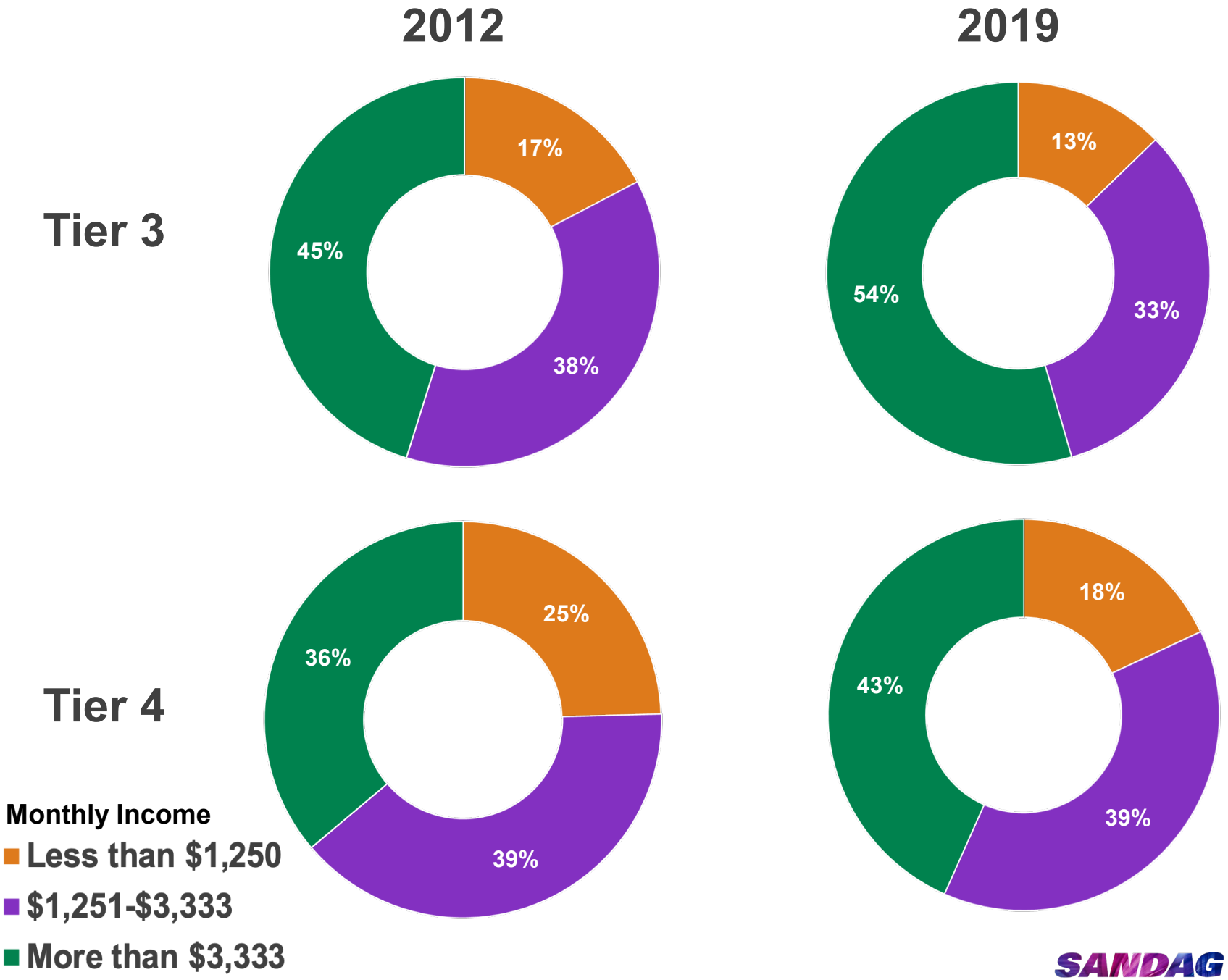
Income Distribution Comparison 2012 vs. 2019

- Workers in Tier 1 Employment Centers earn higher incomes
- Largest change observed for top income range in Tiers 2 and 3 between 2012 and 2019



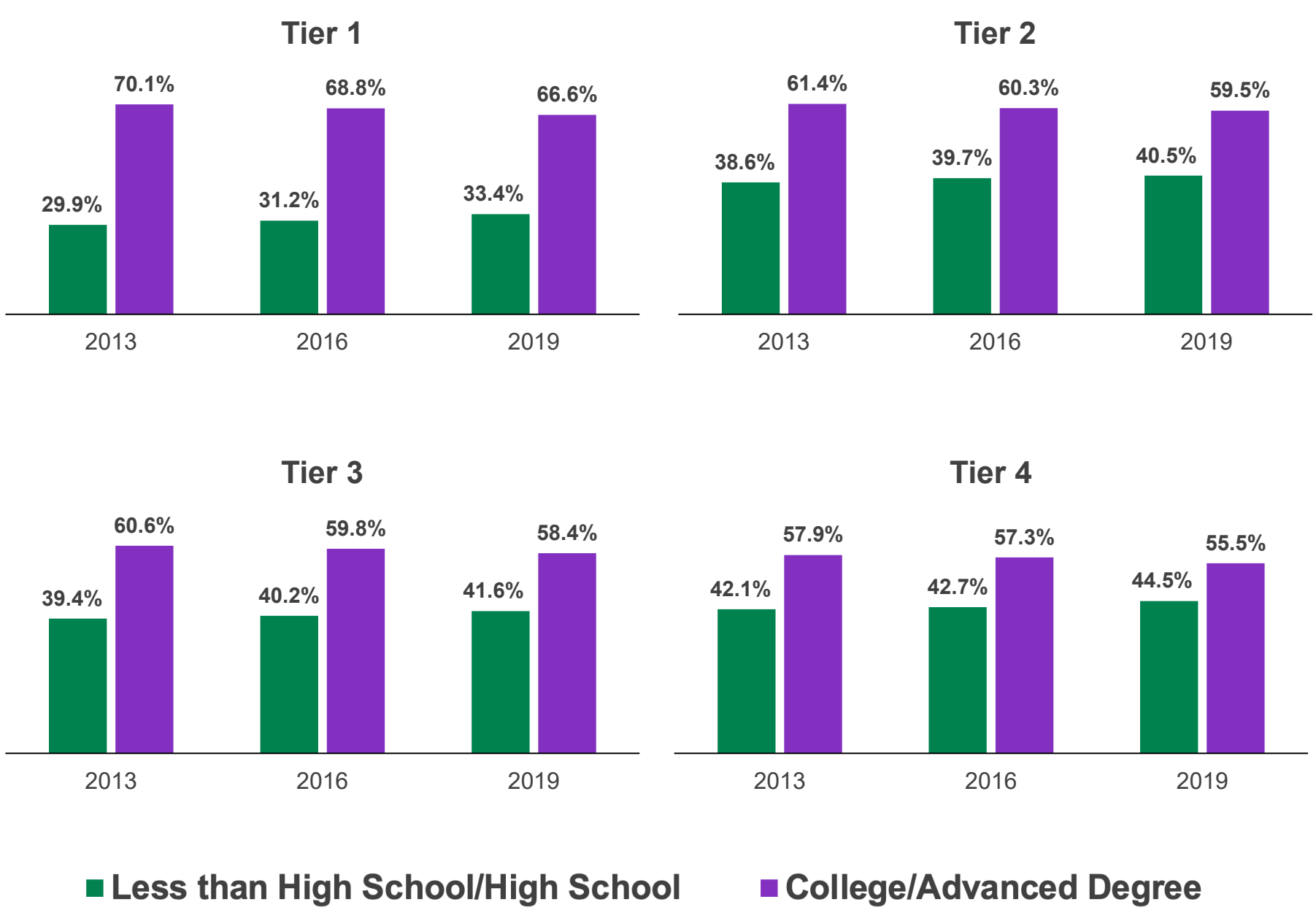
Income Distribution Comparison 2012 vs. 2019

- Largest change observed for top income range in Tiers 2 and 3 between 2012 and 2019
- Observed smallest income change in Tier 4 Employment Centers

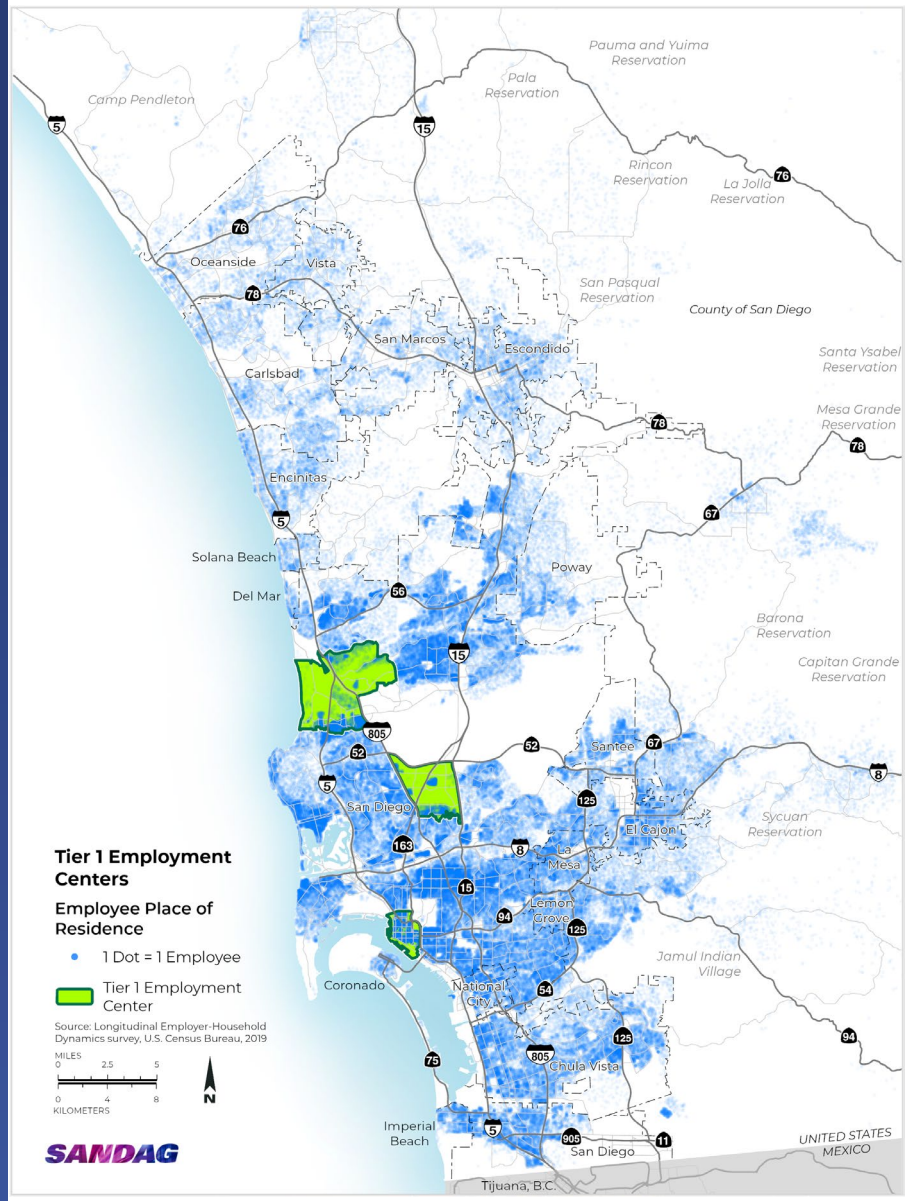


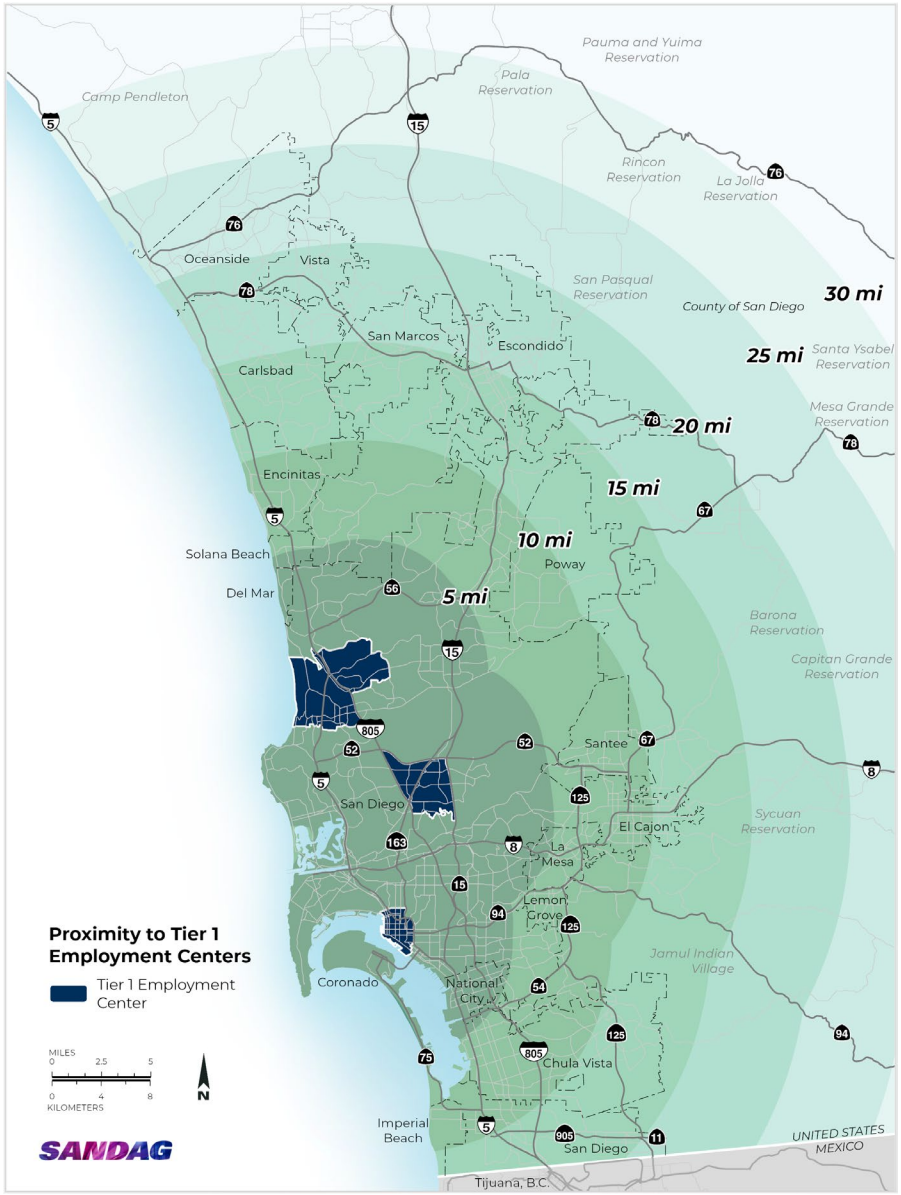
Education Level Distribution

- Tier 1 Employment Centers have the highest proportion of workers with a college degree
- The proportion of workers without a College/Advanced Degree has increased for all Employment Center Tiers



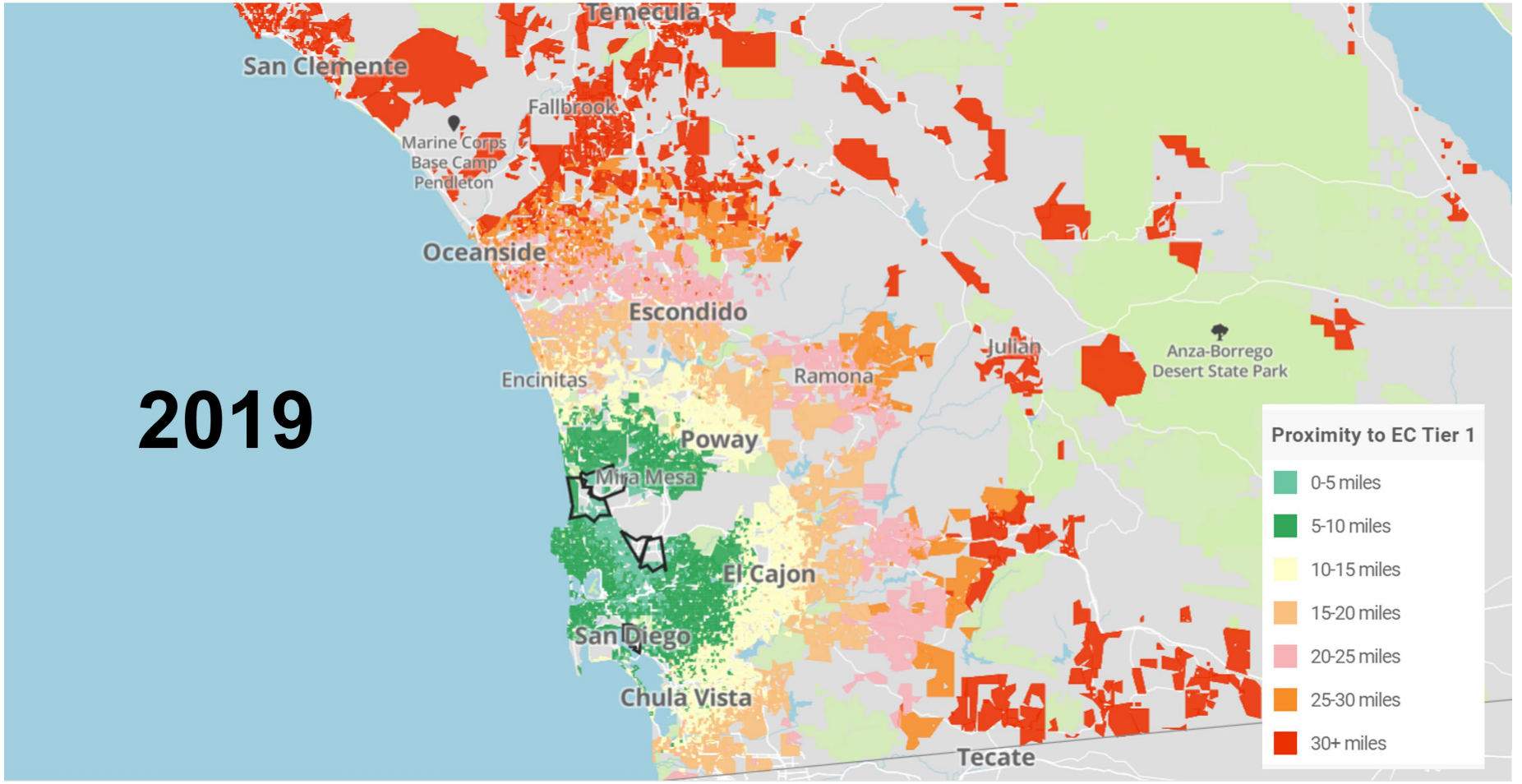
Proximity to Tier 1 Employment Centers





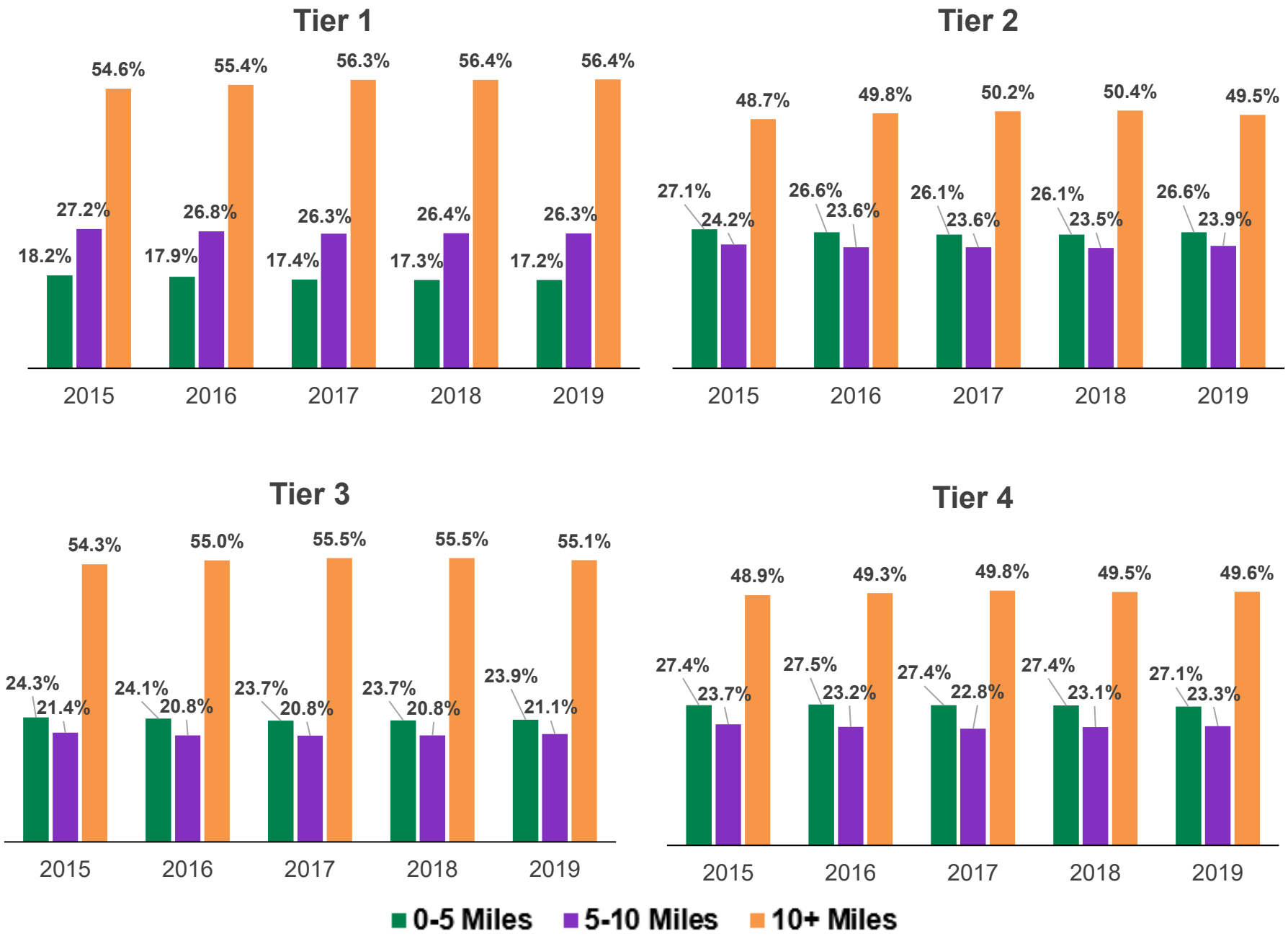
Proximity to Tier 1 Employment Centers

- Increasing concentration of workers originating from the northern part of the region over the years from 2012 to 2019



Proximity

- Proportion of workers with 10+ mile proximity increasing over time in all Tiers
- Workers in Tiers 1 and 3 reside farthest from their workplaces
- Smallest proportion of workers residing within a 5-mile proximity in Tier 1



Put Everything All Together

Geometric Mean of Year-Over-Year Changes by Characteristics

Tier	Job	Income*	Proximity**	Age***
1	**2.9%**	4.6%	**2.5%**	**2.4%**
2	2.3%	**5.4%**	2.1%	1.6%
3	2.1%	4.9%	2.2%	1.4%
4	1.4%	4.1%	1.5%	0.8%

* Higher than $3,333 income level changes.
** 10+ miles proximity changes.
*** Less than 55 age group changes.
DARK GREEN indicates highest change; LIGHT GREEN indicates lowest change.

Application

- To better understand biggest changing factors by Employment Center Tiers
- To facilitate prioritization of resources/programs
- To supplement future planning development effort

Weighting method can be used to facilitate prioritization of planning programs around Employment Center Tiers.

Tier	Overall Change
1	3.3%
2	3.1%
3	2.9%
4	2.2%

Labor Market Centric Weighting Example: job 0.4; income 0.3; proximity 0.2; age 0.1
DARK GREEN indicates highest overall change; LIGHT GREEN indicates lowest overall change

Additional Applications

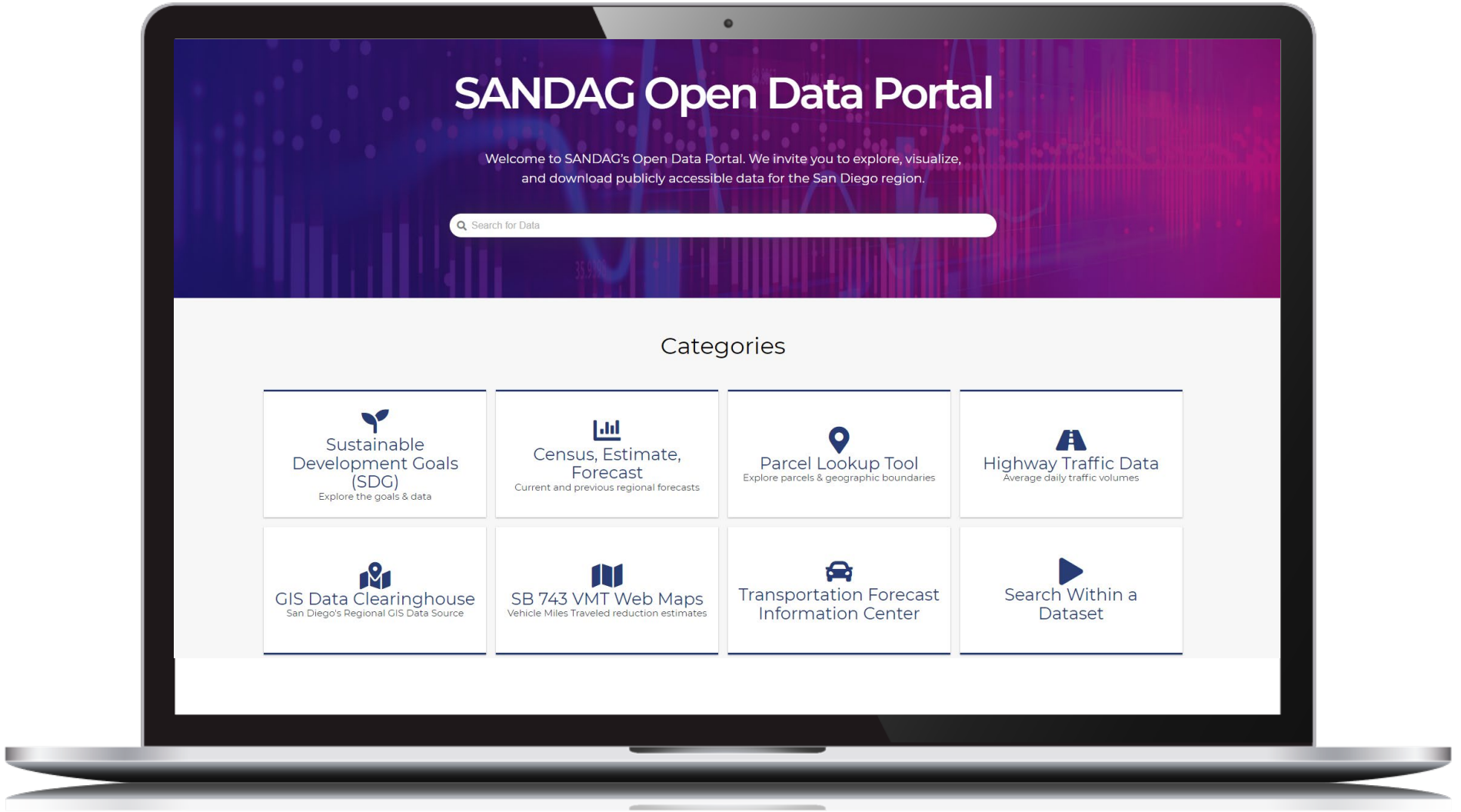
Economic development projections

Housing needs assessment and planning

Transportation model calibration and validation

Resources on Data, Research, and Products

opendata.sandag.org



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