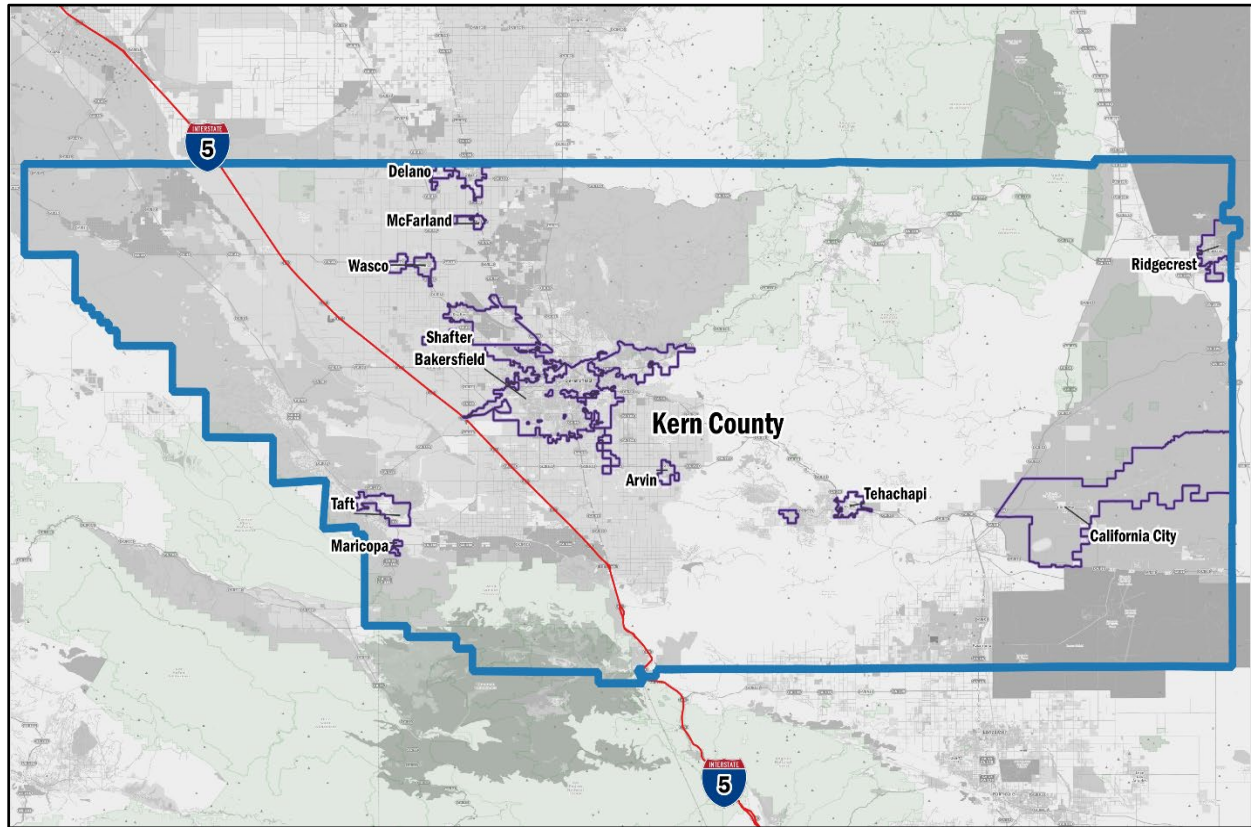




COMPREHENSIVE ECONOMIC DEVELOPMENT STRATEGY (CEDs)



Submitted by:
County of Kern, CA

SUBMITTED TO:
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Economic Development Administration

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A. Introduction

This document provides a five-year Comprehensive Economic Development Strategy (CEDS) for Kern County.

Economic Development Context

The Bakersfield MSA / Kern County region has had an independently strong economy for decades, and now has the dual influences of being increasingly drawn into the greater Los Angeles economic sphere and threats to its traditional industries. Oil is under threat due to both market forces and state regulation, and agriculture is faced with the challenges of drought as well as ongoing issues of how labor supply and wages affect the local economy and the community. Simultaneously, over the past three decades macroeconomic trends in globalization, agglomeration of growth into larger urban centers, demographic change, and acceleration of technological disruptions, which in Kern's case also affect the agriculture and oil industries, continue to force regional economies to adapt.

Due in part to the LA region connection, growth metrics for the Kern region have remained strong, but this can mask what analysis at greater depth reveals, namely that "the region suffered relatively large declines in business dynamism," according to the "Better Bakersfield and Boundless Kern" (B3K) consultant team.

Given these conditions, this CEDS includes both traditional indicators of demographic and economic conditions, which among other things confirm the region's past and projected growth, and (drawing heavily on the B3K process documentation) detailed examinations of relative competitiveness and the challenge of tying growth to increasing the number and type of quality jobs. The pursuit of higher quality jobs includes maximizing the contribution of existing institutions and industries in the region, with industry targeting related to both the current economy, as represented by both East Kern and the rest of the County, the Los Angeles connection, and strategies targeting innovation and community enhancement in various forms.

Economic Resilience and the CEDS

This CEDS strongly aligns with the Economic Development Administration's focus on building resiliency in local and regional economies. The overall CEDS reflects a complete spectrum of strategic themes that relate directly to the concept of economic resiliency. These themes include:

- Diversification of the County's industry/employment base;
- Focus on strengthening existing and emerging industry clusters in the region;
- Focus on strengthening the existing business base through implementing a retention/expansion program for existing businesses;
- Creating a business environment conducive to entrepreneurial and small business development;
- Infrastructure investments that leverage local, state and federal funding;
- Integration of economic development programming with broader planning, land use and environmental initiatives;

- Improving the County’s fiscal position;
- Ensuring social equity in economic development measures through targeted training, geographic areas of focus, etc.;
- Recognizing the need for greater resiliency and adaptation for the oil and gas and Agricultural sectors as a result of the current policies affecting environmental, water management, and the general business climate; and
- Leveraging the range of benefits associated with opportunities for remote work, spurred by the pandemic.

The relationship of sustainability and economic resiliency concepts to the individual Strategy Groups within the CEDS and the Strategy Group Interaction Matrix is summarized in Section J.

Evaluation Framework

The CEDS Action Plan includes a set of performance measures that will be utilized to evaluate implementation of the CEDS and its impact on local/regional economic conditions. The chosen performance measures focus on metrics that can be readily tracked over time (and compared across different geographies and jurisdictions). The focus on commonly available data sources (including the Census Bureau, Bureau of Labor Statistics, various State sources, and other private sources) is intended to facilitate the preparation of Annual Performance Reports in future years.

CEDS Committee

Preparation of this CEDS was guided by the following Strategy Committee (alphabetical by organization):

Name	Affiliation	Private	Public
Michael Hansen	Advanced Data Storage	X	
Theresa Bush	Aera Energy	X	
Nick Ortiz	Bakersfield Chamber of Commerce		X
Jake Soberal	Bitwise Industries	X	
Amy Thelen	Bitwise Industries	X	
Kristen Beall Watson	California State University Bakersfield		X
Lynette Zelezny	California State University Bakersfield		X
David Janiec	China Lake Alliance		X
Cecelia Griego	City of Bakersfield		X
Christian Clegg	City of Bakersfield		X
Meliza Ancheta	City of Ridgecrest		X
Robin Robinson	CityServe		X
Randel Gordon	Edwards Air Force Base		X
Dave Metz	F3M Research	X	
Egon Terplan	Governor’s Office of Planning & Research		X
Brian Holt	International Brotherhood of Electrical Workers (IBEW Local 428)		X
Tom Burke	Kern Community College District		X
Ahron Hakimi	Kern Council of Governments		X

Name	Affiliation	Private	Public
Ryan Aslop	Kern County		X
Teresa Hitchcock	Kern County		X
James Zervis	Kern County		X
Mary Barlow	Kern County Superintendent of Schools		X
Richard Chapman	Kern Economic Development Corporation		X
J.P. Lake	Kern Initiative of Talent + Entrepreneurship (KITE)		X
Jennifer Haley	Kern Oil & Refining Company	X	
Mike Turnipseed	Kern Taxpayers Association		X
John Spaulding	Kern, Inyo and Mono Counties Central Labor Council, AFL-CIO		X
Emma De La Rosa	Leadership Counsel for Justice and Accountability		X
Phoebe Seaton	Leadership Counsel for Justice and Accountability		X
Veronica Garibay	Leadership Counsel for Justice and Accountability		X
Arleana Waller	MLK Initiative		X
David Smith	Plant 42		X
Nathan Francis	Rio Tinto Borates	X	
Jim Damian	Stria	X	
Deb Daniels	Taft College		X
Octavio Escobedo	Tejon Indian Tribe		X
Greg Bielli	Tejon Ranch	X	
Derek Abbott	Tejon Ranch	X	
Morgan Clayton	Tel Tec Security	X	
Connie Perez-Andreesen	United Farm Workers (UFW)		X
Nick Ambrosini	Valley Strong Credit Union	X	
George Whitesides	Virgin Galactic, Space Advisory Board	X	
Joe Vargas	Wonderful Real Estate	X	
John Guinn	Wonderful Real Estate	X	

Kern County Board of Supervisors

- Phillip Peters, Chair (District 1)
- Zack Scrivner (District 2)
- Mike Maggard (District 3)
- David Couch (District 4)
- Leticia Perez (District 5)

Project Consultant

The Natelson Dale Group, Inc., took the lead on behalf of the County of Kern in compiling this CEDS document, which is also substantially augmented by material from the *Market Assessment* prepared by an Advisory Team bringing expertise from the Brookings Institution and peer practitioners. This contemporaneous work was conducted for the “Better Bakersfield and Boundless Kern (B3K)” strategic planning process.

B. Executive Summary

The CEDS is a combination of: 1) Research-based data compilation and analysis that informs fundamental considerations of past and projected economic performance and regional competitiveness, 2) stakeholder input, and 3) Economic development strategic plan and implementation elements.

Demographic and Economic Data Compilations

Demographically, Kern County has:

- A higher share of households below the poverty level than the State, and other assessments show that more than half of Kern County residents struggle to make ends meet for basic living expenses, with more than two-thirds of those are families with at least one working adult. The share of younger and less-educated struggling workers remains very high in Kern in comparison to other major U.S. metropolitan areas, consistent with the unusually low levels of educational attainment in the region. Kern also has significant racial disparities among struggling workers.
- Median household income considerably lower than the State.
- Percent of population with a bachelor's degree or a graduate or professional degree lower than the State.
- Kern County's labor force participation rates for each age group are slightly less than the State percentages.
- A smaller percentage of Kern commuters have travel times of thirty minutes or more than the State commuters overall.
- While the County as a whole and most cities in Kern had more resident workers than jobs, Shafter, Taft, Tehachapi, and McFarland had more jobs than resident workers.

The County is similar to the State in taxable sales per household.

Kern County's recent job growth has outpaced the nation over the last ten years, with "competitive shifts" accounting for about one-third of the county's job growth during this period. Kern experienced a brief recession in the middle of the last decade, and the labor market revived thanks primarily to population growth and a few high-growth sectors.

Nevertheless, 20% of Kern County adults in prime working age of 25 to 64 are out-of-work, above the national rate of 14.4%. Nearly 70% of Kern residents who are out-of-work are less educated, holding a high school diploma or less, compared to the national baseline share of 55%.

Tradable industries represent a small portion of the county's performance. Meanwhile, local-serving clusters grew much faster than the county's population. This pattern of growth is concerning because locally-serving sectors disproportionately concentrate low-quality jobs in regional economies. Frontline jobs in clusters like retail and hospitality and even many jobs in health care do not pay well and have unpredictable hours.

Strengths, Weaknesses, Opportunities, and Threats (SWOT) Summary

Community Input

B3K conducted several community engagement sessions within the B3K process. As part of the documentation of Strengths, Weaknesses, Opportunities, and Threats (SWOT), participants' comments reflected the following themes:

- Generational poverty and trauma pose significant roadblocks to prosperity.
- Varied access to supports across racial groups contributes to disparities in educational outcomes. Educational experiences that offer more accessible pathways to better jobs, perhaps through renewed emphasis on vocational training, are needed.
- Finding full-time stable work, rather than part-time employment, can be challenging.
- Transportation is a barrier to job access, particularly in rural areas. Rural areas also struggle with access and exposure to educational opportunities.
- Training programs don't necessarily translate to promised outcomes in pay or employment.
- Immigrant communities face particular barriers to accessing good jobs and can also be targets for misinformation around opportunities.

Key Research Findings

Kern County has distinctive assets in certain sectors, including aerospace, agriculture, and energy; however, a lack of diversification and reliance on commodities and vulnerability to industry shock are potential threats

CSU Bakersfield has a very small amount of academic R&D expenditure for an economy the size of the Bakersfield-Kern region. However, the region's research scholarship aligns tightly with current and potential economic specializations.

Although CSU Bakersfield is the largest single source of "open" R&D in Kern County, a significant portion of the county's R&D capacity resides outside academia, within the aerospace industry of eastern Kern County. In general, the performance, growth drivers, industry composition, and talent base of East Kern are fundamentally different from Greater Bakersfield.

Kern has comparatively strong broadband availability. Only 4% of Kern County residents lack broadband coverage of the FCC standard at 25 Mbps. However, lack of availability substantially overlaps with high-poverty and less-populous census tracts.

Kern has assets related to quality of life and outdoor amenities.

Kern County generally is considered by private and public sector leaders as more "business-friendly" than other regions in California. This view mainly is driven by what are considered to be pro-growth land use policies and efficient permitting processes, as well as relative availability of incentives. Additionally, some "cost of doing business" analyses rank Bakersfield as better than other large California cities, although "average" among cities surveyed nationwide.

The region has been building a notable set of strategies and offerings around career and technical education and work-based learning. Workforce strategies prioritize major traded clusters, but most efforts center on a subset of locally-serving industries with abundant demand for lower-quality jobs (e.g., healthcare). Tech or digital skills talent is a general gap.

Oil and gas “talent adjacency” analysis show that there are knowledge and skill strengths in the oil/gas cluster that support new specializations. Specifically, oil and gas workforce capabilities show a very strong alignment with many manufacturing specializations.

Industry targets

Within the agricultural cluster, food manufacturing offers the most direct potential for expansion and securing higher-quality jobs. At the same time, agriculture is becoming more high-tech, and any existing agricultural region could potentially tap into this trend.

Existing energy capabilities provide a foundation for new sub-sectors, innovation, and quality growth. Recent opportunities for Kern County have centered on expansion of renewable energy production, with wind and solar energy installations in East Kern. Other opportunities, more directly leveraging the region's legacy oil and gas strengths, may offer greater opportunities for growth, including:

- Renewable biofuels production and innovation
- Other renewable fuels and energy production, including hydrogen and agricultural or woody biomass
- Carbon capture and storage (ccs) development

Kern County's aerospace cluster requires strategic action to maintain and leverage competitiveness. Tradable manufacturing sub-clusters show positive momentum, going against state and national trends.

Logistics has grown dramatically, focused on warehousing, storage, and fulfillment, and has been a major focus of Kern's economic development efforts in recent years. This expansion has leveraged Kern County's physical location, proximate to southern California and other major markets, accessibility of land and active developers, good enabling infrastructure, and efficient regulatory processes.

Business services may offer a longer-term -- rather than short-term -- growth and diversification option, despite the recent declines in this sector in Greater Bakersfield. This would target support for young tech-oriented firms, as well as capturing back-office function “leakage” from more-expensive coastal markets, either through “second office” locations or expanded outsource contracting to serve firms based elsewhere. However, talent analysis indicates that any prospects for business services expansion will require development of a stronger digital skills and tech talent base as a prerequisite component of any deliberate overall effort.

Competitive Assessment

Compared against other “large” metros with population of 500,000 to 1 million, the Kern region has excelled in traditional economic development growth metrics of new job creation and total value of regional production, over the last ten years.

Kern lags national and peer comparison places in improving productivity, which correlates to lower wages. Kern also lags in employment rate and median earnings when compared with large metros, and the data also show regional disparity among races. While consistently lagging behind California and national comparisons in levels of educational attainment, Kern has benefited from the unique presence of high-wage extraction-industry jobs that are accessible to residents holding a high school degree or less.

The region generates a below-average number of patents compared to its economic and size peers, as well as larger aspirational “middleweight” regions, even accounting for the absence of a Tier 1 research university. Despite the low volume, the *distinctiveness* of the patents generated in the Kern region is slightly above the median among all metro areas.

Kern experienced a substantial decline in the employment impact of entrepreneurship over the last ten years, equivalent to other inland California cities, but much worse than economic peers. The vast majority of entrepreneurs are in locally serving businesses, not driven by growth or oriented toward innovation.

Strategy Implications

Overall considerations for strategy development:

1. Greater Bakersfield and East Kern are two functionally distinctive economic areas that should be treated differently with tailored strategies and resources.
2. With greater clarity on economic development objectives anchored in priority sectors and job quality, workforce development activities can target efforts to address those talent needs versus more opportunistically filling openings.
3. Economic development interventions must consider how to address race and gender gaps in access to quality jobs and economic opportunities.
4. State policy has disproportionate effects on Kern’s economy; education and engagement of the State through strategy development is required to find areas of mutual benefit.
5. The economic development delivery ecosystem currently has significant implementation gaps that must be filled to execute a comprehensive regional strategy. For example:
 - The region lacks a shared vision, goals, etc.
 - Interactions among economic development contributors can be more functionally collaborative.
 - Compared to other regions, the business community in Kern needs to have a greater leadership role in economic development policy and implementation.

Opportunity Industry targets

Opportunity Industry target identification considers multiple factors. First, basic economic development sector analysis typically centers on prior industry performance, scale, and regional “specializations” based on industry job counts versus national average. However, to find true advantages in the global marketplace, that review then must identify very specific sub-sectoral targets versus broad industry classes (e.g., “*manufacturing*” vs “*industrial machinery production*”). It also must consider how

traditional industries are blending into new hybrid sectors that are not captured within a single existing standard industry classifications (*e.g., unmanned aerial vehicles*). Other considerations include the extent of industry multiplier effects on other job creation, and job quality and accessibility.

Workforce strategies

The following three key considerations apply to the integration of the workforce with economic development strategies:

- First, the breakdowns of struggling workers – particularly by education – indicate that workers with a high school degree or some college need to be a focus for credentialing and completing more education, in order to compete for better quality jobs.
- Second, recognizing the constraints of upskilling 91,000 struggling workers who do not have any post-secondary education, these gaps emphasize the importance of prioritizing economic development centered on middle-skill, middle-income job creation.
- Third, the blend of workforce credentialing and economic development must be tightly linked to ensure relevance and access.

To improve outcomes for more workers, local leaders will need to focus dually on supporting the growth of specific sectors offering better jobs, while also improving talent development and workforce preparedness for those opportunities. A general, non-targeted focus on growth alone is unlikely to alter the region’s current trajectory or address these core challenges around regional prosperity.

Women in Kern are substantially more likely than men to be out-of-work at all education and age levels. A higher share of out-of-work in Kern are caring for children than the national baseline. Expanding accessible childcare and “two-generation programs” combining workforce and early childhood interventions with other supports may help narrow these gaps.

Data on entrepreneurship in Kern County implies the need to provide basic support to young firms that is now missing, beyond generic “small business services” to assets such as incubators and accelerators, programs in commercialization and problem-solving assistance, and nurturing of digital/tech talent.

Systemic strategic issues

Systemic strategic issues that extend the boundaries of regional economic development include the following:

- **Educational Attainment.** All stakeholders with interest in economic development – including the private sector – must commit equally to advancing the agenda of expanding educational achievement levels.
- **Placemaking.** Lack of commercial and residential development to provide quality of life for workforce is a challenge in particular sub-regions and neighborhoods across the county, most acutely in East Kern.
- **Community Development.** For distressed areas, specific city and neighborhood strategies are required to connect residents to these regional opportunities.

C. Market Overview / Demographics Summary

Demographic and Economic Data/Forecasts

Census-Based Demographic and Economic Overview

The following data were obtained from the U.S. Census Bureau, 2018 American Community Survey (ACS) 5-year estimates (2014-18). The table below provides a summary of household and education-related data from the 2018 ACS 5-Year estimates (2014-2018) survey for Kern County, the state, and all of the cities in Kern County. The table shows that Kern County has a relatively high share of *family-type* households. Kern County's share of households below the poverty rate is higher than the State, but lower than most of the smaller cities within the county. In addition, median household income in Kern County is considerably lower than the State, but higher than most of the smaller cities within the county.

For the population 25 years and over, the percent of population with a bachelor's degree or a graduate or professional degree is lower than the State, but higher than all of the cities within the county, except for Bakersfield (21.8%) and Ridgecrest (28.7%). For the fields of bachelor's degrees, 36.4% of Kern County's residents have Science and Engineering degrees, which is slightly less than the State's share (41.2%). In addition, Kern County also has a relatively high share of bachelor's degrees in Science and Engineering *Related* fields in comparison to the State.

HOUSEHOLD AND EDUCATION RELATED DATA – KERN COUNTY AND REFERENCE AREAS, PART 1

	Arvin	Bakersfield	California City	Delano	Maricopa	McFarland	Ridgecrest
Household-Related Data Variables							
Percentage of Family households	91.1%	75.2%	72.4%	88.7%	58.6%	90.6%	63.4%
Percentage of Households below poverty level	29.3%	16.2%	23.0%	23.1%	32.3%	31.3%	13.6%
Median Household Income	\$38,214	\$62,340	\$48,238	\$41,549	\$30,263	\$33,281	\$65,077
Education-Related Data Variables							
Percentage of the population 25 years and over that have attained a Bachelor’s degree or higher	2.3%	21.8%	10.9%	6.7%	3.9%	3.7%	28.7%
Percentage of the Fields of Bachelor’s Degrees attained by the population							
Science and Engineering Fields	34.7%	34.4%	46.1%	32.8%	29.6%	35.7%	55.1%
Science and Engineering-Related Fields	7.9%	10.6%	6.1%	13.4%	0.0%	2.6%	7.3%
Business Fields	15.1%	18.3%	29.6%	20.5%	0.0%	13.6%	15.9%
All other fields combined	42.3%	36.8%	18.1%	33.3%	70.4%	48.1%	21.7%

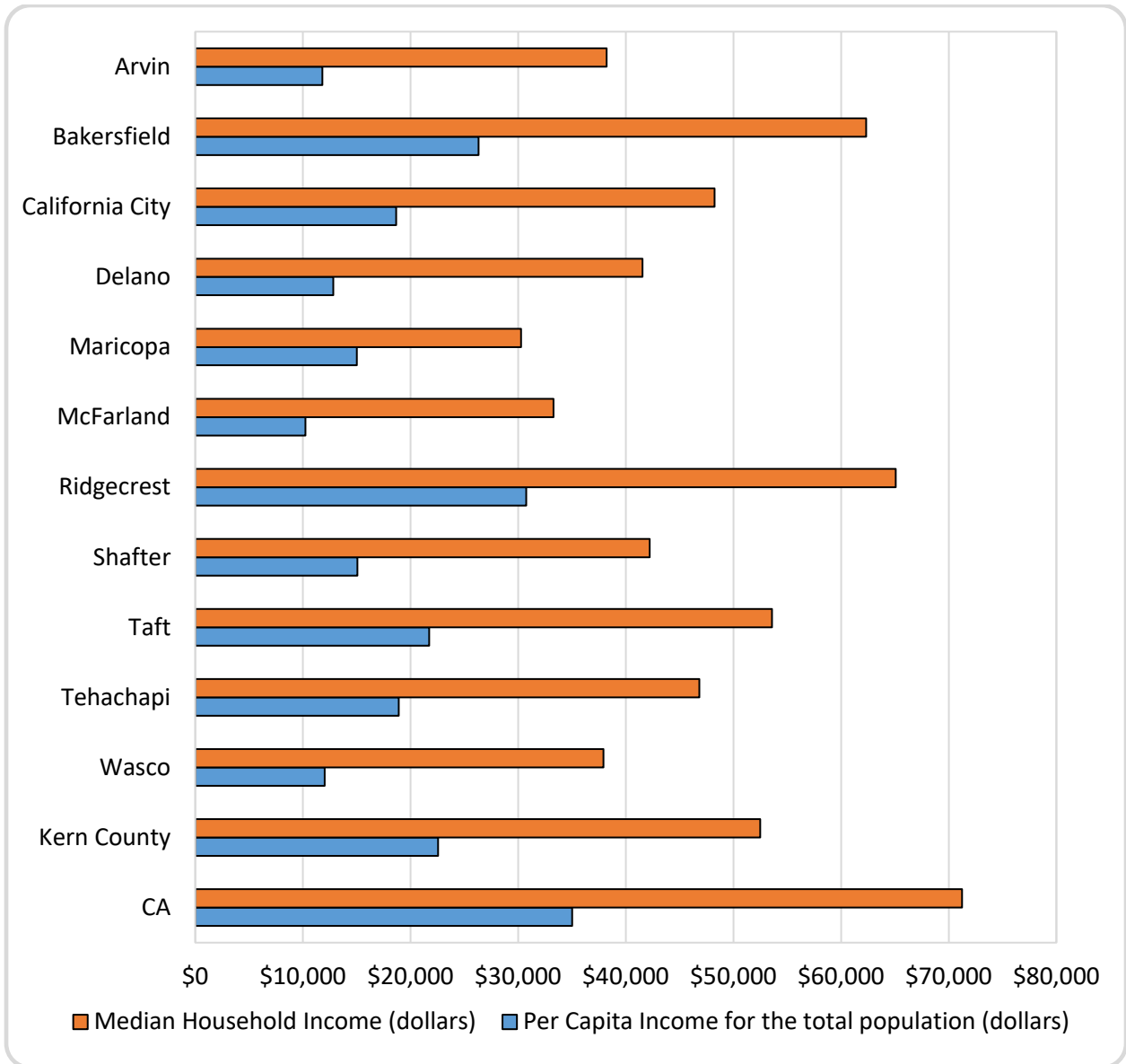
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

HOUSEHOLD AND EDUCATION RELATED DATA – KERN COUNTY AND REFERENCE AREAS, PART 2

	Shafter	Taft	Tehachapi	Wasco	Kern County	California
Household Related Data Variables						
Percentage of Family households	36.5%	68.0%	61.0%	85.2%	74.8%	68.8%
Percentage of Households below poverty level	24.4%	20.9%	24.9%	24.7%	19.5%	13.2%
Median Household Income	\$42,205	\$53,574	\$46,823	\$37,917	\$52,479	\$71,228
Education-Related Data Variables						
Percentage of the population 25 years and over that have attained a Bachelor’s degree or higher	8.3%	9.6%	12.4%	2.6%	16.1%	33.3%
Percentage of the Fields of Bachelor’s Degrees attained by the population						
Science and Engineering Fields	26.2%	29.9%	41.4%	34.8%	36.4%	41.2%
Science and Engineering-Related Fields	7.6%	6.9%	4.9%	1.2%	9.0%	8.0%
Business Fields	19.3%	15.8%	14.6%	19.7%	18.1%	17.8%
All other fields combined	46.9%	47.4%	39.1%	44.4%	36.5%	33.0%

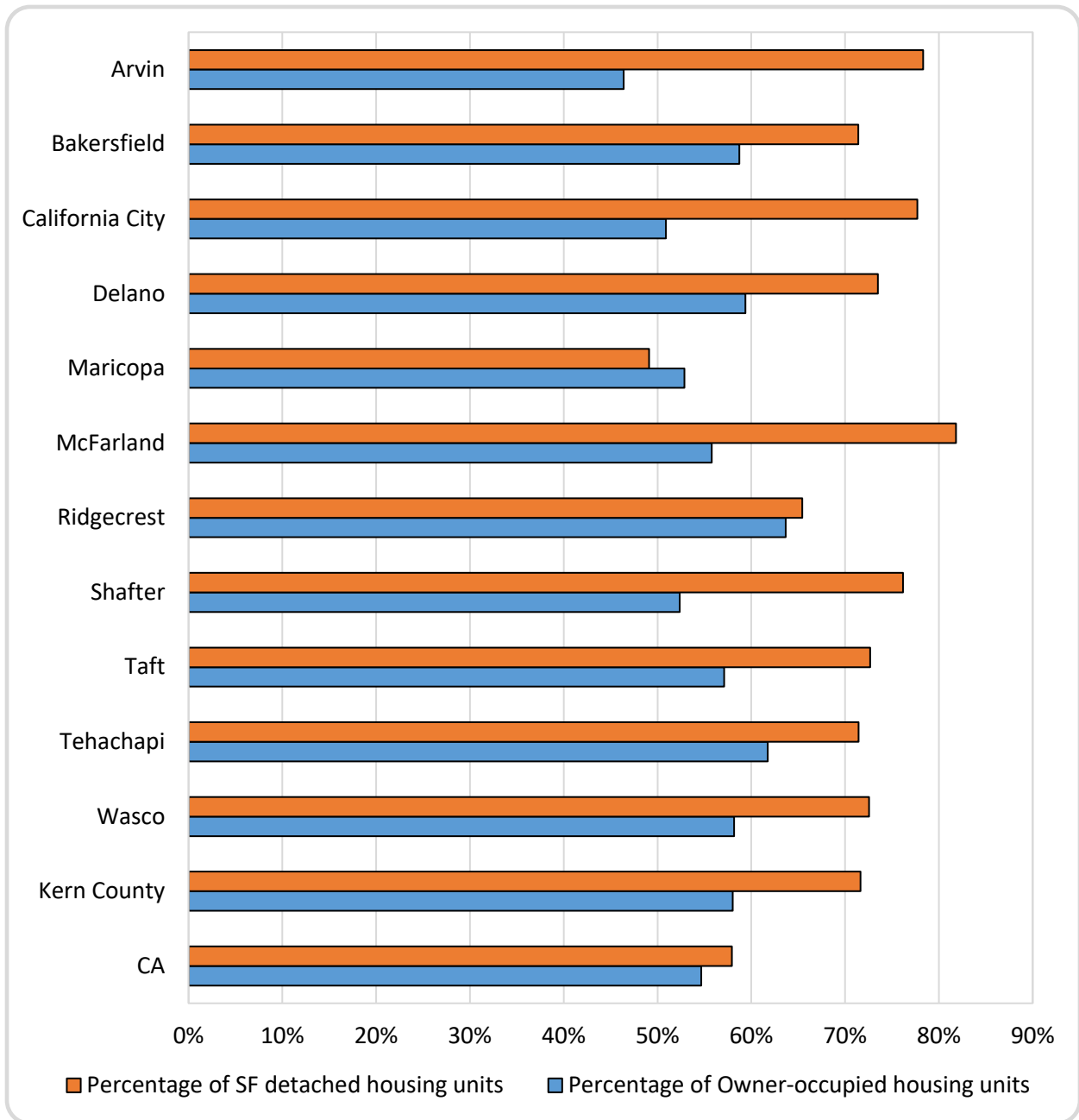
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

MEDIAN HOUSEHOLD INCOME AND PER CAPITA INCOME, 2018



Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

PERCENTAGE OF OWNER-OCCUPIED HOUSING AND SINGLE-FAMILY DETACHED HOUSING, 2018



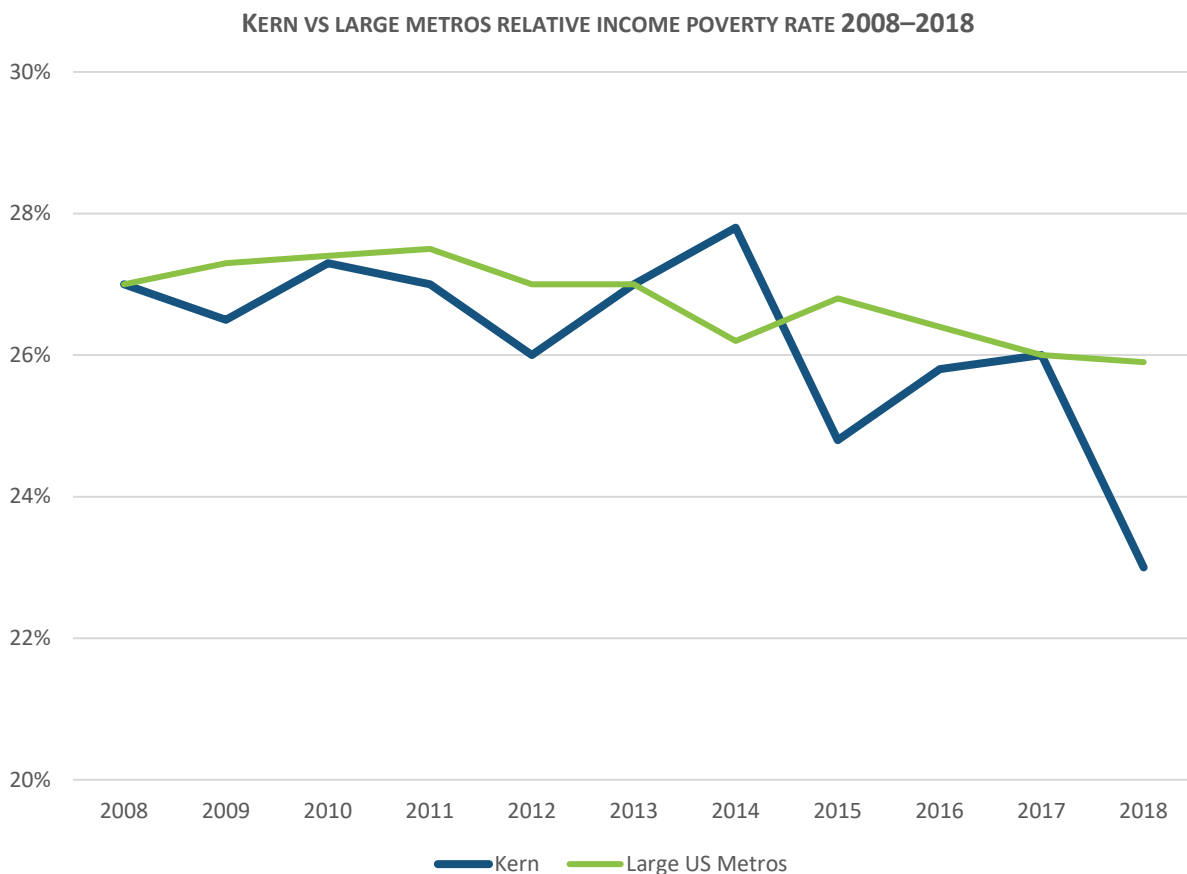
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

Addressing Poverty

In a comparison with regions nationwide, Kern ranked among the very best regions in reducing income inequality overall, and among races. This aspect is measured by the “relative income poverty” gap among races – the share of residents that earn less than half of the median income in the region. The lower this share, the less the disparity.

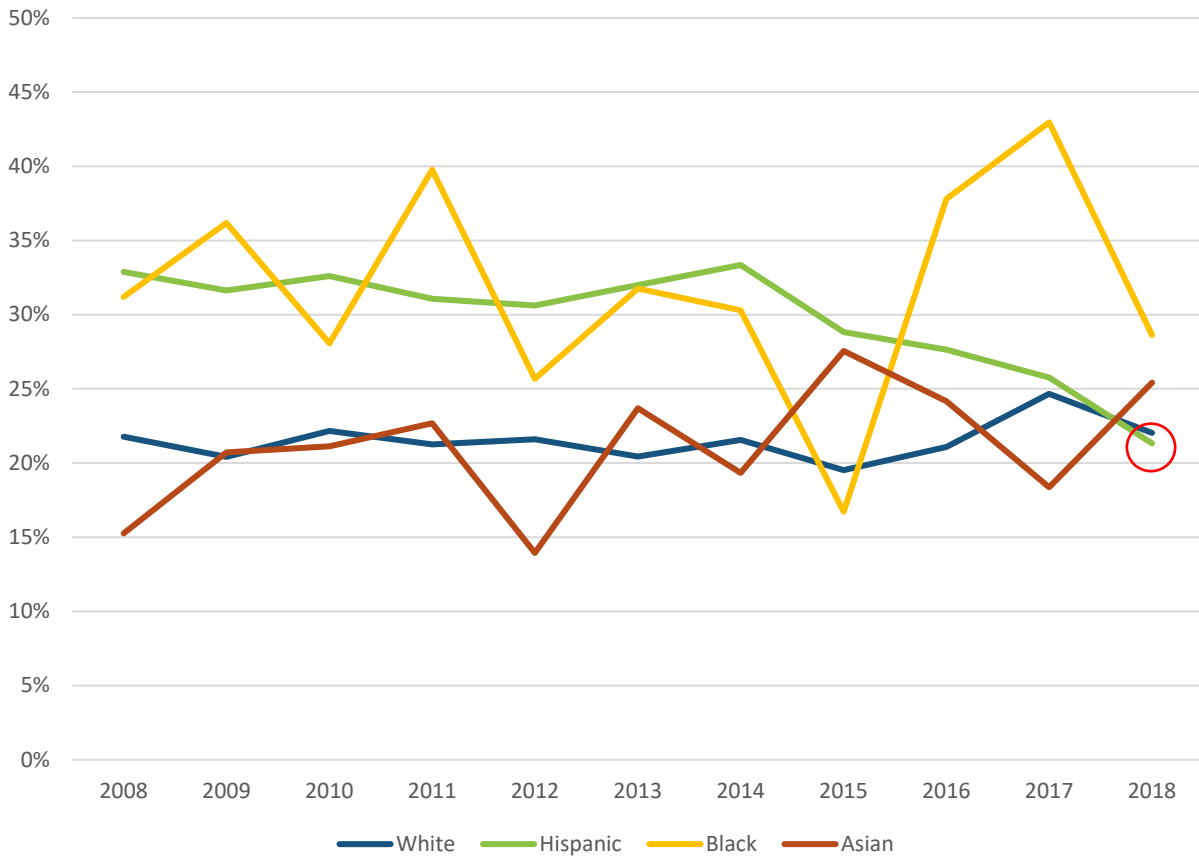
The region achieved this outcome by a combined massive 20% reduction among People of Color, as well as a slight increase among whites. Kern actually reached roughly equivalent levels between whites and Hispanics, while Blacks remained 7% higher. In part, this metric reflects reduction in poverty rates over a decade, which lowered from a post-recession high above 23% to less than 18%.

However, this improvement does not indicate greater ability of working families to earn enough for self-sufficiency or achieve economic mobility. Rather, it shows a compression of wages closer toward the median income -- so that fewer workers are earning dramatically less than the midpoint between the highest and lowest paid. As assessed elsewhere in this document, more than half of Kern County residents struggle to make ends meet for basic living expenses, and more than two-thirds of those belong to families with at least one working adult. The figures below provide a summary of the data.



Source: Brookings Institution Metro Monitor, 2020

RELATIVE INCOME POVERTY RATE BY RACE, 2008–2018



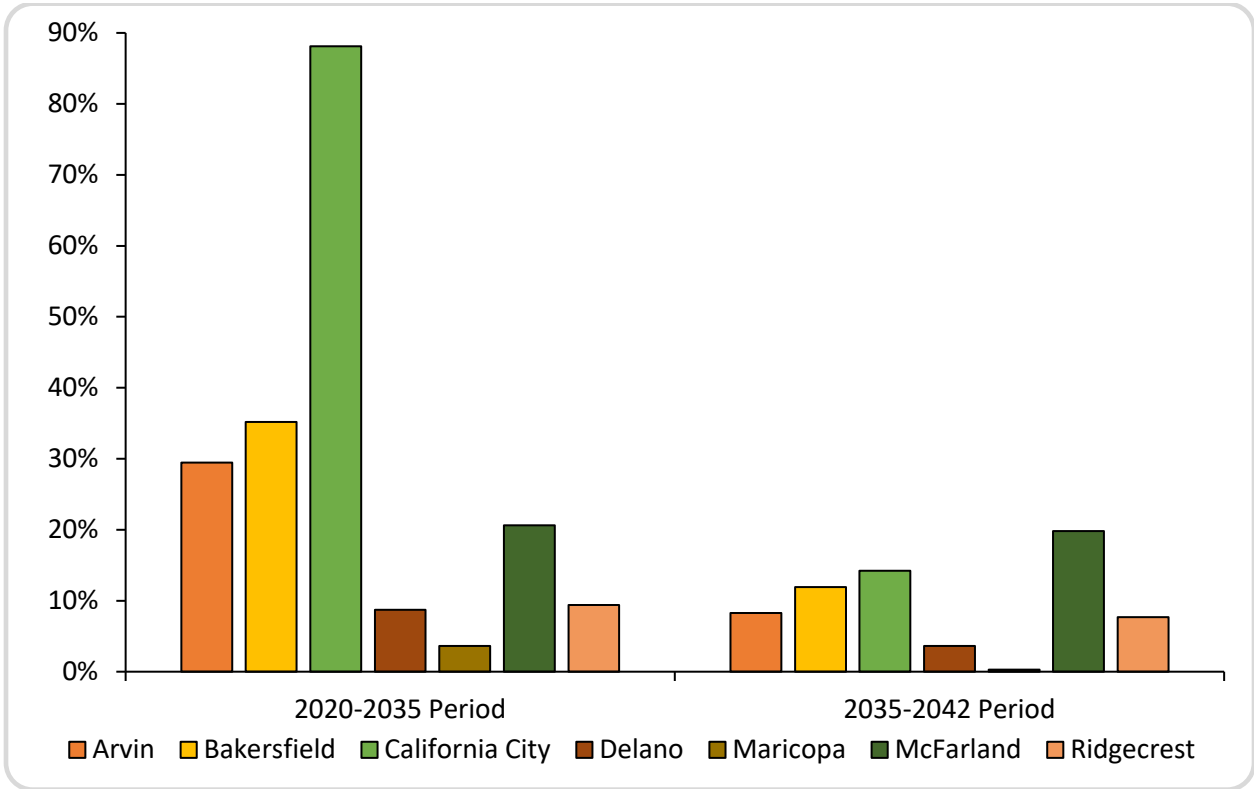
Source: Brookings Institution Metro Monitor, 2020

Demographic and Employment Forecasts

To provide additional context on the Kern COG forecasts, the following two (multi-part) figures compare Kern County’s projected growth – in population and employment – relative to the cities within the county and the remaining unincorporated areas of the Kern County¹. The figures further illustrate the projected demographic and employment growth of Tehachapi, California City, and Shafter, as Kern County is projected to grow at a lower rate.

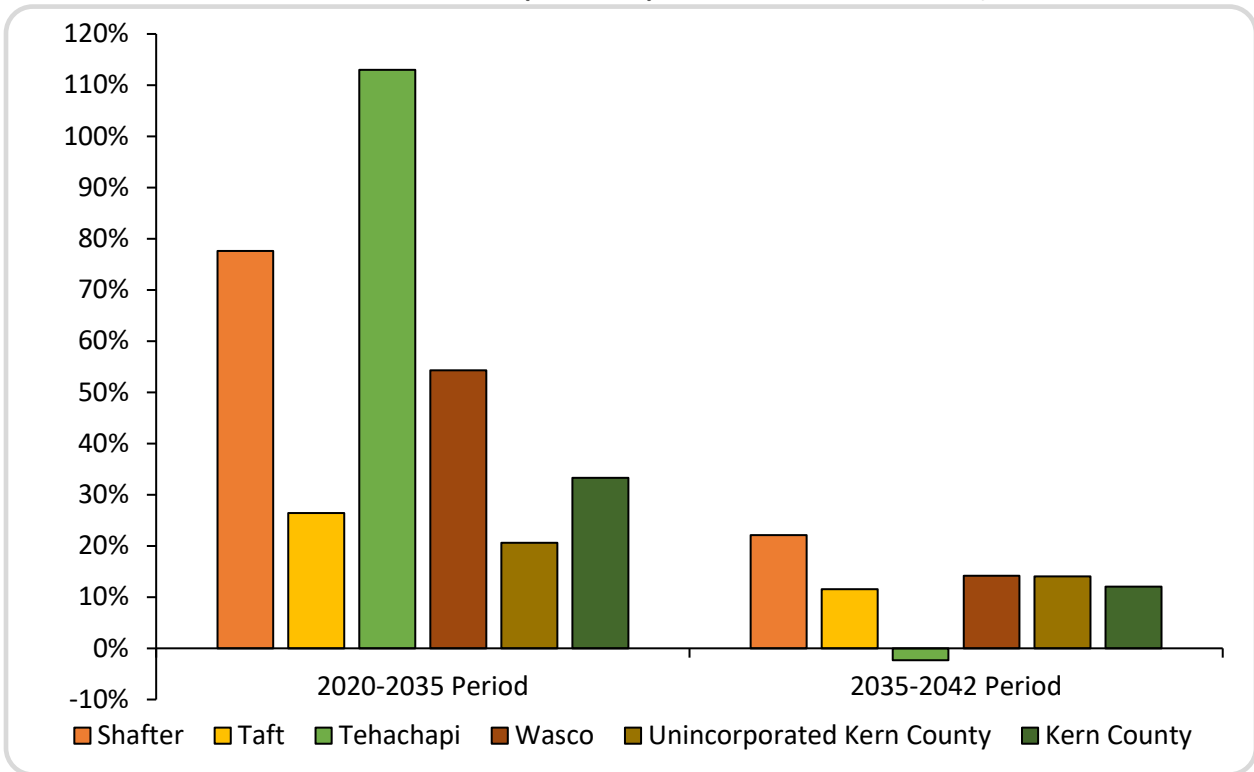
¹ Kern COG is the Metropolitan Planning Organization (MPO) for the Kern Region as designated by the Federal government, and the Regional Transportation Planning Agency (RTPA) as designated by the State of California.

KERN COG POPULATION FORECASTS (% CHANGE): 2020-2035 AND 2035-2042, PART 1 OF 2



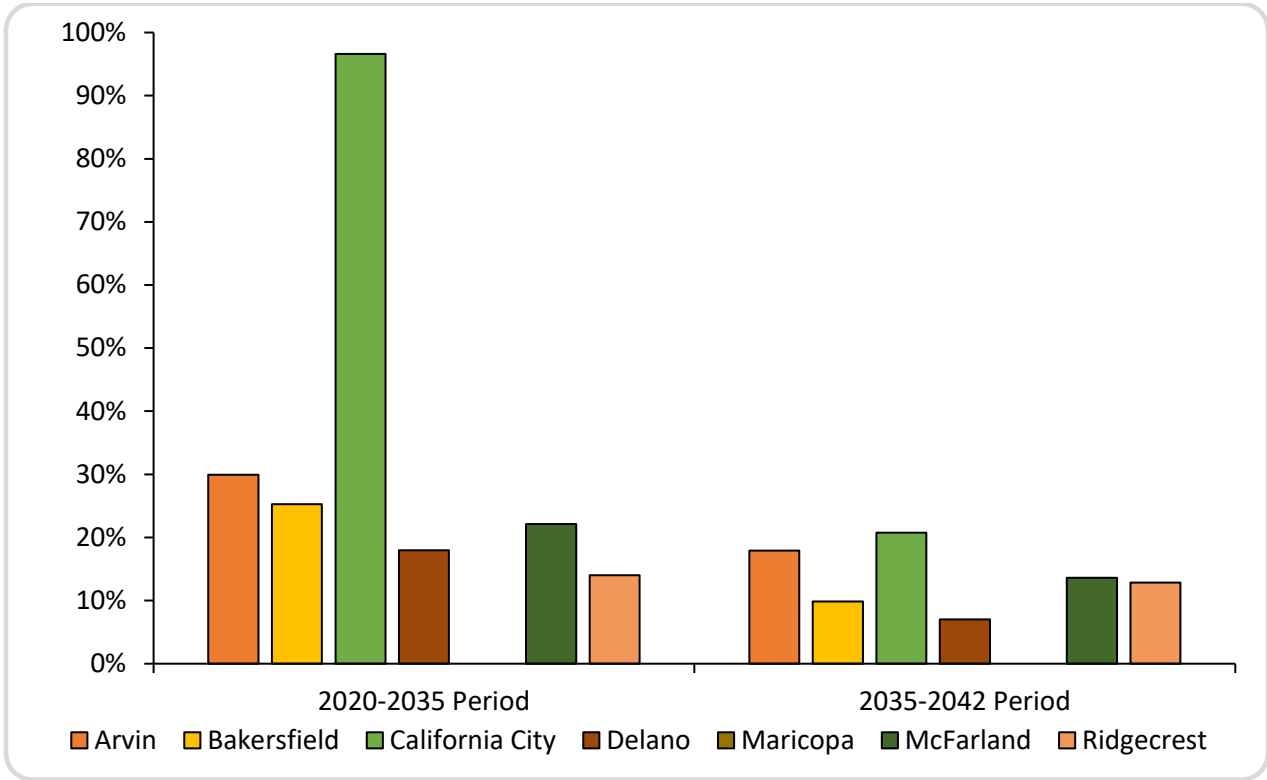
Source: Kern COG 2018 RTP; TNDG.

KERN COG POPULATION FORECASTS (% CHANGE): 2020-2035 AND 2035-2042, PART 2 OF 2



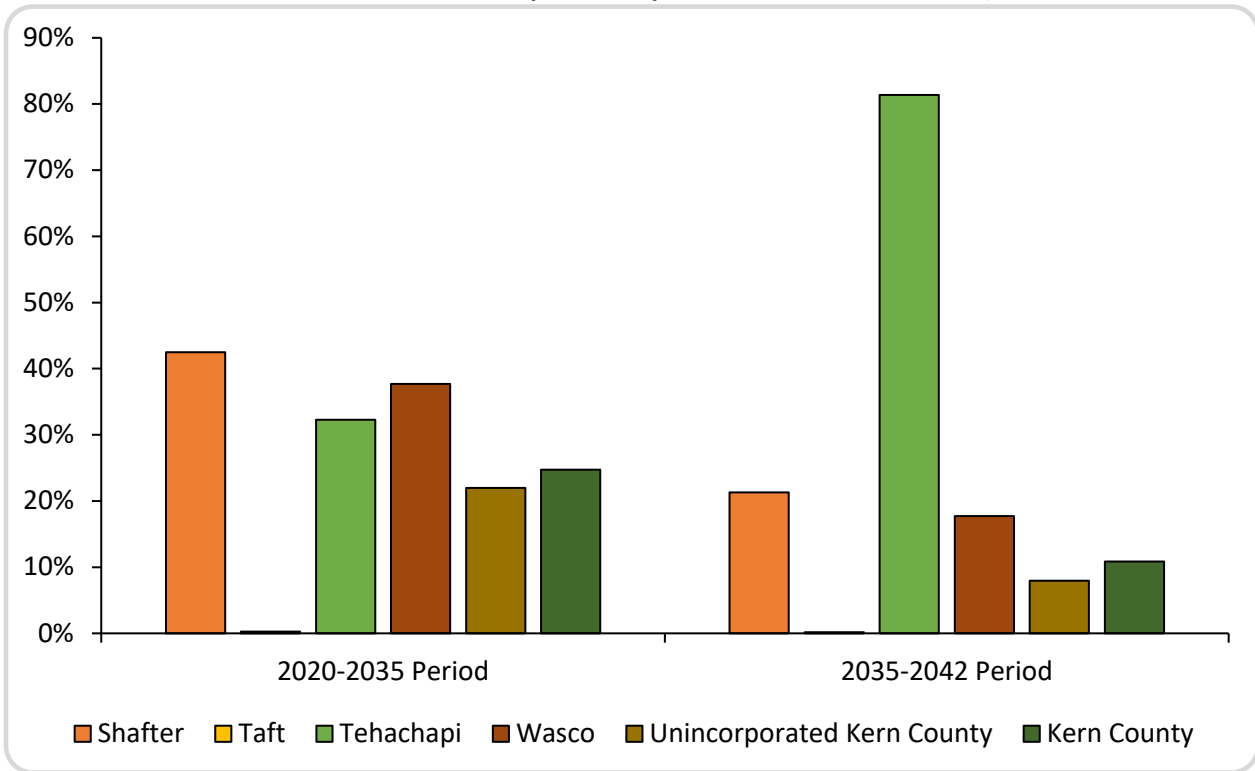
Source: Kern COG 2018 RTP; TNDG.

KERN COG EMPLOYMENT FORECASTS (% CHANGE): 2020-2035 AND 2035-2042, PART 1 OF 2



Source: Kern COG 2018 RTP; TNDG.

KERN COG EMPLOYMENT FORECASTS (% CHANGE): 2020-2035 AND 2035-2042, PART 2 OF 2

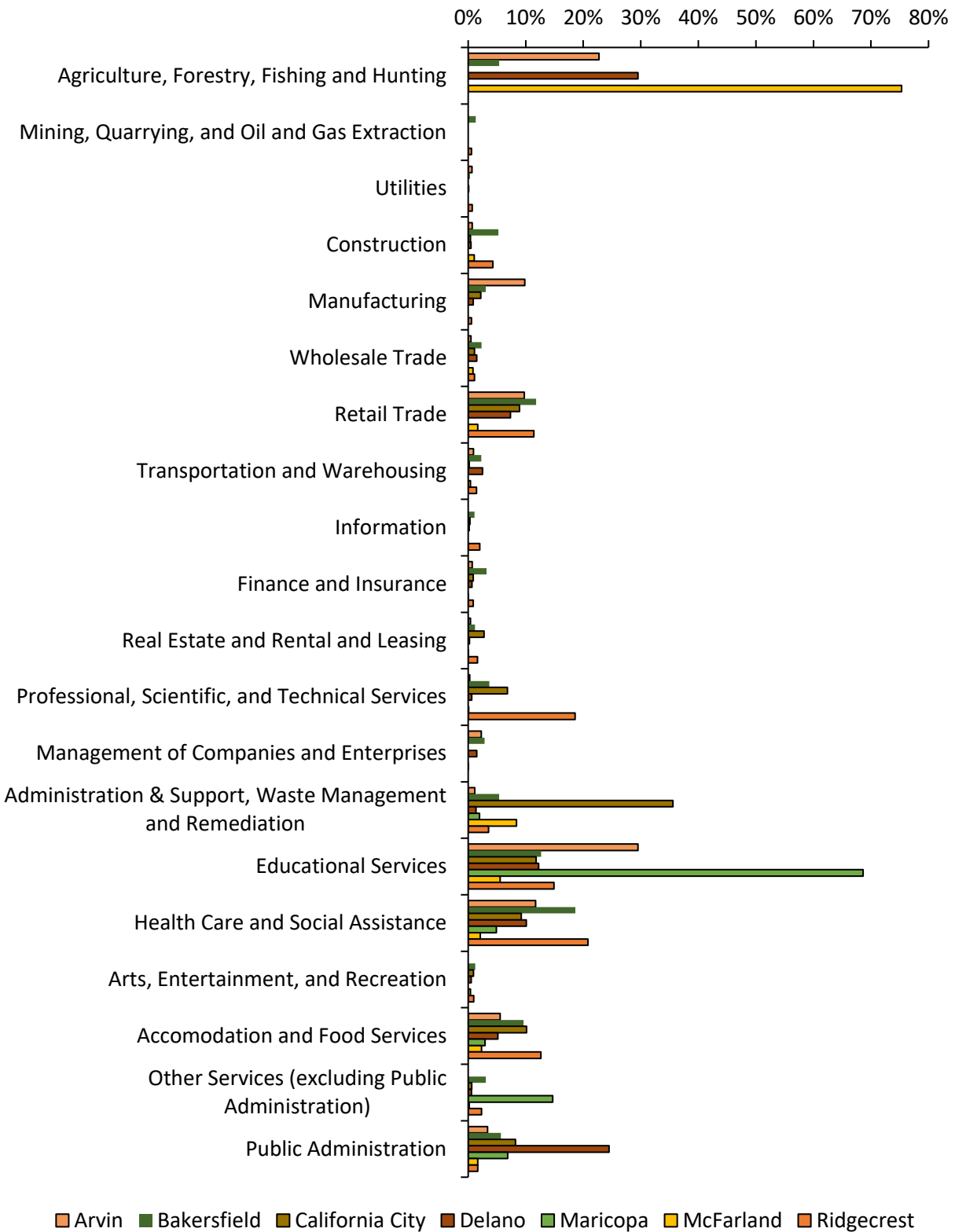


Source: Kern COG 2018 RTP; TNDG.

Employment Overview

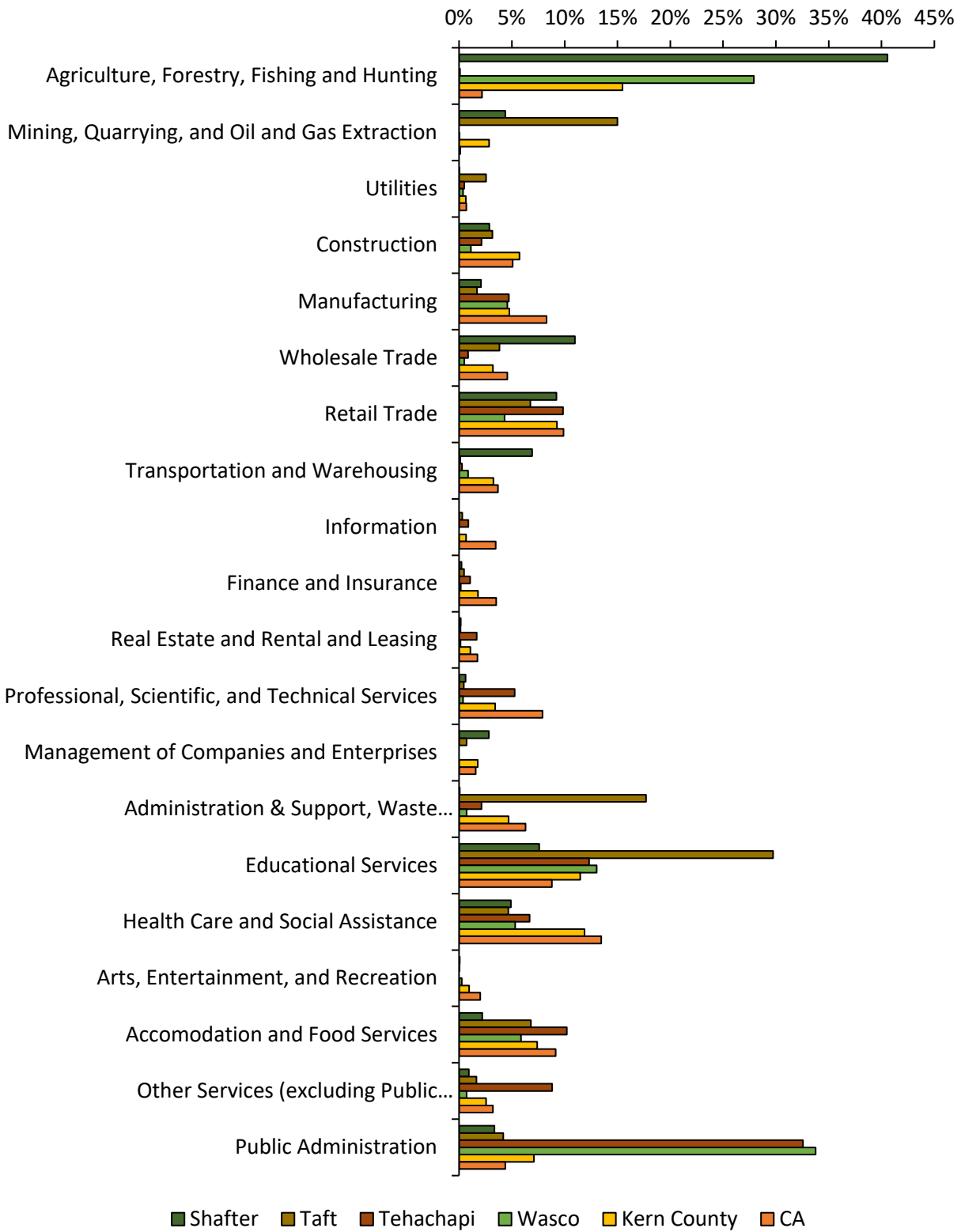
The LEHD program also provides employment data by industry at various levels of geography. The (multi-part) figure below shows that Kern County had the largest shares of employment (jobs located in the county) in the Agriculture, Forestry, Fishing, and Hunting, Educational Services, Healthcare and Social Assistance, and Retail Trade industries. Compared to the State, Kern County has a much smaller share of employees in the relatively high-paying Professional, Scientific, and Technical Services industry.

SHARE OF PLACE-OF-WORK EMPLOYMENT BY INDUSTRY BY AREA, 2017, PART 1 OF 2



Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

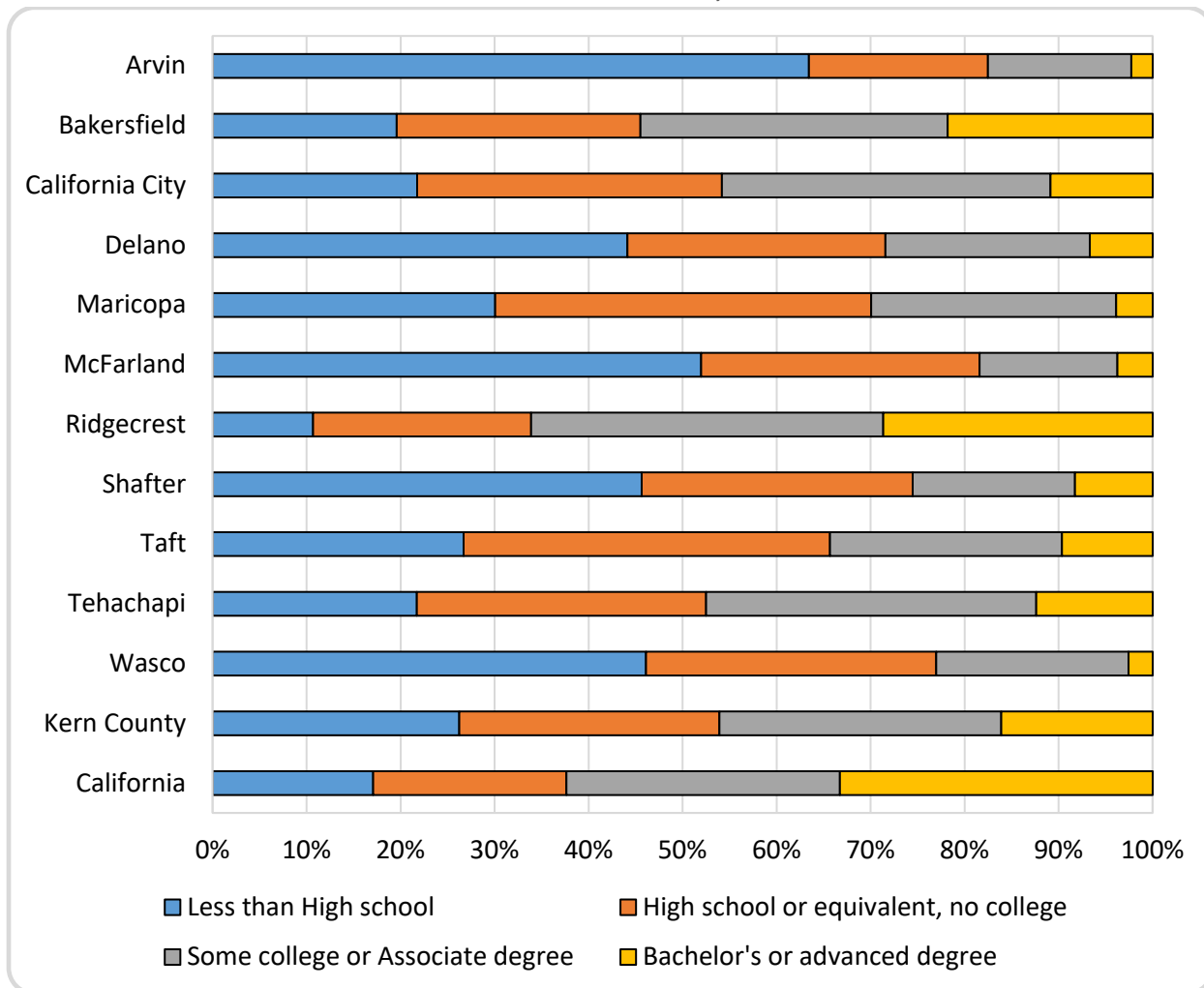
SHARE OF PLACE-OF-WORK EMPLOYMENT BY INDUSTRY BY AREA, 2017, PART 2 OF 2



Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

Data for educational attainment are compiled from the U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates. The figure below shows that the largest share of educational attainment, among the relevant Kern County population, was in those having some college or associates degrees (30.0%). Compared to the State, Kern County had the same share of population receiving some college experience or associates degrees, but had a much smaller share (16.1%) of the population that had received bachelor's degrees or more advanced degrees than the State (33.3%).

EDUCATIONAL ATTAINMENT, 2018



Notes: Population 25 years old and older. Percent attaining the levels shown.

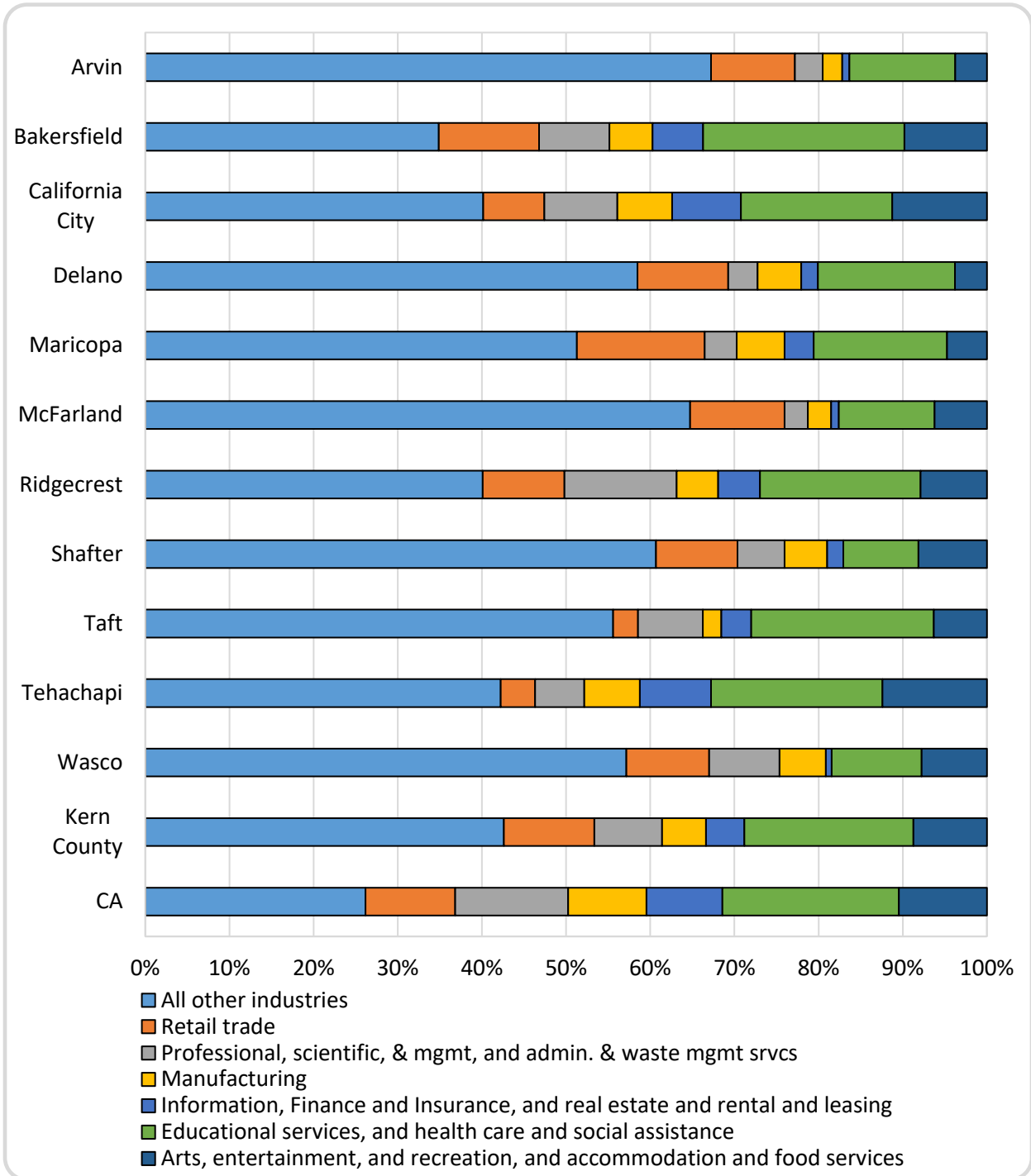
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

Data for resident workforce employment by industry are compiled from the U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates. The following figure shows that Kern County had a considerably larger share of resident workforce employment in All Other Industries² (42.6%), compared to the state. Compared to the State, Kern County has a smaller share of resident workforce employed in

² All Other Industries includes Agriculture, Forestry, Fishing, Hunting, and Mining, Construction, Wholesale Trade, Transportation and Warehousing, and Utilities, and Public Administration.

the relatively high-paying Professional, Scientific, and Technical Services industry (13.4% and 8.1%, respectively).

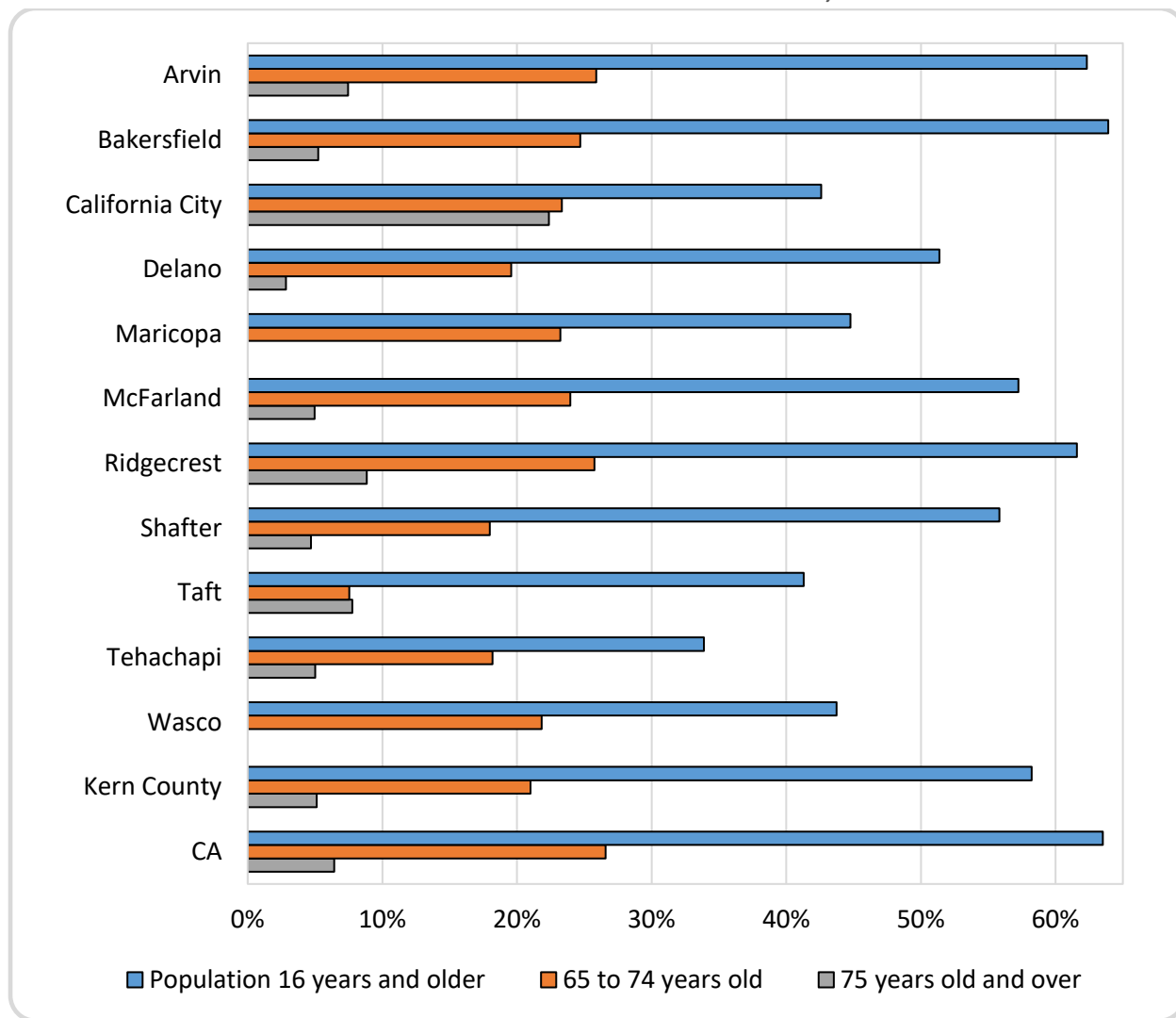
PERCENTAGE OF RESIDENT WORKERS BY INDUSTRY, 2018



Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

Data for labor force participation for each of the age groups specified below were compiled from the U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates. The figure shows that Kern County's labor participation rates for each age group are slightly less than the State percentages.

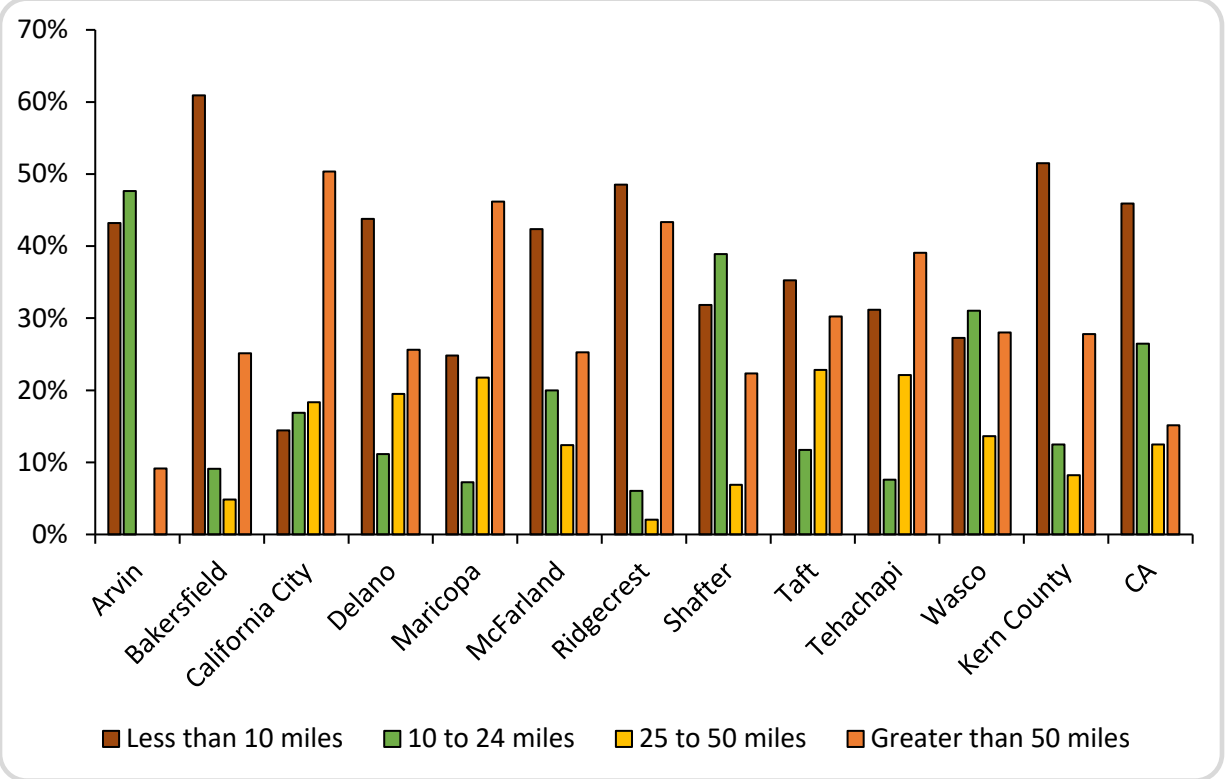
LABOR FORCE PARTICIPATION RATE BY AGE SEGMENT, 2018



Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

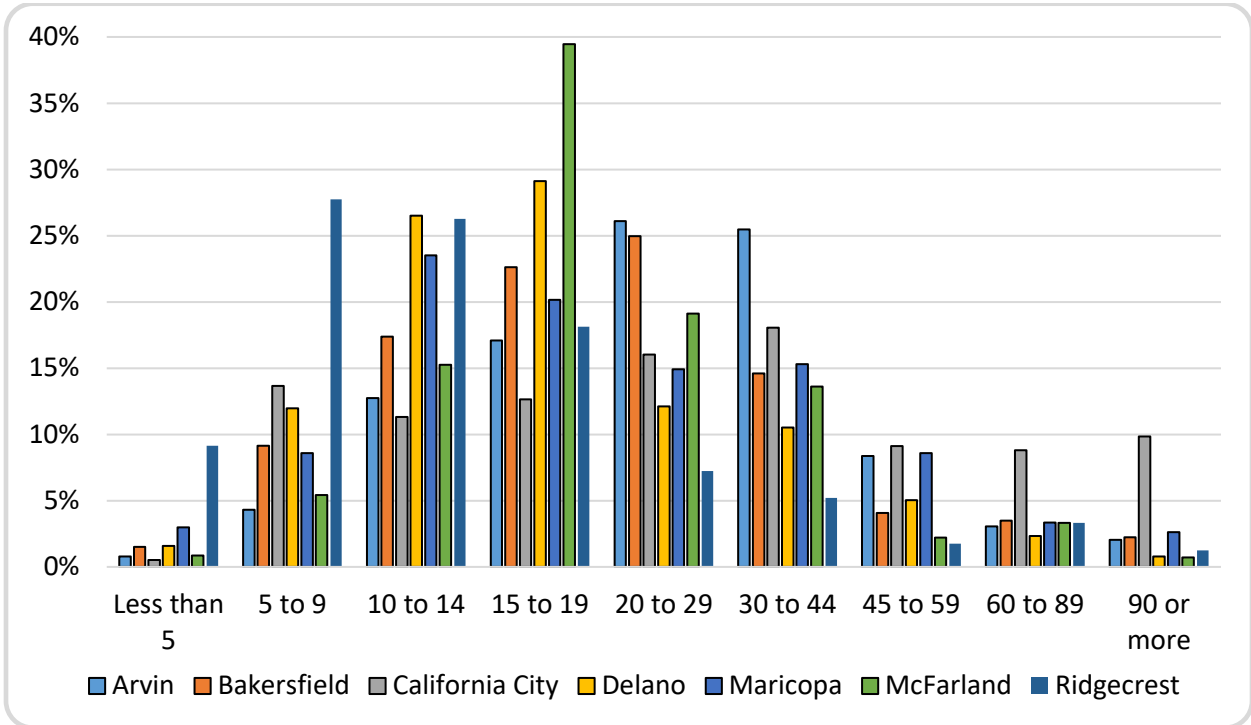
The data in the following figures are from the U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program and the 2018 American Community Survey 5-Year Estimates. The figures provide travel distance ranges and travel time in minutes to work for the County's labor force for each of the cities within the County and the State. Kern County's resident labor force tends to have higher percentages of workers within both the shortest and longest commute distances, compared to the State commuters overall. On the other hand, a smaller percentage of Kern commuters have travel times of thirty minutes or more than the State commuters overall.

PERCENT COMMUTING BY DISTANCE (MILE RANGES) TO WORK: KERN COUNTY, REFERENCE AREAS, AND CA, 2017



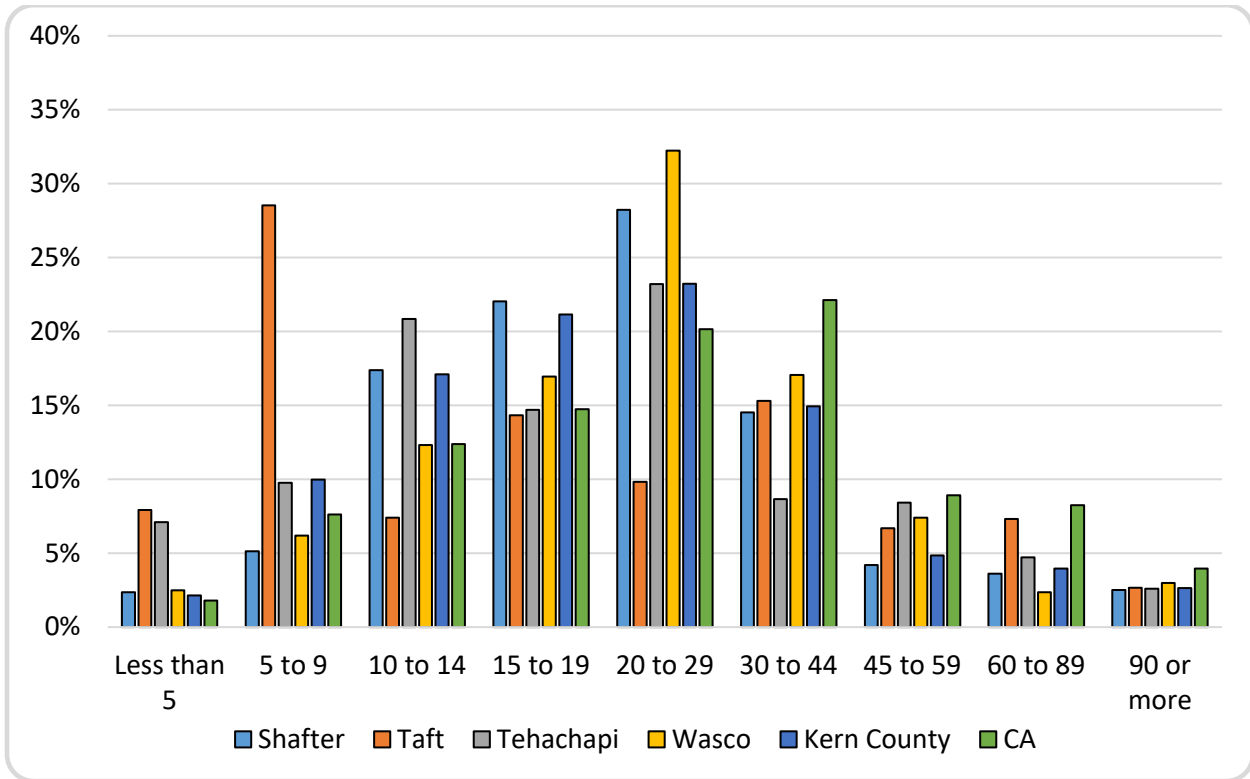
Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

TRAVEL TIME TO WORK, 2018 (MINUTES), PART 1 OF 2



Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

TRAVEL TIME TO WORK, 2018 (MINUTES), PART 2 OF 2

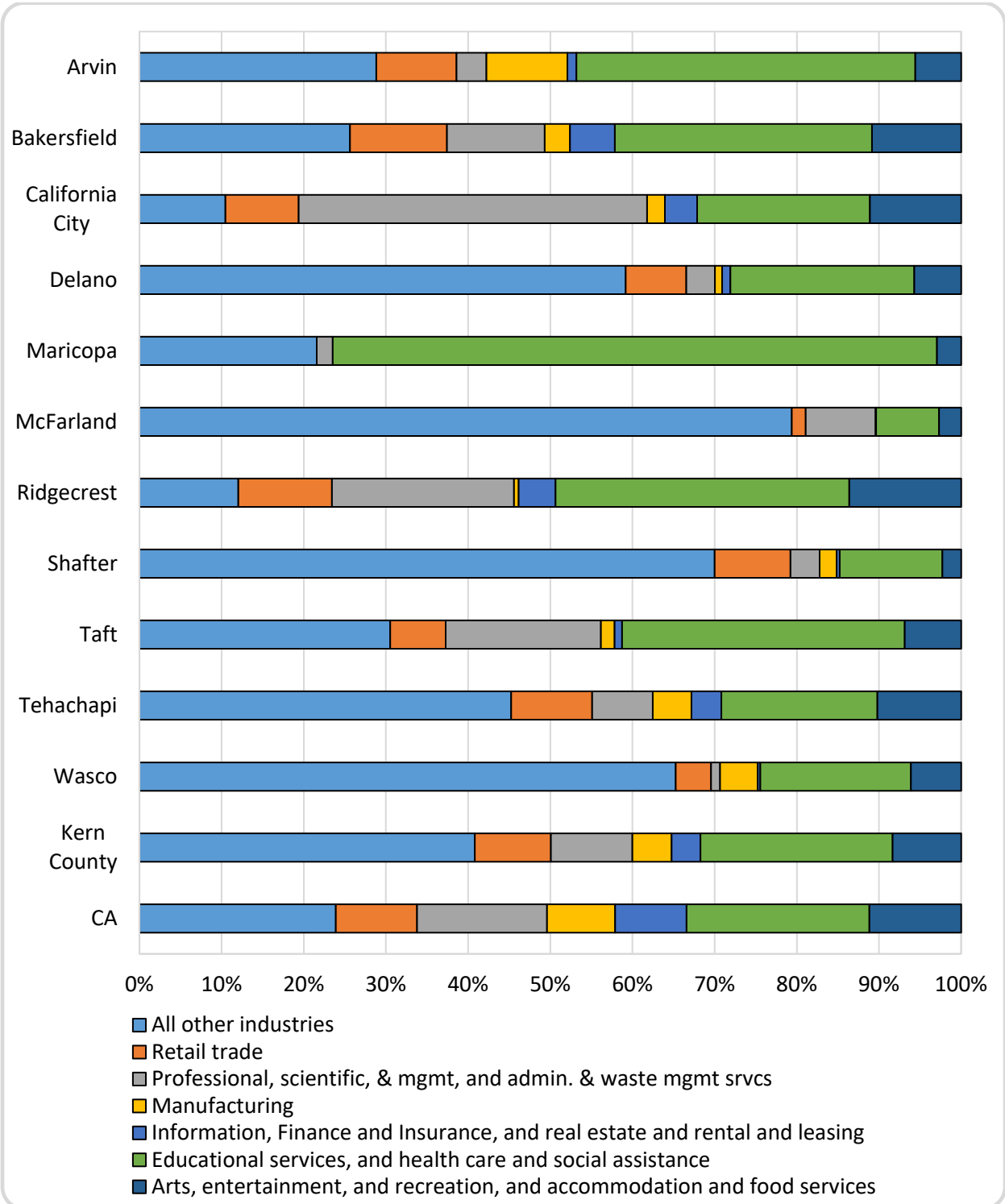


Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG

The data in the following figures are from the U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program and the 2018 American Community Survey 5-Year Estimates. The figure on the following page provides the share of jobs, by industry, located in each of the cities in Kern County, the County at large, and the State. Compared to the state, Kern County had a larger share of total employment (for jobs located in the county) in All Other Industries³ (40.8%) and Educational Services, Healthcare and Social Assistance (23.4%). Compared to the State, Kern County has a smaller share of employees in the relatively high-paying Professional, Scientific, and Technical Services industry (15.8% and 9.9%, respectively).

³ All Other Industries includes Agriculture, Forestry, Fishing, Hunting, and Mining, Construction, Wholesale Trade, Transportation and Warehousing, and Utilities, and Public Administration.

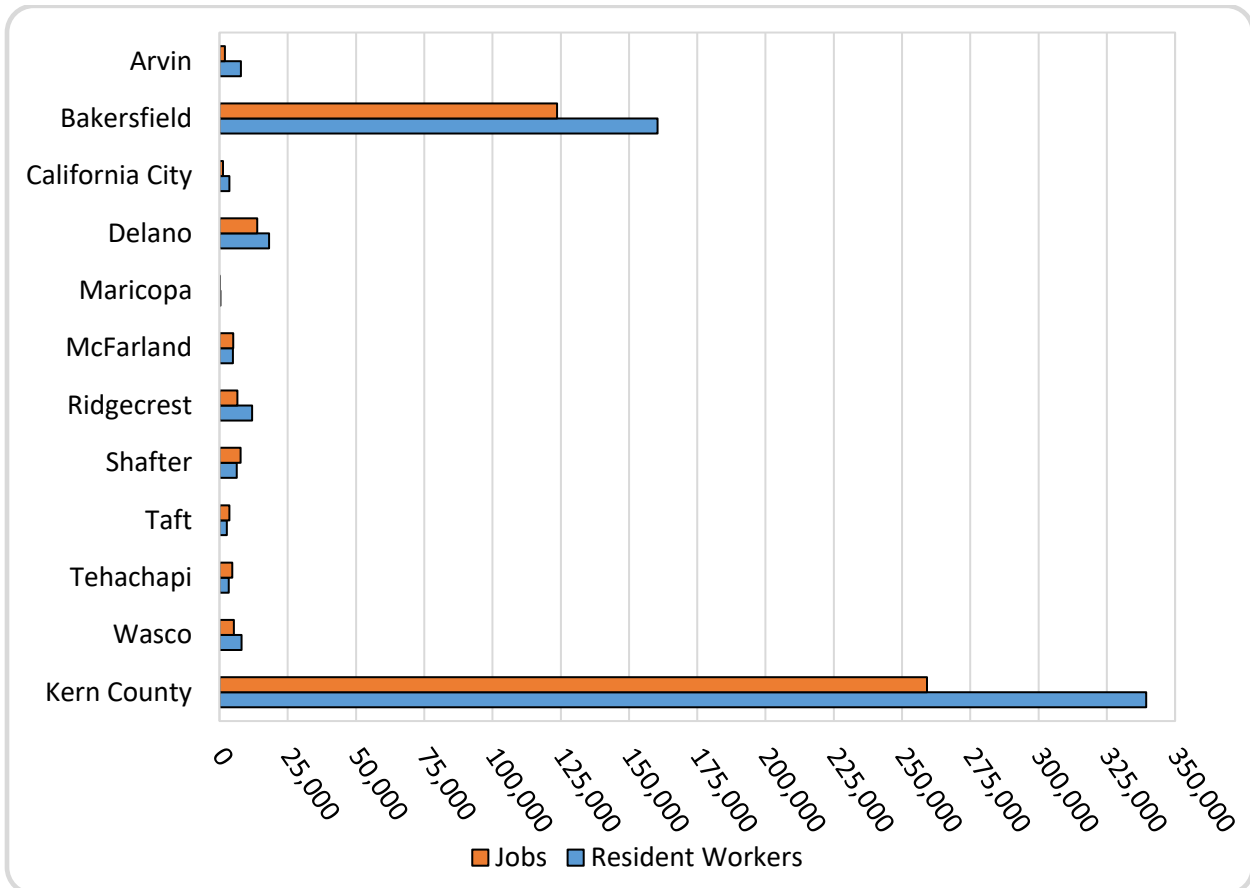
PERCENTAGE OF JOBS LOCATED IN PLACES, BY INDUSTRY, 2017



Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

The data in the following figures are from the U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program and the 2018 American Community Survey 5-Year Estimates. The following figure shows the number of *jobs* within each of the cities in Kern County and the County at large compared to the number of *resident workers* that reside in these places. While most cities including the County had more resident workers than jobs, Shafter, Taft, Tehachapi, and McFarland had more jobs than resident workers.

COMPARISON OF NUMBER OF JOBS AND RESIDENT WORKERS BY CITY



Note: Jobs refer to data estimates compiled from the U.S. Census Bureau’s LEHD program OnTheMap 2017 and Resident Workers refer to estimates compiled from the U.S. Census Bureau’s ACS 2018 5-year estimates.
 Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

Building Permit and Taxable Sales Data

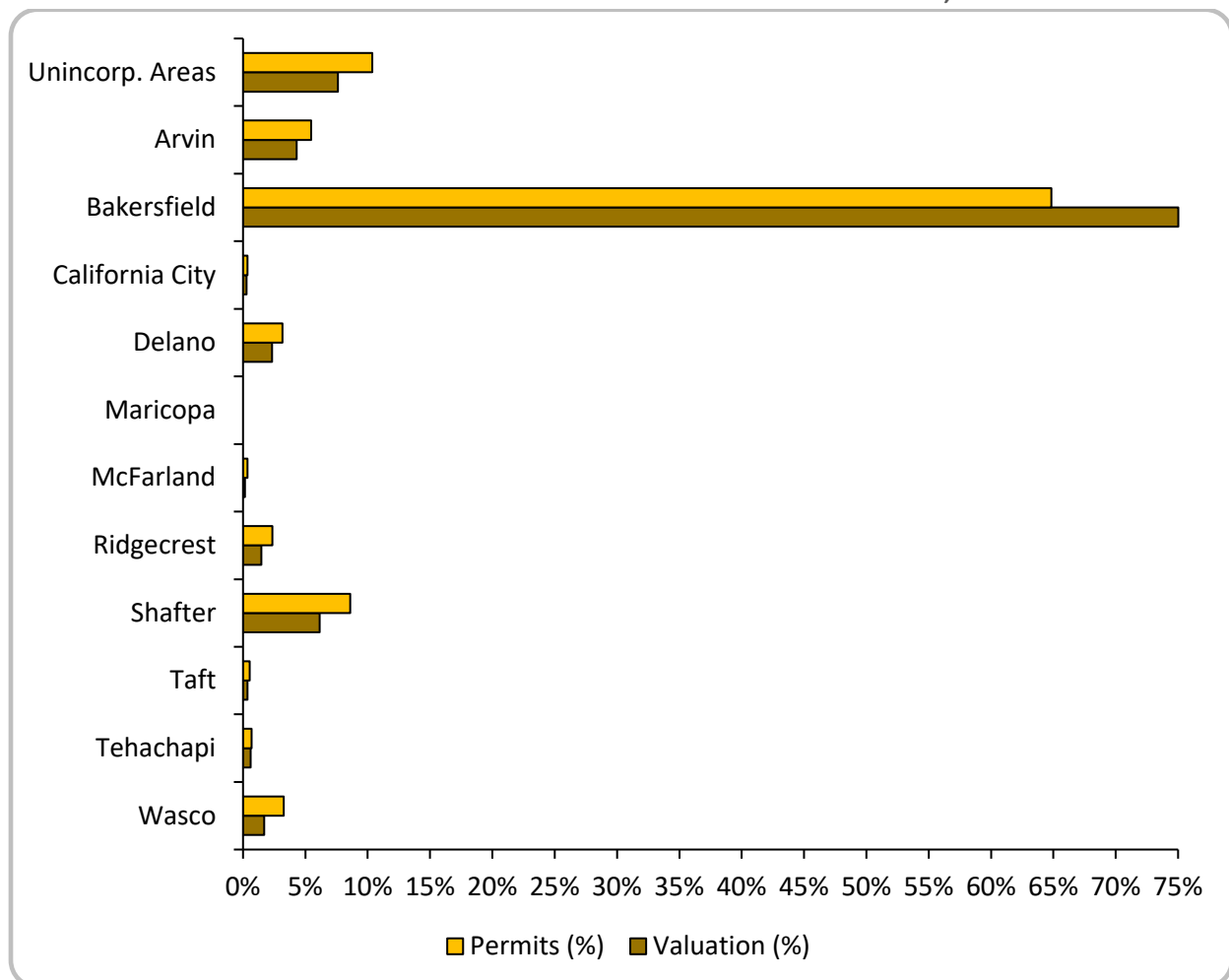
This section examines building permit and taxable sales data. For building permits, the cities of Kern County are compared among one another. The U.S. Census Bureau provides city-level building permit data through its Place Level Residential Building Permit Statistics survey. For taxable sales data, this section compares data for Kern County, cities within Kern County, and the State of California, as provided by the California Department of Tax and Fee Administration (CDTFA).

Building Permit Data

In 2018, the value of residential building permits issued in Kern County stood at \$488.5 million. Valuations increased in 2019 (\$538.3 million), but is still lower than 2017 when total permits reached a valuation of \$565.8 million.

The figure below shows the percent distribution of private residential building permits, in number of permits and valuation, among Kern County incorporated cities and the unincorporated areas of the county in 2019. At about 65%, Bakersfield accounted for the largest share of residential building permits among the individual Kern County cities, with a higher share of the total valuation.

DISTRIBUTION OF PRIVATE RESIDENTIAL BUILDING PERMIT ACTIVITY AND VALUATION IN KERN COUNTY FOR INCORPORATED CITIES AND UNINCORPORATED AREAS OF THE COUNTY, 2019

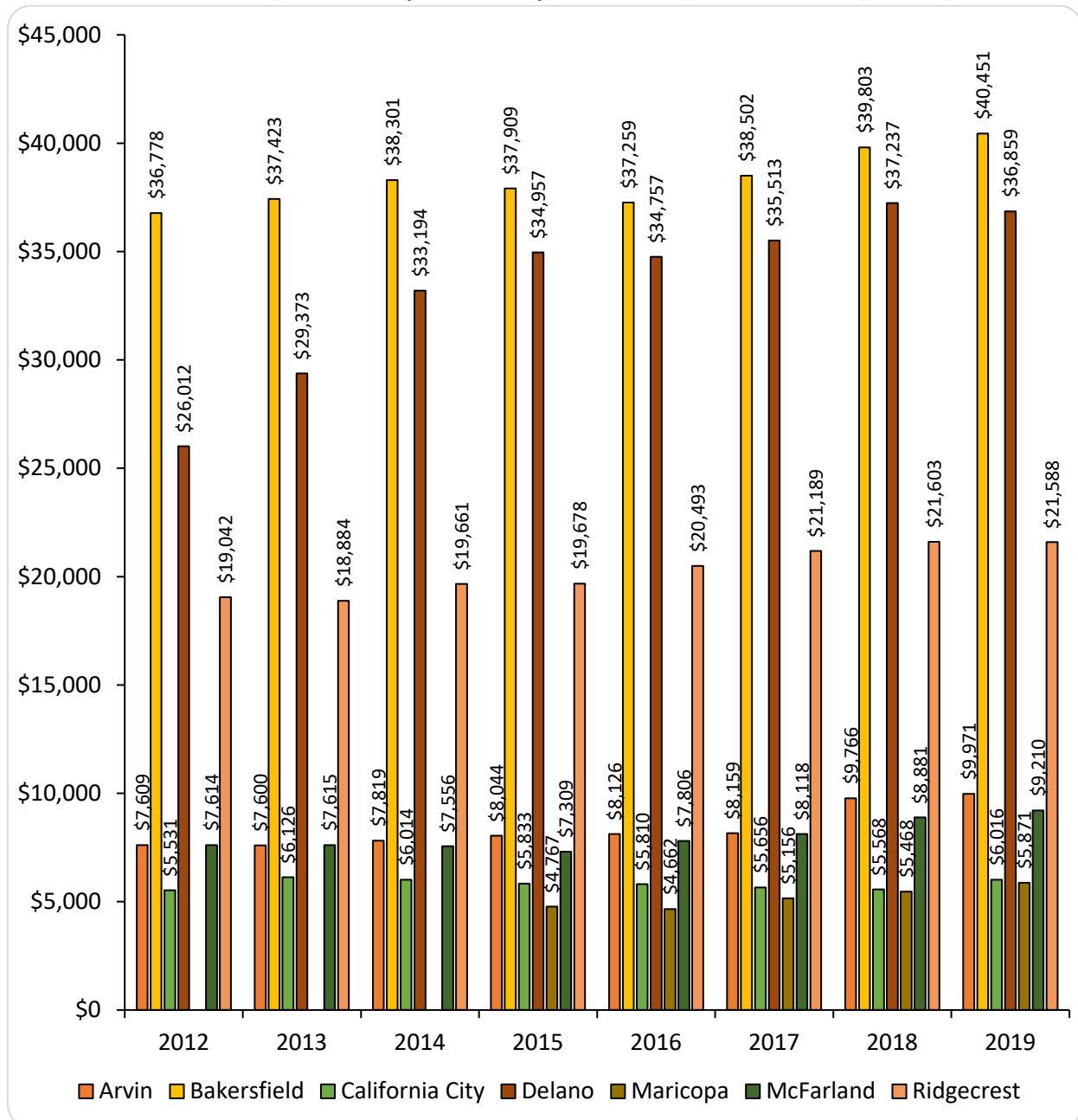


Source: U.S. Census Bureau, Manufacturing and Construction Division; TNDG.

Taxable Sales Data

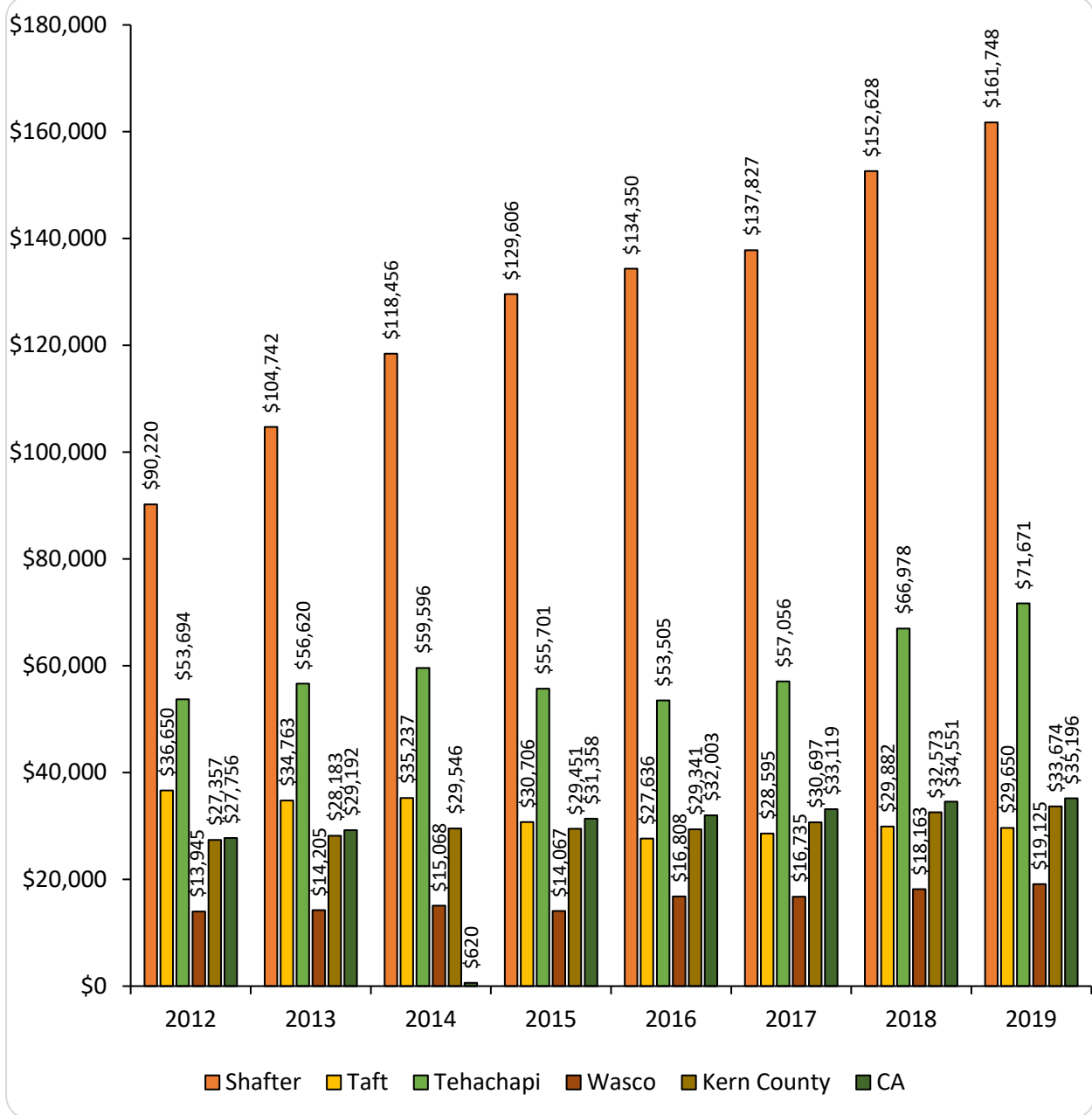
Data for taxable retail sales, as provided by the California Department of Tax and Fee Administration (CDTFA), indicate that retail sales in Kern County have increased by about \$2.2 billion during the period of 2012 to 2019, or by 28.5%. Although Kern County has not outperformed the State, it has consistently had positive growth in overall sales trends since 2016 and is only slightly less than the State in taxable sales per household. The (multi-part) figure below shows taxable sales per household for all geographies.

TAXABLE RETAIL SALES/HOUSEHOLD (2012 – 2019), KERN COUNTY, REFERENCE AREAS, AND CA, PART 1



Source: California Department of Finance, Table 1: E-5 City/County Population and Housing Estimates; California Department of Tax and Fee Administration (CDTFA), Total Taxable Retail Sales; TNDG.

TAXABLE RETAIL SALES/HOUSEHOLD (2012 – 2019), KERN COUNTY, REFERENCE AREAS, AND CA, PART 2



Source: California Department of Finance, Table 1: E-5 City/County Population and Housing Estimates; California Department of Tax and Fee Administration (CDTFA), Total Taxable Retail Sales; TNDG.

Opportunity Industries

"Opportunity Industries" is a multi-dimensional analysis examining attributes of both local workers and jobs, leading to findings on regional shares of "good" and "promising" jobs and the industries poised to support their growth. B3K employs this concept to focus on achieving dual economic objectives of fostering (i) enduring growth and competitiveness for the Bakersfield-Kern region and (ii) jobs that enable self-sufficiency and upward mobility of residents.

Longitudinal economic performance, sector, and talent analyses show that, for decades, Kern’s distinctive industry mix generated outsized income potential for less-educated workers, primarily via the oil and gas industry. Thus, Kern was an extraordinary outlier with regard to economic mobility, compared to regions with much higher levels of educational attainment as noted elsewhere in this document. The same reviews affirm that the recent decline in certain traded industries and growth in others is decreasing historic opportunity for residents.

These outcomes require economic development strategies that focus not just on job counts, but the quality of jobs created and providing access to them. In particular, “middle-skill, middle-income” jobs for workers with less than a bachelor’s degree are central to determining economic development priorities, responding to the impact of macroeconomic trends that have hollowed out job creation in that category and reduced pathways for younger workers to out-earn their parents.

The challenge is making the connection between industries and worker outcomes more explicit and detailed – distinguishing the quality of jobs that different sectors and activities generate, factoring in scale, educational requirements, and career progressions.

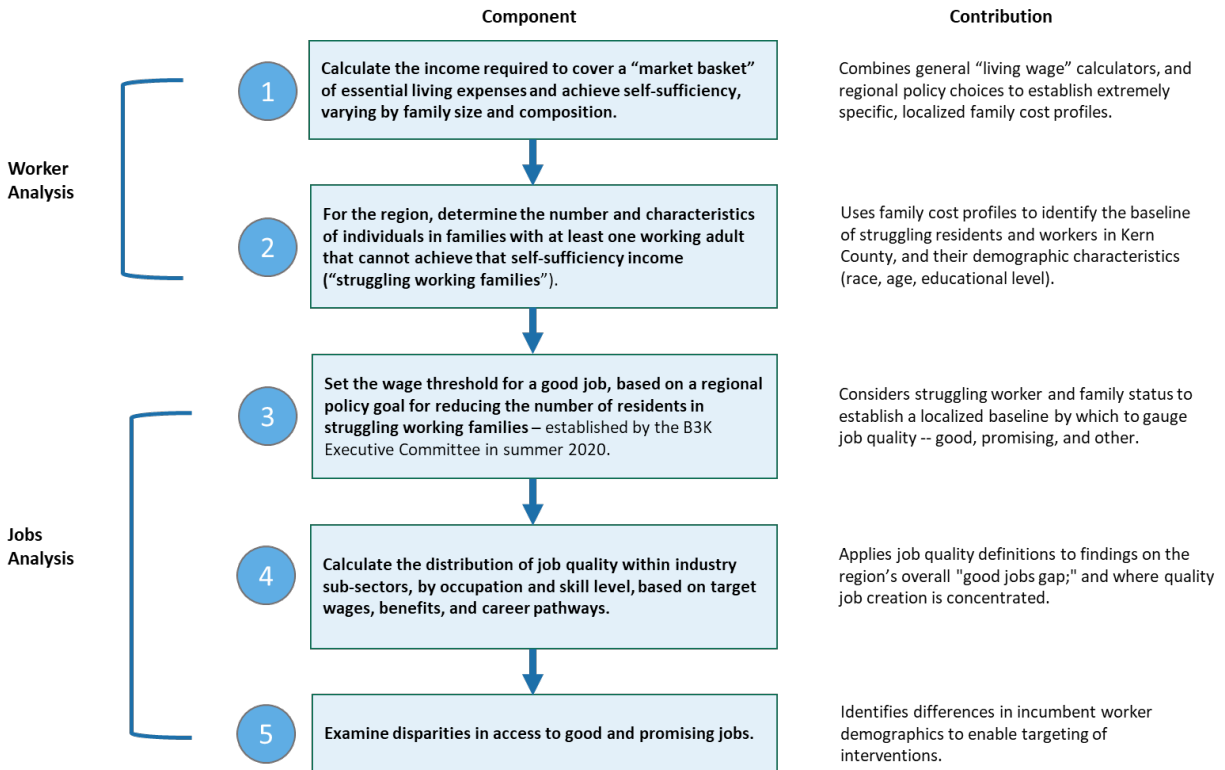
For example, a traditional assessment that gauges the median wage in a given industry does not reveal the extent to which the distribution of the jobs actually pay enough to meet basic expenses or are accessible to workers at specific skill levels. Nor can it indicate whether a particular job in that sector is likely to lead to a better quality job later.

With this information, regional leaders can:

- Prioritize economic development interventions to focus on sectors that concentrate quality jobs.
- Enhance job quality in other prominent clusters.
- Align workforce outreach and training activities to ensure residents are better connected to those jobs.
- The "Opportunity Industries" analysis identifies the sectoral concentrations of “good” and “promising” jobs that enable workers to achieve self-sufficiency for themselves and their families.
- Furthermore, Opportunity Industries affords a granular understanding of progressions in job quality by sector, by occupation and worker demographics.

Methodology: “Opportunity Industries” approach and steps

The Opportunity Industries analysis process examines attributes of both local workers and jobs, as diagrammed below, leading to findings on regional shares of good and promising jobs and the industries poised to support their growth.



Income needed for self-sufficiency varies by family composition, market basket choices

Opportunity Industries analysis starts with a determination of income required to achieve "self-sufficiency" for different families in Kern County. First, U.S. Census Bureau microdata details family demographic and socio-economic characteristics that notably influence costs of living. Thus, budgets account for the number of individuals, ages, and work status; a two-adult family with only one working assumes the other provides childcare, negating that cost.

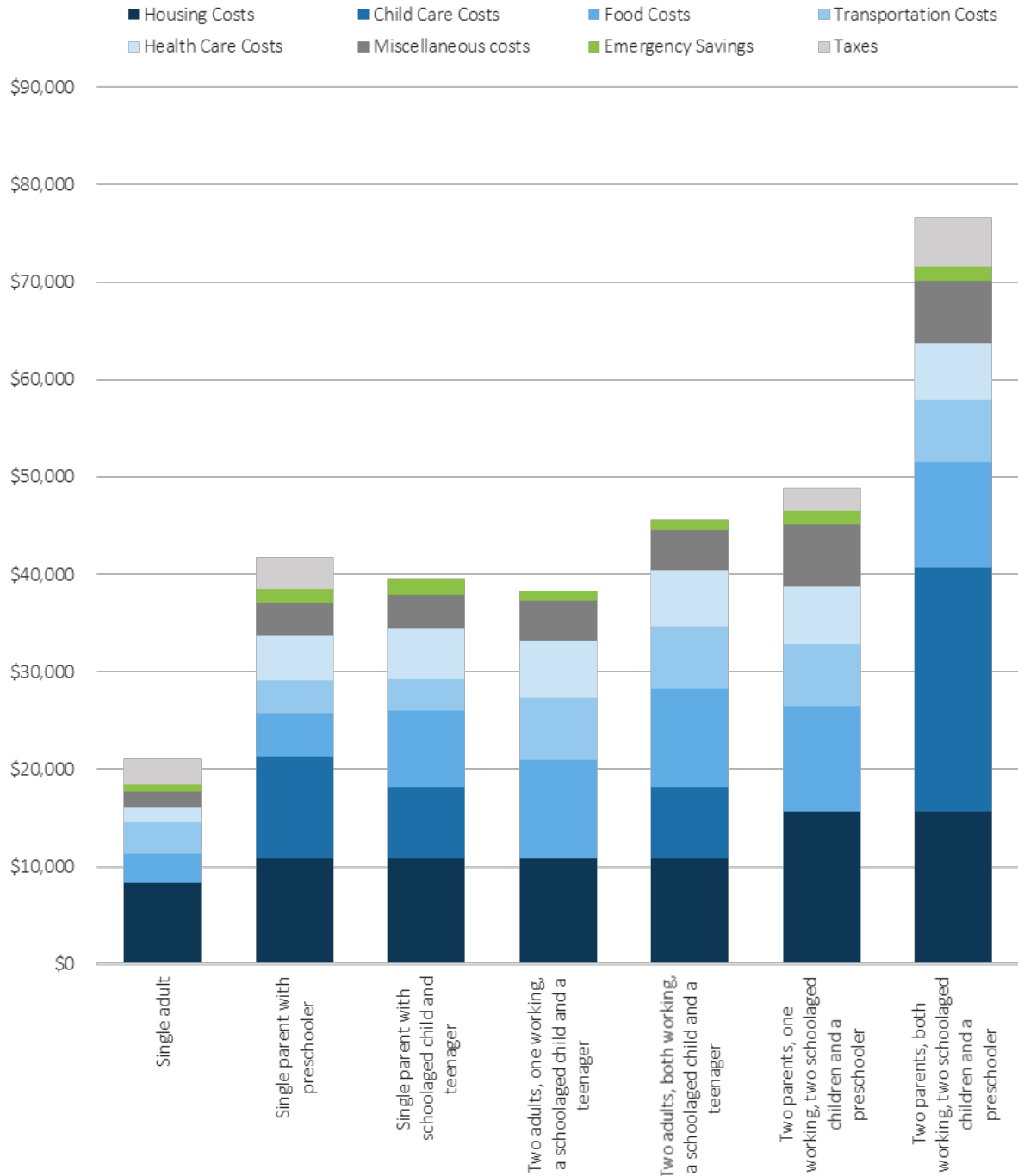
Second, budgets are set for the basic expenses that each type of family must cover annually – a “market basket” of needs tailored to local costs. While there are several “living wage calculators” available (e.g., MIT, United Way ALICE), the analysis uses University of Washington metrics because it enables more granular assessments of family composition.

Still, these account for the most minimal standards versus enabling financial stability and wealth-building. For example, housing costs are based on the federally-established market rates for the smallest livable space that can accommodate the family, and food budget reflects meeting caloric needs versus nutrition. The figure below provides a summary of the data.

As a policy choice, Kern County stakeholders decided that more savings were necessary to ensure that these struggling working families would be both self-sufficient and economically mobile. These added savings would help families build wealth through home ownership, set money aside for education, or for their retirement. The agreed benchmark for that additional savings is the lesser of (i) 10% of a family’s annual base self-sufficiency income or (ii) the \$6,000 tax-free IRA limit per worker.

Adding that further savings requirement to the minimum self-sufficiency budgets has the effect of increasing the portion of Kern County residents who cannot make ends meet from 48% to 52%.

ANNUAL INCOME NEEDED TO COVER BASIC EXPENSES FOR A SAMPLING OF KERN COUNTY FAMILIES, 2018



Source: Brookings analysis of University of Washington, "Sufficiency Standard for California" (<http://www.selfsufficiencystandard.org/California>).

More than half of Kern County's residents struggle to make ends meet and achieve self-sufficiency

More than 450,000 people or more than half of Kern County residents lived on less income than required to cover their basic expenses in 2018. This large share is primarily a reflection of the economy, the quality of job creation, and local workers' qualifications for well-paid jobs. The figure below provides a summary of the data.

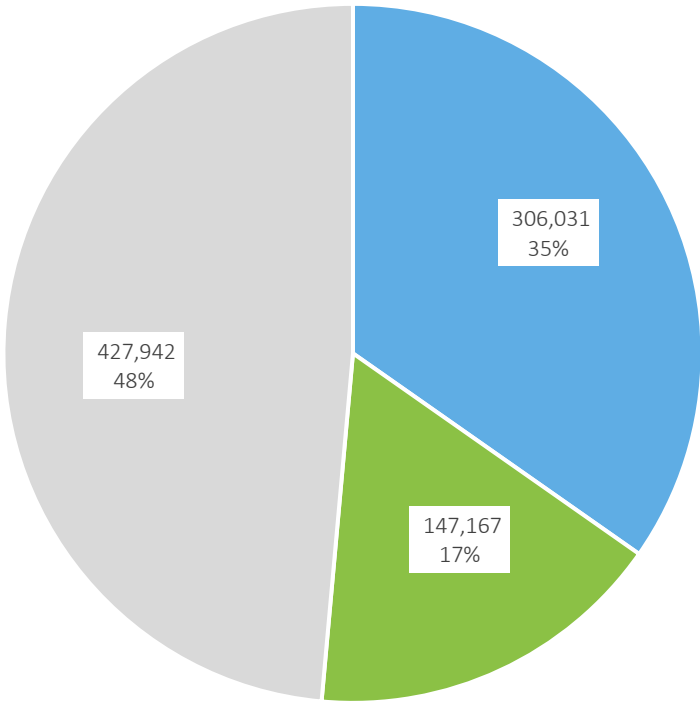
The data indicates that most people in these families struggle to achieve self-sufficiency because adults cannot earn enough income at work – not because they are not working.

Less than one-third of Kern residents in struggling families belong to families without workers. A disproportionate share of people in these families are seniors aged 65 years or more, or include adults unable to work due to a disability.

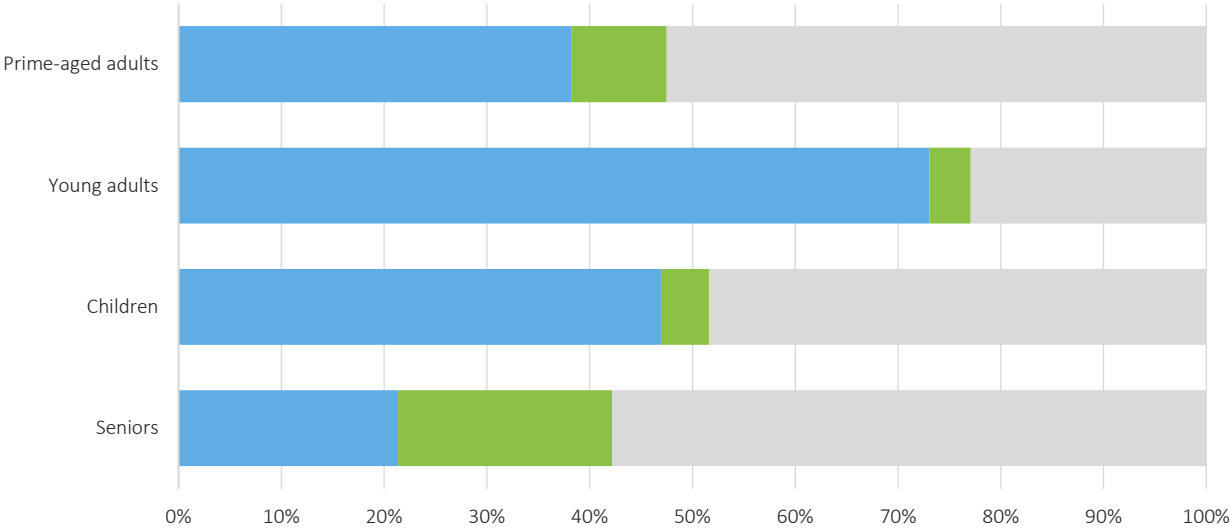
Most struggling Kern residents are members of families having at least one adult who participates in the labor market, yet cannot cover all basic living expenses.

Furthermore, the vast majority of struggling prime-aged adults aged 25 to 55 years and struggling young adults younger than 25 years-old belong to working families. Likewise, more than 95% of the children in struggling families belong to working families.

SHARE OF KERN COUNTY'S RESIDENTS THAT BELONG TO FAMILIES WITH INSUFFICIENT INCOME, 2018



■ Struggling working families ■ Struggling non-working families ■ Non-struggling families



Source: Brookings analysis of American Community Survey public-use microdata and University of Washington estimates.

There are significant disparities in the likelihood a worker struggles by age, education, and race

Focusing only on the status of struggling working families, more than 133,000 adult workers in Kern County struggled to make ends meet for their families in 2018, prior to the COVID-19 pandemic and economic downturn.

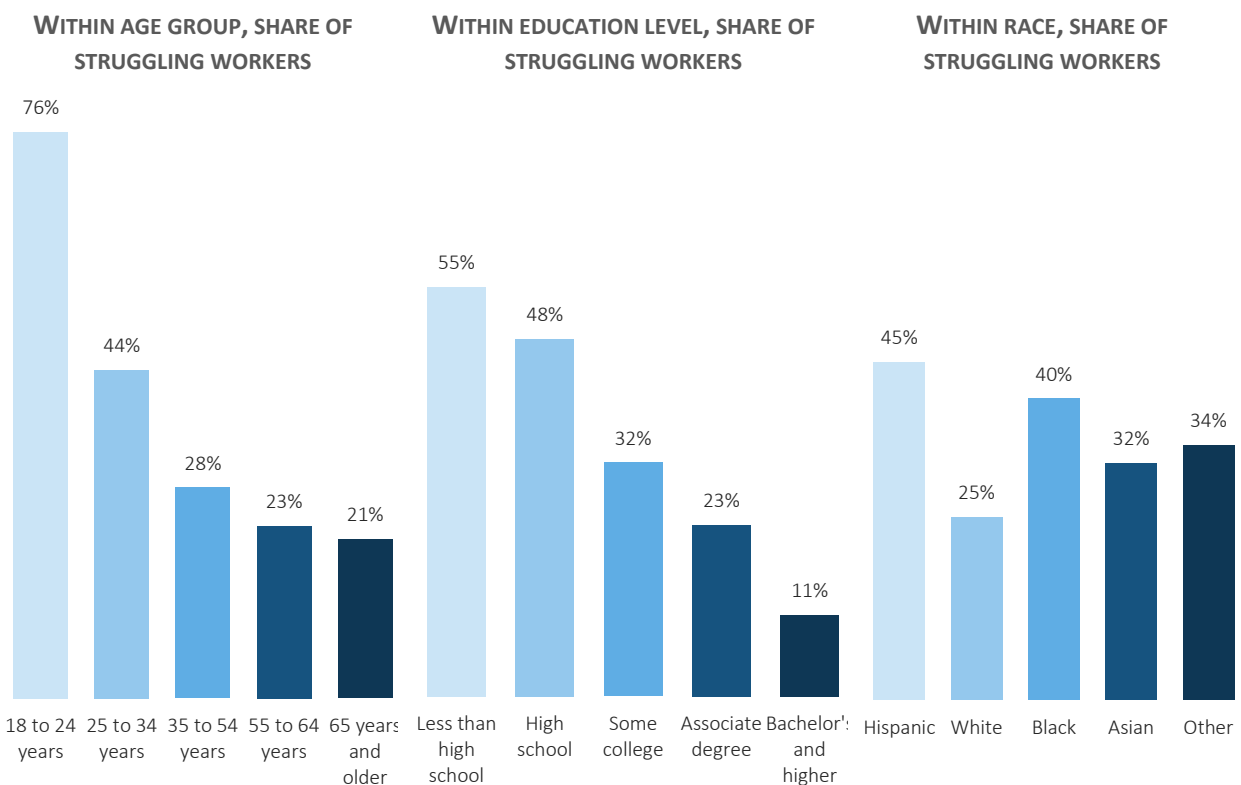
However, there are notable differences in the rate at which workers struggle. Some vary predictably across characteristics like education and age, since these serve as proxies for human capital. Younger workers have less labor market experience, which means they may not be as productive or well-paid. Workers with less education have fewer skills, and tend to earn less on average.

Though disparities along these dimensions are common in other regions, the share of younger and less-educated workers that struggle in Kern remains very high in comparison to other major U.S. metropolitan areas. This is consistent with the unusually low levels of educational attainment in the region.

Kern also has significant racial disparities in the likelihood a worker struggles, only a portion of which are correlated to education and age. A Hispanic worker is 80% more likely to struggle to make ends meet compared to a white worker. A Black worker is 60% more likely to struggle than a white worker. The figures below provide a summary of the data.

While a smaller portion of Black and Hispanic adults in Kern County have post-secondary education compared to whites, these differences in educational attainment explain only about half of the disparities between white workers and workers of color. Age explains another 18% of the difference.

This still leaves one-third of these disparities unexplained, raising questions of how to address potential socio-economic barriers. Further, these discrepancies indirectly reinforce disparities in educational attainment, since incentives for a white worker and a worker of color to attain more education are unequal.



Source: Brookings analysis of American Community Survey public-use microdata and University of Washington estimates.

Most struggling workers have diplomas, suggesting further credentialing, job quality, access barriers

Understanding the representation and characteristics of struggling workers in the overall labor force is also critical to decision-making about economic and workforce issues.

Three-quarters of all struggling workers are prime-age adults aged 25 to 54 years. This age group has the highest labor market participation rate and it is during these years that most individuals reach their peak earnings potential. While struggling workers are disproportionately young and less educated, they do have labor market experience and skills.

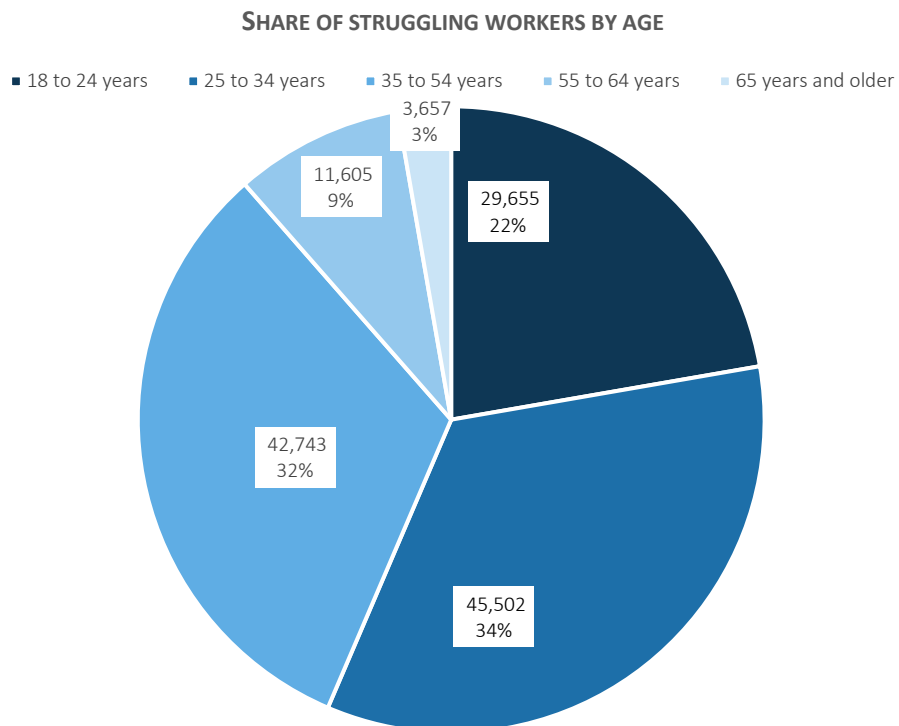
Nearly 70% of all struggling workers have a high school diploma, and over 30% have some post-secondary education, though few have a post-secondary degree.

First, these breakdowns of struggling workers – particularly by education – indicate that **workers with a high school degree or some college need to be a focus for credentialing and completing more education, in order to compete for better quality jobs.**

Second, recognizing the constraints of upskilling 91,000 struggling workers who do not have any post-secondary education, these **gaps reemphasize the importance of prioritizing economic development centered on middle-skill, middle-income job creation.**

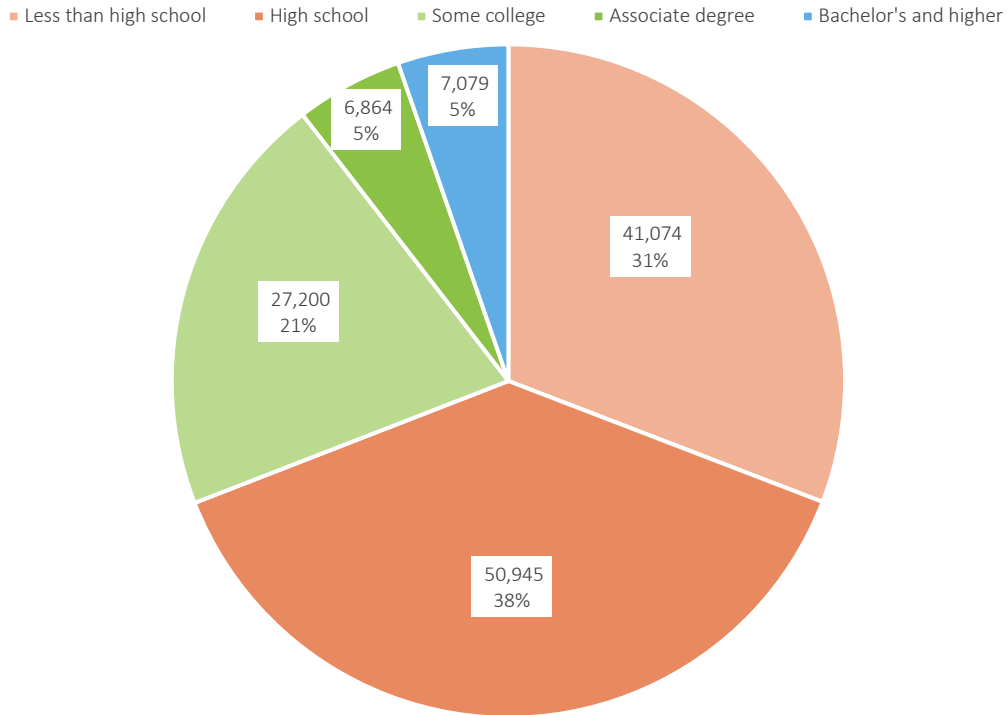
Third, the blend of **workforce credentialing and economic development must be tightly linked to ensure relevance and access.** Executing this should include consideration that most struggling workers are people of color.

The figures below provide a summary of the data.



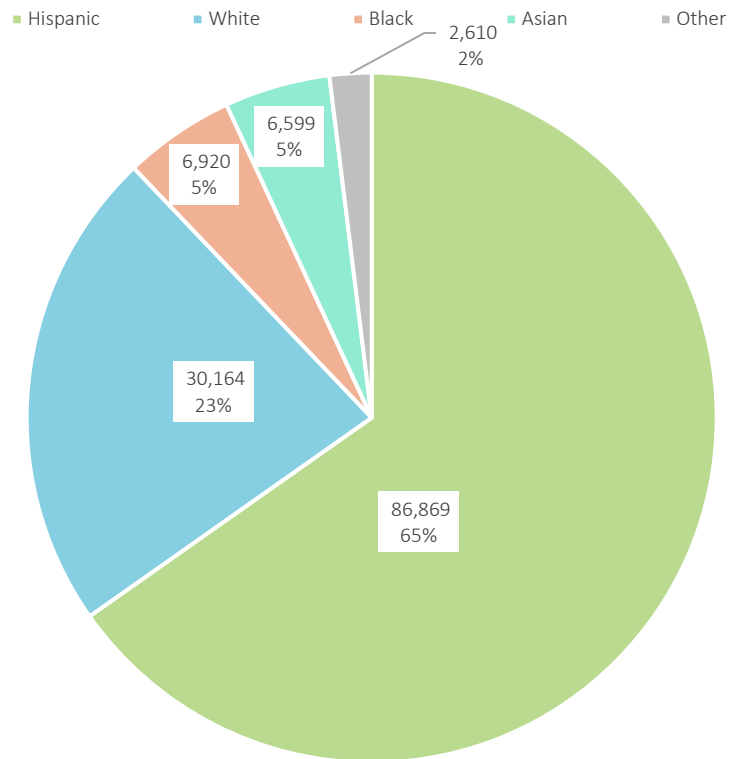
Source: Brookings analysis of American Community Survey public-use microdata and University of Washington estimates.

SHARE OF STRUGGLING WORKERS BY EDUCATION



Source: Brookings analysis of American Community Survey public-use microdata and University of Washington estimates.

SHARE OF STRUGGLING WORKERS BY RACE



Source: Brookings analysis of American Community Survey public-use microdata and University of Washington estimates.

Opportunity Industries: Improving outcomes for workers requires focus on job quality

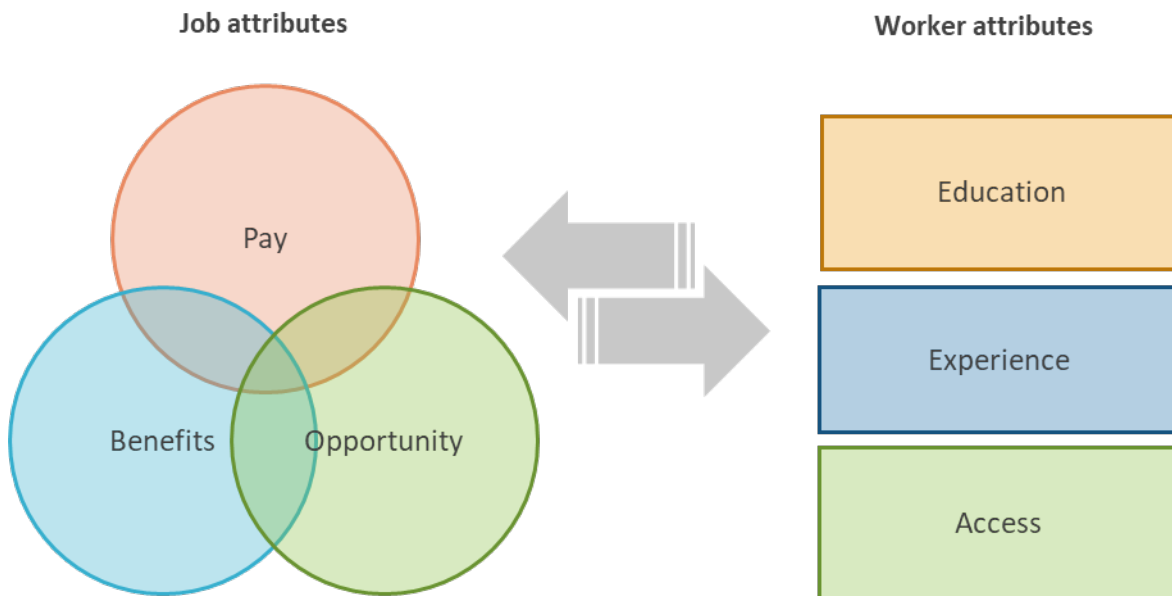
Labor market outcomes are driven by supply and demand: the matching of pools of skilled workers with employment opportunities that require certain education and experience. Supporting better outcomes requires evaluating skills and education of Kern residents alongside the nature and quality of available jobs in the region.

"Good jobs" most often are defined by **pay** and **benefits**. Usually pay is assessed against median wages, not linked to enabling worker or family self-sufficiency. The Opportunity Industries analysis makes those connections and adds a third component: **upward mobility toward better quality jobs**.

This analysis also accounts for differences in the quality of a job and the likelihood of upward mobility depending on the attributes of the person who holds the job. Two people who have exactly the same job with the same employer can have different earnings and benefits depending on their education, age or experience, and even non-skill factors like gender and race or ethnicity.

Combined with prior analyses of worker self-sufficiency and regional policy decisions on impact, the analysis models job quality in Kern County based on the local industry and occupational structure, growth rates, and attributes of the workers who hold its jobs. This yields a detailed, highly nuanced picture of the supply of economic opportunity in Kern County's labor market, leading to actionable implications for industries that concentrate good and promising jobs.

Good jobs can also be defined by a very broad range of qualitative factors -- from work environment to scheduling stability – but these are attached to individual employer policies rather than consistently comparable sector or occupational characteristics.



Defining job quality

“**Good jobs**” meet three criteria:

1. Pays a **sufficient annual wage** that enables workers to (i) meet their family’s market basket of expenses and savings, and (ii) be ineligible for California benefit transfers (*i.e.*, SNAP, TANF, Medicaid)
2. Provides **employer-sponsored health insurance**, which is a proxy for other employment benefits
3. Affords career pathways that lead to the same or another good job in the future

“**Promising jobs**” do not meet all the criteria of a good job, but provide career pathways that are 100% likely to lead a worker to have a good job by 2030.

“**Other jobs**” do not qualify as good or promising.

Within each category, jobs can be segmented by accessibility based on educational attainment: high-skill (at least a four-year degree), middle-skill (high school degree to four-year degree); or low-skill (less than high school).

Methodology: Identifying the career pathway potential from promising to good jobs

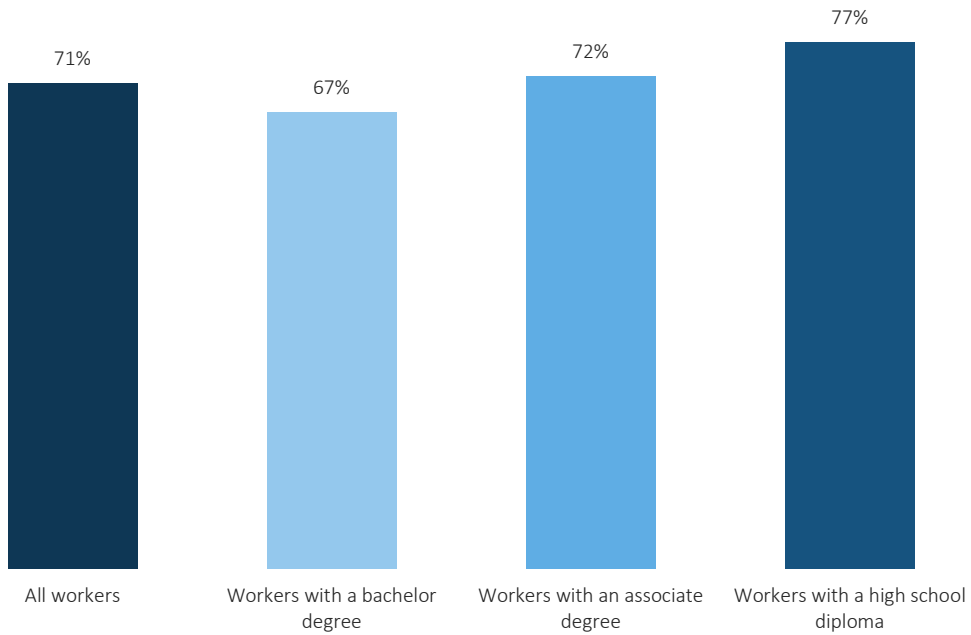
The vast majority of workers obtain good jobs after making major career shifts, and these shifts are more important for less-educated workers. These are not “career ladders” advancing in one vocation or sector, but “career pathways” that may change dramatically.

How can promising jobs that afford upward mobility to good jobs be identified, especially when transitioning into entirely different industries and occupations? Using the largest publicly-run national labor market survey, the Opportunity Industries analysis follows workers through job changes over the past 20 years. It tracks individuals’ transitions from month to month over two four-month long periods to yield more than 8 million records representing billions of months worked in the U.S. labor market.

As the example of a credit clerk shows, these transitions are not always intuitive, incremental, or improving wages and job quality. These pathways are not theoretical nor prescriptive. Rather, they reveal what happens across individuals’ attributes and observed labor market behaviors. The figures below provide a summary of the data.

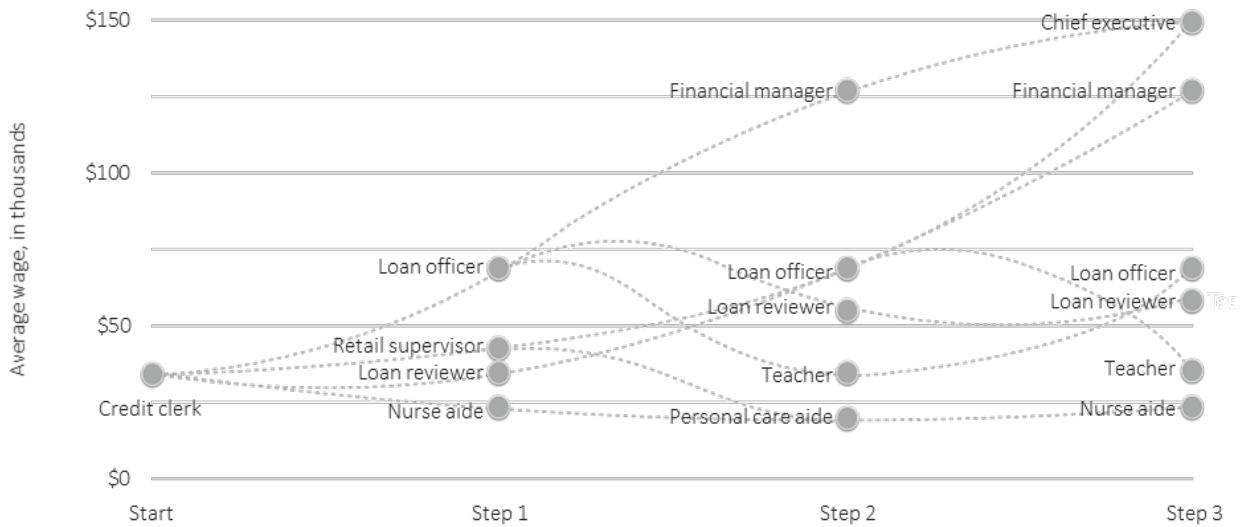
The data enables modeling of the probability of each movement based on particular circumstances -- the rate of job growth in a place and time, and the characteristics of the worker who made the transition. Those models establish the career pathways for workers based on their starting occupation and attributes. These can be applied to regional economic and labor market conditions to determine the likelihood that a certain job will lead to a good job.

SHARE OF WORKERS IN GOOD JOBS WHO MADE MAJOR CAREER SHIFTS



Source: Brookings, "Opportunity Industries".

COMMON CAREER PATHS FOR CREDIT CLERKS



Source: Brookings, "Opportunity Industries".

Methodology: Determining the wage threshold for a "good job"

What constitutes the target for a "good job" depends on the policy objectives for the region.

Based on regional stakeholder preferences in Kern County, the family self-sufficiency "market basket" budget extended beyond the minimum required for breakeven with annual expenses to also include some savings and wealth-building. That market basket then was applied to determine the proportion of working families that could not meet that self-sufficiency standard, based on their unique characteristics. Tracking across the variety of family compositions and annual income needs, an hourly

wage curve can be created that shows how many people – individual adults, children, or undifferentiated residents – can achieve self-sufficiency at different levels. The figure below provides a summary of the data.

The policy question then becomes: What is the change in status of struggling workers and their families that Kern County stakeholders consider the goal for improving overall job quality in the region? How many residents should move out of struggling status?

Typically, regions center this decision around the impact on children, given the exceptional influence that lower incomes have on their development, health, and lifelong socio-economic outcomes.

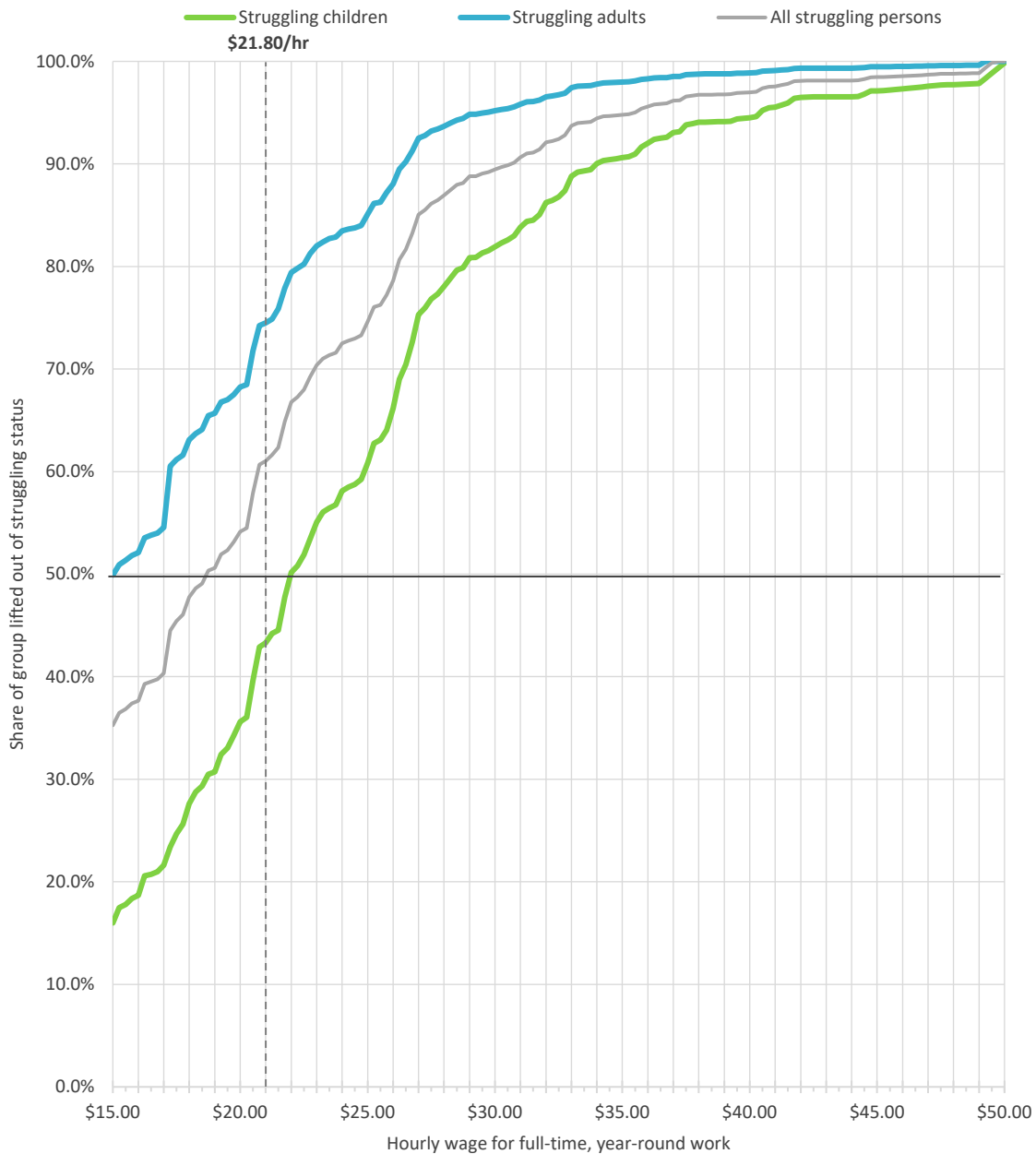
As in other metros, the debate in Kern County balanced what is ambitious and achievable, meaningful and realistic. It considered current economic development and labor market conditions, the scale of progress required to reach wage and job creation targets, and forecasted conditions.

Stakeholders set a policy goal of reducing the share of Kern County children in struggling working families by 50%, resulting in a target wage of \$21.80 per hour.*

This analysis was done at the peak of a tight labor market of a 10-year long business cycle. Although economic conditions are disrupted and uncertain, this wage threshold remains an appropriate "high-water mark" for defining good jobs.

*(*Note: The bare minimum market basket expenses, without added savings and wealth-building, required \$20.20 per hour wage to meet the 50% goal.)*

SHARE OF KERN COUNTY'S STRUGGLING RESIDENTS LIFTED TO SELF-SUFFICIENCY AT DIFFERENT WAGE THRESHOLDS



Source: Brookings analysis of American Community Survey public-use microdata and University of Washington estimates.

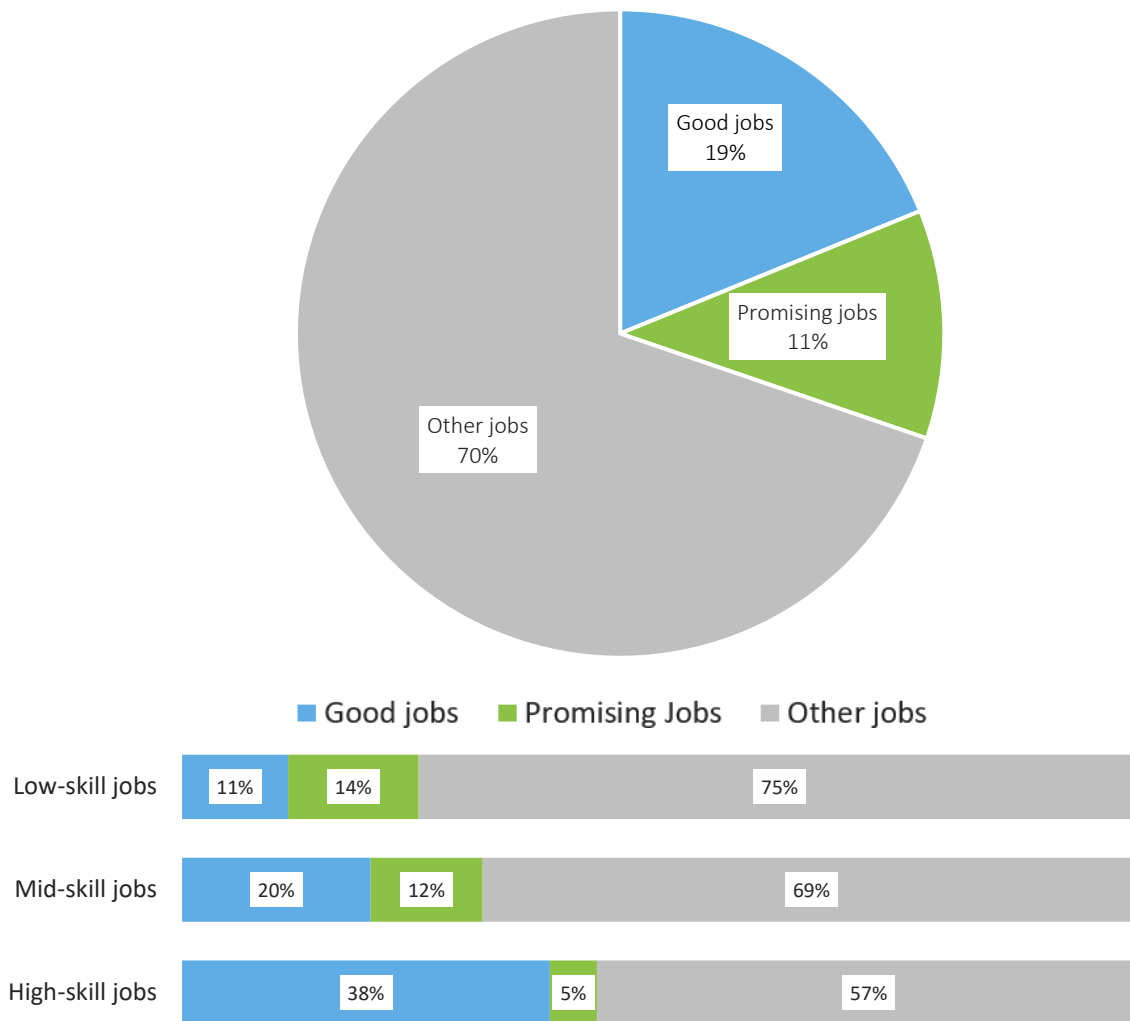
Only 30% of region’s jobs offer self-sufficiency or pathway; need to double number of quality jobs

Analysis reveals the struggling status of workers is clearly linked to the quality of Kern job creation: **only 19% of the region’s jobs qualify as “good” and 11% as “promising,” with the remaining 70% “other” jobs.** These proportions vary by skill level, with the least educated workers unsurprisingly having highest probability of holding an "other" job. The figure below provides a summary of the data.

The low baseline in the Kern region poses a significant challenge for elevating the prosperity of residents. Although direct comparisons are not possible given different policy choices in setting good job standards, large U.S. metro areas with solid economic performance typically generate 10%-15% fewer “other” jobs in favor of more good jobs, and a greater proportion of high-skill jobs.

Only 12,000 workers in the Kern region, or 9% of those struggling, currently hold good jobs that still did not meet their particular family self-sufficiency needs.

SHARE OF KERN COUNTY JOBS BY QUALITY AND SKILL LEVELS, 2018



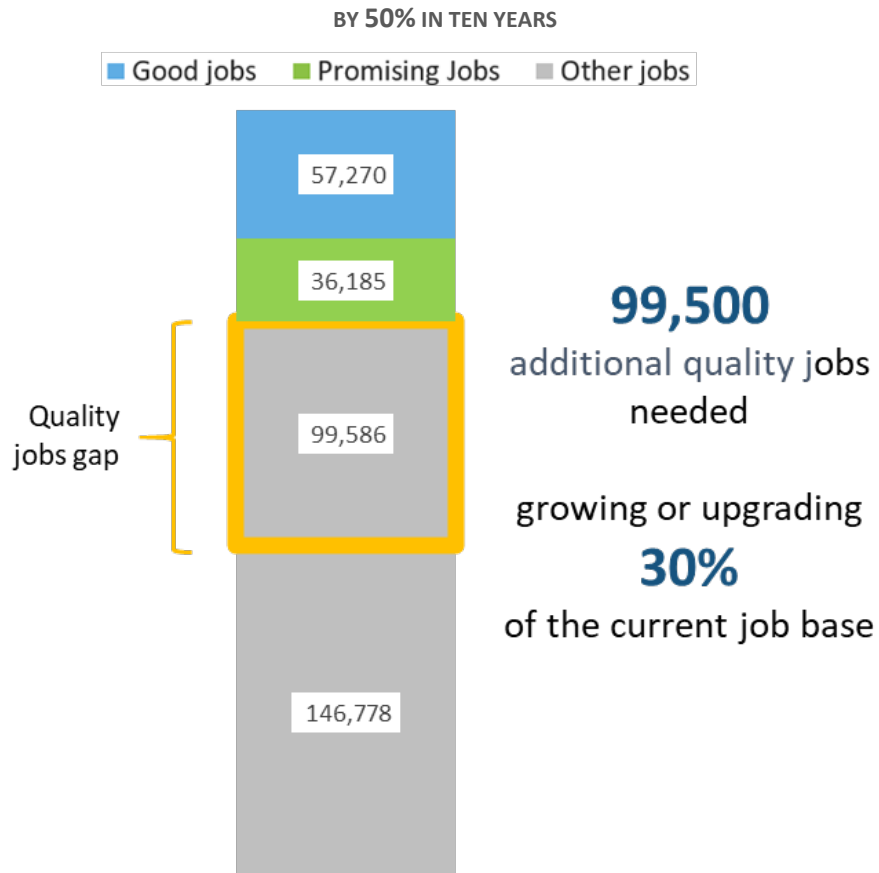
Source: Brookings, “Opportunity Industries”.

The Kern economy simply does not generate enough good and promising jobs to enable the region’s 133,000 struggling workers achieve self-sufficiency for their families.

The region has a deficit in availability of nearly 100,000 quality jobs to meet the target 50% reduction of children in struggling working families over ten years – the equivalent of growing or improving the quality of almost 30% of the county's 2019 job base. Compared with all other metro areas, this represents among the largest gaps in family-sustaining wage jobs as a share of all jobs. The figure below provides a summary of the data.

Closing that large a gap is a monumental and generational task, but reinforces the urgency of focusing economic development efforts on job quality and access, and potentially ways to enhance job quality in existing foundational industries.

DISTRIBUTION OF JOB QUALITY NEEDED TO REDUCE THE SHARE OF CHILDREN IN STRUGGLING WORKING FAMILIES



Source: Brookings, "Opportunity Industries".

To boost opportunity, Kern should prioritize sectors that concentrate good and promising jobs

As noted elsewhere in this document, the growth and decline of specific dominant regional industries over the past decade has important implications for the availability of good and promising jobs. Sectors concentrating good jobs, such as oil and gas, have declined, while those offering fewer good jobs, such as agriculture and large locally-serving clusters like health care, have grown.

Within these sectors, specific sub-sectors can also offer notably different levels of job quality. As noted elsewhere in this document, agricultural manufacturing offers a higher proportion of good and promising jobs than agricultural production in the region. Within the region's burgeoning logistics cluster (also noted elsewhere in this document), sub-sectors focused on goods movement and supply chain management best warehousing and fulfillment in job quality by a significant degree. The following figures provide a summary of the data.

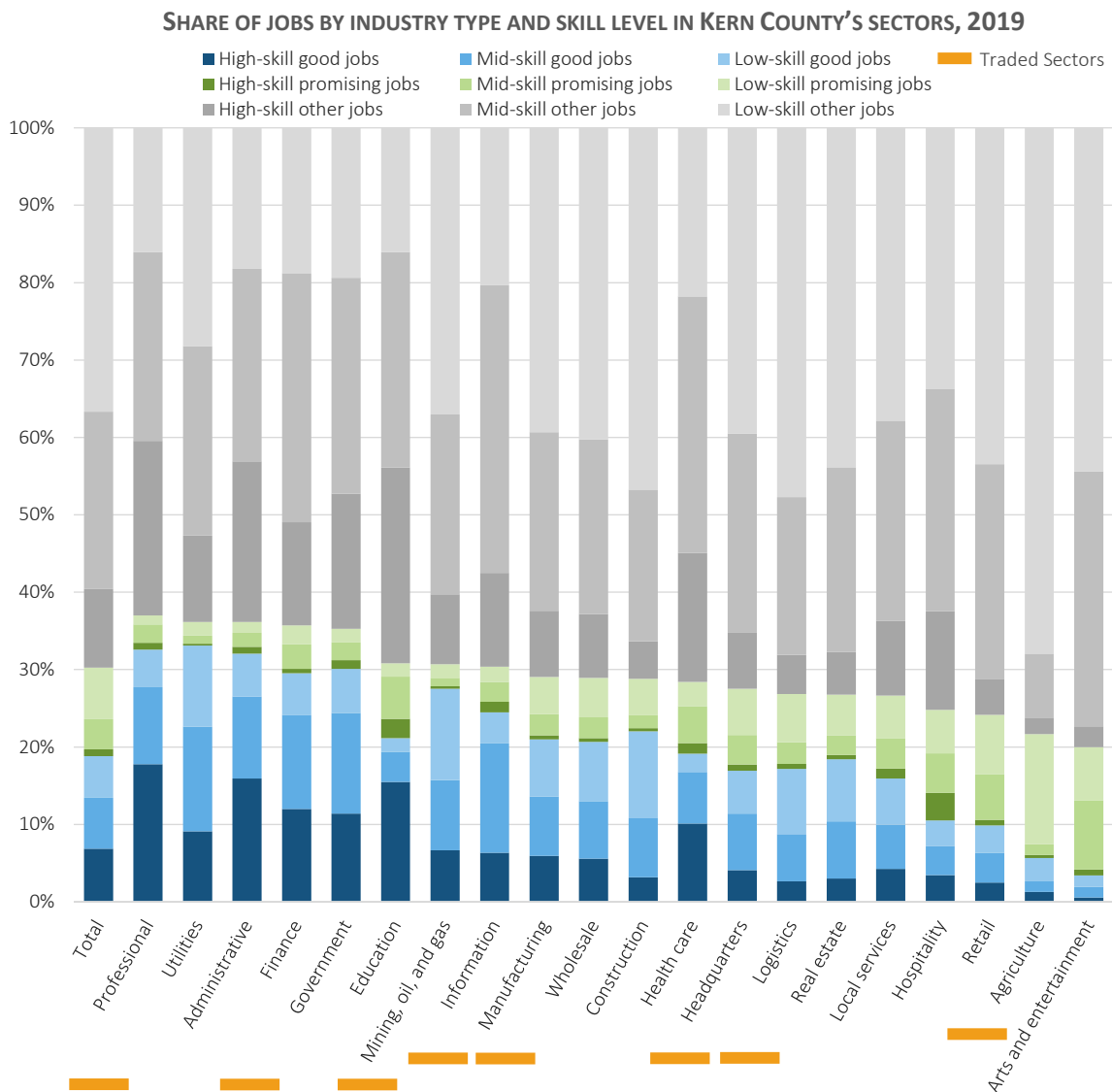
The following pages illustrate and expand on these dynamics, applying the Opportunity Industries analysis to show the concentration of good, promising, and other jobs at different skill levels within

groupings of sectors. They add further context to the forces driving the region’s significant gap in good and promising jobs as previously mentioned.

The analysis demonstrates that sectors containing greater concentrations of job quality (such as utilities or finance) offer fewer total jobs. Altogether, this reflects the generally low number of quality jobs in the region and, troublingly, the challenge posed to boosting them by the County’s major growth drivers and economic trajectory.

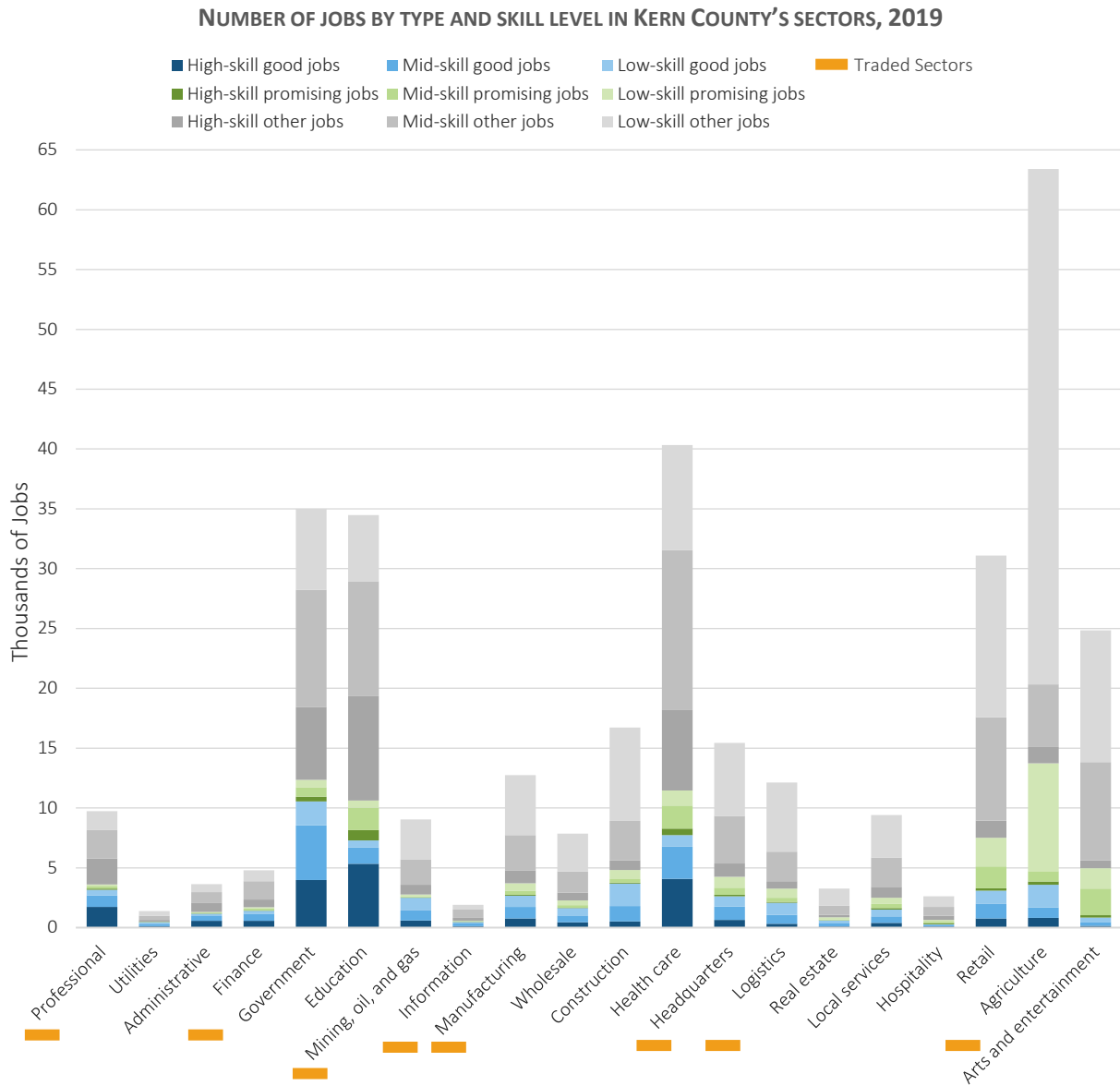
For local leaders, these dynamics demand intentionality in targeting specific opportunity-rich sectors for growth – rather than focusing on absolute growth in job counts – as well as a focus on the specific sub-sectors in these areas primed to offer good and promising jobs.

To improve outcomes for more workers, local leaders will need to focus dually on supporting the growth of specific sectors offering better jobs, while also improving talent development and workforce preparedness for those opportunities. A general, non-targeted focus on growth alone is unlikely to alter the region’s current trajectory or address these core challenges around regional prosperity.



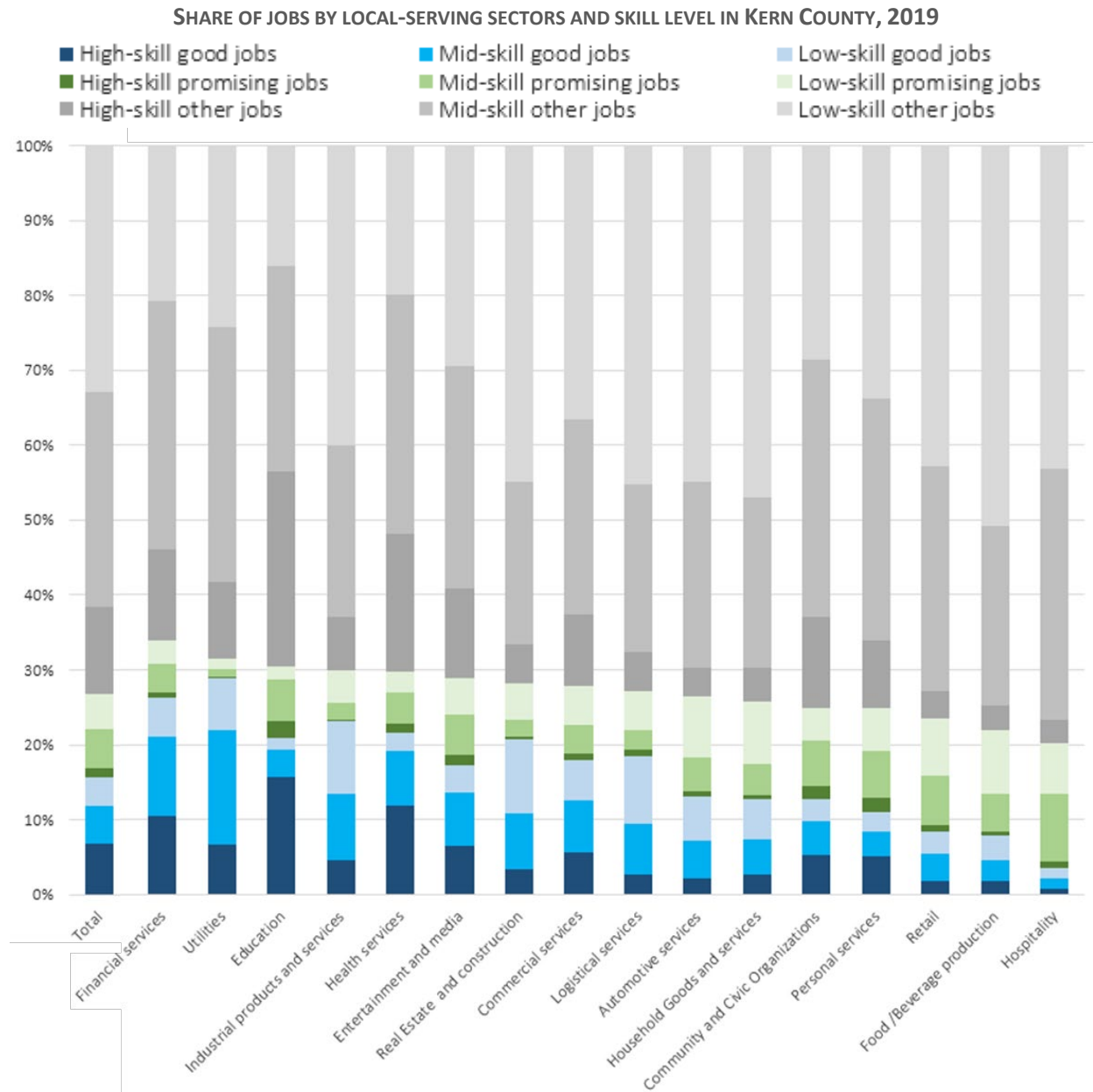
Source: Brookings, “Opportunity Industries”.

Sectors that concentrate the greatest job quality tend to create fewer jobs



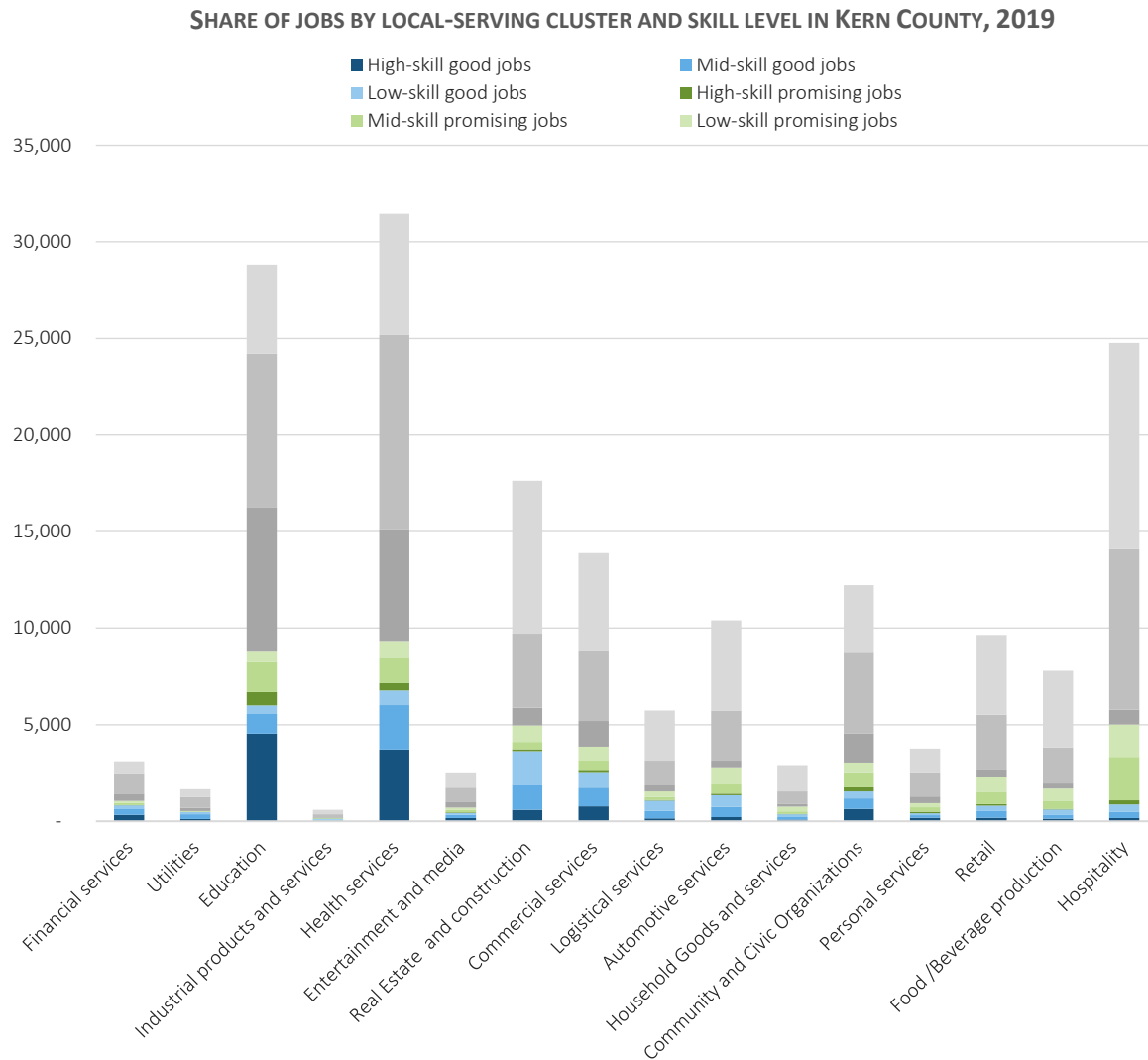
Source: Brookings, "Opportunity Industries".

Most locally-serving sectors concentrate more promising jobs than accessible good jobs



Source: Brookings, "Opportunity Industries".

The most opportunity-rich locally-serving sectors tend to generate fewer total jobs



Source: Brookings, “Opportunity Industries”.

Workers with different demographics face clear disparities in occupying good and promising jobs

Beyond the need for more quality jobs, Kern economic development stakeholders must consider how to close gaps in access to those jobs.

The Opportunity Industries analysis uncovered significant disparities in who occupies good and promising jobs based on a range of demographic characteristics.

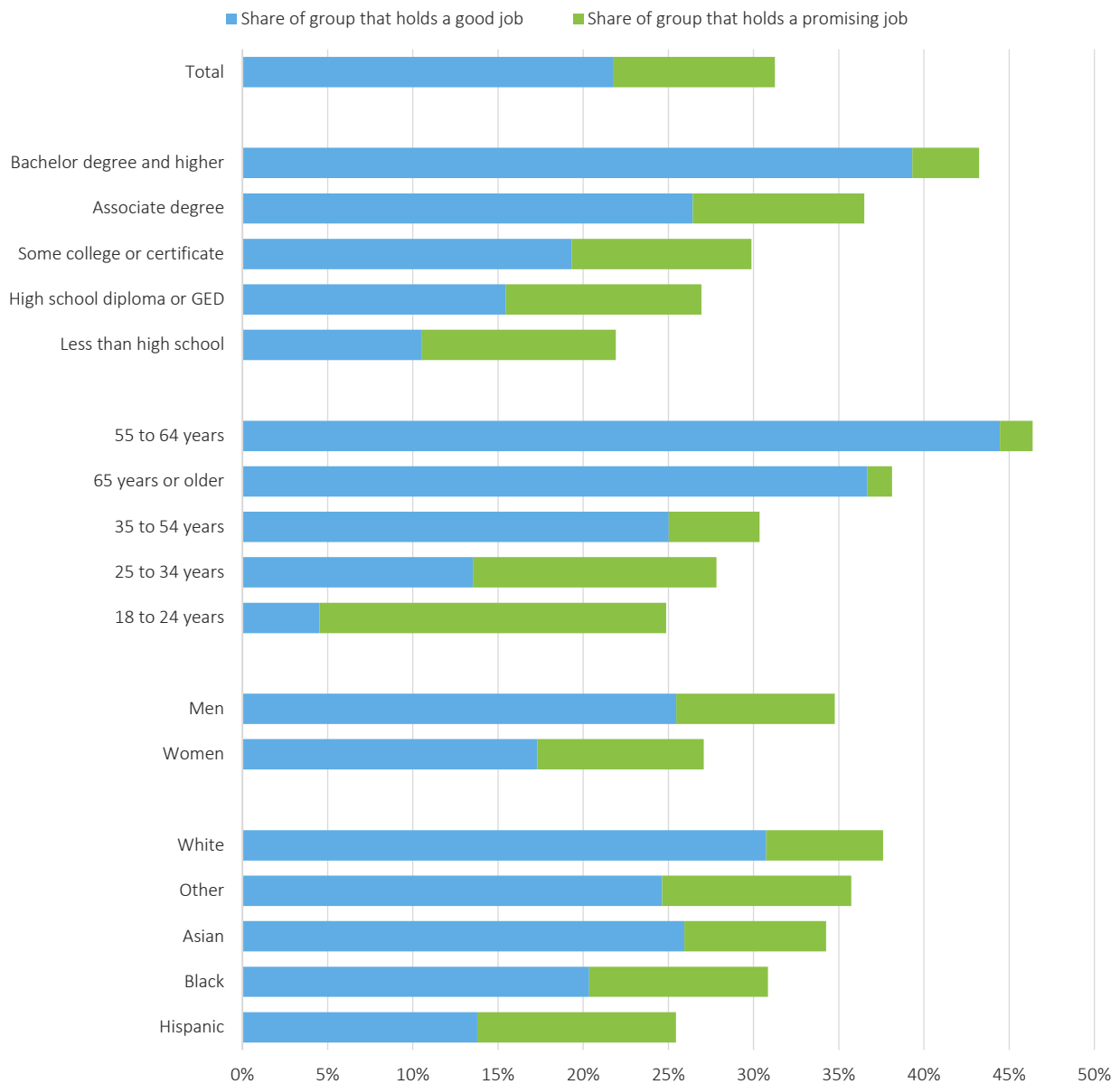
Predictably, many of those disparities follow human capital dimensions. For example, workers who hold a bachelor’s degree are more likely to have a good job than those with only a high school diploma. Older workers are more likely to have a good job than younger workers and hold relatively few promising jobs, reflecting the value of experience and on-the-job learning. Younger workers tend to hold promising jobs that afford knowledge and skills acquisition that enable them to command higher good job wages and benefits within the next ten years. The figure below provides a summary of the data.

However, differences also emerge along dimensions that are not directly connected to human capital.

Men are more likely than women to hold a good job—an especially concerning disparity given that a large portion of struggling workers are single mothers. Furthermore, analysis of the out-of-work population finds rates for women dramatically higher than men, including those in prime working age with more than a high school degree as noted elsewhere in this document.

Race also is a dividing line in who occupies a good or promising job. White workers are more likely to hold a good job than workers of color. Some race-based disparities may be attributable to other demographic characteristics. For example, the region's Hispanic cohort trends significantly younger than the white population, thereby naturally skewing Hispanic residents toward holding fewer good jobs and a larger proportion of promising jobs. Nevertheless, similar to the differences uncovered in analysis of struggling workers generally, age and educational attainment do not explain all of these gaps in performance.

SHARE OF WORKERS IN EACH DEMOGRAPHIC GROUP THAT HAVE A GOOD OR PROMISING JOB



Source: Brookings, “Opportunity Industries”.

Demographic disparities in job quality persist among workers with the same educational attainment

Even among workers with the same education, disparities persist between workers of different races in the share occupying good or promising jobs. At every level of educational attainment, workers of color are at some disadvantage. More education helps to significantly narrow gaps between whites and workers of color, but no amount closes them completely. For example:

- A white worker with a high school diploma or GED is twice as likely to hold a good job as a Hispanic worker with the same degrees.

- A white worker with at least a bachelor's degree is 50% more likely to hold a good job than a Hispanic worker with the same education.

The figure below provides a summary of the data.

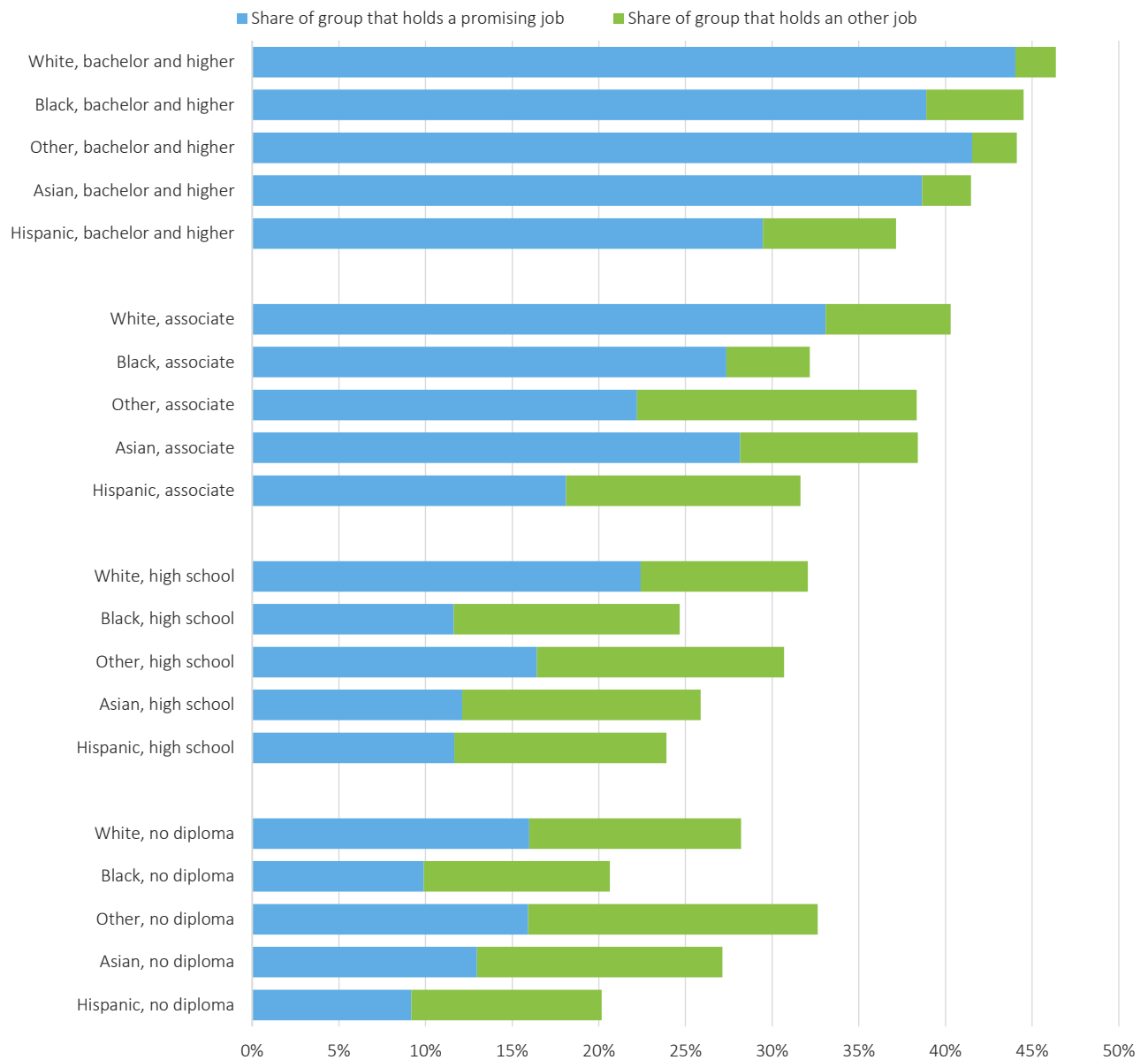
Again, age and associated work experience may be a major factor, with the Hispanic cohort of workers younger than the white population. However, the struggling worker analysis correlated less than 20% of the difference in outcomes to age.

At higher levels of educational attainment, some of this divergence could be attributable to fields of study that tend to be pursued by particular racial groups, whether by interest or structural expectations. Hispanic and white students might disproportionately seek degrees in different disciplines with varying salary profiles, such as liberal arts versus computer science. In addition to retention and graduation rates, examining the distribution of majors by race at CSU Bakersfield and Kern Community College District may offer insights on this theory. Either way, the difference in likely outcomes from enrolling in a four-year degree program creates different levels of risk and reward for Hispanic versus white students, which can lead to different decisions about whether the investment of time and resources is worth it.

Similarly, the distribution of training and workforce development system participants and focus of placements could influence outcomes. For example, programs may consider the extent to which they tend to serve more Hispanic versus white workers, prioritize filling high volumes of job openings versus targeting job quality, and have different results in the type of training provided or placement made.

The scale of the labor market disparities among similarly situated workers also suggests other factors, such as gaps in access to social networks to connect with better quality jobs and firm hiring outreach and incumbent worker advancement practices.

SHARE OF WORKERS IN EACH DEMOGRAPHIC GROUP THAT HAVE A GOOD OR PROMISING JOB



Source: Brookings, “Opportunity Industries”.

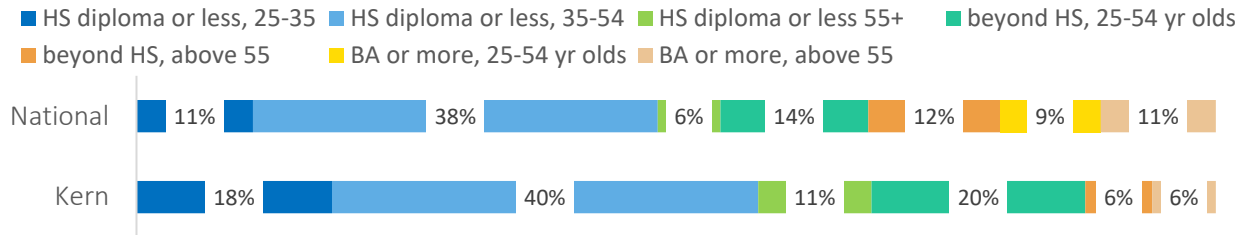
One-fifth of prime-age adults in Kern are out-of-work, revealing skills, gender, and childcare issues

Economic development and inclusive growth requires maximizing the potential of residents to contribute in the labor market. Beyond educational attainment and skills, Kern County faces fundamental challenges in engaging “out-of-work” populations – individuals who are unemployed and actively seeking work, plus those who have dropped out of the labor market but still would like to work. These exclude traditional students, disabled individuals, retirees, and stay-at-home parents with an employed spouse and family income at least twice the federal poverty line.

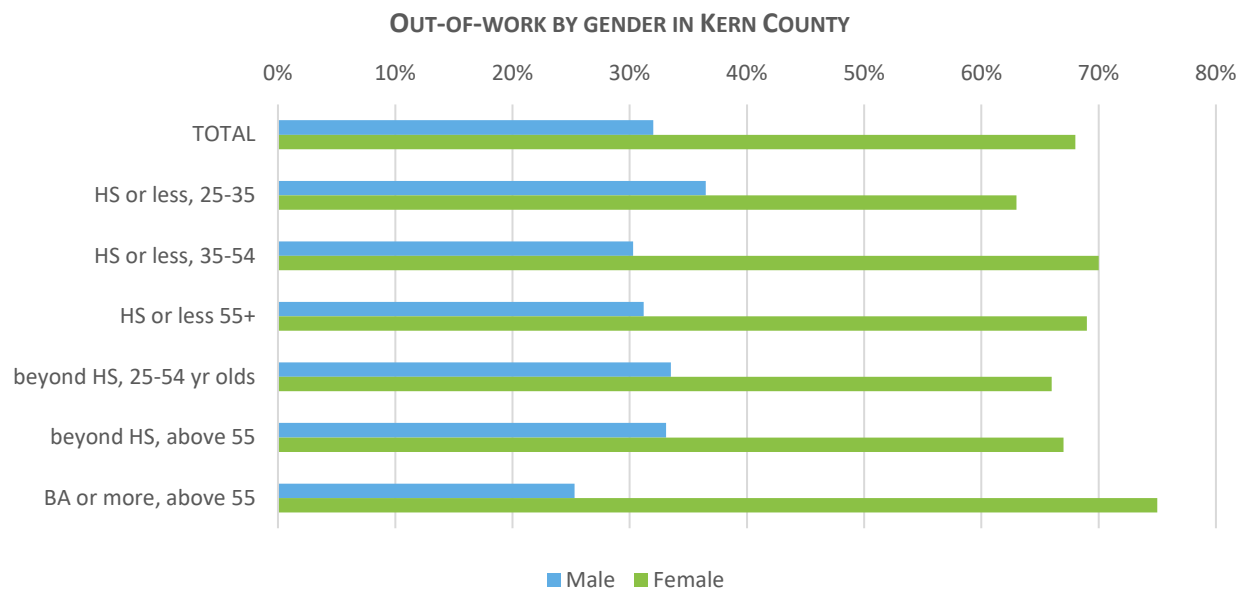
Analysis determined that 20% of Kern County adults in prime working age of 25 to 64 are out-of-work, above the national rate of 14.4%. Nearly 70% of Kern residents who are out-of-work are less educated,

holding a high school diploma or less, compared to the national baseline share of 55%. Additionally, prime-age working adults with some post-secondary education or certifications represent 20% of the Kern out-of-work, also above the national distribution, while a smaller share of residents with a bachelor’s degree or more are out-of-work compared to the nation. The figures below provide a summary of the data.

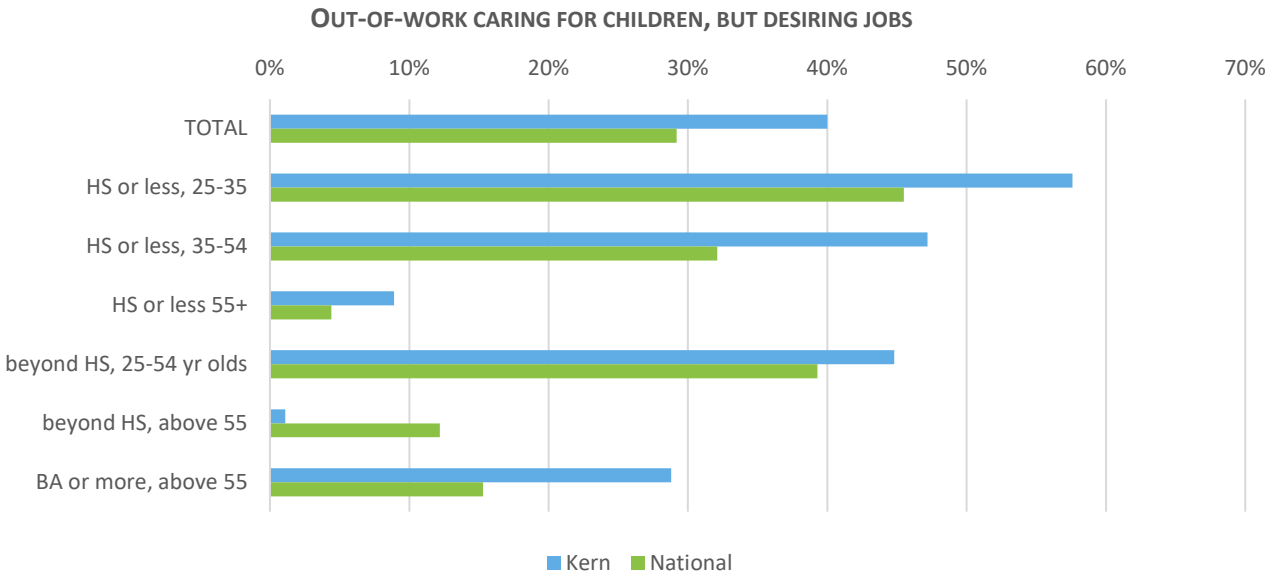
These allocations may reflect the overall lower educational attainment levels of the region’s workforce, but also suggest that a higher-than-average number of Kern residents face barriers to employment and that Kern’s labor market is failing to provide opportunities that match resident qualifications.



Women in Kern are substantially more likely than men to be out-of-work at all education and age levels. A higher share of out-of-work in Kern are caring for children than the national baseline. In combination, this suggests a disproportionate childcare burden based on availability and/or costs that impedes connecting with the labor market. Expanding accessible childcare and “two-generation programs” combining workforce and early childhood interventions with other supports may help narrow these gaps. (e.g., CareerAdvance, Tulsa, OK).



Source: Brookings, Meet the Out of Work, 2017.



Source: Brookings, Meet the Out of Work, 2017.

Characteristics of out-of-work suggest some targeted interventions for populations and language

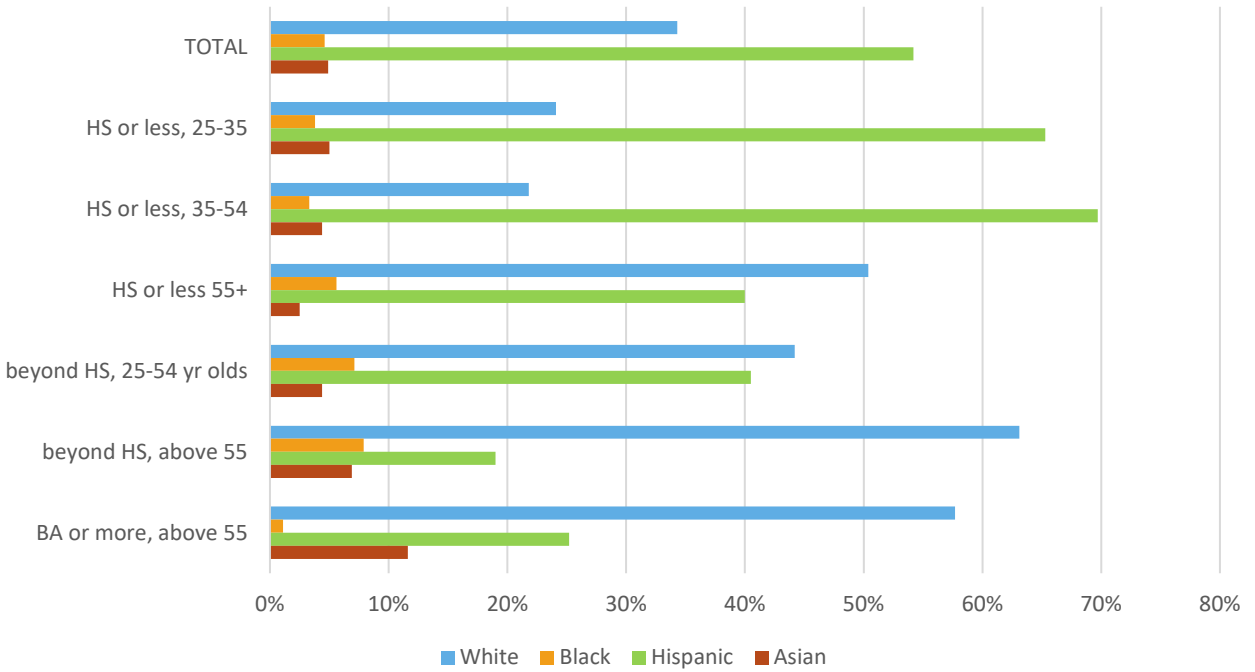
Among working-age adults, white and Hispanic cohorts represent the largest share of the out-of-work in Kern County, consistent with their larger proportion of total residents. This racial distribution of the out-of-work by age and education similarly reflects the characteristics of those demographics, with a bigger proportion of Hispanics in the younger and less-educated groupings versus whites in the older categories with more than a high school degree.

In general, the distribution of Black and Asian out-of-work residents is roughly aligned with County population shares. However, the proportion of out-of-work prime-age and moderately-educated Black residents is nearly double their share of County population. These factors may justify revisiting the targeted outreach and services offered by workforce development and other providers focused on reengaging workers.

Overall, language barriers are less of an issue for most out-of-work Kern County residents than the national baseline comparison. The notable exception is adults aged 25-35 having a high school diploma or less, where more than 50% have limited English proficiency, presenting a distinctive barrier to labor market success. This difference suggests a focus on customized interventions to improve English proficiency. Established models exist to provide this language training at worksites and online (including via mobile technology). Examples include programming from the Building Skills Partnership (active in seven California locations) and English Innovations, a combined in-person/online platform in Washington state supported by the Gates Foundation.

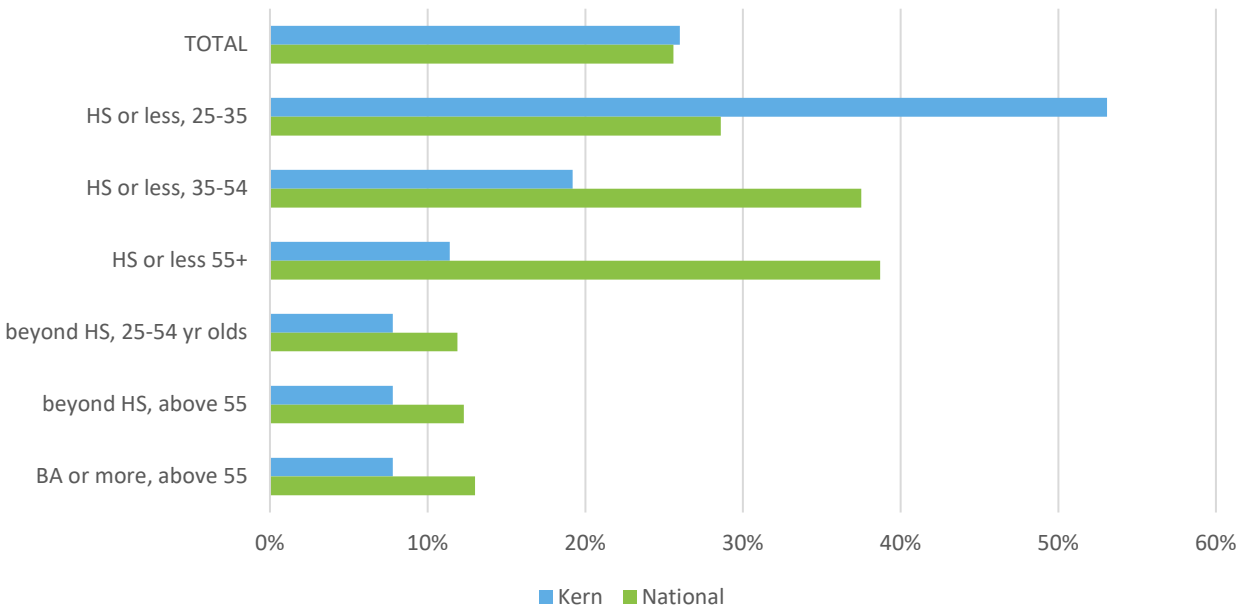
The figures below provide a summary of the data.

PROPORTION OF TOTAL OUT-OF-WORK ADULT COHORT BY RACE



Source: Brookings, Meet the Out of Work, 2017.

OUT-OF-WORK ADULTS WITH LIMITED ENGLISH PROFICIENCY

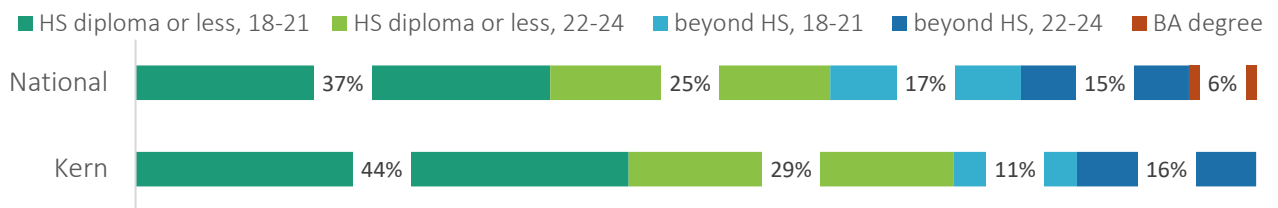


Source: Brookings, Meet the Out of Work, 2017.

One-quarter of young adults are out-of-work; childcare major issue to reengage moderately educated

Nearly one-quarter of Kern’s young adults aged 18 to 24 are out-of-work, compared to a national average of 17% in large metro areas. These counts exclude high school and college students, disabled individuals, and stay-at-home parents with an employed spouse and family income at least twice the federal poverty line.

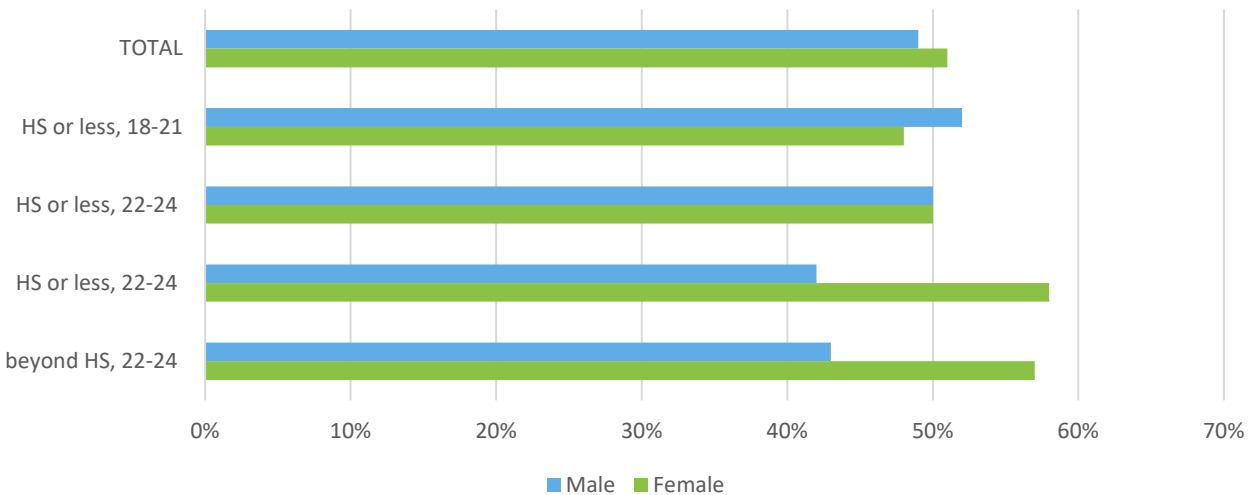
The out-of-work challenge is particularly acute among less-educated young residents. Nearly three-quarters (73%) of Kern’s out-of-work young adults hold a high school diploma or less, higher than the national average of 62%. Conversely, the number of out-of-work Kern residents having a four-year degree is so small as to be statistically insignificant compared a national baseline of 6%, reinforcing the value and demand for higher educational attainment.



Unlike adult population, disparities in gender are not as notable among young adults, although a diverging increase for women starts to emerge with age.

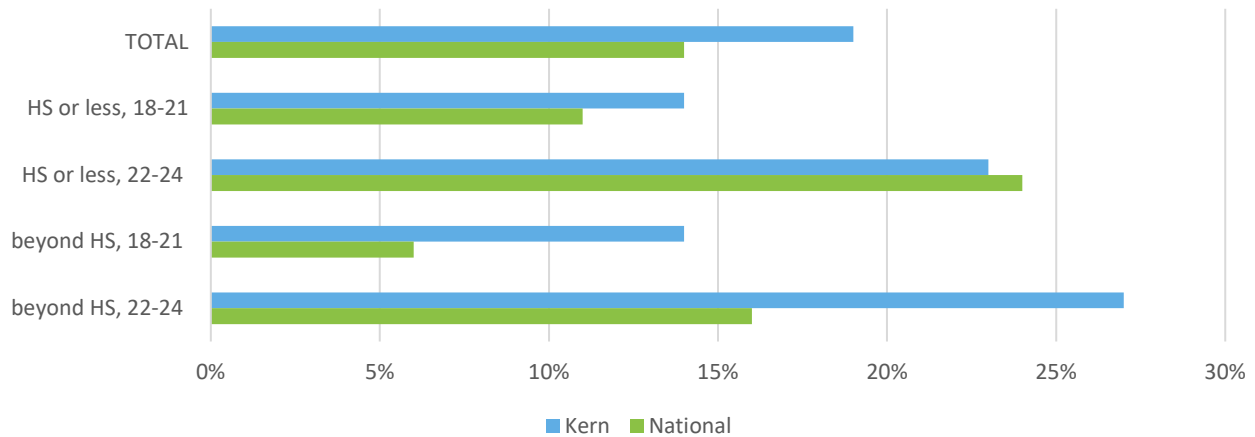
However, a much sharper differentiation for potential response is the childcare barrier. Across both out-of-work age groups, a notably higher share of better-educated young adults in Kern are caring for children than the national baseline, nearly double the amount. This suggests that lack of childcare access is blocking labor force participation, especially among a group with knowledge and skills.

OUT-OF-WORK YOUNG ADULTS BY GENDER



Source: Brookings, Meet the millions of young adults who are out of work, 2019.

OUT-OF-WORK YOUNG ADULTS CARING FOR CHILDREN, BY EDUCATIONAL ATTAINMENT



Source: Brookings, Meet the millions of young adults who are out of work, 2019.

Shares of out-of-work Hispanic and Black young adults are disproportionately high

Hispanic and white residents account for the most out-of-work young adults.

Even considering their large share of the overall population, Hispanic residents represent an excessive proportion of out-of-work young adults in the region. To some extent, these shares again may reflect the characteristics of Hispanic demographics in the region as younger and less-educated. However, this greater out-of-work status even includes better educated, slightly older Hispanic young adults having more than a high school degree.

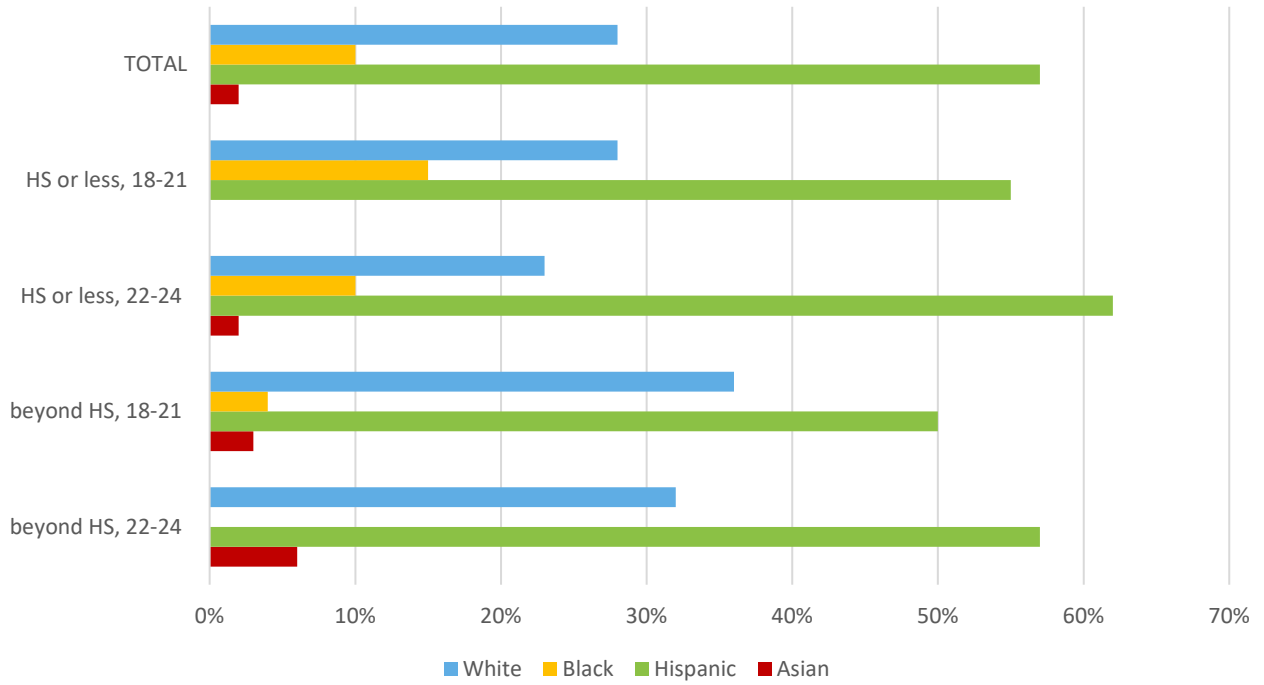
Similarly, the proportion of out-of-work Black young adults with lower educational attainment is unduly high relative to their share of the population, specifically for those with lower educational attainment. While representing about 6% of the total population, they account for between 10% and 15% of the out-of-work young adult cohort with a high school degree or less. Those with higher levels of education do not experience these barriers.

Addressing these challenges suggests the need for targeted, multi-pronged efforts to re-engage young adults in training or credentialing that will improve their labor market outcomes. Strengthened connections between high school and post-secondary education, between school and work through work-based learning, and supports to promote successful “bridging” between high school and post-secondary programs and ultimate completion are typical strategies to prevent disconnection in the first place.

Unlike the adult categories, the share of out-of-work young adults with Limited English Proficiency is roughly equal to or better than national baselines in most instances. However, the data indicates a slightly greater need among the younger cohort having some credentialing or college.

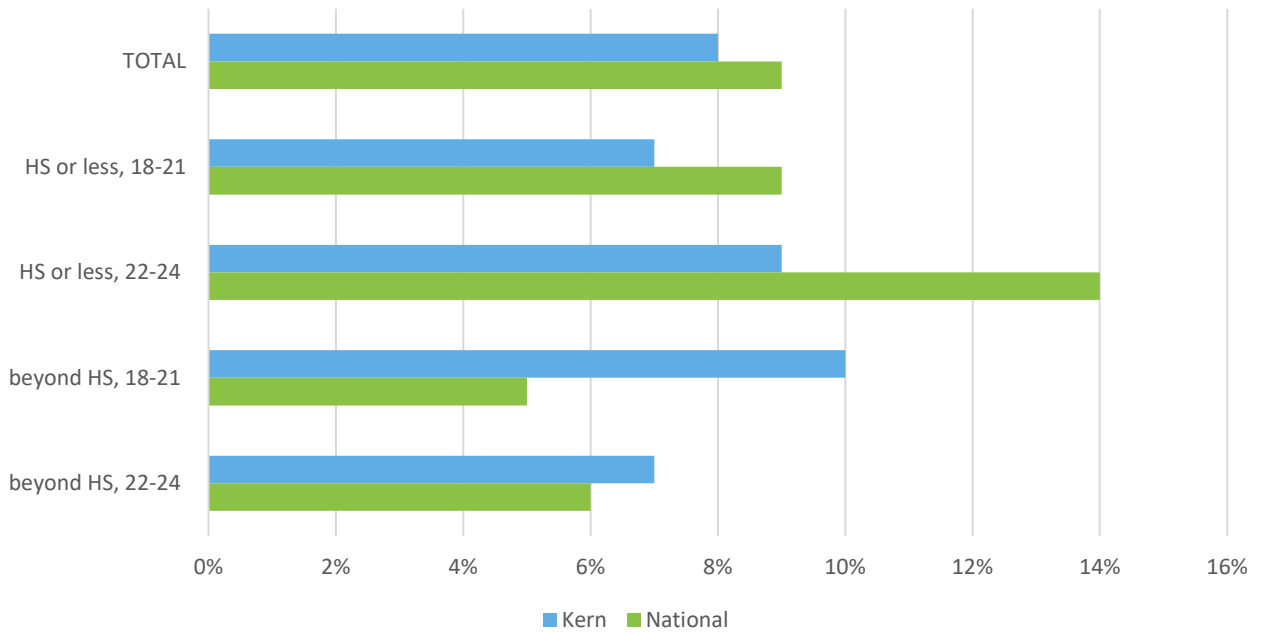
The figures below provide a summary of the data.

PROPORTION OF OUT-OF-WORK YOUNG ADULTS BY RACE



Source: Brookings, Meet the millions of young adults who are out of work, 2019.

OUT-OF-WORK YOUNG ADULTS WITH LIMITED ENGLISH PROFICIENCY



Source: Brookings, Meet the millions of young adults who are out of work, 2019.

D. B3K Principles of Economic Development

For decades, the purpose of economic development has been viewed predominantly as job creation and tax base enhancement, with metrics that center on greenfield projects. Practitioners most often are rewarded based on job counts from attracting a business or capital investment totals for a new facility. These wins are media-friendly, simple to quantify, and easy to interpret as connected to an economic development organization's visible activities.

However, the vast majority of job creation actually comes from expansion of existing firms and formation of new firms within a region, not business attraction. For Kern County, approximately 1% of job gains over the past decade were attributable to firms moving in, roughly the same proportion as losses from businesses leaving the region. These attraction outcomes are consistent with many peer economic regions, also reflecting site selector analyses showing a persistent decline in potential deals worth more than 50 jobs or \$1 million.

Over the past three decades, macroeconomic trends in globalization, agglomeration of growth into larger urban centers, acceleration of technological disruptions, and demographic change have transformed regional economies and the kind of growth they produce. While Kern faces distinct issues as an economy built on commodities and resource extraction, plus external regulatory decisions, these macro trends are core challenges to every mid-sized city-region and fundamentally altered how economies work for residents.

Specifically, the shifts have led to expansion of jobs at the high-wage and low-wage ends of the spectrum, with a hollowing out of middle-skill, middle-income jobs. In turn, that has reduced economic mobility – the ability to improve income and wealth over generations – especially for the middle-class; only 50% of 30-year-olds out-earned their parents in 2015, compared to nearly 80% in 1980.

These dynamics also impact the productivity and competitiveness of regions themselves. For instance, controlling for other factors, research shows that metro areas where lower-income children experience greater upward mobility achieve faster per capita income growth.

Responding to these challenges and opportunities requires a comprehensive economic development focus on targeting job quality and access over job counts or aggregate induced wages; building globally-distinctive clusters versus opportunistic business recruitments; and cultivating talent and technological aptitude versus capital expenditures.

Globalization



39% of Global GDP comes from cross-sector transactions in goods, services, and capital.

Agglomeration



20 counties account for 50% of US business growth, versus 125 counties two decades ago.

Technology



Industry digital skill intensity correlates to higher mean annual wages, less susceptibility to automation.

Demographics

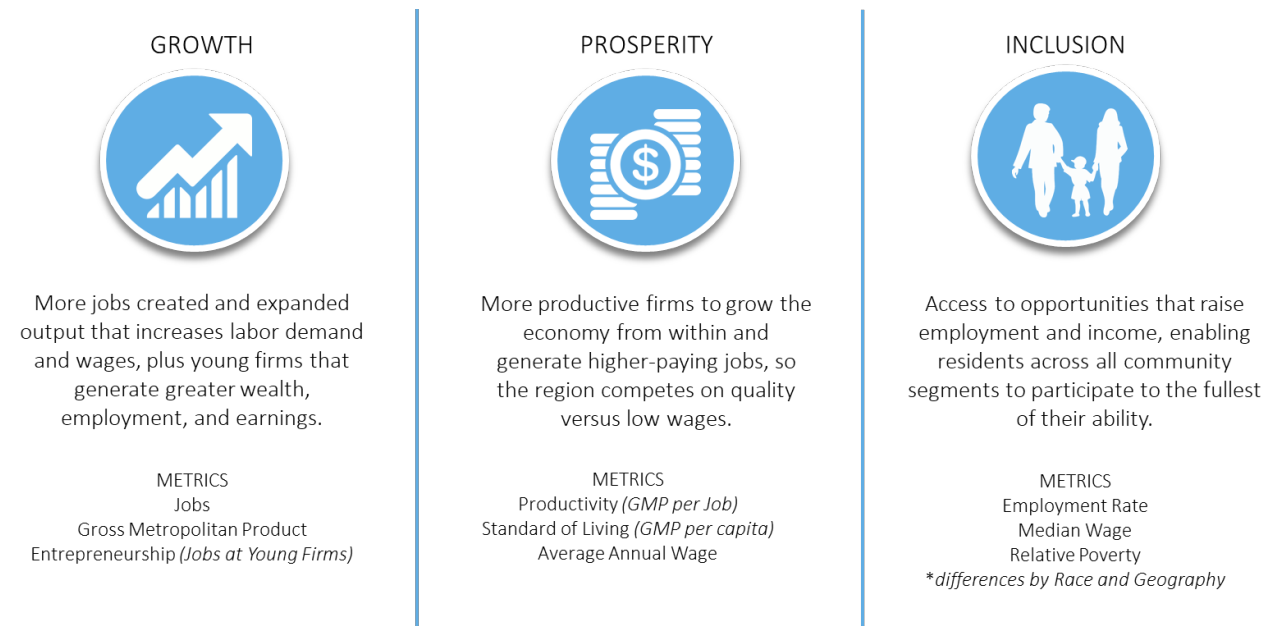


Labor force growth is driven by more diverse populations, but with lower educational attainment.

Thus, economic success for any region now is more holistic – the ability to achieve long-term expansion (growth), by improving the productivity and value-creation of individuals and firms (prosperity), to create and promote access to quality jobs and economic mobility for all residents (inclusion).

These three aspects are related and mutually reinforcing. Growth does not automatically equate to economic opportunity and inclusive prosperity, but it also is impossible to achieve resident self-sufficiency and middle-class aspirations without sustained growth. For businesses to adapt and generate better quality growth amid rising competition and disruptive technological change, they must be able to draw from regional capacity to solve their innovation challenges and adequately prepare people for the rigors of the modern economy, regardless of race or class.

These outcomes demand a different approach to economic development that distinguishes sectoral opportunities for job quality and access, prioritizes building local ecosystem assets for firms to form as much as marketing for a business to move in, and integrates efforts by all contributors to economic competitiveness.



Source: Brookings Metro Monitor

E. Strengths, Weaknesses, Opportunities, and Threats (SWOT) Issues

This section is a compilation of findings from the B3K process, addressing a range of issues from functional/economic to institutional, compiled through stakeholder outreach as well as research.

Community engagement validated job quality and access challenges

B3K conducted several community engagement sessions to ensure that community members were an integral part of the B3K process, building towards a strategy that is reflective of community members' experiences. These sessions focused particularly on documenting experiences and gathering feedback related to workforce development, unemployment and the out-of-work population, and access to quality jobs.

In all, these conversations reinforced other data and qualitative input on the region's challenges to shared prosperity and disparities in access to quality jobs. Specific themes included:

- Generational poverty and trauma pose significant roadblocks to prosperity.
- Varied access to supports across racial groups contributes to disparities in educational outcomes. Educational experiences that offer more accessible pathways to better jobs, perhaps through renewed emphasis on vocational training, are needed.
- Finding full-time stable work, rather than part-time employment, can be challenging.
- Transportation is a barrier to job access, particularly in rural areas. Rural areas also struggle with access and exposure to educational opportunities.
- Training programs don't necessarily translate to promised outcomes in pay or employment.
- Immigrant communities face particular barriers to accessing good jobs and can also be targets for misinformation around opportunities.

There is an imperative for ensuring that regional strategies benefit and uplift existing residents, rather than just attracting skilled workers from outside.

Participant quotes:

“Poverty is trauma. Racism is embedded into local structures and causes trauma... Trauma has really profound impacts on individuals and populations.”

“Students (children of farmworkers) are not seeing college as a next step for them. They are seeing time invested in school and then the pay is not what they expected. They’re making the same as someone with a high school diploma. They don’t have connections. They don’t have people they can reach out to guide them in the process.”

“Once they (young adults) became real breadwinners in the household, it’s hard for them to start working and go back to school and focus on that.”

“When our kids are going to school, we’ve got to make sure they’re taking the classes that are going to send them to college...but we have to learn about that to know what kind of classes will take them to college and what kind of classes won’t.”

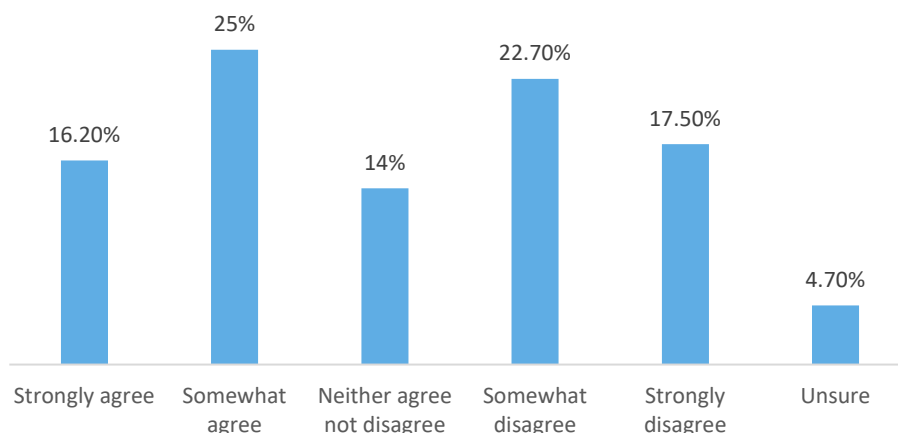
“We don’t have access to very good jobs to raise our family. That also stops us from helping our kids more and encouraging them to be successful.”

Survey also affirmed uncertainty about economic future, jobs challenge

The broader, county-wide, scientifically-valid public opinion survey commissioned by B3K reiterated concerns about the ability of Kern's economy to provide prosperity for residents. Lack of available jobs and low wages emerged as the most significant obstacles to opportunity elsewhere in the survey, echoing findings from both other quantitative analysis and community input. The figures below provide a summary of the findings.

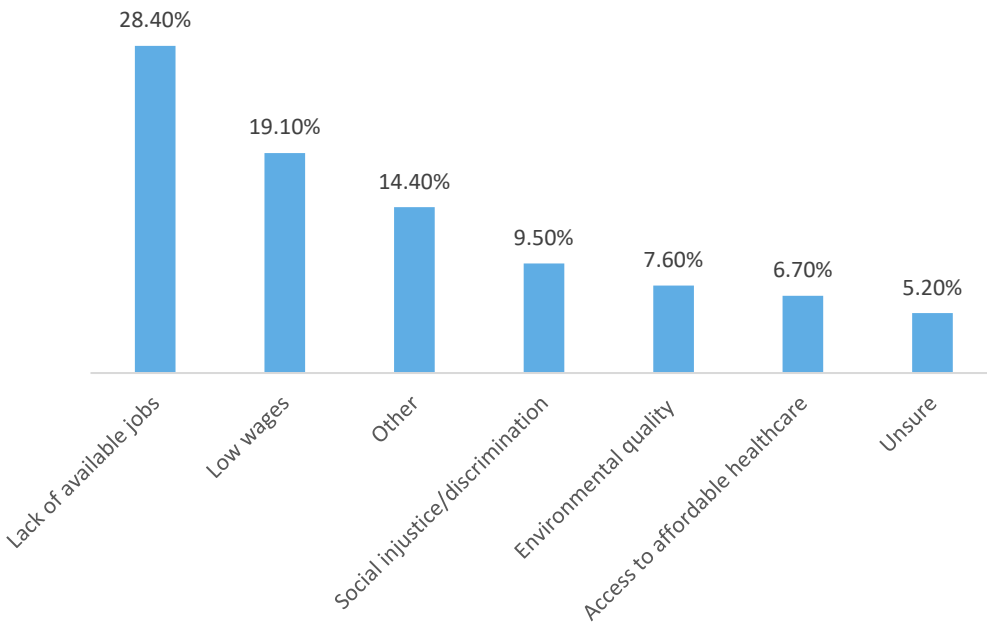
Only 41% of residents can agree that the next generation will have more opportunities to be successful than they’ve had.

Agree or disagree: The next generation will have more opportunities to be successful than I had.



Source: B3K Survey of Bakersfield-Kern Residents. Conducted by Signal, Inc. August 24-September 1, 2020

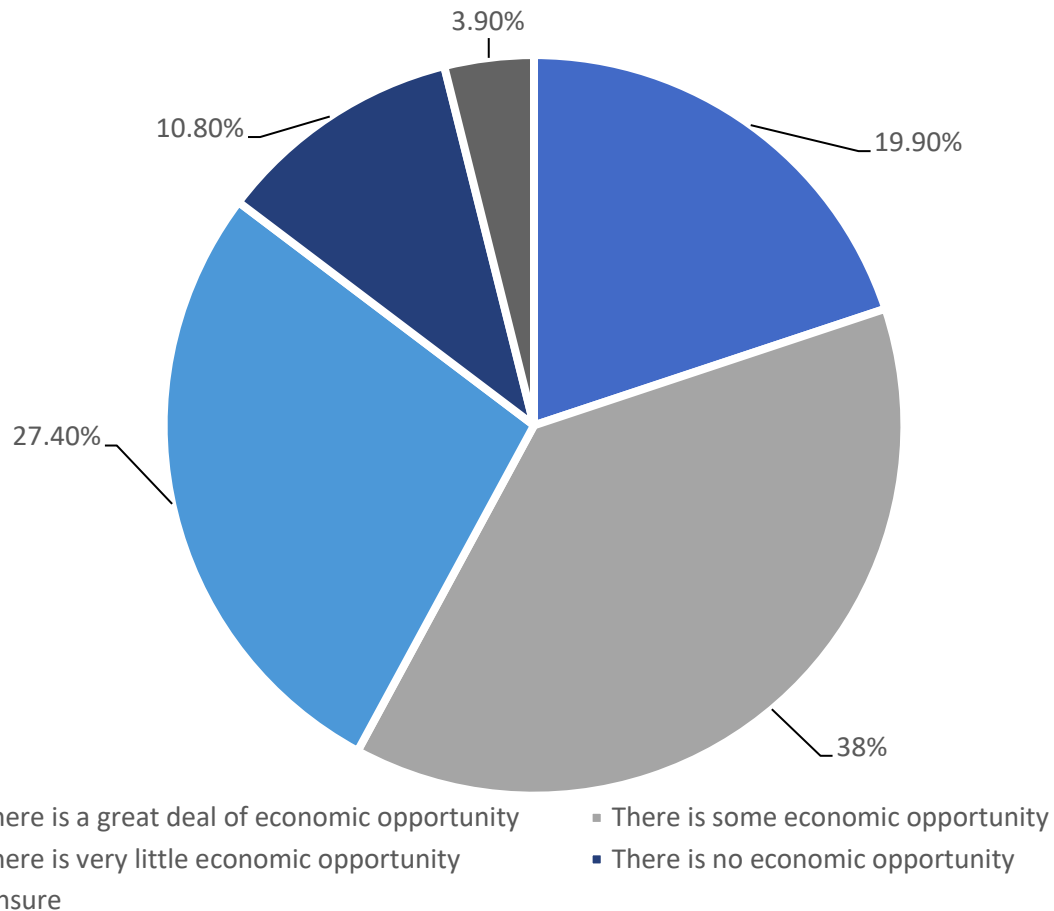
Which of the following is the biggest obstacle to economic opportunity in Kern County?



Source: B3K Survey of Bakersfield-Kern Residents. Conducted by Cignal, Inc. August 24-September 1, 2020

Nearly 40% of Kern residents felt that their area offered very little or no economic opportunity. These findings validated the perceived importance of strategic action for improving the regional economy, aligned with success principles that focus on greater opportunity and access affording economic mobility.

In general, do you believe there is economic opportunity in your area?



Source: B3K Survey of Bakersfield-Kern Residents. Conducted by Cignal, Inc. August 24-September 1, 2020

The region lags peers in open institutional research assets

Academic expenditures on research and development are a helpful indicator of the level and nature of institutional capacity within a region. In most regions, a university is the most significant performer of R&D.

CSU Bakersfield spent just \$26 million on R&D from 2009 to 2018. This is a very small amount of academic R&D expenditure for an economy the size of the Bakersfield-Kern region. In contrast, CSU Fresno spent \$77 million and CSU San Bernardino spent over \$100 million; University of Nebraska – Omaha spent \$90 million; and University of Oklahoma – Tulsa spent \$22 million over only five years.

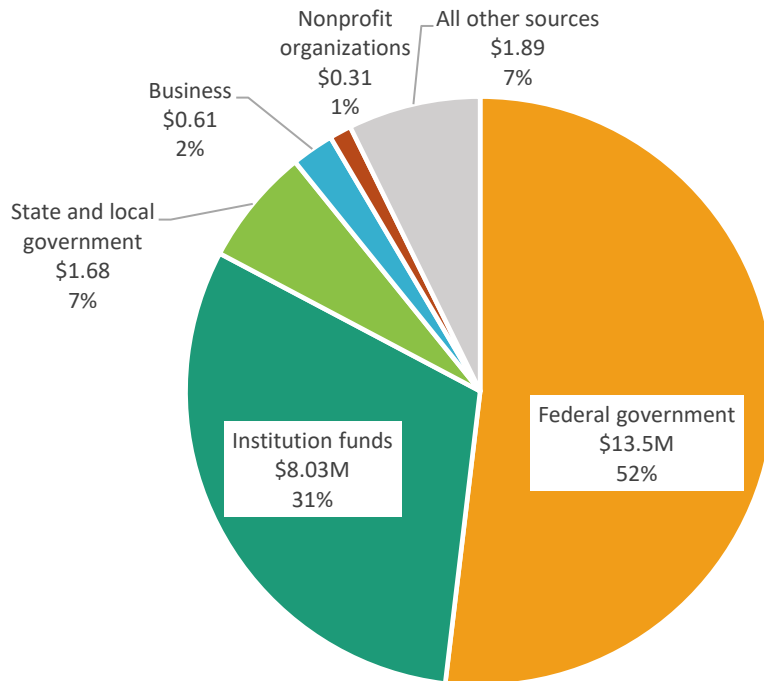
- **About half of CSU Bakersfield funding for its R&D expenditures came from the federal government.** This level is commensurate with the average among U.S. research universities.
- **CSU Bakersfield reallocated other sources of income toward R&D.** CSU Bakersfield was its own second-largest source of R&D funding. The university invested more of its own income from other sources into R&D to complement its external income for R&D. This practice is not uncommon among public universities.

- **Together, state and local government represent an atypically large share of investment in the university’s R&D.** These sources funded about 7% of CSU Bakersfield’s R&D expenditures during this period—an above-average proportion compared to all U.S. research universities.
- **The university receives relatively little funding from business or nonprofit groups for its R&D.** Recognizing CSU Bakersfield’s core mission and capabilities, this still is a very low level of support compared to peers, creating a major gap in translational R&D and applied problem-solving that would lead to commercialization regional economic benefits.

The figures below provide a summary of the data.

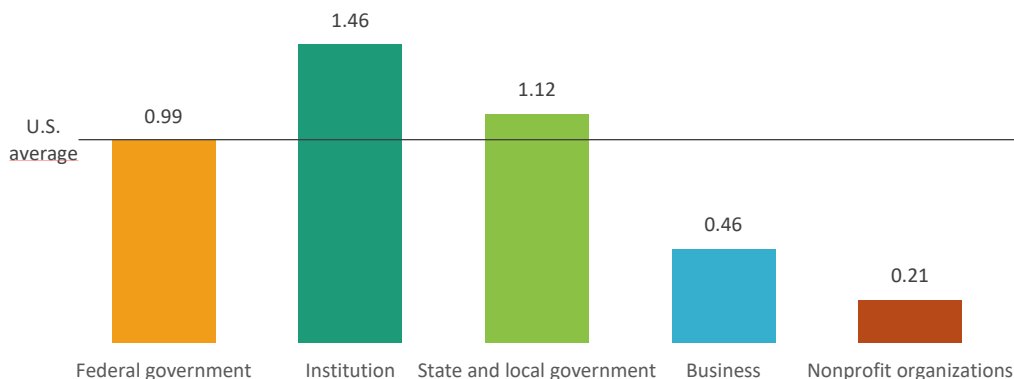
Although CSU Bakersfield is the largest source of “open” R&D in Kern County, a significant portion of the county’s R&D capacity resides outside academia. As home to military bases, military contractors, and portions of the U.S. aerospace industry, it contains unique R&D capacities in a diverse set of institutions not found in other regions.

**CALIFORNIA STATE UNIVERSITY, BAKERSFIELD R&D EXPENDITURES BY SOURCE OF FUNDING
FROM 2009 TO 2018, IN MILLIONS**



Source: Brookings analysis of National Science Foundation’s Higher Education R&D Survey microdata.

RELATIVE CONCENTRATION OF CSU BAKERSFIELD'S R&D EXPENDITURES BY SOURCE OF FUNDING, COMPARED TO ALL U.S. RESEARCH UNIVERSITIES



Source: Brookings analysis of National Science Foundation's Higher Education R&D Survey microdata.

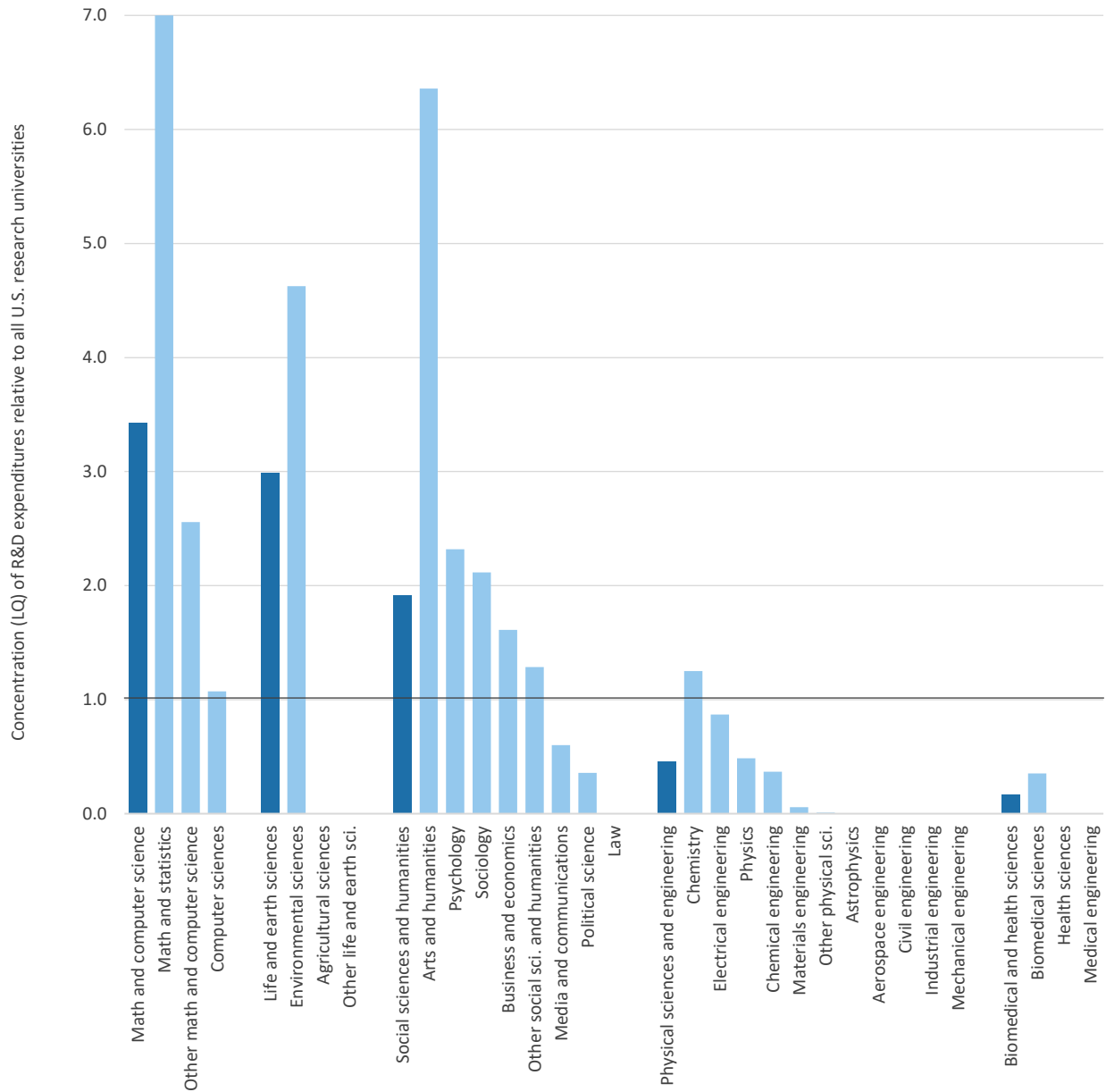
CSU Bakersfield's R&D spending reflects the county's economic specialties

Despite CSU Bakersfield's relatively small amount of spending on R&D, those activities are highly concentrated in select fields and subfields of science. They appear closely aligned with Kern's specializations in oil and gas drilling, but also computer science and operations that belie the lack of tech-related firms and digital skills in the region beyond military assets.

- **The field of mathematics and computer science is the university's most outsized area of R&D expenditures.** This field represents 3.4 times as much of CSU Bakersfield's R&D expenditures than the national average. Further, the university is "specialized" in every math and computer science subfield, especially math and statistics, which represents over 14 times as much of the university's total R&D expenditures than the national average.
- **Life and earth sciences is the university's second-most outsized area of R&D expenditures.** Nearly all spending in this field is in environmental sciences, which includes geochemistry, geophysics, and environmental engineering disciplines closely related to oil and gas drilling and exploration, as well as life sciences such as ecology and mycology.
- **The university undertakes R&D in physical sciences and engineering that complements its other specialties.** The university's near or above-average R&D expenditures in chemistry and electrical engineering may complement or converge with its research in environmental sciences and computer science.
- **CSU Bakersfield boasts large R&D capacity in the social sciences and humanities.** The analyses noted on the following pages suggest that the university's strengths in psychology, sociology, and business and economics may converge with the university's strengths in computer science and environmental sciences.

The following figures provide a summary of the data.

**RELATIVE CONCENTRATION OF CSU BAKERSFIELD'S R&D EXPENDITURES BY SCIENTIFIC FIELD AND SUBFIELD*
COMPARED TO ALL U.S. RESEARCH UNIVERSITIES**



* Excludes capital expenditures.

Source: Brookings analysis of National Science Foundation's Higher Education R&D Survey microdata.

Kern County research institutions publish very small amounts of open scholarship

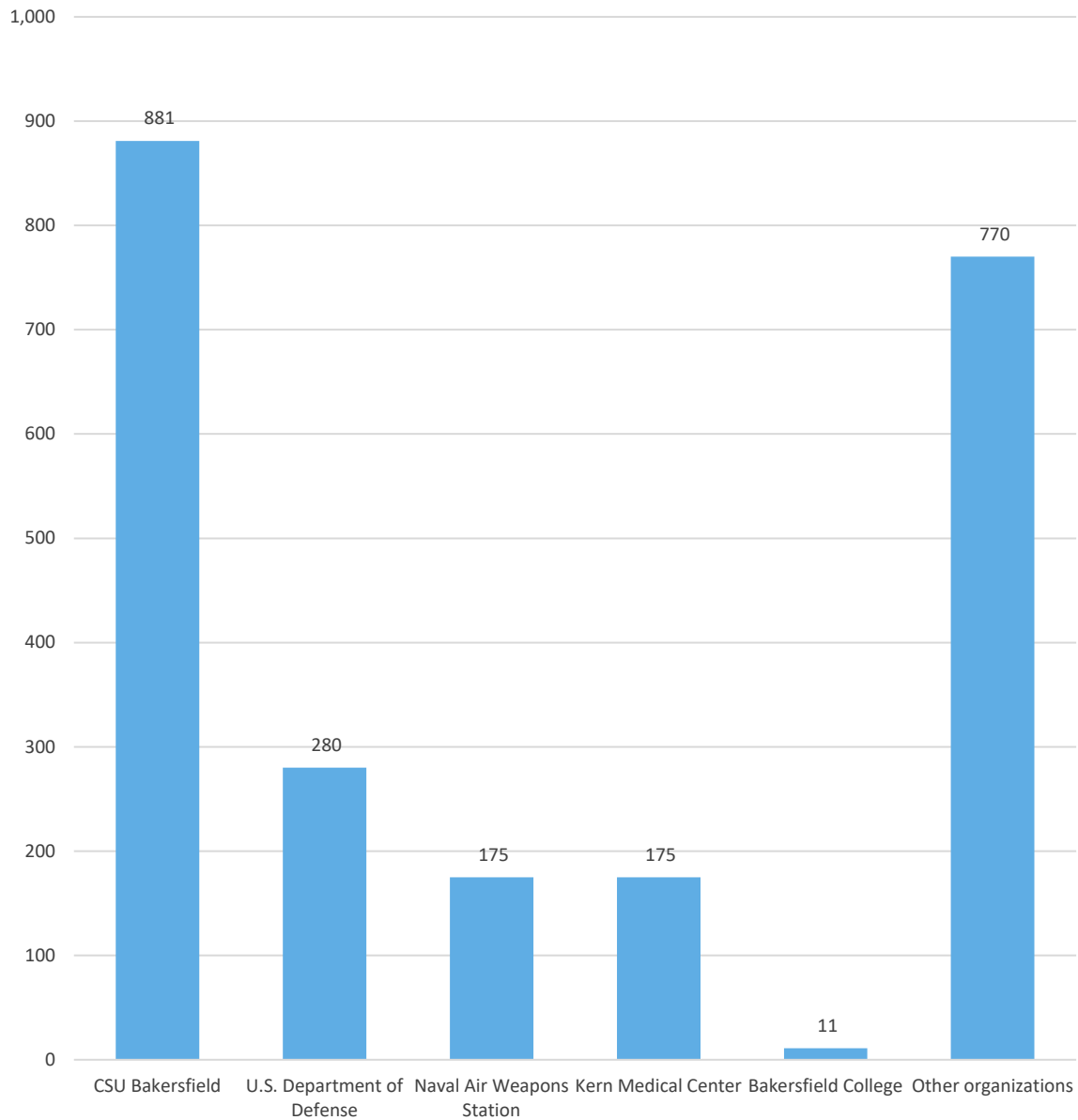
Another strong basis for assessing innovation capabilities of public and private entities within a region is publication of research results in peer-reviewed scholarly articles.

Innovation strengths and areas of new opportunity can be identified by examining the content, volume, concentration, relative impact, and convergence of scholarly articles published by institutions within Kern County and adjacent to military assets in East Kern.

These analyses can only look at “open” articles; defense DOD installations and military contractors also perform groundbreaking research that cannot be published.

- **Altogether, regional institutions only published 2,300 articles over roughly two decades.** This is an extremely low amount of scholarship for a region of this size. In fact, on a per-capita basis, that is about 12% of the U.S. metro average.
- **CSU Bakersfield is the county’s most prolific single research institution in terms of volume of published scholarship.** The university published 881 scholarly articles over nearly 20 years.
- **U.S. military institutions were the second largest source of scholarship published from Kern County.** The Naval Air Weapons Station (NAWS) at China Lake was the anchor for federal research scholarship for the county. Divisions of the U.S. Department of Defense including the Army, Navy, and Air Force jointly or independently published research with NAWS.
- **Kern Medical Center in Bakersfield published 175 scholarly articles.** This volume rivaled other significant research entities in the county, but not compared against major medical institutions in general.
- **A large and diverse collection of other entities also publish research.** For example, Chevron, Aera Energy, military contractors, Bakersfield Dermatology, and some other groups published a few scholarly articles per year, on average, explicitly associated with Kern as the source of the authorship.

**NUMBER OF PEER-REVIEWED SCHOLARLY ARTICLES PUBLISHED BY KERN COUNTY INSTITUTIONS
FROM 2001 TO 2020**



Source: Brookings analysis of Clarivate data.

Research scholarship in the region is highly concentrated in select subfields

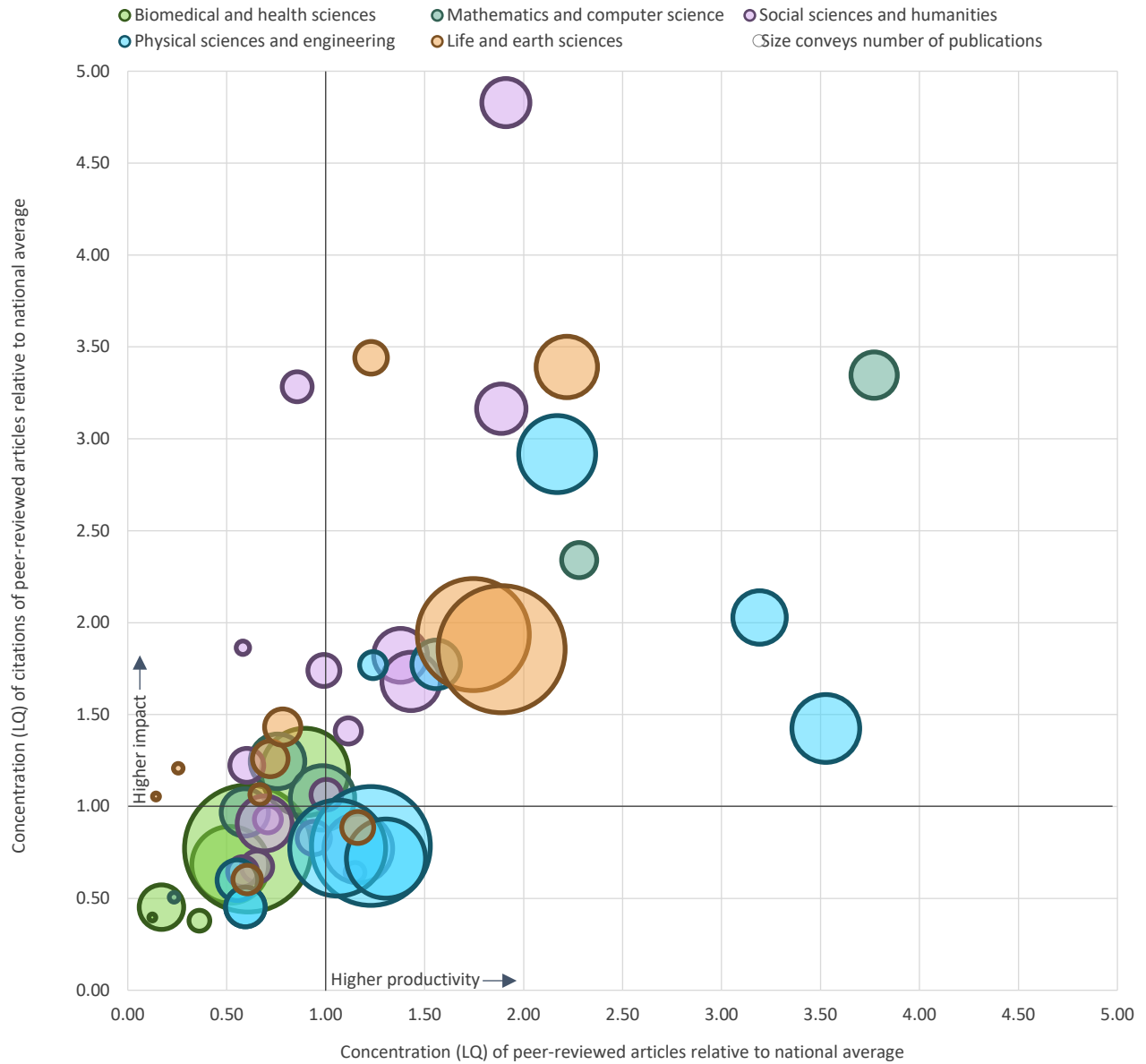
The scholarship that Kern County does produce is highly concentrated in select fields of science, as shown on the figure below. The volume of that published research output by scientific subfield can be mapped against the relative impact of the work as measured by global citations in other publications and patents.

- Kern County’s research institutions and organizations publish outsized amounts of research in select engineering disciplines**, including environmental engineering, chemical engineering, and mechanical engineering. Each of these subfields accounts for more than twice as much of the

region's scholarship than the national average, and at least 1.4 times as much of the region's citations.

- **Research also specializes in most subfields within life and earth sciences, consistent with R&D spending.** In terms of total scholarly output or impact, the region specializes in 10 out of 11 subfields of life and earth sciences. These subfields relate to geosciences, agriculture, and ecology – disciplines complementary to the major economic drivers, and potentially the basis for adjacencies in the oil and gas sector.
- **Military installations and CSU Bakersfield produce strengths in decision sciences and “other engineering.”** These subfields are categorized within the field of mathematics and computer sciences, but in fact reflect interdisciplinary disciplines related to operations research, artificial intelligence, cybernetics, and electrical engineering.
- **CSU Bakersfield output in the social sciences and humanities results in above-average impact,** most significantly in history, geography, and philosophy.

**CONCENTRATION OF KERN COUNTY'S "OPEN" SCHOLARSHIP BY SCIENTIFIC SUBFIELD
PEER-REVIEWED ARTICLES PUBLISHED FROM 2001 TO 2020**



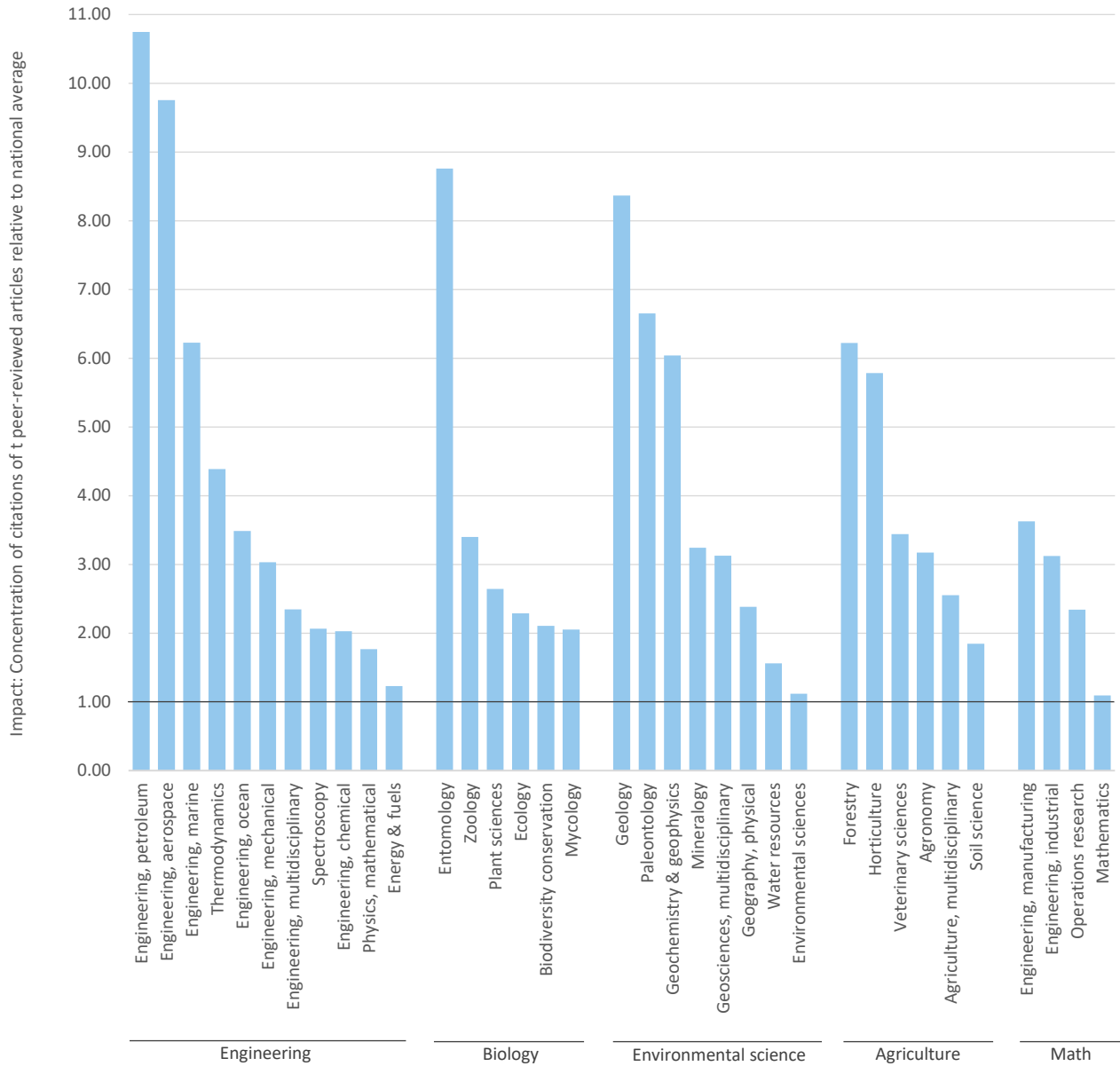
Source: Brookings analysis of Clarivate data.

The region’s research scholarship aligns tightly with current and potential economic specializations

Going one level deeper – from subfields to scientific disciplines within these subfields – affirms more notable and complementary specializations within the region’s body of research scholarship, as shown on the figure below. Again, these disciplines represent both an outsized volume of regional scholarship output and an outsized portion of its global citations.

- **Engineering disciplines account for among the largest portions of the region’s impact,** and those closely related to economic strengths are its most specialized in terms of scholarly impact. Petroleum engineering and aerospace engineering account for more than 9.5 times as much of the Kern’s scholarly citations compared to the national average.
- **The region is especially impactful in virtually all the disciplines within the field of life and earth sciences.** From geosciences to biology and ecology to agriculture, research institutions, led by CSU Bakersfield, produce disproportionate impact in each. Strengths in geochemistry, geophysics, physical geography, and basic geology all link with existing oil and gas activities, but also other adjacent parts of the value-chain.
- **Kern County’s research institutions are especially impactful in interdisciplinary mathematics and computer sciences.** These are something of a cross-institution area of strength-- both the university and the military installations produce substantial research in these disciplines. Specifically, manufacturing engineering, industrial engineering, and operations research are prominent, and afford capabilities and connections to sectoral growth targets in the region.

**CONCENTRATION OF CITATIONS OF KERN COUNTY’S “OPEN” SCHOLARSHIP BY SCIENTIFIC DISCIPLINE
CITATIONS OF PEER-REVIEWED ARTICLES PUBLISHED FROM 2001 TO 2020**



Source: Brookings analysis of Clarivate data.

Kern County features converging research strengths in engineering disciplines

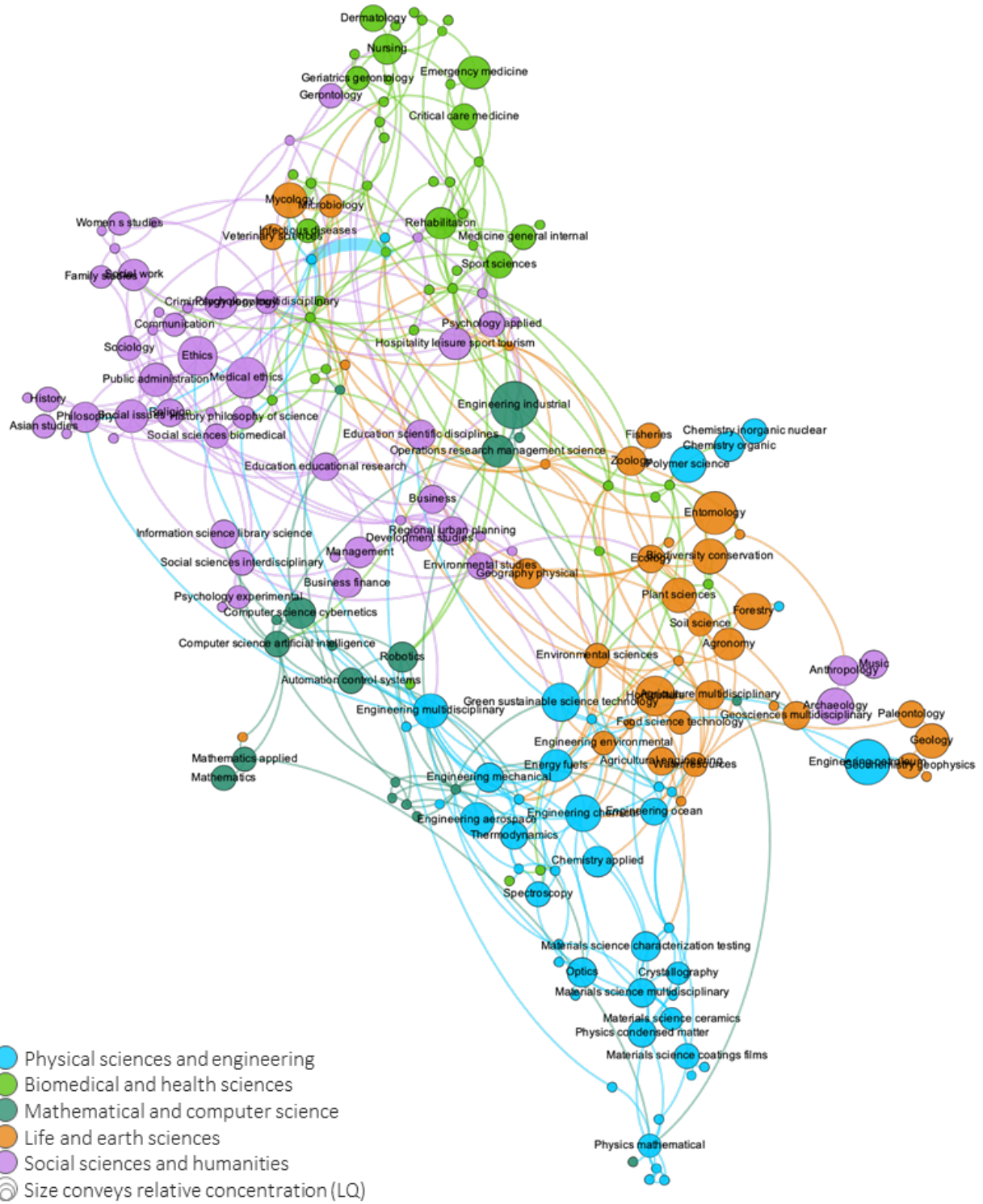
The value of research and innovation capabilities in regional economic development is often for competitiveness and advancement of a particular industry strength, but the greatest benefit is finding new sector and commercial potential. Those opportunities typically arise from relationships across disciplines, indicated by connections between scholarly publications. This convergence can signal emerging areas of science and technology with leverageable advantages for developing new products, services, and clusters.

Analyzing cross-disciplinary publications associated with the region can identify connections between disciplines where the volume of scholarship is especially large relative to the average across the state of California. Often, these connections can also be identified with other metro economies in the U.S. and globally; however, the limited volume of open scholarship produced in the region could not uncover robust links.

- **Physical science and engineering are tightly linked in several clusters – energy engineering, mechanical engineering, and thermodynamics; and another around materials sciences.** The former is especially associated with other specializations in computer science and an array of environmental sciences.
- **Life and earth science disciplines are especially convergent across other fields.** The environmental sciences within this field converge with aspects of physical sciences and engineering and, surprisingly, humanities disciplines. For example, biological disciplines and veterinary sciences converge with biomedical and health sciences.
- **The region’s strengths in social sciences and humanities are sprawling and linked to unusual commercial disciplines.** Unique connections exist between scholarship in philosophy, public administration, and medical ethics, for example, some of which are strongly connected to fields within biomedical and health sciences. Other social science disciplines converge with computer science, such as experimental psychology, applied psychology, and management.

See the figure below for reference.

KERN COUNTY'S UNIQUE NETWORK OF CROSS-DISCIPLINARY "OPEN" SCHOLARSHIP
PEER-REVIEWED ARTICLES PUBLISHED FROM 2001 TO 2020



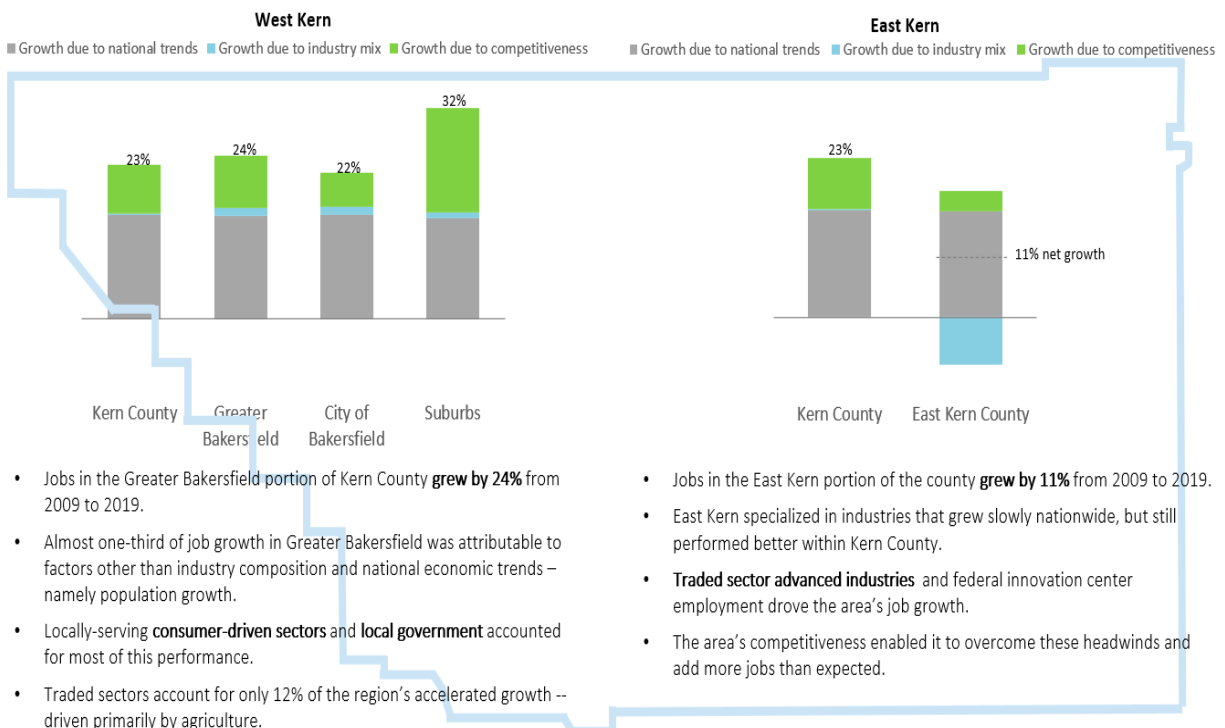
Source: Brookings analysis of Clarivate data.

Although classified as one metro, Kern has two functional economic areas that diverge in character

Economic regions typically are defined by Metropolitan Statistical Areas (MSAs) designated by the federal government as encompassing cities and surrounding suburban and rural areas closely linked by significant economic factors and interaction, most notably as workforce commuting sheds. For clarity and statistical purposes, these regions follow political jurisdictions, and usually extend across adjacent county boundaries. Different parts of a region vary in performance and assets, or may be on the fringe, but they share functional economic connections.

The Bakersfield MSA is coterminous with Kern County, so intuitively the vision is of one functional economic area, despite a population spread over 8,000 square miles that otherwise would encompass multiple states and metropolitan areas. Overseeing a single administrative unit, elected leaders have emphasized commonalities and potential for links between Greater Bakersfield and East Kern, in the same way that states do. Kern’s written economic development strategies consistently have focused on the County as one region, except for the East Kern diversification study in 2017 in response to U.S. Department of Defense funding focused on the military presence.

In fact, analysis shows the performance, growth drivers, industry composition, and talent base of Greater Bakersfield versus East Kern are fundamentally different, and the functional economic and workforce affinities are not significant (see figure below). But for the County boundary, it is likely that these two areas could be classified as separate metros, with East Kern associating to Palmdale and Lancaster rather than Bakersfield.



China Lake Naval Air Warfare Center and other installations contain sizable but hidden R&D capacities

The Naval Air Warfare Center Weapons Division at China Lake and other U.S. military installations in Kern County such as Edwards Air Force Base contain broad and deep R&D capacity in a range of disciplines. Indeed, these installations are some of the most significant sources of innovation in the entire country.

The U.S. Navy was ranked seventh for its patent pipeline in 2017, the latest year of available data, ahead of NASA and just behind some of the nation's largest aerospace and defense contractors, including Lockheed Martin. NAWCWD accounted for about 12% of the Navy's pipeline that year.

The U.S. Air Force also ranked highly for its patent pipeline, as did many of its suppliers and contractors with operations in or adjacent to Kern County.

NAWCWD's exceptional role in the Navy's innovation pipeline is in part a result of an incredible volume of R&D expenditures – \$1.8 billion in 2019 alone, most of it spent on applied research and technology development and prototyping.

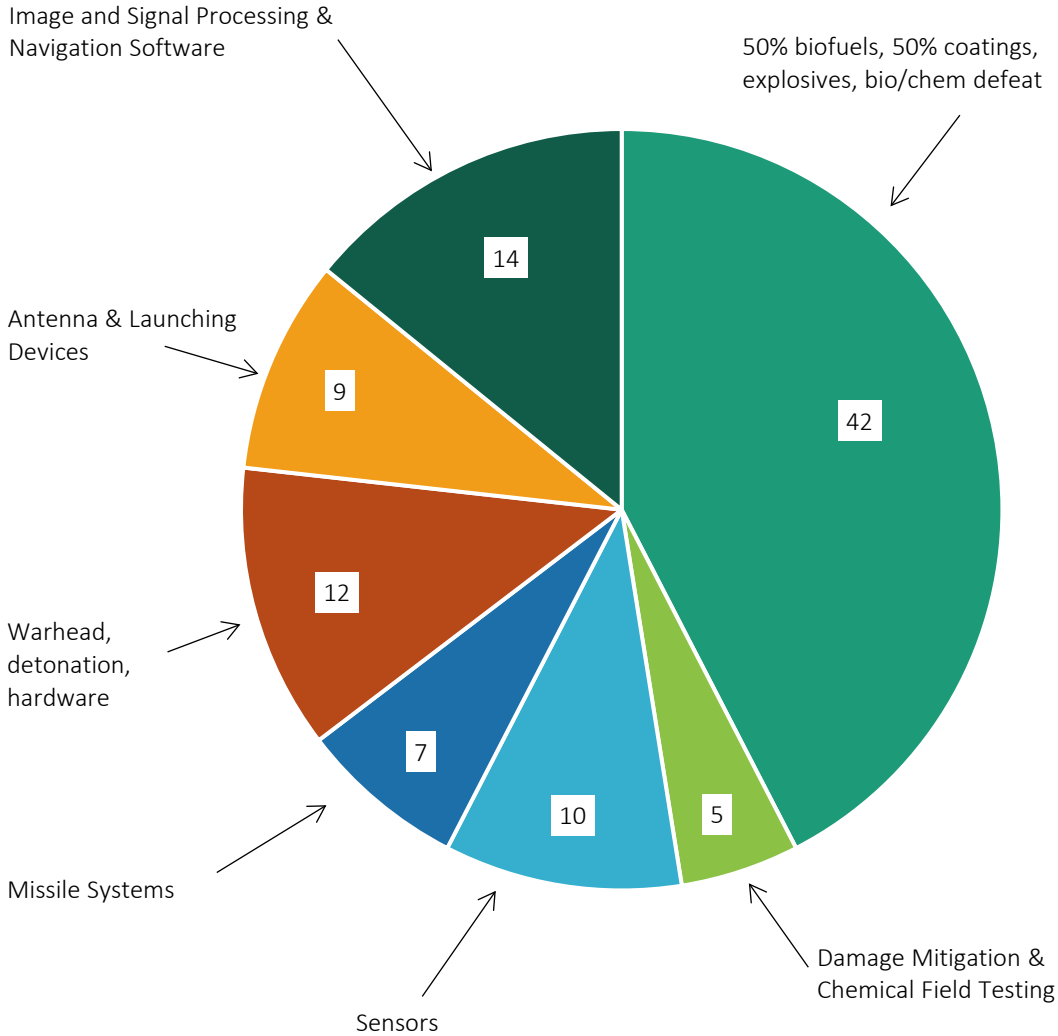
The figure below provides a summary of patent application data.

Based on available information, much of the technology being developed at NAWCWD may have applications to industries that are core to the region's economy and future growth. Technologies including biofuels and coatings, sensor technologies, and signal processing could be relevant to the evolution of the energy industry, manufacturing technology, and tech-enabled agriculture, as well as the core commercial aerospace sector.

The challenge is unlocking the R&D that occurs at these military installations. But leaders at many similar installations across the country recognize the potential upsides for opening up this innovation output and infrastructure to the local economic development ecosystem. These regions have partnered to use existing military programs and funding sources, or tailor new initiatives and procedures that facilitate tapping assets, creating a win-win for innovation at these installations and the regions in which they are anchored.

NAVAL AIR WARFARE CENTER WEAPONS DIVISION PATENT APPLICATIONS BY CLASS OF TECHNOLOGY, FY2012

- CHEMICAL
- CHEMICAL/MECHANICAL
- CHEMICAL/ELECTRICAL
- ELECTRICAL/MECHANICAL
- MECHANICAL
- ELECTRICAL
- SOFTWARE



Source: NAWCWD by courtesy of Scott O’Neil.

Transportation and land use issues present opportunities, challenges

Kern County's vast geography encompassing 8,000 square miles and distinctive sub-regions as noted elsewhere in this document, present both opportunities and challenges for economic growth. These include:

LAND USE POLICY. Notably, land use policy at the County level – led by the Office of Planning and Natural Resources – was consistently cited by stakeholders in B3K outreach as a key contributor to the region's competitiveness and a distinctive asset vis-a-vis other California regions. Specific advantages included speedy permitting processes and a generally flexible and business-friendly approach to

administration. Previous analysis conducted by the Milken Institute also found that Kern County exceeded neighboring counties (e.g., Los Angeles, Ventura, Fresno, San Bernardino) in leading CEQA Environmental Impact Report applications to the state, pointing to a proactive approach to easing development, although this may also reflect different roles of county vs. municipal planning officials across these jurisdictions.

MARKET ACCESS. Kern’s strategic location adjacent to the Los Angeles market, proximity to other major population centers, and access to major thoroughfares and railways has provided an advantage for the region’s growing logistics industry. These advantages may also support additional opportunities identified through analysis around manufacturing and “second office” business services, leveraging the region’s connections to other California markets.

PLACEMAKING. Conversely, placemaking issues arose as a particular concern in East Kern, where lack of new housing and amenities are perceived as significant disadvantages for attracting and retaining skilled talent needed to serve the aerospace industry and supporting broader quality of life for residents. Efforts to promote this development have been met by private sector concerns that such activity does not "pencil out," suggesting that public policy interventions may be necessary to address the market failure.

SUB-REGIONAL DYNAMICS. More broadly, the region's size and disparate needs across areas that fundamentally differ in economic composition has challenged regional institutions serving Kern County and resulted in the perception of uneven support, as documented in the following analysis of regional governance.

Advantages	Challenges
<ul style="list-style-type: none">• Ease of permitting• Location proximate to major California population centers (14% U.S. population within 300m)• Access to major thoroughfares (Interstate 5, Highway 99 North/South, Highway 46 West, Highway 58 East to Interstate 15)• Class 1 Rail (Union Pacific / BNSF)	<ul style="list-style-type: none">• Uneven placemaking and amenities in East Kern vs. Greater Bakersfield• Impact of distance on ability to connect sub-regions• Limited commercial air connectivity compared to similarly sized regions



Market access for Kern County.

Source: Milken Institute, Economic Road Map for Kern County, 2015; Kern Economic Development Corporation.

Job proximity is above average, but declined with suburban job growth

While economies function at the regional level drawing workers from across the metropolitan labor shed, job proximity also matters for residents' ability to access job opportunities and achieve economic mobility, as well as business success.

Research has connected job proximity with employment outcomes, including for poor, Black, female, and older individuals. Intuitively, distance from jobs imposes greater costs associated with transportation (e.g., car ownership, gas, childcare), which particularly impacts lower-income workers. Achieving quality job creation within neighborhoods at scale and suited to residents is unrealistic, but promoting more access via regional job hubs is practical. Additionally, spatial efficiency is an important factor in business competitiveness, notwithstanding the potential impacts of more remote work. Firms located in more connected job hubs are advantaged by easier reach to a greater number of workers.

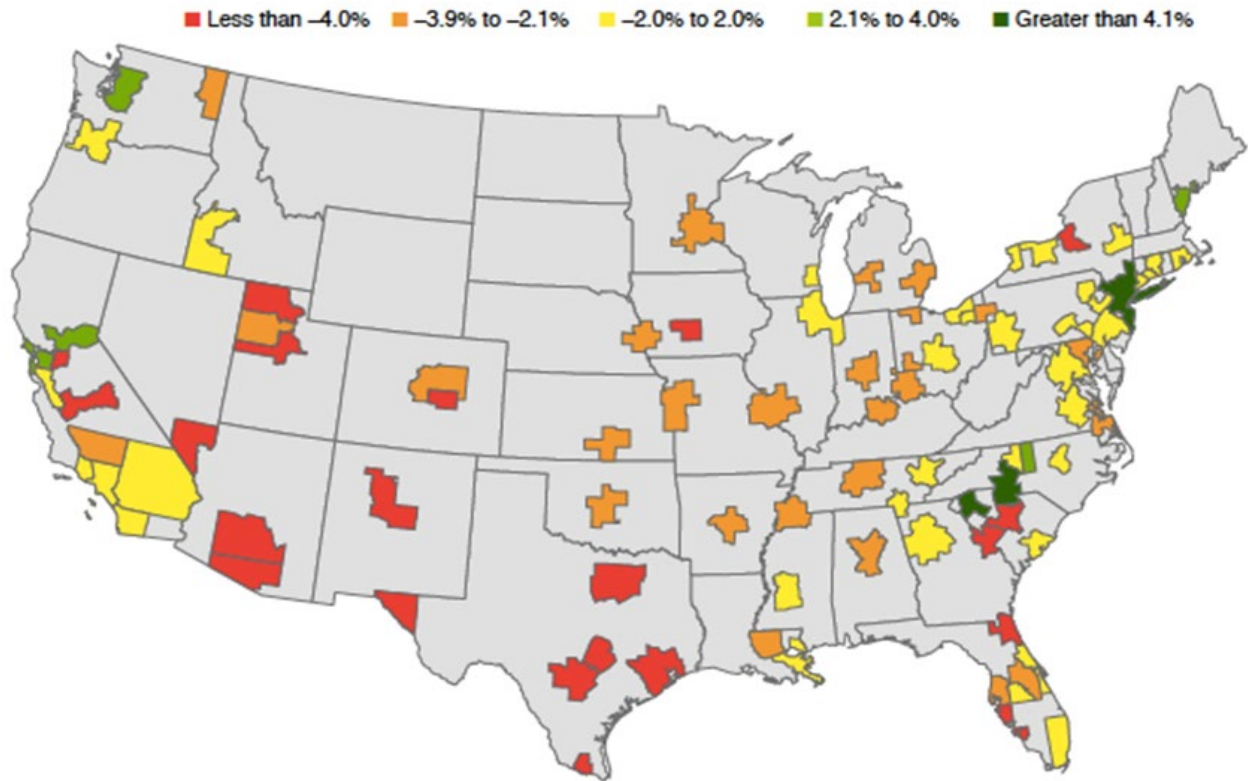
Analysis of physical job accessibility -- defined as the "share of metro area employment that is found within the typical (median) commute distance for a given metro area" -- between 2007 and 2017 shows mixed results for Kern County. Overall job proximity has declined, with the region's median commute distance increasing from 5.6 miles to 8.7 miles. The share of jobs within that commute distance is 35.6%, exceeding the national average of 29.2% among the U.S.'s 96 largest metropolitan areas. However, this share declined 2.4% between 2007 and 2017, above the average national decline of 1.7%.

Increases in suburban employment tend to drive lower rates of job access, distributing jobs to areas with lower density of resident population. This is also a factor in Kern County -- between 2007 and 2017, suburban employment growth (33.4%) vastly exceeded increases in urban areas (3.6%), and rural areas experienced a substantial decline (-12.7%). The figure below provides a summary of the data.

Housing start distribution and the sectors that have generated job growth in the region likely are contributors to this dynamic.

Expansion of logistics in warehousing and distribution, as well as agricultural production jobs, tend to create less urban, more dispersed activity.

Recognizing the region's solid overall standing relative to the nation as a whole, future economic development, land use, and transportation choices remain important considerations to advance job quality and access objectives. A factor for evening out the geography of opportunity includes prioritizing sectors, economic corridors, and housing around more compact job hubs closer to population centers.



Source for image and data: Cleveland Federal Reserve, *The Decline in Access to Jobs and the Location of Employment Growth in US Metro Areas, 2020*; Brookings, *The growing distance between people and jobs in metropolitan America, 2015*.

Kern County broadband availability is high, the main challenge is access and subscription rates

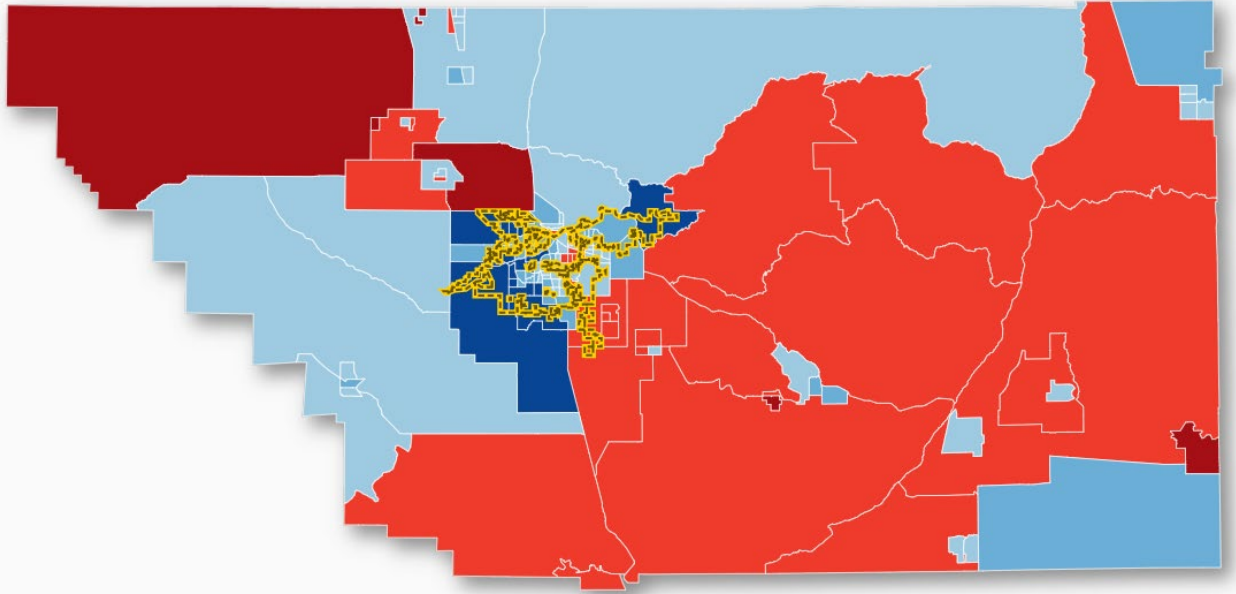
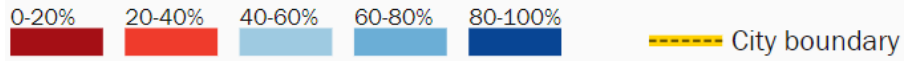
Kern has comparatively strong broadband availability. Only 4% of Kern County residents lack broadband coverage of the FCC standard at 25 Mbps (36,200 people). These only reflect download speeds, so do not address many expectations, or the needs of precision agriculture.

However, lack of availability substantially overlaps with high-poverty and less populous census tracts.

The following figures provide a summary of the data.

KERN COUNTY OVERALL BROADBAND SUBSCRIPTION LEVELS BY CENSUS TRACT

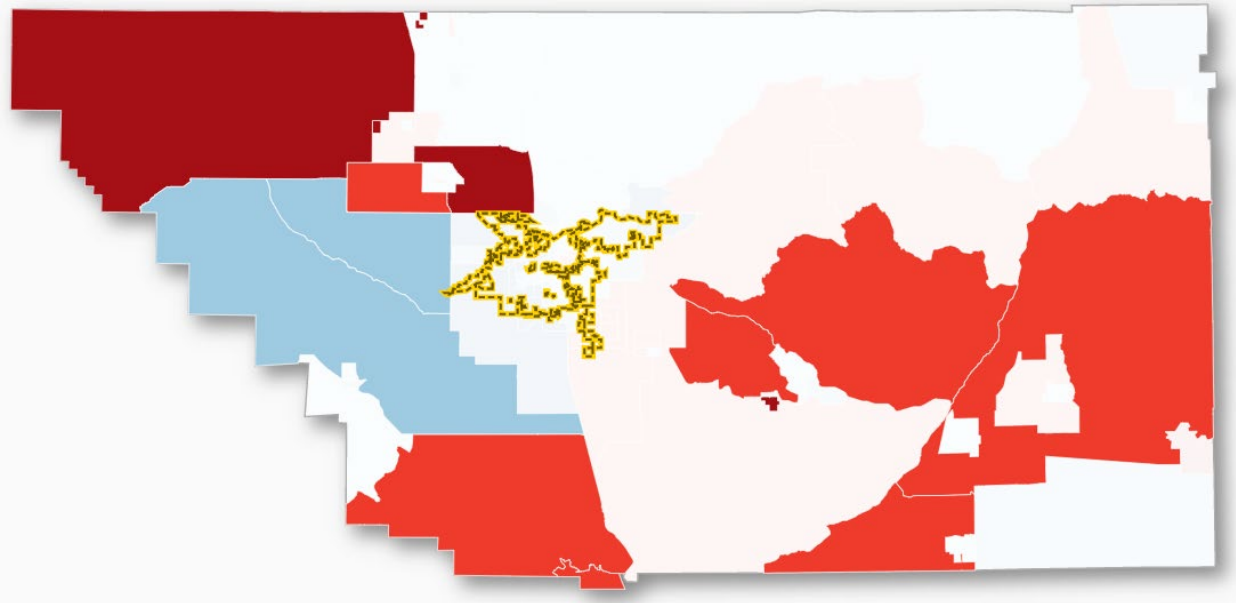
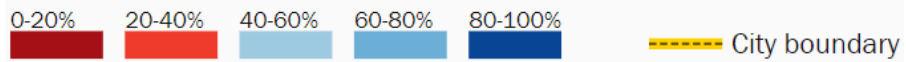
Neighborhood broadband subscription rates



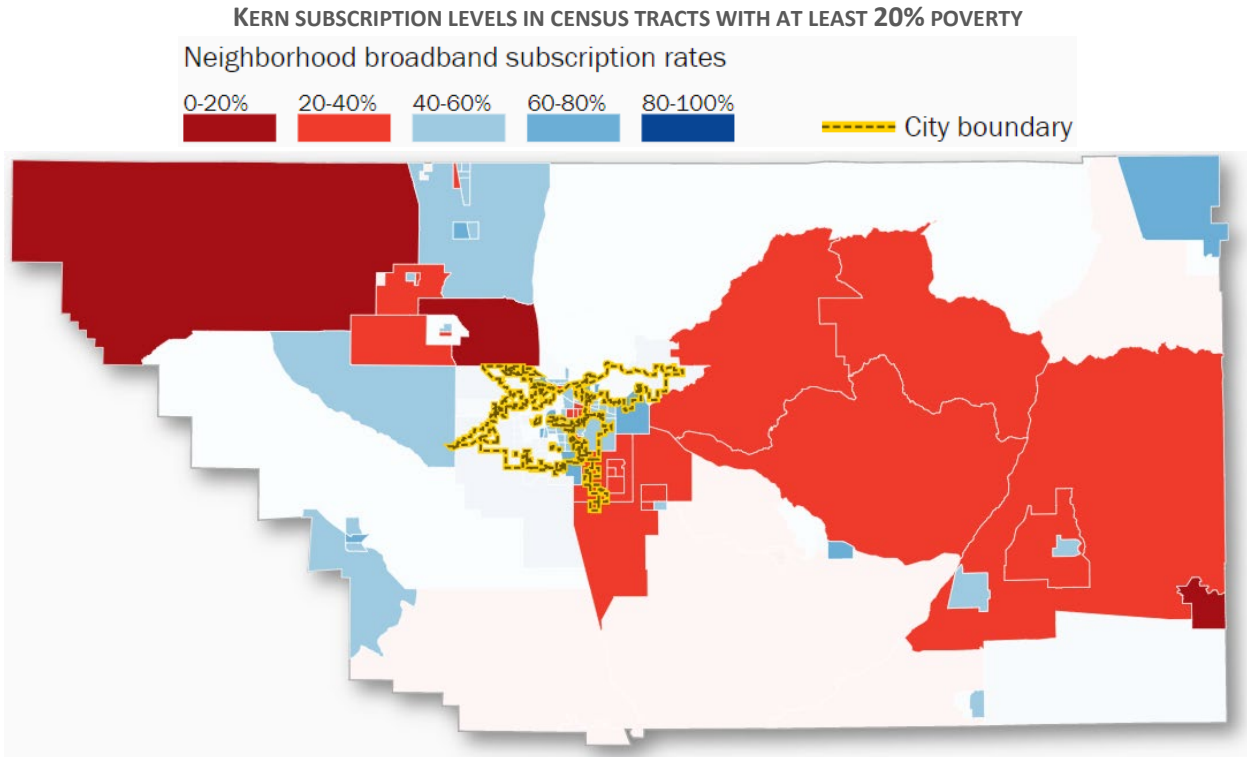
Source: Brookings, Signs of digital distress, 2017.

CENSUS TRACTS WITHOUT BROADBAND AVAILABILITY OF AT LEAST 25 MBPS, AND SUBSCRIPTION LEVELS

Neighborhood broadband subscription rates



Source: Brookings, Signs of digital distress, 2017.



Source: Brookings, Signs of digital distress, 2017.

Bakersfield City has near universal broadband availability, but stark divisions in subscription access

The city of Bakersfield has basically universal broadband coverage with availability of at least 25 Mbps in all neighborhoods. However, actual household access is highly differentiated, mainly by poverty levels.

Subscription levels are markedly lower in census tracts with at least 20% poverty, which also have an above-average share of children. Low access follows eastern and southern neighborhood boundaries.

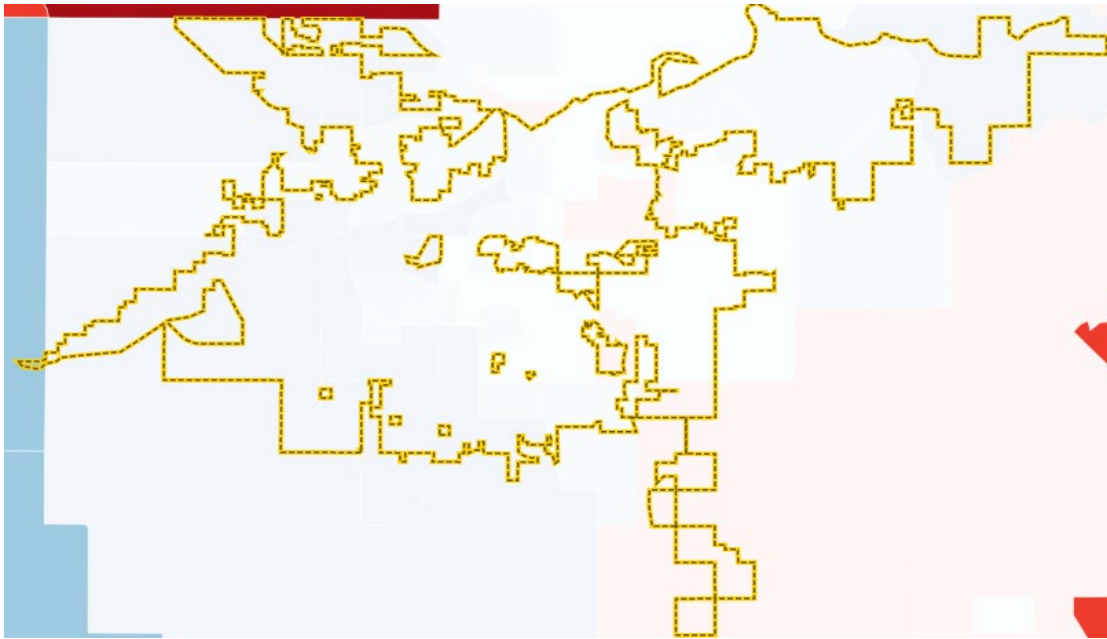
The following figures provide a summary of the data.

BAKERSFIELD CENSUS TRACTS WITHOUT BROADBAND AVAILABILITY

Neighborhood broadband subscription rates

0-20% 20-40% 40-60% 60-80% 80-100%

City boundary



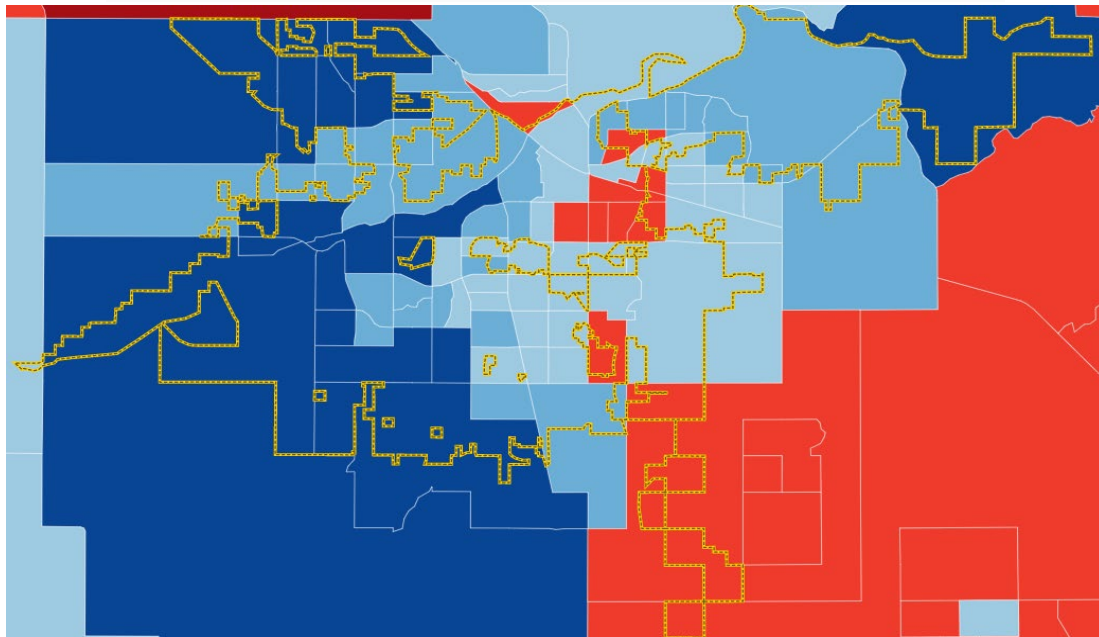
Source: Brookings, Signs of digital distress, 2017.

OVERALL SUBSCRIPTION LEVELS IN BAKERSFIELD

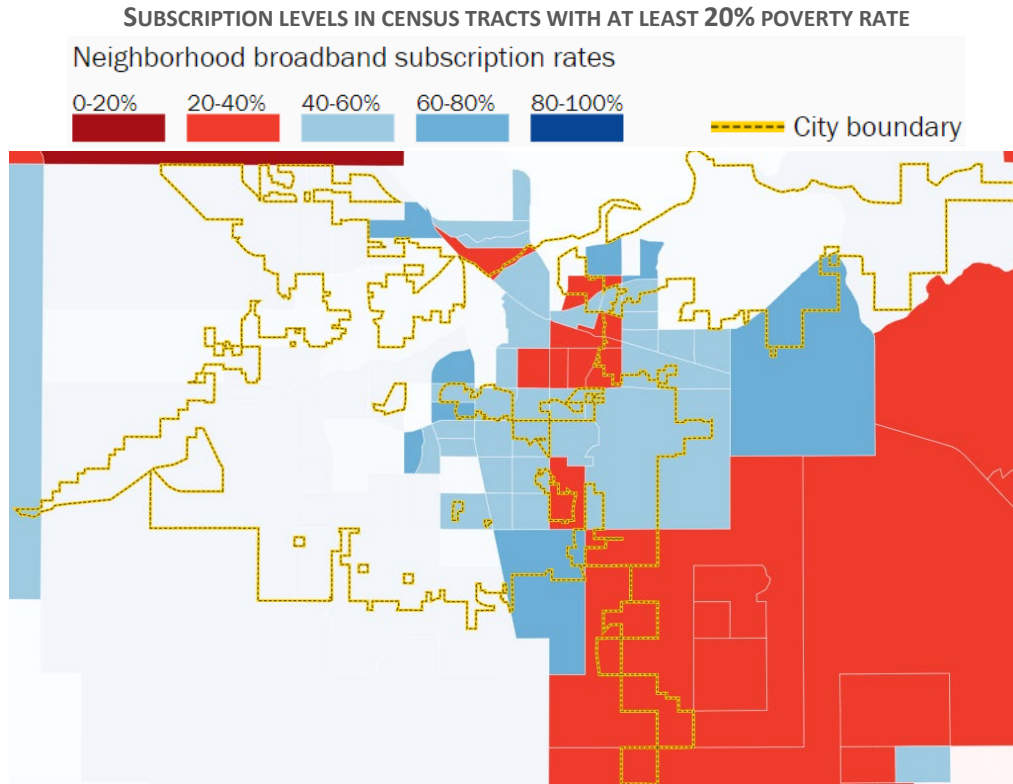
Neighborhood broadband subscription rates

0-20% 20-40% 40-60% 60-80% 80-100%

City boundary



Source: Brookings, Signs of digital distress, 2017.



Source: Brookings, Signs of digital distress, 2017.

Economic development delivery is constrained by ecosystem capacity and execution

Kern County generally is considered by private and public sector leaders as more “business-friendly” than other regions in California. This view mainly is driven by perceived pro-growth land use policies and efficient permitting processes, as well as relative availability of incentives. Additionally, some “cost of doing business” analyses rank Bakersfield as better than other large California cities, although “average” among cities surveyed nationwide, taking into consideration taxes, fees, utilities, etc.; these findings and site selector surveys also recognize firms pay a premium for assets that concentrate in more expensive locations, which compete on value-add versus cost. However, business-friendly factors contribute to recent success and help position Kern for other activities, including sectoral opportunities like manufacturing and energy.

Advancing strategy and services across Kern County’s vast and disparate regions has been a challenge – Size, distinct sub-regional needs, and varied scale and capacity across large cities, unincorporated areas, and economic development organizations have contributed to gaps in service delivery and strategy implementation. Current resources are spread thin among geographic and topical responsibilities. Qualitative research found firms credited contributions by certain individuals in navigating services, while expressing frustration with broader systems. Particularly in East Kern, firms and stakeholders expressed a perceived disconnect from major economic development focus and efforts versus Greater Bakersfield. At the same time, the City of Bakersfield also is relaunching its own dedicated economic development capabilities after a substantial hiatus.

Broadly, economic development efforts across the region lack a shared vision and metrics among contributing stakeholders that advance long-term, coordinated action and implementation – Previous strategies largely made uneven progress or "sat on the shelf," rather than driving consistent collective action. Activities often focus on networking and information exchange, short of formal programmatic collaboration.

Efforts to organize and support key clusters for joint problem-solving and growth opportunities are underdeveloped – While existing economic development strategic plans consistently identify industry "cluster" strengths, the region lacks focused action to advance them through cluster initiatives. Rather, cluster identification is more oriented to highlighting the presence of a particular sector than addressing shared needs and assets that drive the region's niche – building coalitions or intermediaries that bolster talent; research, commercialization, and applied problem-solving; value chain leverage; infrastructure; capital; global visibility. Most sector activities center on regulatory advocacy rather than competitive inputs, or individual firms versus interdependent needs.

For example, despite universal recognition of the distinctive aerospace sector anchoring East Kern, the region lacks a dedicated, ongoing, proactive effort among principal economic development actors to work with industry and deliver a comprehensive cluster support strategy. No personnel or entity is assigned to lead this as a primary responsibility. Subregional groups have emerged, but with few resources or written strategies; programs tend to be siloed. Companies noted difficulty securing County or other assistance for service needs, and limited special attention. Functional programmatic collaboration does not cross political boundaries for scale.

Compared to other regions, the public sector plays a more dominant role than business leadership in economic development strategy – In many peer markets, the business community takes a more active role in shaping, funding, and implementing economic development efforts for collective benefit. Working through or in partnership with EDC structures, these business groups advance a longer-term strategic vision, lead catalytic initiatives, inject expertise, act as ambassadors, and contribute higher levels of investment, among other things.

Non-white stakeholders feel underrepresented at leadership tables – They report difficulty engaging some decision-makers, reducing the ability to target certain strategies or align with distinct community needs.

See the following table for reference to the above discussion.

ENTITIES WITH PRIMARY ECONOMIC DEVELOPMENT / BUSINESS LEADERSHIP RESPONSIBILITIES

Organization	Description and Functions	Geography
Kern County	<ul style="list-style-type: none"> • Holds principal roles in shaping regional strategy – producing the Comprehensive Economic Development Strategy (CEDS); managing the Advance Kern incentives program; supporting attraction contacts; financing external economic development functions; coordinating across departments and external actors. • Undertakes planning, permitting/land use, and environmental review process along with CDBG and 	Kern County

Organization	Description and Functions	Geography
	<p>other community development programming. Cited for novel approaches to land use and permitting, mitigation of risks relative to CEQA and permitting, working across government to support local industry</p> <ul style="list-style-type: none"> Leads workforce development, as noted elsewhere in this document Contracted three-person team to provide East Kern services and advance 2017 East Kern Diversification Study; supported by a federal grant through 2020. 	
Kern Economic Development Corporation	<ul style="list-style-type: none"> Carries out region-wide business attraction, retention, and expansion efforts, funded by Kern County and public and private membership. Weights activities 70% to attraction, with project pipeline of logistics and distribution (35%), advanced manufacturing (30%), value-added agriculture (15%), energy / natural resources (10%), aerospace / defense (10%). Makes BRE contacts of up to 100 firms per year. Organizes events and networks - KITE, East Kern Economic Alliance, Energy Summit, Economic Summit, Women in STEM, and others. 	Kern County
Greater Bakersfield Chamber of Commerce	<ul style="list-style-type: none"> Leads or contributes to strategic regional projects with economic dimensions, including: public/private partnership around regional branding; and campaign to pass recent City of Bakersfield tax measure for economic development priorities Advocates on state policy impacting regional economic development and engagement with state leads, such as Governor's Office and CaFWD. Produces/co-produces events shaping economic narrative, such as annual Economic Summit and State of the City 	Kern County, but primarily western half
Local governments	<ul style="list-style-type: none"> Varies with capacity, but most often focused on responsibilities related to physical development and amenities, planning and zoning, local business, and tax base expansion. Typically one to maximum three agency staff; City of Bakersfield relaunching separate economic development division at scale after tax measure approval. 	Individual cities, e.g., Shafter, Delano, Tehachapi, Ridgecrest
Local business and economic	<ul style="list-style-type: none"> Chambers of Commerce offering basic local business information, shared services, networking, and advocacy. 	Local subregions or cities, e.g., California City Chamber of

Organization	Description and Functions	Geography
development organizations	<ul style="list-style-type: none"> • Nonprofit economic development organizations providing local market information, site selection navigation, and promotion; and sometimes collaborations with local schools on work entry. • Merged chambers and economic development organizations. • Coalitions focused on support and advocacy around specific economic assets, such as military bases. 	Commerce, Indian Wells Economic Development Corporation, China Lake Alliance
Kern County Black Chamber of Commerce	<ul style="list-style-type: none"> • Offers cross-jurisdiction business development, and small business / entrepreneurship resources (<i>detailed elsewhere in this document</i>). • Organizes events, networking, and advocacy. 	Kern County, but primarily Bakersfield
Kern County Hispanic Chamber of Commerce	<ul style="list-style-type: none"> • Provides assistance with business planning, loans, marketing, organizational development, referrals, and information on local market and demographics. • Undertakes workshops and other events, plus engagement with elected officials. 	Kern County
AV EDGE	<ul style="list-style-type: none"> • Reformed economic development organization combining the Greater Antelope Valley Economic Alliance and Antelope Valley Board of Trade, centered in Palmdale / Lancaster, but seeking to engage East Kern. • Target activities include business retention, expansion, and attraction, with an aerospace sector emphasis. 	Northeastern Los Angeles County / eastern Kern County

Source: Kosmont-Rose Institute Cost of Doing Business Survey Report

Clusters are core to regional competitiveness, elevating the imperative to organize beyond marketing

Regional economies grow or decline based on their ability to specialize in high-value traded industry sectors and evolve over time. Cluster presence is shown to generate greater productivity and innovation, higher wages, and more entrepreneurial activity.

DEDICATED SUPPORT FOR CLUSTERS -- A DISTINCT GAP IN THE REGION -- IS PARTICULARLY IMPORTANT TO ENSURING THE REGION'S ECONOMIC SUCCESS.

Clusters are geographic concentrations of interconnected companies and institutions in a specialized field, that gain competitive advantages through proximity and complementarities.

- Critical mass of firms related by products and supply chains, occupations and skills, or technology and know-how.
- Intermediaries and enabling organizations – such as government, universities, think tanks, training providers, trade associations -- that facilitate innovation, commercialization, technical support, and a deep talent base.
- Tailored facilities and infrastructure that enhance productivity.

Sources: Brookings, Rethinking Cluster Initiatives

Regions can support the growth and competitiveness of a cluster through efforts including:

- Promoting information-sharing and building networks around common needs and challenges
- Supporting cluster-specific talent development, in collaboration with universities, community colleges, other providers
- Advancing research, commercialization, and tech transfer
- Improving infrastructure and placemaking
- Expanding capital access
- Promoting global visibility and reputation

Examples of cluster efforts include:

- Central Indiana Corporate Partnership: BioCrossroads, AgriNovus, Energy Systems Network-- life sciences, agbioscience, energy
- The Water Center (Milwaukee) -- water technology
- BioSTL Coalition (St. Louis) – agtech and biosciences
- Data to Decisions NUAIR / CenterState CEO (Syracuse) -- unmanned aerial systems
- Cultivation Corridor (Des Moines) -- agtech innovation
- We Build Green Cities (Portland) – urban environmental sustainability design, products, and solutions

Foundational entrepreneurship and business supports are absent or not scaled to needs

Basic business and entrepreneurship resources are missing, not scaled to needs and service area, and/or not targeted to highest-impact opportunities – The region lacks a rudimentary business incubator of any sort, let alone an accelerator, tech alliance, angel conference, or related supports. Other services primarily focus on local businesses needs and generic needs, versus engaging young tech firms or traded sector growth opportunities. Promoting durability and growth of young firms is a services gap. Several co-working spaces have been established in recent years, but offer limited development. Bitwise Industries expansion into Bakersfield proposes to include an innovation lab.

Constraints on access to capital and other fundamentals inhibit start-up and growth. Investment is limited by availability and firm capability. The region lacks a Kern-focused or sizeable Community Development Financial Institution (CDFI), combined with cautious banking culture and tradition of lending within elite networks. However, some firms seeking capital also lack sophistication or need additional support to absorb the investment.

Support for inclusive entrepreneurship is limited and not integrated with mainstream economic development – Notwithstanding efforts by the Hispanic and Black Chambers of Commerce, efforts to support non-white and women-owned businesses are not at sufficient scale or featured in conventional services. Needs include accessing capital, financial literacy training, and assistance navigating contracting / procurement processes.

Positive "start-up" activity and organizing has expanded --Recent "bottom up" efforts to foster entrepreneurship provide a foundation for more efforts, including networking, co-working, education, and exposure.

See the following table for reference to the preceding discussion.

Other organizations / initiatives include: small-scale CDFI branch (Access Plus Capital), Mid-State Development physical, co-working (Mesh CoWork, Kernville CoWork), entrepreneurship programs or clubs (CSUB, BC, Kern High School).

ORGANIZATIONS / INITIATIVES SUPPORTING ENTREPRENEURSHIP (REPRESENTATIVE)

Organization	Description and Functions	Geography
SBDC (at CSUB)	<ul style="list-style-type: none"> Provides basic training, consulting, and online resources on topics such as business planning, financial management, social media; connects to other expertise through Central CA SBDC network. Serves approximately 550 individual firm clients per year across three counties, plus approx. 2,000 participants on training webinars, etc. 	Kern, Inyo, and Mono counties; based at CSUB
Kern Women's Business Center	<ul style="list-style-type: none"> Provides training, technical assistance, workshops, and networking, serving 15% traded sector firms, housed at Mission Community Services Corporation. Initiating collaboration with Access Plus Capital CDFI. 	Kern County
Kern Black Chamber	<ul style="list-style-type: none"> Provides direct assistance and referrals for small business owners, such as a new free four-part Small Business Academy program with Old Gold Ventures (small minority business trainer) with support from City of Bakersfield. 	Kern County, primarily focused on Bakersfield
Kern Hispanic Chamber	<ul style="list-style-type: none"> Offers business planning, business loans, marketing, organizational development, and local market data. 	Kern County
BC Launchpad	<ul style="list-style-type: none"> Offers workshops, webinars, physical space / computer lab in downtown Bakersfield, established in 2019. 	Bakersfield
Kern Venture Group	<ul style="list-style-type: none"> \$2 million venture capital / angel seed fund targeting Kern-based businesses, or others with some Kern connections. 	Kern County
KITE	<ul style="list-style-type: none"> Convenes networking and organizing for the entrepreneurial community (Kern Initiative on Talent and Entrepreneurship). 	Kern County
Bitwise Industries	<ul style="list-style-type: none"> Proposes a tech business incubator, along with digital skills training / apprenticeships and shared workspace. 	Bakersfield

Organization	Description and Functions	Geography
CSUB FabLab	<ul style="list-style-type: none"> <li data-bbox="464 264 1138 401">• Maker Space 3D printing, laser cutting, and other technologies/services to help entrepreneurs (associated with CSUB and general public) prototype innovations. 	Bakersfield

Workforce system has practical strengths, could target more on job quality and traded sector goals

The region has been building a notable set of strategies and offerings around career and technical education and work-based learning – In comparison to other areas, workforce development activities take greater advantage of on-the-job training models and expansion of technical education, in part sparked by response to the Great Recession and seeded by the California Career Pathways Trust. Additionally, the region has a number of social enterprises, labor apprenticeships, and other ventures alongside the traditional workforce system.

Workforce strategies reference prioritizing major traded clusters, but most efforts center on a subset of locally-serving industries with abundant demand for lower-quality jobs (e.g., healthcare) – Subsidized on the job programs are not proactively targeted to reach priority sectors, such as advanced manufacturing. Meanwhile, research indicated smaller and mid-size firms are not aware of help, have trouble navigating it, or do not align with the talent being produced, relying on a “grow your own” approach.

Tech or digital skills talent is a general gap – Both job postings data and qualitative input from tech entrepreneurs and business leaders indicate difficulty in procuring tech talent relative to other markets. New efforts like Bitwise digital academies can begin to address this through training and apprenticeships.

The workforce system grapples with and reflects broader regional challenges to equity – The high out-of-work population among both young and prime working age adults are linked to issues other than training services – disconnection, childcare, language.

Efforts to improve overall educational outcomes have launched – The region’s extraordinary deficit in educational attainment is the focus of cross-sectoral leaders who initiated the Kern Education Pledge. This collective impact effort is a foundation for workforce and education interests around common goals.

See the following table for reference to the preceding discussion.

ORGANIZATIONS WITH PRIMARY WORKFORCE RESPONSIBILITIES

Organization	Description and Functions	Geography
Kern County	<ul style="list-style-type: none"> • Convenes Workforce Development Board and serves as hub for WIOA investment and additional program delivery, ranging from the America's Job Center to on-the-job training. 	Kern County
California State University – Bakersfield (CSUB)	<ul style="list-style-type: none"> • Focuses on role as a “metropolitan university” serving regional needs as the only four-year university. • Seeking to increase capacity for contributing to innovation and problem-solving, such as a new Energy Research Center; new Agribusiness Center; and enhanced School of Natural Sciences, Mathematics, and Engineering. 	Bakersfield-based; EK satellite
Kern Community College District	<ul style="list-style-type: none"> • Delivers industry-driven coursework, including degree programs, certificates, not-for-credit training, and contract education, such as cybersecurity training for defense contractors. • Initiated a new industrial automation baccalaureate program at BC. • Awards approximately 5,000 degrees per year district-wide, with BC representing 75% and the remainder roughly split between CC and PC. 	Bakersfield College, Cerro Coso, and Porterville (in Tulare Co.)
Taft College	<ul style="list-style-type: none"> • Offers STEM programs, among others, preparing students for baccalaureate study in seven engineering disciplines. 	Southwest Kern County
Kern County Superintendent of Schools	<ul style="list-style-type: none"> • Partners with 46 independent school districts to coordinate intensive CTE programming, including 15 career pathways. • Aligned with KCCD focus by shared Central Mother Lode Regional Consortium data. • Serves as anchor for Kern Education Pledge. 	Kern County

Comparable regions offer additional services and programs fostering higher-quality growth and jobs

Economic development leadership structures vary across regions, with public-private EDOs, Chambers, municipal governments, cluster organizations, and others taking varying levels of responsibility. However, most regions of comparable size, as well as aspirational metros, offer a more comprehensive ecosystem of supports. These include:

General business / entrepreneurship supports

- In-depth research and business intelligence to better understand performance and impact of priority industries.
 - *regional dashboard (Minneapolis-St. Paul); cluster-specific research (San Diego);*
- Incubator and accelerator programs, including mentoring / coaching, programming, seed funding/pitch competitions, physical space for product development, prototyping, or testing, etc.
 - *Tech Garden / Genius NY (Syracuse); mHUB (Chicago)*
- Export and FDI promotion, including grant programs and “concierge” services offering counseling, referrals to service providers, etc.
 - *Global Connect Trade and Investment Plan (Columbus); Global Insurance Accelerator (Des Moines)*
- Seed funds, angel conferences, and other programming designed to fill regional gaps in capital access and raise profile of entrepreneurship.
 - *KC Rise Fund (Kansas City)*
- Inclusive entrepreneurship programs specifically focused on expanding access to non-white and women owners, including dedicated outreach, mentoring, satellite locations.
 - *Opportunity Hub (Atlanta); Connect / Connect ALL (San Diego)*

Talent and workforce initiatives

- Mid-tech talent development through short-term training programs, apprenticeships, bootcamps, and related offerings, focusing on community impact.
 - *Techhire (San Diego); LaunchCode (St. Louis); i.c. stars (Chicago, Columbus)*
- Business-driven talent intermediaries and networks focused on priority clusters.
 - *Talent-to-Industry Exchanges (Kansas City); CareerX Manufacturing (Milwaukee)*
- Advisory services helping employers – especially smaller and mid-size firms – identify their own needs and provide customized programming, including incumbent workers.
 - *SkillUp (Cleveland/Cuyahoga County); Ascend Indiana (Indianapolis)*
- Revolving learning funds to enable training and wraparound services with guarantees of higher-paid employment.
 - *Workforce Income Share Agreement Fund (San Diego)*
- Incentive policies prioritizing investments in talent systems and quality jobs.
 - *Putting People First Fund (Birmingham); Prosper Portland E-Zones*

Sources: Brookings, Talent-Driven Economic Development, Rethinking Cluster Initiatives

Additional perspectives could play a greater role in economic strategy

Community and social justice groups represent important viewpoints on how strategy, programming, and services should be targeted to ensure that all residents have the opportunity to succeed, and to address specific disparities and barriers. These groups already provide services to and advocate for the interests of their constituencies, and they serve as direct access points for residents. However, the dynamic with institutional decision-making is often perceived as a win-lose conflict; these groups tend to lack substantive representation or connections to institutional decision-making, nor do they have a background in economic development principles or practices. Closing these gaps in knowledge and perspective between community development and economic development will be necessary for the cooperation to achieve inclusive economic goals in both job quality and access. See the following table for reference.

COMMUNITY-BASED AND SOCIAL JUSTICE GROUPS ENGAGED IN THE B3K OUTREACH AND PROCESSES

Organization	Focus	Geography
Building Healthy Communities	Health-focused California Endowment-supported project advancing "just transition" and addressing impacts of regional industries. Particular focus on local capacity-building and organizing.	South Kern including Arvin and Lamont
California Farmworkers Foundation	Serving and supporting California farmworkers by providing programs and services to better their quality of life and enable them to develop personal and professional skills.	Headquartered in Delano but serving agricultural communities throughout California
Covenant Community Services	Youth-focused organization offering life development and coaching, employment and training (including through Covenant Coffee social enterprise), and mentoring to foster youth.	Serving the Oildale Community, just north of the Bakersfield City limits
Dolores Huerta Foundation	Creating a network of organized communities pursuing social justice through systemic and structural transformation.	Kern priorities include Arvin, Lamont, Weedpatch, Greenfield, Bakersfield, California City
FIELD (Farmworker Institute of Education & Leadership)	Promoting social and economic prosperity in rural communities through education.	Headquartered in Tehachapi, CA, serving California's San Joaquin and Sacramento Valleys
Leadership Counsel for Justice and Accountability	Focused on areas including public health/basic services, land use, infrastructure, and housing. Two-person office in Bakersfield.	San Joaquin and Coachella Valleys
Oildale Community Action Team	Restoring hope in Oildale and Greater Bakersfield through community activities and partnerships with local government and community agencies.	A grass-roots effort serving the Oildale Community, just north of the Bakersfield City limits

Organization	Focus	Geography
UFW Foundation	Offers services in areas including immigration, worker rights, public health, public benefits, and broader organizing. Current focus on financial assistance for farmworkers impacted by COVID-19.	Headquartered in Los Angeles with regional offices in Bakersfield and throughout the Central Valley

Additional organizations active in the region include (but are not limited to) the African-American Network; Center for Race, Place, and Environment; Faith in the Valley; and California Rural Legal Assistance.

Leadership from regional and local institutions without direct economic and workforce development responsibilities provide opportunities for additional alignment and resources

Networked civic leadership from across sectors is integral to making progress on Kern's significant challenges and ensuring that resources are aligned for maximum impact. That effective governance relies on neutral intermediaries that can bridge jurisdictional, sectoral, and political boundaries to foster joint action on a common agenda. Few organizations are positioned to advance that function without a vested interest or institutional stake in the execution.

While the Kern Council of Governments focuses primarily on its transportation and environmental missions, it also is the regional forum for collective action among local jurisdictions, and makes infrastructure choices that significantly influence economic outcomes, such as current contemplation of inland logistics and automation pilots. Use of its research and data capabilities can extend to the “economic value atlas” concept explored by other MPOs to evaluate infrastructure or land use decisions through an economic context, overlaying traditional efficiency considerations with factors like workforce access or redevelopment priorities.

The Kern Community Foundation’s efforts on regional economic and workforce collective action, such as B3K, also follows evolving models in California and nationwide. Increasingly, community foundations are turned to as a cross-sector facilitator with the credibility, flexibility, and broad civic networks to offer a neutral space and bridge typically opposing views. They also serve as primary vehicles to access larger-scale external philanthropy and blend resources, in contrast to support for individual organizational projects. This aggregator role is especially prominent in regions that lack significant local corporate giving or foundation presence.

See the following table for reference to the preceding discussion.

ADDITIONAL CIVIC ORGANIZATIONS INFLUENCING ECONOMIC / WORKFORCE STRATEGY

Organization	Description and Functions	Geography
Kern Council of Governments	<ul style="list-style-type: none"> • Metropolitan planning organization governed by elected leaders from across the County. • Responsible for development and administration of Regional Transportation Plan and Sustainable Communities Strategy. • Provides input on transportation and land use dimensions of economic development. • Leading development of inland port and automated trucking pilot concepts as transport-related contributor to or anchor for other aspects of economic growth. 	Kern County
Kern Community Foundation	<ul style="list-style-type: none"> • Community foundation with \$32.5 million in total assets, and a primary focus on nonprofit strengthening and educational attainment. • Plays an increasing role as a convenor or facilitator for regional economic and workforce tables, including B3K and Kern Education Pledge, following emerging state and national models. • Can enable access to philanthropic funding outside the region, such as state or national networks. 	Kern County

F. Economic Performance in Region

Delivering different economic outcomes requires focus on competitiveness drivers and scale

Regional economic competitiveness is the result of five factors. Strong traded sector industries, skilled **talent**, and robust **innovation** ecosystems drive overall productivity, job creation, and income growth. These are enabled by well-connected, efficient **infrastructure**, and effective governance through private, public, and civic relationships to deliver a positive economic environment by focusing and coordinating their contributions; however, the presence of enablers is insufficient to spur economic outcomes on their own.

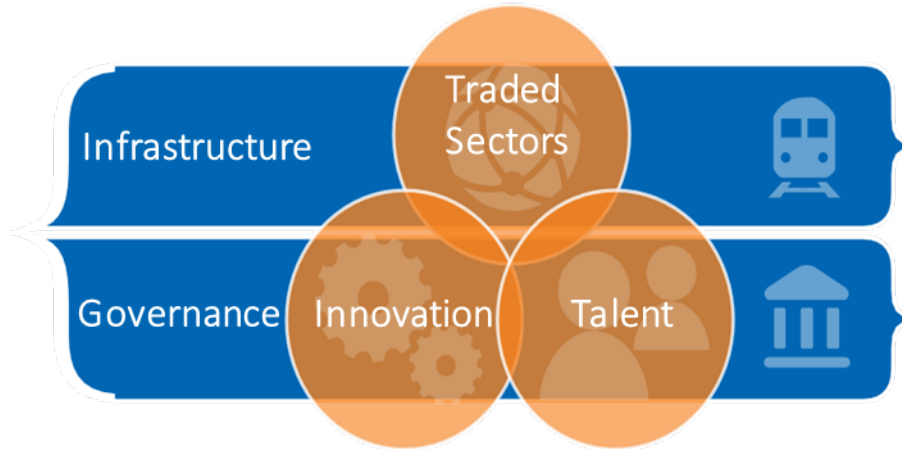
The Market Assessment⁴ prepared by the B3K team defined the region's economic position and areas for influence around the following elements:

- **Why traded sectors matter:** Firms selling goods and services to customers from outside the region bring new money into the local economy. When this wealth is spent, it creates a multiplier effect spurring three to five new locally-serving jobs, depending on the industry. Participating in trade also makes businesses and regions more productive. Firms that link and learn through global value chains perform better than peers in growth, job creation, and wages, and are more resilient to economic downturns. Regionally, a 1% increase in international trade results in a 0.5% to 2% gain in per capita income.
- **Why talent matters:** In the modern economy, workforce capabilities far surpass any other single input to regional economic development. Regions grow when they develop and deploy residents to maximize their productive potential. The pool of available knowledge, skills, and expertise – and ability to cultivate more – is the top factor in cluster formation and business location decisions. The economic success of individuals, firms, and regions correlates closely to educational attainment and the density of relevant talent to draw from.
- **Why innovation matters:** A region's innovative capacity represents the ability to create new value, uncover new products and services, start new businesses, adopt solutions to improve productivity, and adapt to rapid technological change. Four areas – research and development, commercialization, entrepreneurial dynamism, and advanced industrial production -- mark the most competitive, diversified regional economies
- **Why infrastructure matters:** Transportation efficiency, broadband connectivity, and land use policies support regional productivity, access to talent, and promotion of density for agglomeration and proximity benefits.
- **Why governance matters:** Governance is the formulation and execution of collective action across political and institutional boundaries. Jurisdictional lines do not define the geography at which the economy operates; there is no national, state, or city economy, but regional scale at which competitiveness driver assets are shared – workforce commutes, business networks, university access, transportation systems. Further, the economy relies on contributions of many

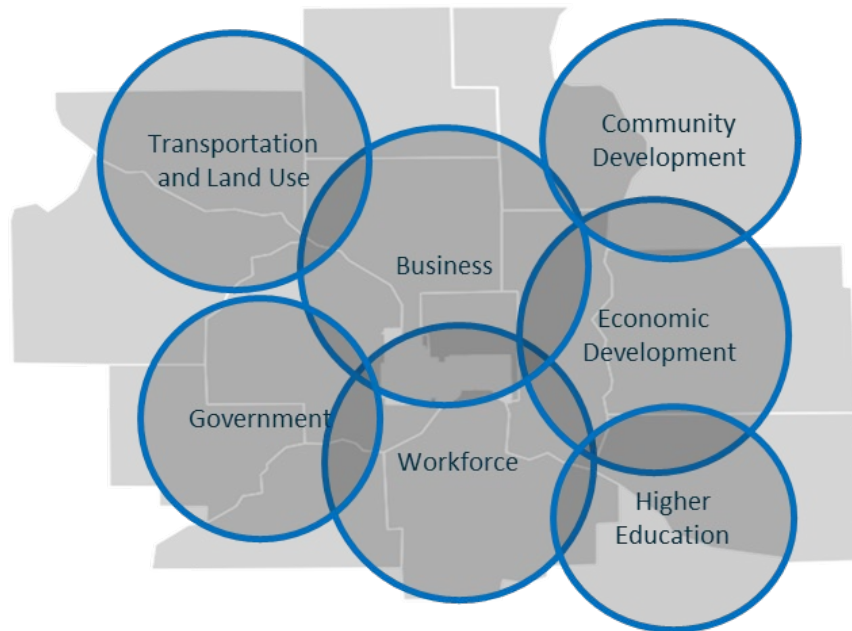
⁴ Sources: Fujita, Krugman, and Anthony, *The Spatial Economy*, 1999; Melitz and Trefler, "Gains from Trade When Firms Matter," 2012; "Interconnected Economies," World Trade Organization, 2013; Frankel and Romer, "Does Trade Cause Growth," 1999; Brookings, *10 Traits of Globally Fluent Metro Areas*, 2013.

actors across sectors with different institutional responsibilities and resources. Regional competitiveness depends on the capacity of private, public, and civic institutions to focus, marshal, and execute strategy and investment for a common economic development agenda.

DRIVERS OF ECONOMIC COMPETITIVENESS



CROSS-SECTOR ACTION AT THE REGIONAL SCALE



Source: Brookings: Remaking Economic Development; Brookings / McKinsey / RW Ventures

B3K Assessment Approach

The Brookings Advisory Team prepared an action-oriented research product based on a process carried between June and December 2020. It provides the evidence base and implications from which B3K participants can decide priorities and create interventions during the Strategy Phase in January through May 2021.

- **Quantitative analysis** examined more than 80 indicators of the region’s economic performance, drawing on data from a range of proprietary and public sources, anchored by a novel assessment of “Opportunity Industries” job quality and access.
- **Qualitative research** undertook individual interviews, six topically-focused roundtables, and other ongoing engagement that totaled more than 100 substantive contacts with government, community, and business stakeholders; in order to collect market insights, contextualize quantitative findings, inventory programs and pilots, and consider civic governance capacity. These contacts extended beyond the 150+ combined participants in Steering, Executive, and Research Committees.

In addition, the local Project Team led two distinct efforts to ensure the assessments reflected community input and voice: a scientifically-valid, County-wide public opinion survey conducted in Summer 2020 and a series of community engagement sessions in January 2021 focused on job quality and access.

Through the late summer and early fall, the Advisory Team previewed progress and analysis with stakeholders, receiving collective and individual feedback that informed or guided the process. For example, the Executive Committee as a whole set policy targets for reducing the share of working families that cannot achieve self-sufficiency in order to define the wage threshold for a “good job” used in the Opportunity Industries analysis. The Research Committee similarly provided perspective and input at various stages, including suggestions and context from supplementary analyses and data sources. Lastly, the Advisory Team conferred with consultants to the City of Bakersfield preparing a city-specific plan for an economic development function start-up and strategy, in order to ensure alignment in approaches.

Accounting for COVID-19:

B3K started to organize as the COVID-19 pandemic began. Amid a disruption of unknown duration and impact, undertaking a long-term regional economic strategy ran counter to the immediacy of severe disruptions for the region's residents, workers, and businesses – as well as the uncertainty about implications for mid-term recovery or permanent changes to how the economy trends. Data reflecting ten years of post-recession economic performance or twenty years of worker career movements seemed disconnected from current circumstances, yet no post-COVID data would be available or any indicator of future directions.

Yet, what drives regional competitiveness, how to measure economic success, and options to organize for economic development have not changed with COVID-19. Rather, the pandemic has exposed and reinforced the challenges of job quality, family self-sufficiency, and economic mobility. It also has accelerated prior trends in digitalization, automation, and logistics. Several prospective growth opportunities raised by the pandemic – remote work; manufacturing supply chain resiliency; the potential that some second-tier cities could be more competitive with larger hubs – are intriguing, but remain to be proven.

Like all disruptions – technological, natural, or economic – goals and principles still set the basis for response, forecasting is an educated guess based on evidence and experience, and adaptability to evolving circumstances is required. The objectives and challenges for Bakersfield and Kern remain the same, as do assets, liabilities, and longitudinal data that defines those strengths and weaknesses.

COVID-19 impacts are a consideration for inputs, but they do not reset the fundamentals of how to approach an inclusive economic development strategy for the region.

Kern County added jobs faster than the nation and projections, based on its industry mix

Kern County's recent job growth has outpaced the nation. Kern County's job base grew 23% over the 10 years from 2009 to 2019, from 278,000 to 342,000 jobs. This exceeded the nation's rate of job growth. The county entered and exited the Great Recession before the rest of the country and mounted a strong jobs recovery.

"Competitive shifts" account for about one-third of the county's job growth during this period. The national labor market grew 14.3%, and Kern County's specializations in faster-growing industries added another 1.1 percentage points to the county's job growth rate. However, Kern County's sectors added jobs at an even faster pace than the nation, accounting for the final 7.3 percentage points of the county's job growth.

These industries were able to add jobs at a faster rate than their national counterparts because of distinct local economic conditions that drove their growth and/or made them more competitive.

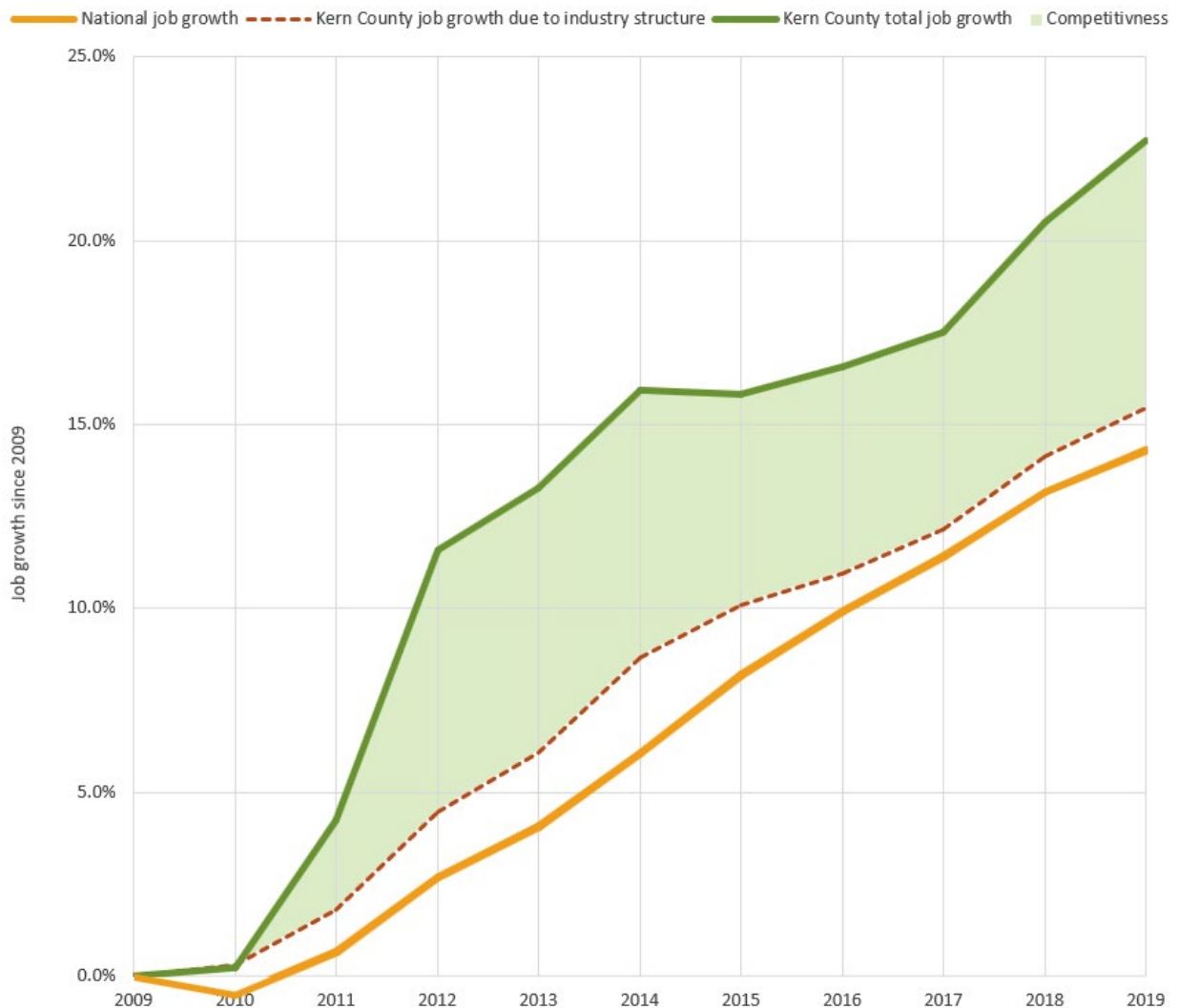
Kern experienced a brief recession in the middle of the last decade. The county's competitiveness was greatest during the early years of the recovery from the Great Recession, from 2010 to 2014. In 2015, the county's two largest traded clusters, agriculture and oil, saw simultaneous downturns that caused a brief recession within the County. Though much of the agricultural sector since recovered, the county's

food manufacturing cluster did not. The oil industry shed half its jobs from 2015 to 2017 and has remained stagnant.

The County’s labor market revived thanks to population growth, and a few high-growth sectors.

Though the county’s growth slowed from 2014 to 2017, it accelerated once more thanks in large part to increasing local demand, recovery of agricultural production, and the emergence of a transportation and logistics cluster. The following figure provides a summary of the data.

KERN COUNTY’S JOB GROWTH AND COMPONENTS OF CHANGE – CUMULATIVE FROM 2009 TO 2019*



* This chart displays the results of a dynamic shift-share analysis, which decomposes local job growth into three factors: national macroeconomic growth, national industry growth, and growth due to local competitive shifts. Source: Brookings analysis of Economic Modeling Specialists Intl. estimates and U.S. Clusters Mapping Project cluster definitions.

Tradable industries represent a small portion of the County’s performance

Kern County’s local-serving, traded, and public sectors all saw notable job growth from 2009 to 2019.

Traded sectors – industries that produce goods or services that are primarily sold to customers outside of the County – added nearly 25,000 jobs. Its locally-serving sector, which provides goods and services

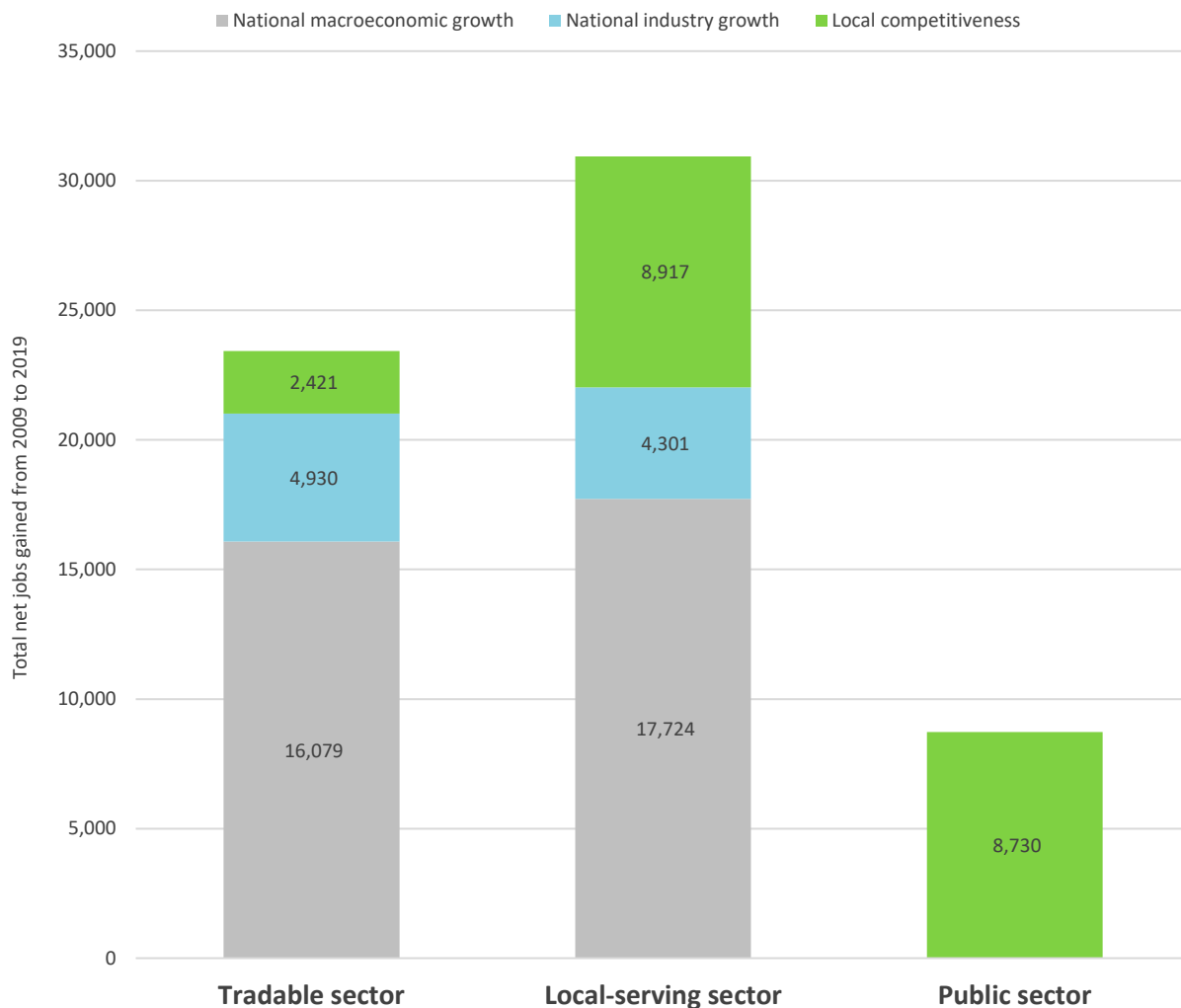
for consumers and businesses within the County, added nearly 37,000 jobs. The public sector, which includes federal civilian and military employment, added 8,700 jobs. The figure below provides a summary of the data.

The locally-serving and public sectors each far exceeded average national job creation during this period. Job growth in the locally-serving and government sectors netted the county close to 18,000 more jobs than expected. In fact, nationwide, the public sector shed jobs. Kern's public sector growth was driven not by its federal civilian or military installations but by state and local government and education, primarily within the city of Bakersfield.

Traded sectors were not as competitive. The sectors that export goods and services to bring new income into Kern County accounted for notable job creation over the decade and grew slightly faster than expectations. However, they accounted for far less total growth compared to locally-serving sectors at just 2,400 net jobs, representing only 12% of the county's performance in outpacing the national baseline.

This balance of growth and competitiveness raises concerns about the trajectory and resilience of Kern County's economy. Although the county looks very competitive on the surface, this analysis finds that traded sectors that typically drive regional economic growth actually are only slightly competitive compared to the national base and account for an only relatively small portion of the county's economic value.

KERN COUNTY'S JOB GROWTH BY SECTOR AND COMPONENT – CUMULATIVE FROM 2009 TO 2018*



* This chart displays the results of a dynamic shift-share analysis, which decomposes local job growth into three factors: national macroeconomic growth, national industry growth, and growth due to local competitive shifts. Source: Brookings analysis of Economic Modeling Specialists Intl. estimates and U.S. Clusters Mapping Project cluster definitions.

Local-serving clusters have grown much faster than the county's population

While traded sectors saw somewhat anemic growth, local-serving sectors realized significant gains. As referenced previously, this growth obscured deeper threats to competitiveness, while contributing to job quality challenges explored in more detail below and as noted elsewhere in this document.

Together, Kern County's local-serving clusters added over 34,000 jobs from 2009 to 2019—a growth rate of 30%. In 2019, these clusters accounted for 147,000 or 42% of jobs in Kern County.

The following figure provides a summary of the data.

These clusters cater primarily to local businesses and consumers. While critical to quality of life they do not bring new income into the county's economy and thus not drive its growth. Rather, local-serving clusters typically grow with the local population and the income of households.

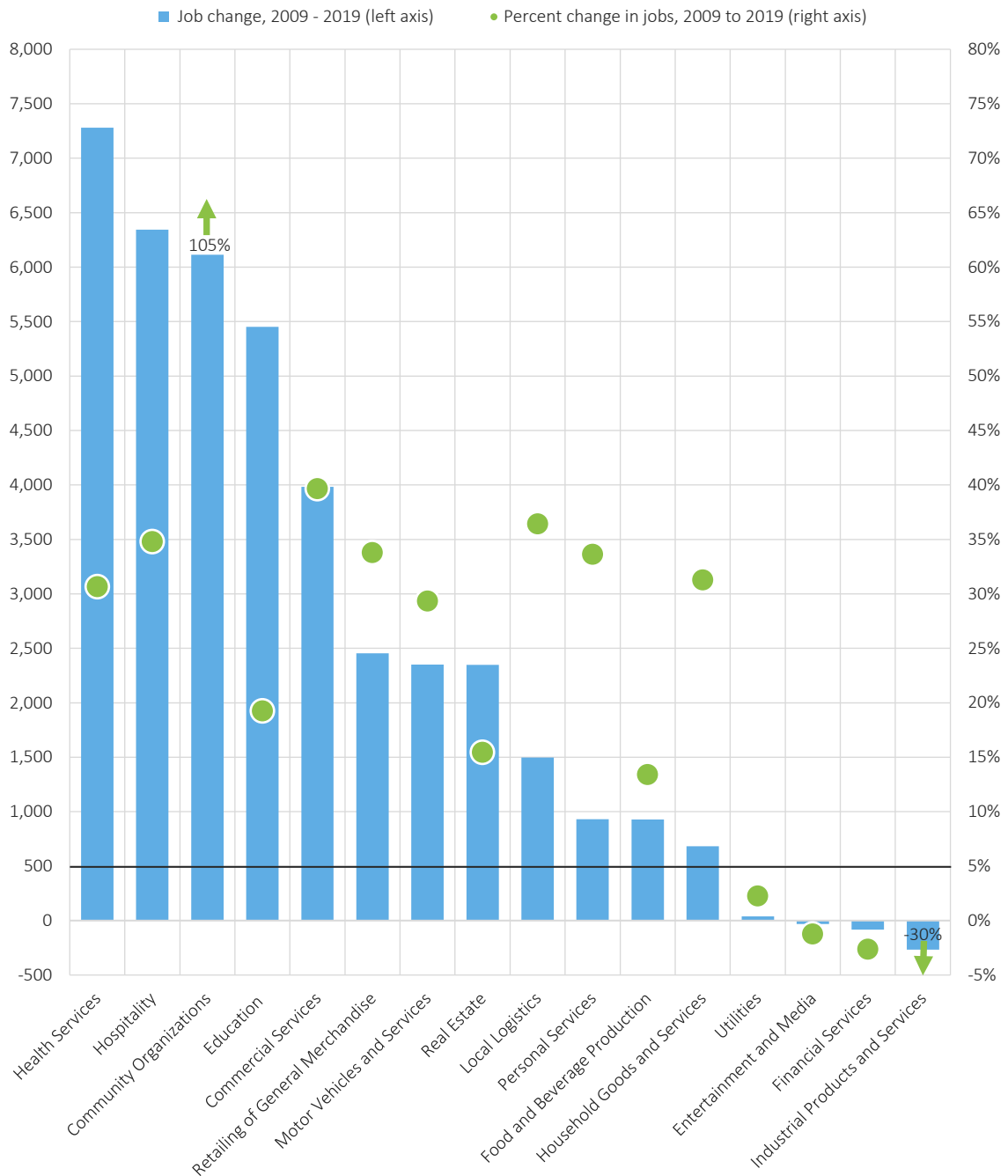
From 2009 to 2019, however, the growth of these clusters was more than triple that of Kern County's population growth during this period.

This reflects in part the rebound of the county's economy from the Great Recession. In 2009, the county's economy was in the depths of the recession. From 2009 to 2014, the country's economy rebounded and gained back many of the jobs it lost over the course of the recession.

Even so, the gap between the county's population growth and growth of its local-serving clusters is abnormal and indicates growing reliance on jobs in these clusters.

This pattern of growth also is concerning because locally-serving sectors disproportionately concentrate low quality jobs in regional economies. Frontline jobs in clusters like retail and hospitality and even many jobs in health care do not pay well and have unpredictable hours.

CHANGE IN JOBS WITHIN KERN COUNTY'S LOCAL-SERVING CLUSTERS, 2009 TO 2019



Source: Brookings analysis of Economic Modeling Specialists Intl. estimates and U.S. Clusters Mapping Project cluster definitions.

Regional industries mapped to cluster combinations show deficits in growth and specialization

Current sectoral specializations and growth patterns are a foundation on which to consider future economic potential.

To improve interpretation and application, the standard industry codes are grouped into “clusters” established by the U.S. Cluster Mapping Project that group related activities. These clusters are split by upstream and downstream functions, such as separating agricultural production from processing.

The resulting analysis shows selected clusters based on their concentration, competitiveness, and job counts. The clusters had at least 100 jobs in 2019 and met at least one criteria of:

1. adding jobs in Greater Bakersfield or East Kern from 2009 to 2019
2. competitive growth in Greater Bakersfield and/or East Kern from 2009 to 2019
3. location quotient greater than one in the County as a whole, indicating specialization

The extraordinary challenge for Kern is the lack of any sectors in the upper right quadrant – with both growth and specialization.

Agricultural production and oil drilling are so specialized and large in the region that they cannot be shown within the chart scales.

Aerospace-related manufacturing is somewhat understated in specialization because its concentration in East Kern is diluted within the county economy as a whole.

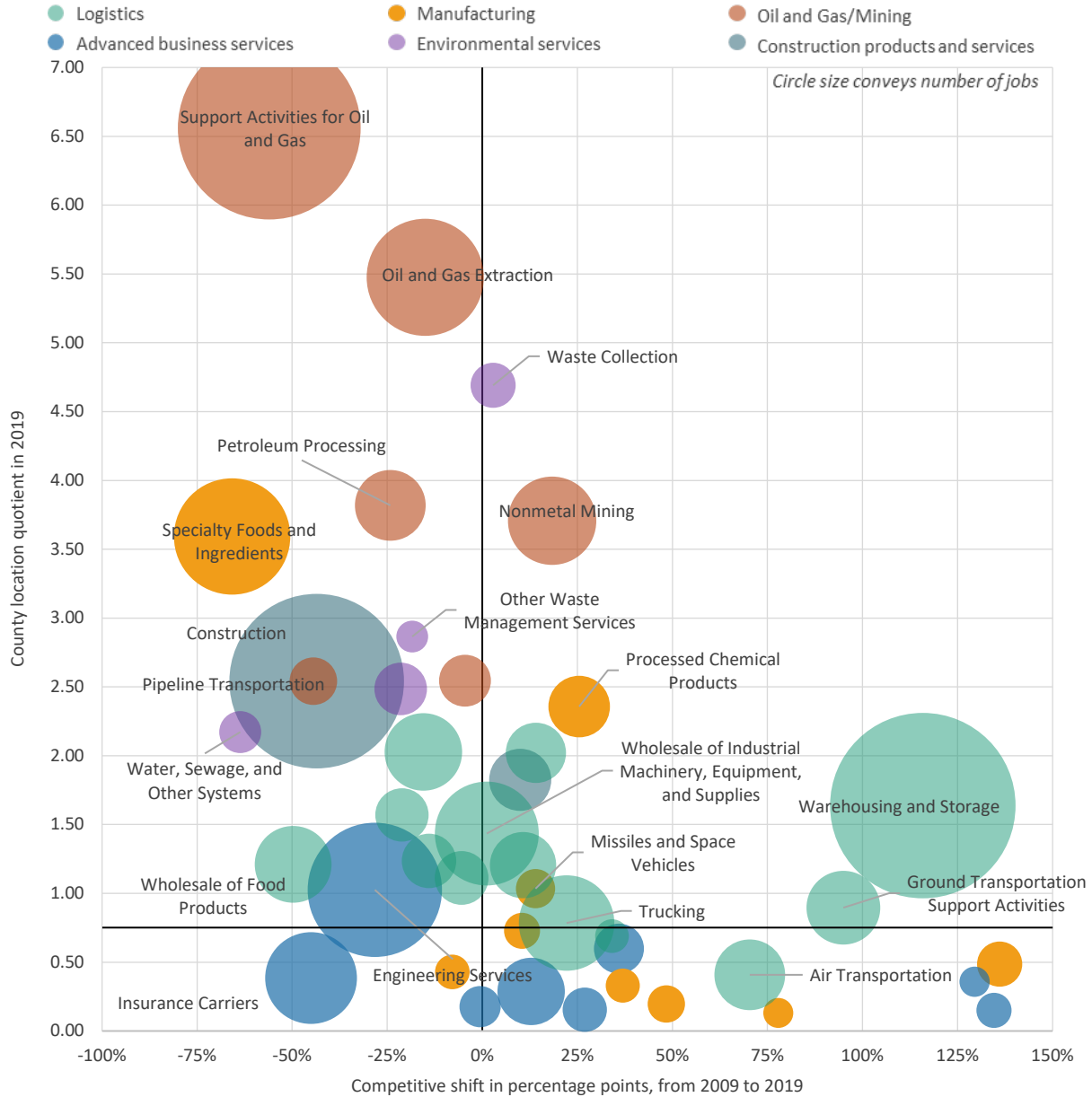
The region evinced very high growth and mild specialization in the logistics cluster, particularly in warehousing.

The logistics cluster also is defined to encompass wholesale trade, which also reflects regional production strengths. In combination, manufacturing subclusters emerge as either moderately specialized or increasingly competitive.

Business services experienced notable decline in some major clusters like insurance and engineering, and evinced no other specializations. Some hints of emerging potential appear for narrow categories based on fast growth off a low base.

The following figure provides a summary of the data.

CONCENTRATION AND COMPETITIVENESS OF SELECTED TRADABLE SUBCLUSTERS IN KERN COUNTY



* This chart displays the results of a dynamic shift-share analysis, which decomposes local job growth into three factors: national macroeconomic growth, national industry growth, and growth due to local competitive shifts. Source: Brookings analysis of Economic Modeling Specialists Intl. estimates and U.S. Clusters Mapping Project cluster definitions

Agriculture and logistics accounted for most of the region's ten-year traded sector growth

The region's tradable sector competitive performance derived almost entirely from agriculture. The agricultural cluster, which contains farms and farm services, is Kern's largest beside government. It grew twice as fast as the national agricultural cluster, adding nearly 12,700 more jobs than expected, for a total of 65,000 jobs; these gains account for basically all of the region's traded sector expansion. As Kern's largest private-sector cluster in terms of jobs, it represents a share of regional employment that is almost 22 times larger than agriculture represents in the U.S. economy as a whole.

The logistics cluster was the only other notable industry contributing to Kern County's traded sector competitiveness. However, competitive shifts in the transportation, distribution, and electronic commerce clusters only netted a combined 900 jobs during this period, or 7% of the agriculture impact.

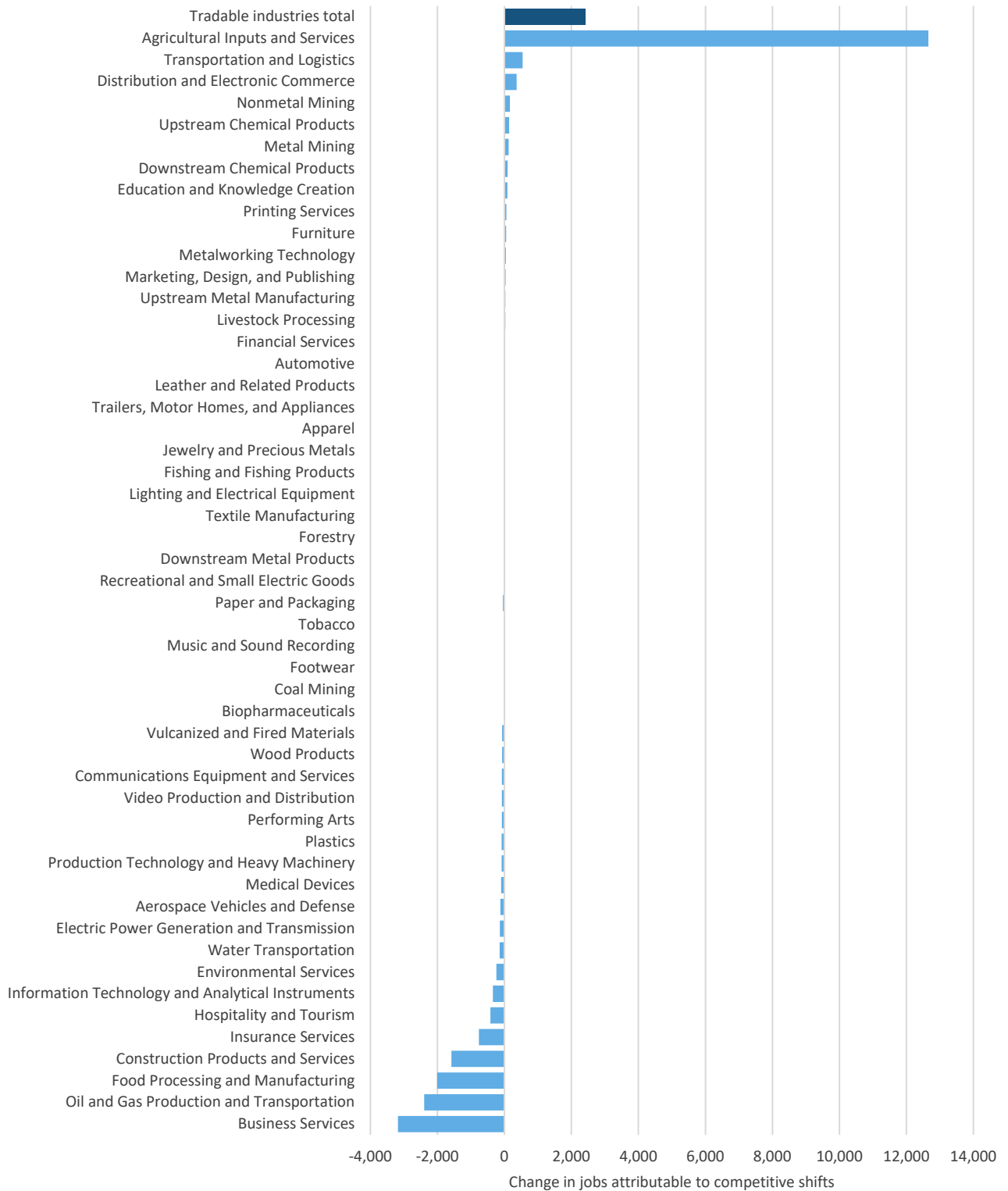
The competitiveness of regional agriculture and logistics was offset by oil and gas and food processing clusters. These two clusters are pillars of the county's traded sector jobs, but they grew slower than national baseline. In fact, they lost a combined 4,400 jobs over ten years.

The knowledge-intensive business services cluster lost jobs, against macro trends. This cluster grew nationwide but shrank in Kern County. Within business services, the competitive deficits of insurance, computer, and engineering services subclusters cost the greatest number of jobs. These subclusters concentrate especially large numbers of highly educated workers and support other quality mid-skill jobs.

The aerospace cluster did not show its competitive advantage against other regions. While masked by the scale of the overall county economy, the aerospace cluster is distinctive, and very significant to the East Kern economy and the entire county's R&D capacity. Although its existence is built on unique assets, it did not outperform general trends overall. Defense and space subclusters were competitive but offset by a decline in aircraft manufacturing.

The following figure provides a summary of the data.

LOCAL COMPETITIVE SHIFTS IN KERN COUNTY'S TRADABLE CLUSTERS – CUMULATIVE FROM 2009 TO 2019



* This chart displays the results of a dynamic shift-share analysis, which decomposes local job growth into three factors: national macroeconomic growth, national industry growth, and growth due to local competitive shifts. Source: Brookings analysis of Economic Modeling Specialists Intl. estimates and U.S. Clusters Mapping Project cluster definitions.

The region's largest tradable clusters confront serious market headwinds

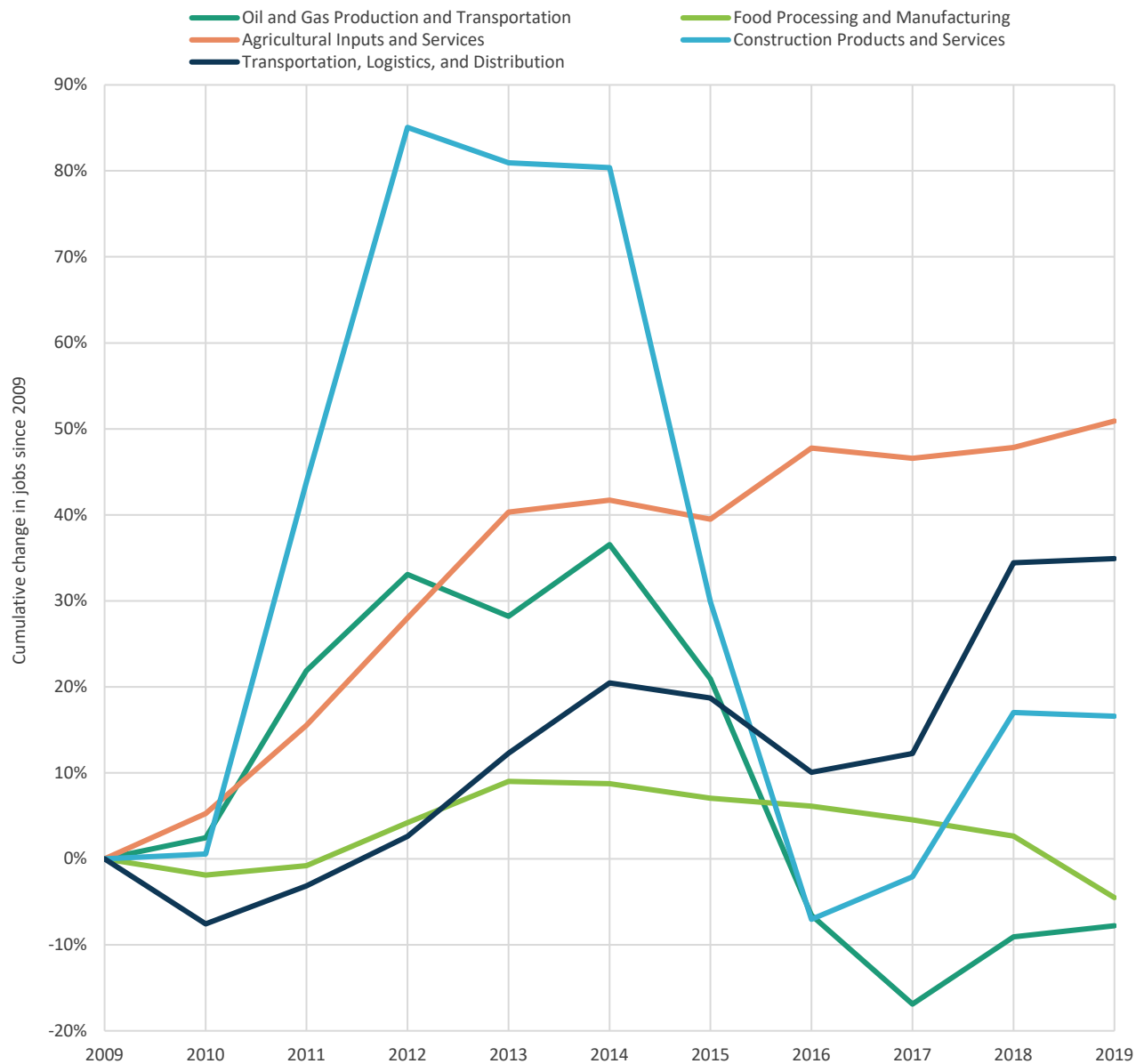
These performance reviews suggest that significant parts of Kern County's economy reached an inflection point in the middle of the last decade. Underneath the positive growth picture, the region's faster-than-average job creation was dependent largely on a massive expansion of its agricultural sector in the aftermath of the Great Recession, the more recent emergence of a logistics cluster expanding from southern California, and rapid increases in state / local government and education employment. The following figure provides a summary of the data.

Meanwhile, oil and gas and food manufacturing have become less competitive or stagnant. The decline of these clusters is particularly troubling because they account for so much new regional income from the sales outside the county, as well as employment; oil and gas in particular generates an extraordinary number of quality jobs accessible to low-skill and mid-skill workers.

Changing global economic conditions, external competition, consumer preferences, and regulatory policies, will further test Kern County's economy. Combined, these external forces will continue to challenge many of the industries and clusters on which the Kern economy has traditionally relied and may accelerate their decline. The effects of environmental policies, water management, and general business climate raise resiliency and adaptation issues for the oil and gas and agricultural sectors. Aerospace in East Kern faces new intrastate and national competitors for operations.

Kern County needs new growth engines. The county can seek to leverage the strengths and momentum it has in legacy clusters to shore up competitiveness where possible. However, it also needs to pursue moving those sectors up the value chain; expanding into adjacent industries; and promoting emerging clusters that are the future of the U.S. economy, reflecting more innovative and value-added activities.

KERN COUNTY'S JOB GROWTH IN MAJOR EMPLOYMENT CLUSTERS (EXCLUDING AEROSPACE), 2009-2018



Source: Brookings analysis of Economic Modeling Specialists Intl. estimates and U.S. Clusters Mapping Project cluster definitions.

Oil and gas talent adjacency show knowledge and skill strengths that support new specializations

Talent adjacency analysis for Kern looked broadly across all sectors for potential hidden competencies and connections. That review gauged where Kern's traded sectors have greater concentrations of expertise in technical knowledge or applied skills – and accord them more value– compared to a baseline of U.S. traded sectors in the aggregate.

The assessment also specifically examined sectors of particular interest. For example, the analysis targeted assessment of regional workforce knowledge and skills for sub-sectors identified as emerging based on growth trends, such as manufacturing and business services. These reviews were scored for a

combination of talent overlap and correlation, with a strong adjacency indicated if in the mid-90th percentile and weaker in the 80th percentile or below. Those factors were applied to the future sector review matrices.

Additionally, the analysis focused specifically on the question of oil and gas workforce, where displacement already has occurred and is forecasted to continue based on market and regulatory forces.

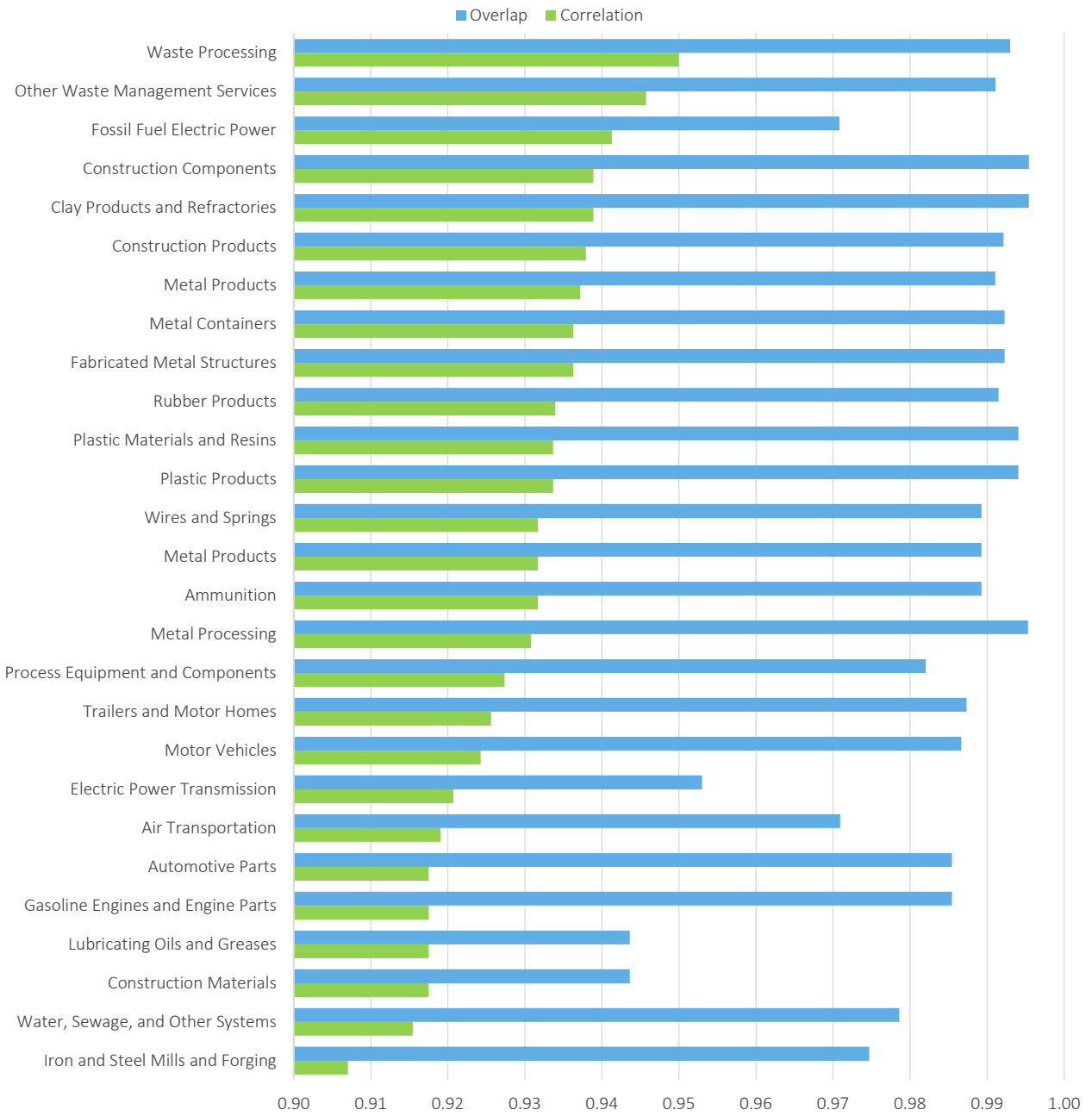
The research determined that the workforce is well-suited for jobs in several other clusters, including those where Kern features other advantages for economic development efforts.

Unsurprisingly, the region's existing oil and gas sector has a reasonably high correlation of human capital needs with several other sub-sectors where Kern does not currently have especially large numbers of jobs but share core knowledge and skills, such as aspects of manufacturing, construction, and utilities clusters where advanced mechanical skills, spatial abilities, and physical abilities are most critical.

To an even greater degree, the region's oil and gas workforce capabilities can substantially fulfill demands in other clusters with high overlap scores, indicating a very strong alignment with many manufacturing specializations.

The following figure provides a summary of the data.

CLUSTERS THAT HAVE THE MOST SIMILAR HUMAN CAPITAL NEEDS TO OIL AND GAS



Source: Analysis of O*Net data and Economic Modeling Specialists Intl. estimates.

G. Industry Targets

Screening Analysis

Agriculture Cluster

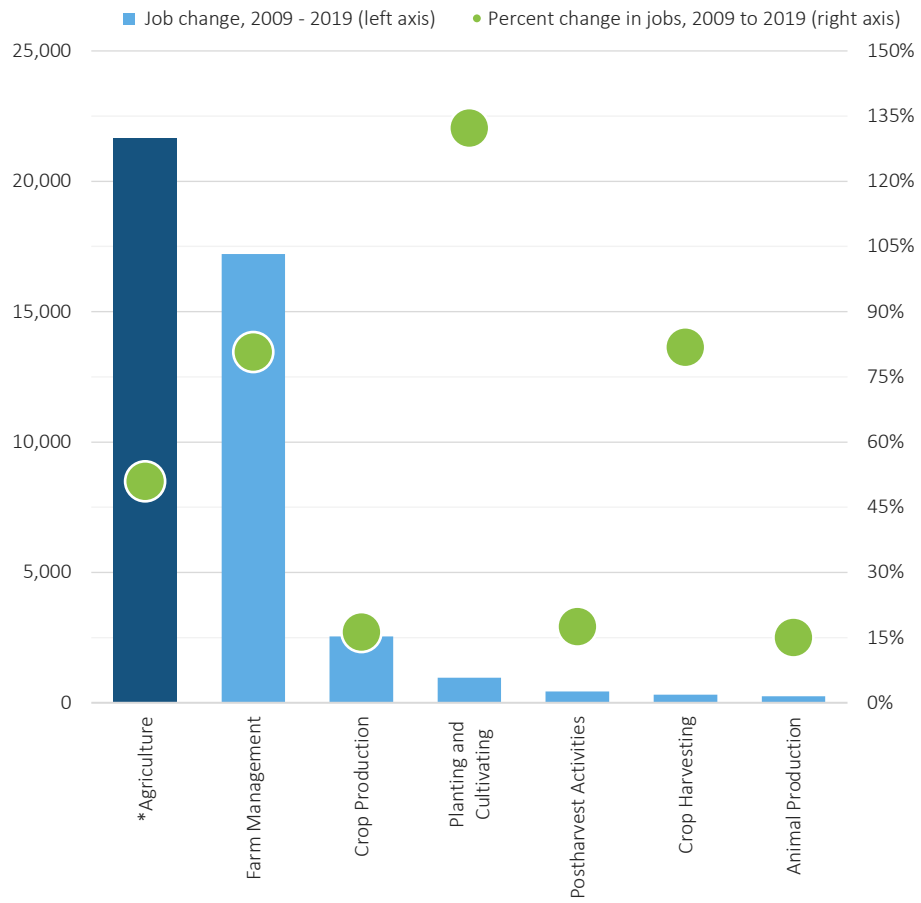
Rapid job growth in agricultural commodity production – accounting for 21,600 new jobs over the past decade – obscured problems in the region’s smaller, but higher-value, food processing and manufacturing cluster.

Agriculture’s expansion was driven by farm management, a subcluster that contains companies that provide labor and crop cultivation and harvesting services to farms. A smaller number of jobs were added directly by farms in the crop production, planting, cultivating, and harvesting subclusters. This job growth suggests the cluster is thriving in Kern County amid regulatory and water challenges, and may be evolving toward more labor-intensive crops. However, agricultural jobs are low-paid, meaning this growth likely is not supporting efforts to ensure that more Kern residents can access higher-quality, family-sustaining jobs.

Food manufacturing historically has been a specialization of the County economy, with twice the concentration of employment as in the U.S. as a whole. However, while the sub-sector actually added jobs nationwide during this period, Kern’s cluster experienced considerable churn, as certain parts (e.g., specialty food manufacturing, baked goods manufacturing, and wineries) lost jobs while others (e.g., packaged produce and smaller beverage and dairy subclusters) gained. Several of the declining areas are some of the highest value-added portions of the food manufacturing cluster, although specialty foods remains a large subcluster with around 1,700 jobs.

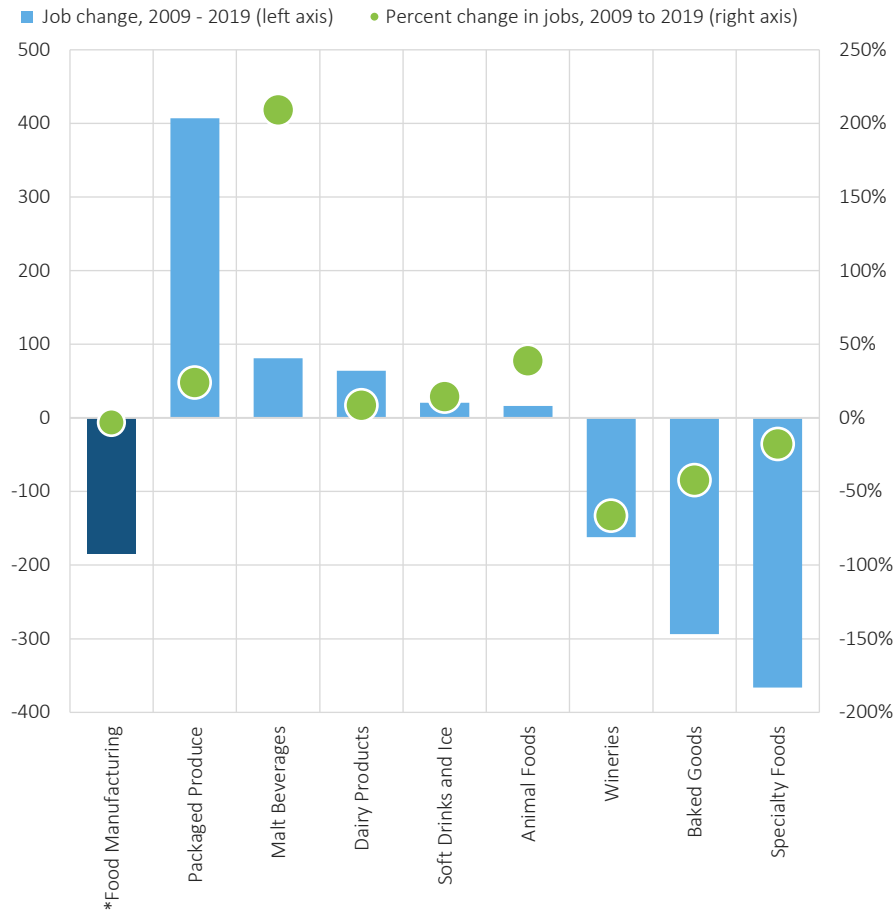
The following figures provide a summary of the data.

CHANGE IN JOBS WITHIN KERN'S AGRICULTURE CLUSTER, 2009 TO 2019



Source: Brookings analysis of Economic Modeling Specialists Intl. estimates and U.S. Clusters Mapping Project cluster definitions.

CHANGE IN JOBS WITHIN KERN'S TRADABLE FOOD MANUFACTURING CLUSTER, 2009 TO 2019



Source: Brookings analysis of Economic Modeling Specialists Intl. estimates and U.S. Clusters Mapping Project cluster definitions.

Options for higher-value agricultural activity and better jobs are limited

Despite the outsized performance of the agricultural production sector, pressure from state groundwater management constraints, potential for automation, and low job quality force a strategic question: whether this agriculture base can be leveraged into other more enduring aspects of the value chain with better quality jobs.

Unfortunately, the region's underdeveloped innovation assets, as noted elsewhere in this document, vis-à-vis competing, first-mover regions, complicate ambitions to evolve into either new agri-food tech products or services to be used locally and exported (e.g., plant or animal sciences, robotics, precision agriculture, supply chain control) or water management innovations.

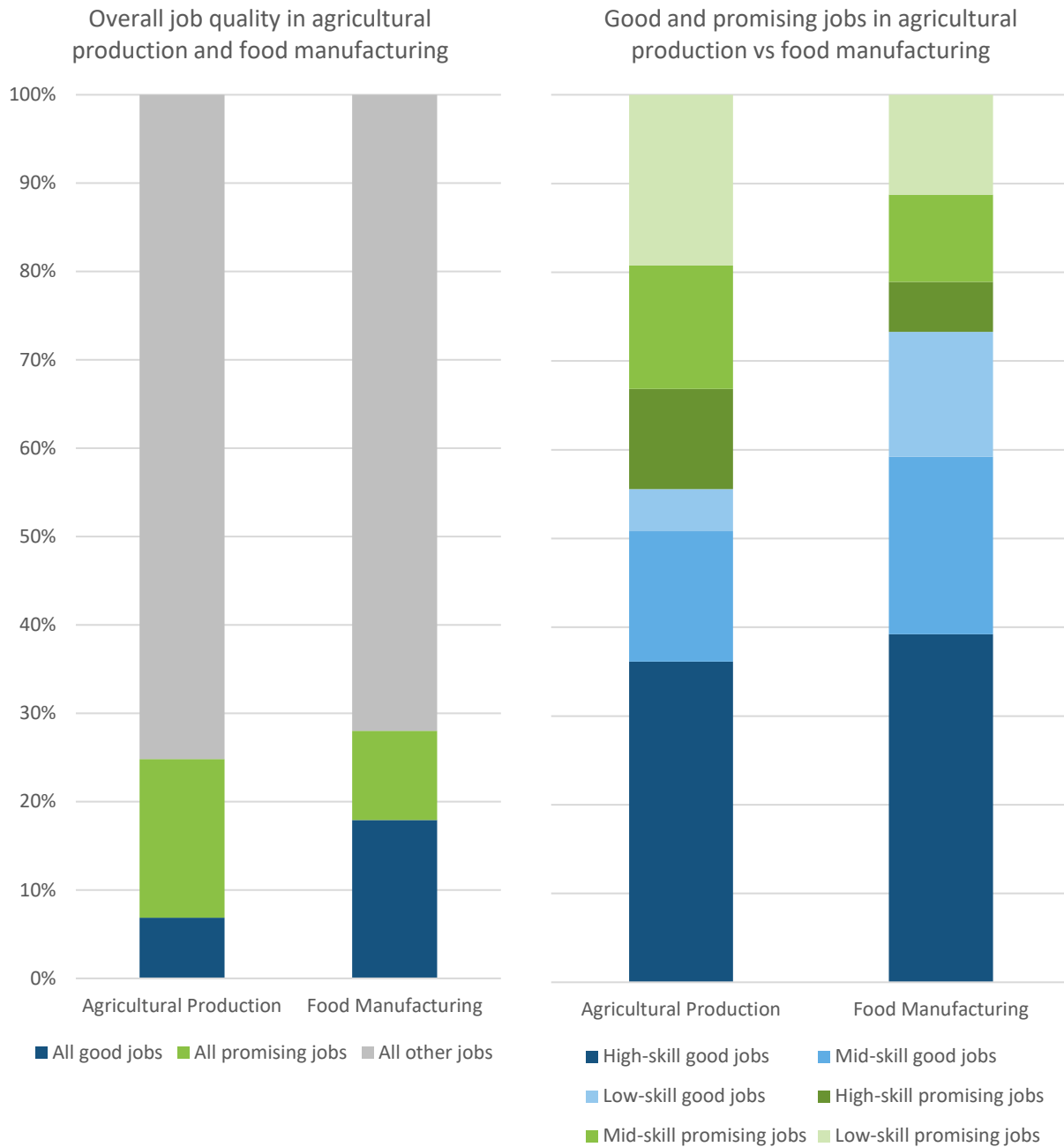
Notwithstanding high impact research concentrations in basic agricultural disciplines like entomology, horticulture, veterinary services, and agronomy, Kern does not have novel convergence or any comparative advantage to other established specialized agricultural hubs.

Meanwhile, despite expertise in pumps, an evaluation of the business base; innovation map and physical assets; and competing water tech, management, and policy centers did not uncover a strong foundation for a water management niche.

The alternative is finding more areas within “value-added agriculture” that differentiate from commodity production, which could range from growing organic to making carrots into hot dogs, rice, and pasta.

Only reinforcing and expanding food manufacturing, reversing current trends, offers some opportunity within this category. While slightly below-average in job quality against other sectors, food manufacturing generates better quality jobs than agricultural production, as well as higher multiplier effects of between 2.5 and 5.0 for indirect and induced jobs. Skills adjacency between the sub-sectors is strong. Therefore, food manufacturing provides good jobs across skill levels and can upgrade overall job quality. The following figure provides a summary of the data.

FOOD MANUFACTURING OFFERS HIGHER JOB QUALITY THAN AGRICULTURAL PRODUCTION



Source: Brookings Opportunity Industries analysis. This methodology is introduced and presented in more detail elsewhere in this document. Information on economic multipliers from Economic Policy Institute, Updated employment multipliers for the U.S. economy, 2019.

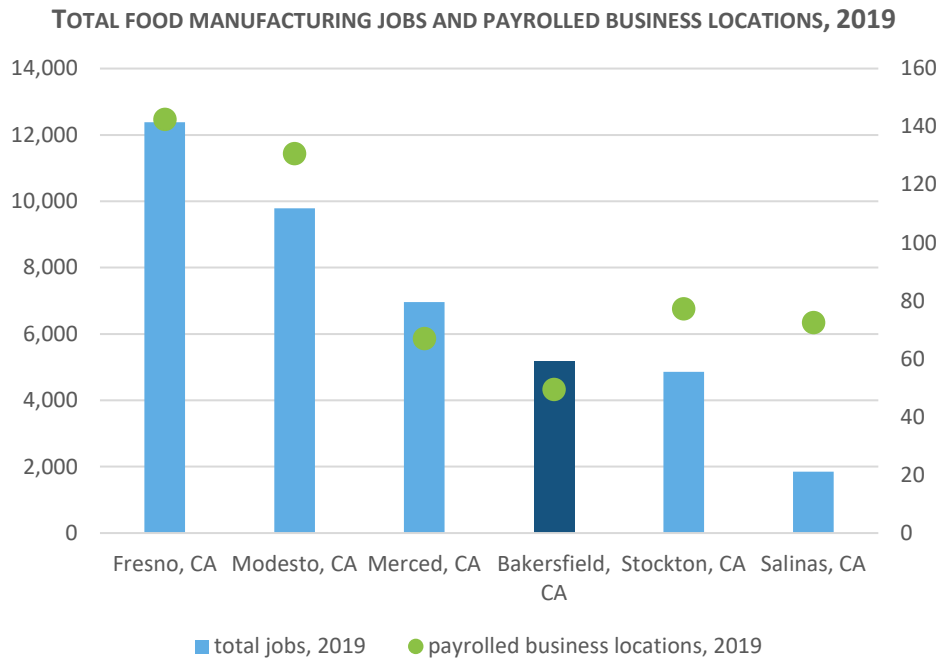
Though less present than in comparable California agricultural regions, food manufacturing has potential

The scale of Kern’s food manufacturing jobs and firms is notably behind comparable California agricultural production regions in terms of absolute numbers and intensity. Despite leading the San Joaquin Valley in growing commodities, it lags other regions in converting those into value-added food

products. Still, the region has a location quotient of 1.76 and is base to some large, nationally-recognizable firms. The figures below provide a summary of the data.

One factor for the location of food production activities depends on value-to-weight and perishability. Those that are low in both categories typically are regionalized in multiple locations (e.g., soft drink bottling), while those that are high may be manufactured more centrally in fewer places.

With the region’s other locational elements and talent base, this suggests untapped potential for spurring more food manufacturing activity as a straightforward economic development opportunity that meets job quality and access objectives. It also relates to other manufacturing strengths for the region.



Source: Analysis of Economic Modeling Specialists Inc., 2020



Source: Analysis of Economic Modeling Specialists Inc., 2020

Opportunity for food innovation and R&D appears more limited. A few local firms also have internal research and development capabilities to make entirely new products, with their own food scientists, research chefs, and process engineers. Additionally, the innovation ecosystem mapping noted elsewhere in this document uncovered a node of food science technology expertise, but it is too small to rank anywhere on the impact index.

However, no strong evidence emerged from the analysis that the region has existing assets to be positioned more broadly as a hub of food manufacturing product or process innovations that could spin off significant new commercial opportunities, whether in products or services. Large food and beverage companies tend to centralize their own research and development at headquarters, whether in products, production, or packaging. Without that presence to build on, the basics of universities with strong research and development in food processing innovation, or even a public test kitchen, it is difficult to spur dynamic new firms within the market.

Therefore, the most accessible opportunity is simply looking to expand existing or attract other food manufacturing activities.

Within food manufacturing, occupational growth narrows potential focus

Within food manufacturing, the largest occupational categories are packaging and hand laborers, offering a variable mix of job quality.

The interesting dynamic for the Kern region is the disproportionate prevalence of food batchmakers, with slightly higher job quality and value. Additionally, regional growth in this category has been dramatic over the past decade.

The following figures below provide a summary of the data.

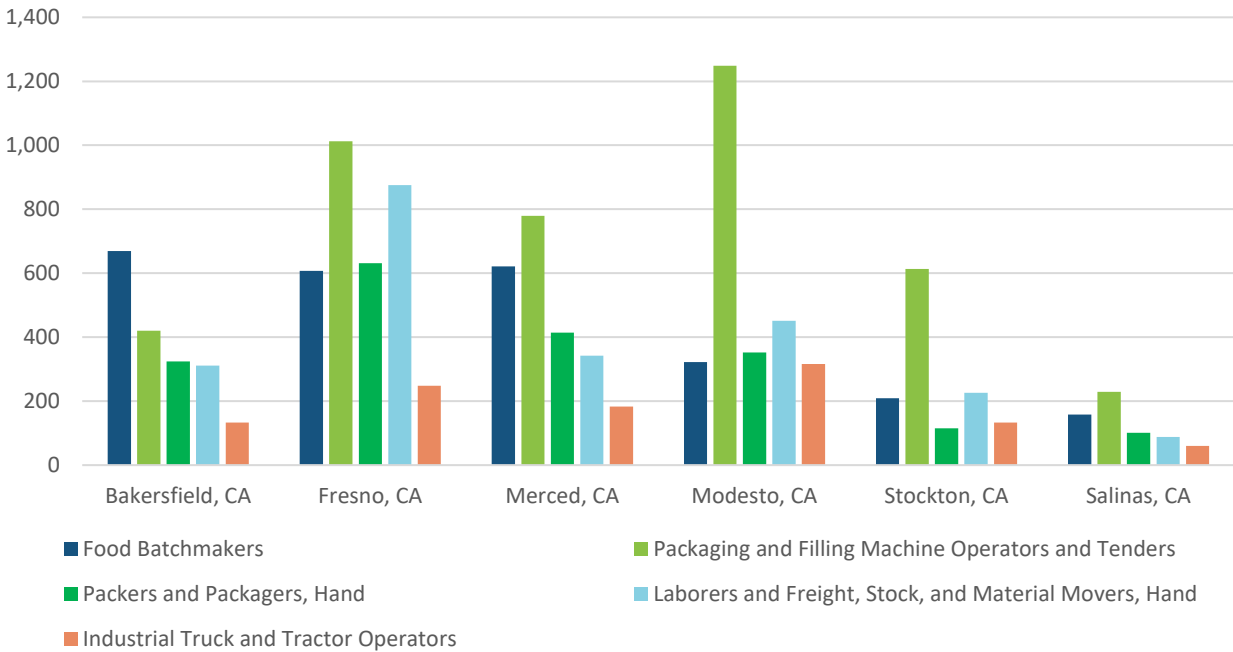
This reinforces the potential to target specialty food manufacturing in plant-based protein and beverage alternatives, confectionary, snack foods, and traditional activities. However, without adding innovation assets, the primary appeal is specifically targeting southern California companies to place their production activities in Kern for regional distribution.

CHANGE IN TOP FOOD MANUFACTURING OCCUPATIONS IN COMPARABLE CALIFORNIA AGRICULTURE PRODUCTION REGIONS, 2009-2019



Source: Analysis of Economic Modeling Specialists Inc., 2020

TOTAL JOB COUNTS FOR TOP FOOD MANUFACTURING OCCUPATIONS IN COMPARABLE CALIFORNIA AGRICULTURAL PRODUCTION REGIONS, 2019



Source: Analysis of Economic Modeling Specialists Inc., 2020

Kern's oil and gas industry is confronting significant market and regulatory pressures

Oil and gas has been a primary driver of Kern County's economy, representing six times the concentration of employment compared to the U.S. as a whole, providing good jobs and economic mobility to many workers with very low educational attainment.

However, changing market conditions and State regulations aiming to meet ambitious climate change targets have severely impacted the industry and challenge its future growth in the region.

Since the market-driven collapse in oil prices in 2015, the cluster has shed a considerable number of jobs. The cluster's job counts are down 10% compared to 2009, but down closer to 33% compared to 2014. The rate of cluster job losses in Kern notably exceeds that of the U.S. baseline. The following figure provides a summary of the data.

These declines have hit every sub-sector of the cluster except drilling wells, which may represent a short-term push in anticipation of market and policy shifts. Most troublingly, support activities for oil and gas – which contains many of the region's uniquely-talented, highly-educated engineers and executives – declined the most in absolute terms.

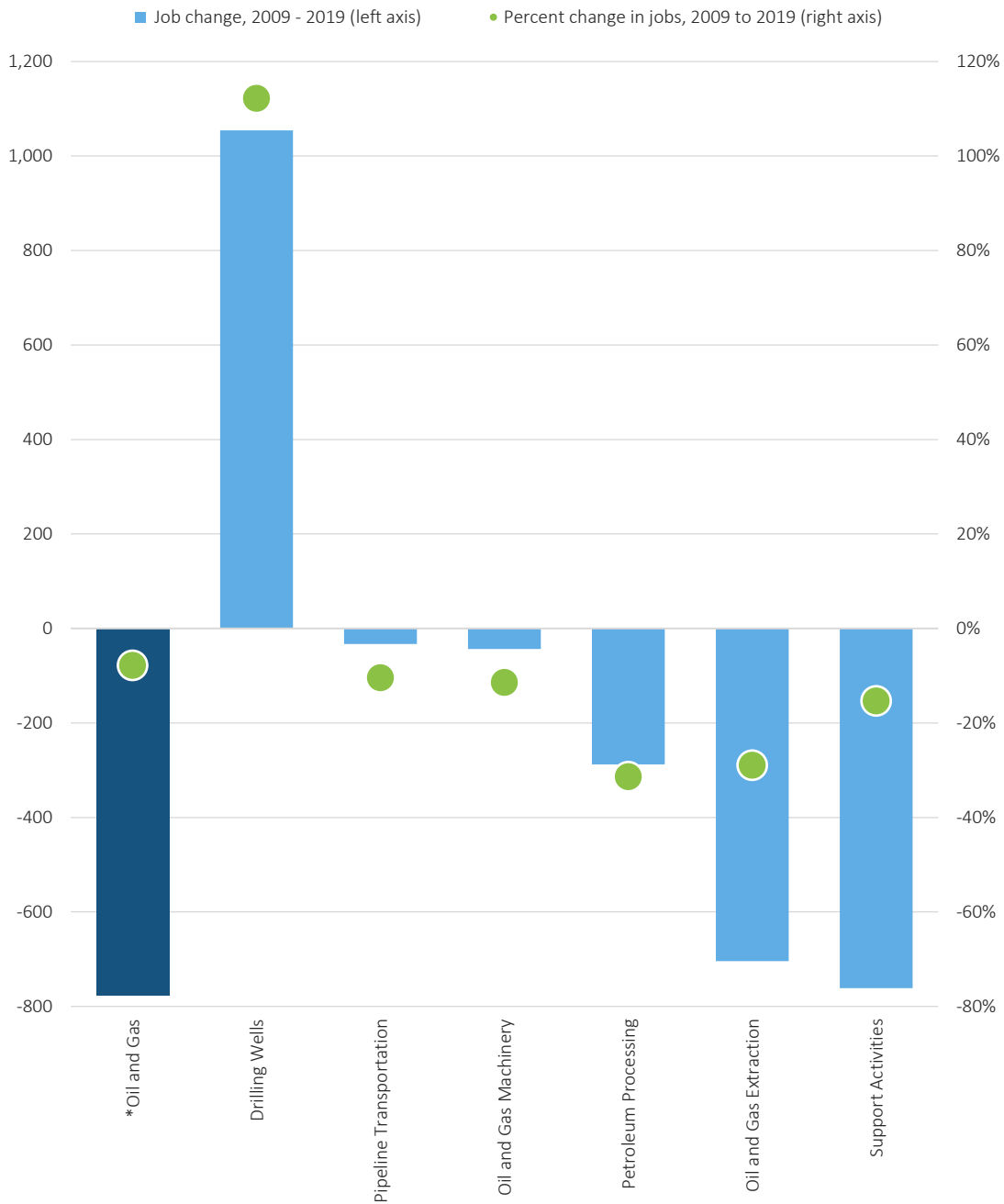
The decline of the oil and gas industry represents a significant shock to both Kern's economy and its identity. In addition to generating wealth, tax revenue, good jobs, and global connections, the industry has been a source of regional pride and international recognition.

Business leaders describe the last 15 years of State regulatory actions as fueling an either-or perspective between environmental goals and economic impact, resulting in postures centered on preservation versus elimination rather than finding ways to achieve both outcomes.

Even in the renewable fuels and carbon management sector, business leaders note a “stigma” around the industry that impedes collaboration to achieve environmental objectives while also grappling with economic development reality.

Moving beyond this frame will require new cooperation and partnership between the region and the State to encourage investments and policy certainty -- building off existing energy assets and expertise in ways that grow related value-add businesses and enduring, accessible jobs.

CHANGE IN JOBS WITHIN KERN COUNTY'S TRADABLE OIL AND GAS CLUSTER, 2009 TO 2019



Source: Brookings analysis of Economic Modeling Specialists Intl. estimates and U.S. Clusters Mapping Project cluster definitions.

Existing energy capabilities provide a foundation for new sub-sectors, innovation, quality growth

Challenges in the oil and gas cluster do not necessarily spell the end of the region's distinctive foothold in energy based on its DNA.

Recent opportunities for Kern County centered on expansion of renewable energy production with wind and solar energy installations in East Kern, such as the Tehachapi Storage Project, Alta Wind Energy

Center, and BHE Renewables's Solar Star Project. While these major facilities have generated construction jobs and visibility for the region, renewable energy generation has not been a large source of longer-term, durable job creation. Solar energy production added net 60 jobs off a small existing base, and wind power actually shed jobs in recent years. This sub-sector is no replacement for the scale of oil and gas production. The following figure provides a summary of the data.

Other opportunities, more directly leveraging the region's legacy oil and gas strengths, may offer greater opportunities for growth.

First, the region has experienced notable expansion of and external investment in **renewable biofuels production and innovation**, such as firms repurposing existing refineries for biodiesel to supply the State and primes (e.g., Global Clean Energy Holding, Kern Oil and Refining). These firms are developing and testing new production technologies and processes. Fostering further renewable fuels production and industry-leading commercialization of technologies and processes for export could be a distinctive niche, spurred by State policy and market demand.

Second, **other renewable fuels and energy production, including hydrogen and agricultural or woody biomass** can be further adjacent industries that fit Kern's energy foundations, alongside supportive research, practice, and policy interests of the state.

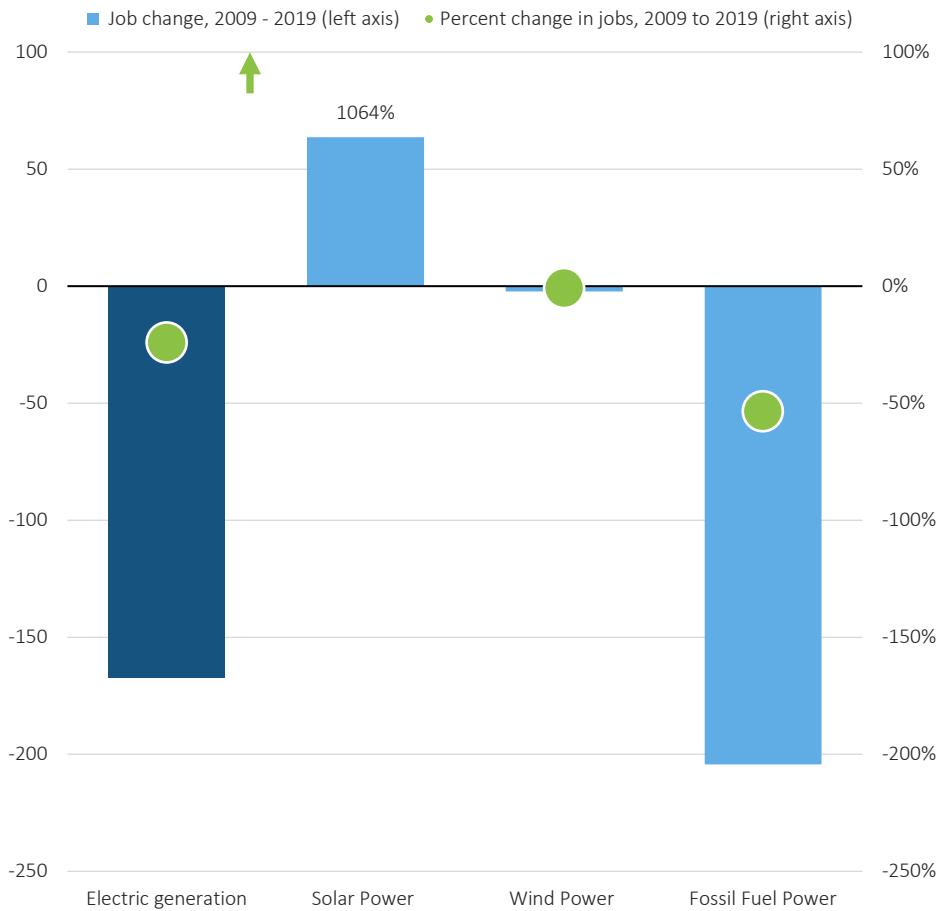
Third, **carbon capture and storage (CCS) development** represents a globally-significant opportunity for which the region is uniquely positioned – proving and scaling the function, and innovating products, processes, and services for export. Talent and industry adjacency analyses affirm that CCS matches the region's capabilities. Both multinational and regional energy companies present in Kern are investing enormous effort in this area. Efforts like CRC seeking to demonstrate the CCS technology at Elk Hills Field could be the basis for a cluster initiative versus a stand-alone project. No other location in California, or nationally, fully occupies this space.

Even Kern County's comparatively low innovation capacity shows strength and convergence in related geological and engineering disciplines, as well as China Lake biofuels research. Still substantial investments in research and development capacities will be required for these possibilities to succeed. Nascent work by CSU Bakersfield in establishing an Energy Research Center and Bakersfield College connecting the National Renewable Energy Laboratory to the region are examples of required assets, but need to be integrated and augmented.

In addition to potential investments, State policy support that enables greater industry certainty and navigates complex, fragmented regulatory authorities are likely also required to enable proof of concept and scale.

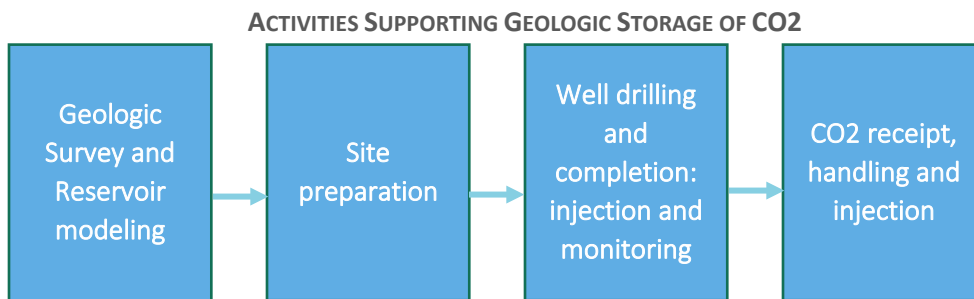
These options require additional examination and market-testing and are not guaranteed to be the equivalent of oil and gas at its scale of employment and revenue. Nonetheless, they reflect potentially significant opportunities to evolve and repurpose Kern's legacy strengths.

CHANGE IN JOBS WITHIN KERN COUNTY'S TRADABLE ENERGY GENERATION CLUSTER, 2009 TO 2019



Source: Brookings analysis of Economic Modeling Specialists Intl. estimates and U.S. Clusters Mapping Project cluster definitions.

Carbon capture and storage show strong adjacencies to regional industry and talent assets



Although not entirely new, potential in carbon capture and storage is a growing area of focus for California and international environmental policy-makers, given expert views that removal and storage of carbon will be required to achieve climate change objectives. Research and investment in CCS options in the U.S. and internationally, along with pilot installations for commercial applications, are growing substantially.

However, debate over CCS potential for carbon management and achieving carbon neutrality is unsettled. While technological advancements are less an issue, market feasibility and cost structures are

uncertain, heavily dependent on federal and state government regulation, policy, and tax credits or subsidies. Environmental justice advocates raise possible opposition to CCS regarding impacts related to groundwater and water use, potential leaks, life-cycle emissions, and neighbor and worker conditions.

Additionally, the extent of durable long-term job creation after installations is not definitive, although expert consultation indicates substantial extended mid-term opportunities through scale-up and significant ongoing requirements.

Notwithstanding these ambiguities, the potential for Kern to take advantage of CCS opportunities is reinforced by analysis of industry and talent adjacencies. Studies by the RAND Corporation and others have identified industrial and occupational functions required by the sector for capture and storage in geological formations. These evaluations determined that activities to support the CCS industrial base are largely shared with the oil and gas sector (see the table below for reference). Beyond overlapping industrial categories, there are 37 occupations that correspond to CCS and are aligned with capabilities present in the region, such as: Mining and Geologic Engineers, Mining Safety Engineers (17–2151), Petroleum Engineers (17–2171), Geologic and Petroleum Technicians (19–4041), Service Unit Operators, Oil, Gas, and Mining (47–5013), Petroleum Pump System Operators, Refinery Operators, and Gaugers (51–8093).

INDUSTRIAL SECTORS RELEVANT TO THE BASE FOR CCS, SPECIFICALLY GEOLOGICAL STORAGE

NAICS	Industry Classification
213111	Drilling Oil and Gas Wells
213112	Support Activities for Oil and Gas Operations
541360	Geophysical Surveying and Mapping Services
333132	Oil and Gas Field Machinery and Equipment Manufacturing
331210	Iron and Steel Pipe and Tube Manufacturing from Purchased Steel
332420	Metal Tank (Heavy Gauge) Manufacturing
333911	Pump and Pumping Equipment Manufacturing
333912	Air and Gas Compressor Manufacturing
532412	Construction, Mining, and Forestry Machinery and Equipment Rental Leasing

Source: RAND Corporation, The Industrial Base for Carbon Dioxide Storage: Status and Prospects

Kern County’s aerospace cluster requires strategic action to maintain and leverage competitiveness

Home to Mojave Air and Space Port, Edwards Air Force Base, and China Lake Naval Air Weapons Station, East Kern County contains some of the world's leading public and private aerospace and defense assets. Yet this alone is not enough to ensure the success of the region's aerospace cluster amid serious global competition.

Aerospace manufacturing generally has seen uneven growth in recent years. The U.S. airplane and aircraft parts industry has struggled as supply chains have globalized and the industry became increasingly reliant on non-metal materials.

In Kern, traditional aircraft manufacturing has declined, but the aerospace cluster as a whole was buoyed by more niche and higher value-added subclusters related to high-altitude navigation technologies, defense, and space vehicles. In some cases, Kern's aircraft job losses were attributable to relocation across the county line to Palmdale / Lancaster, effectively part of the same cluster and functional economic area, but just moving jobs around rather than creating them. The following figure provides a summary of the data.

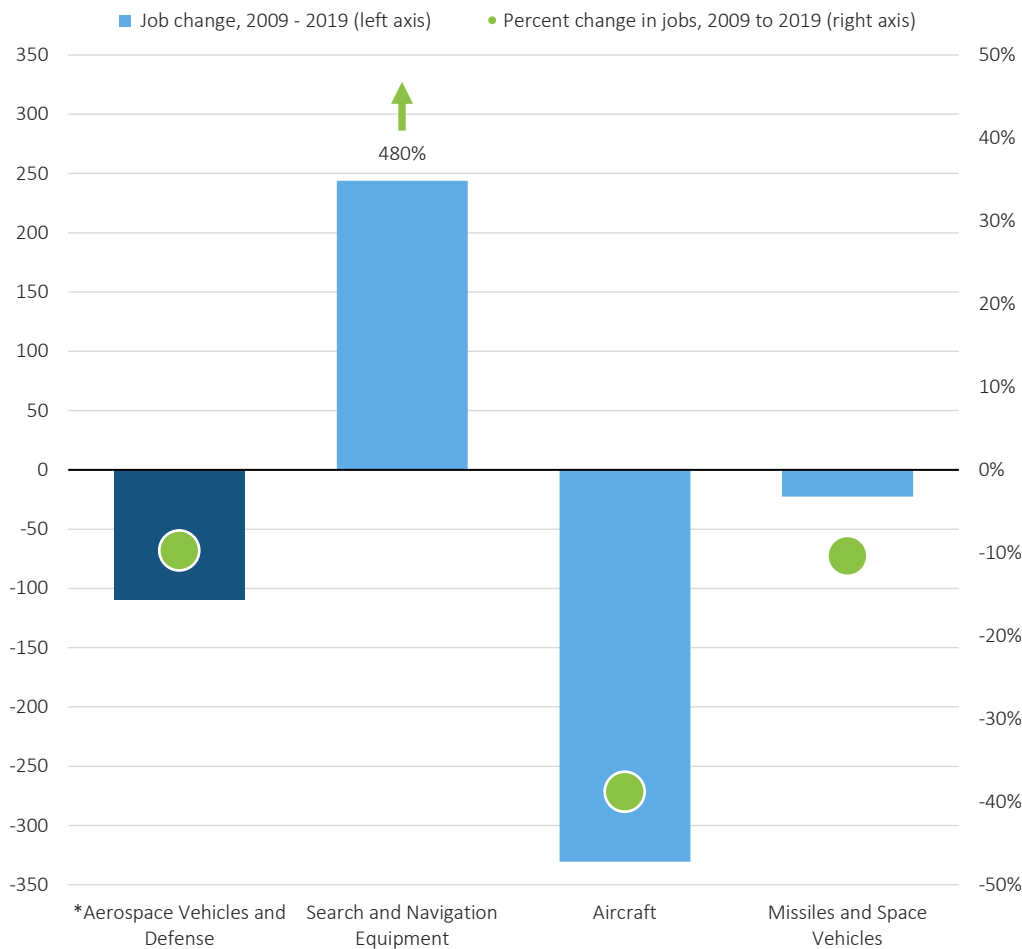
At the same time, East Kern faces increasing competition from existing and emerging aerospace hubs in states like Colorado, Florida, New Mexico, and Texas, some of which have succeeded in attracting jobs away from the region. Several of these states have dedicated, written space strategies to support cluster development, including incentives, alongside more favorable policy environments. The establishment of the Central Coast's REACH strategy and partnership with the state to enhance aerospace activity at Vandenberg AFB speaks to growing competition even within California.

Meanwhile, East Kern faces other challenges for sector retention and expansion. Federal research centers face massive retirements in the next five years. For small and large companies, talent access is inhibited by the absence of a four-year university in the immediate area and other coordinated training at scale. Lack of placemaking amenities make it difficult to attract and keep workers.

Mechanisms to enhance access to and commercialization of sophisticated innovation assets at the region's federal installations have lagged peer regions, evidenced by low SBIR/STTR awards as noted elsewhere in this document and indicating unrealized growth opportunities. Specific policy constraints also have constrained expansion at Mojave Air and Space Port, despite industry demand.

The region has not established a cluster initiative to support aerospace and address these issues at scale in a strategic, sustained, and collaborative manner, including the broader Antelope Valley, notwithstanding emergence of subregional interest groups. This gap leaves economic development interests and activities fragmented and inefficient, and businesses on their own to navigate common challenges. Additionally, some firms expressed frustration with responsiveness of regional and state actors to basic services. Closing these gaps will be imperative to maximizing use of limited resources and ensuring the cluster's continued competitiveness.

CHANGE IN JOBS WITHIN KERN COUNTY'S TRADABLE AEROSPACE MANUFACTURING CLUSTER, 2009 TO 2019



Source: Brookings analysis of Economic Modeling Specialists Intl. estimates and U.S. Clusters Mapping Project cluster definitions.

Tradable manufacturing sub-clusters show positive momentum, against trends

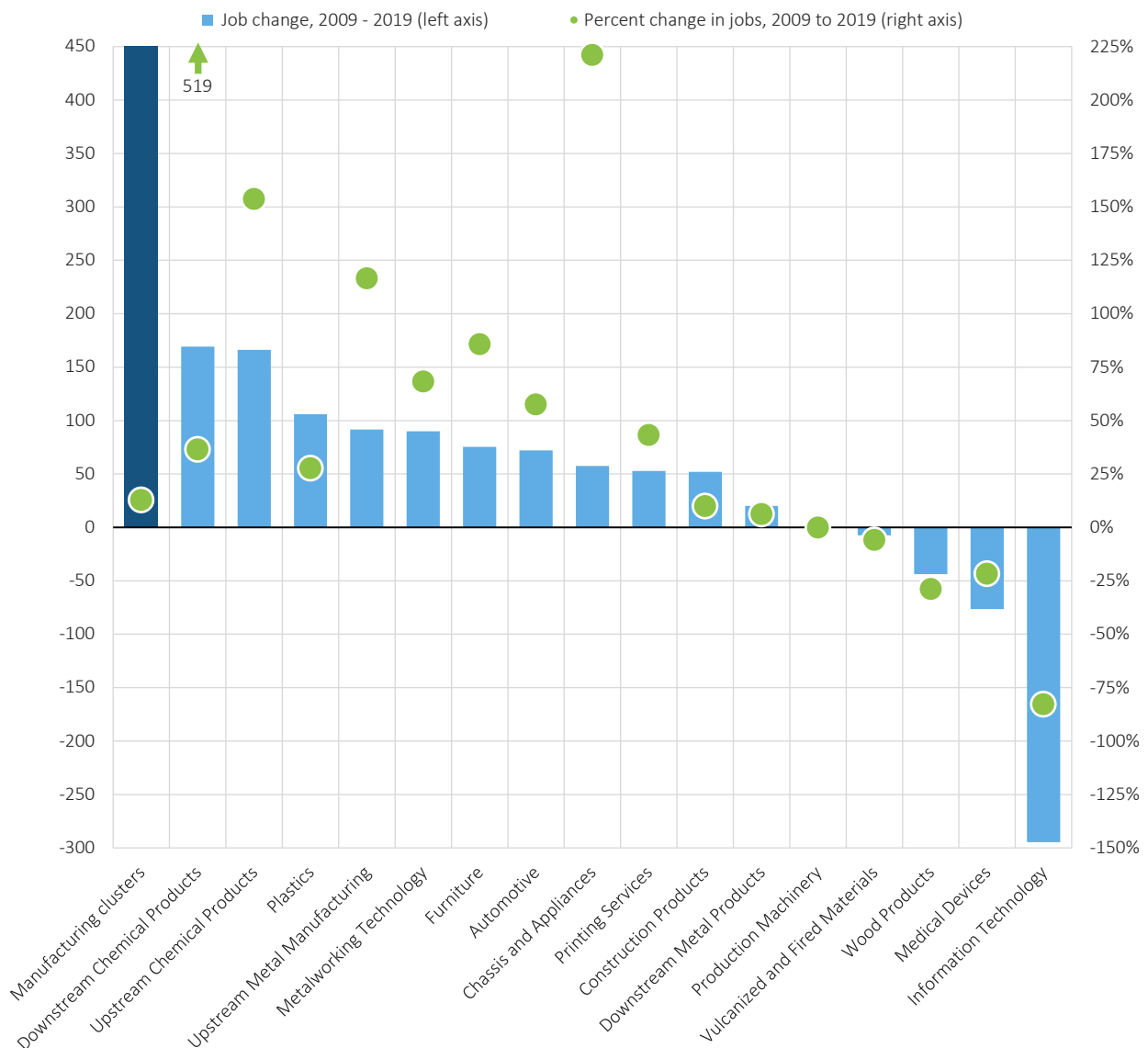
Notwithstanding barriers that have eroded the sector statewide over recent decades, manufacturing emerged as a growing strength in Kern -- if not a specialization -- and driver of good jobs for workers without a bachelor's degree. Even without a concerted effort for expansion or attraction, the recent performance of manufacturing collectively and within specific sub-sectors revealed this potential. As a group, Kern's tradable manufacturing clusters have performed reasonably well in recent years, netting over 500 jobs from 2009 to 2019 and growing to nearly 4,600 jobs, despite offsets by extreme downturns in two sub-sectors. Information technology and medical devices, were job losers, dropping 83% and 22%, respectively; they represented 375 jobs and masked progress in other categories.

Sub-clusters like chemicals, plastics, and metalworking performed especially well. These clusters mainly related to parts of the regional supply chain, such as a range of non-fuel petroleum-based products, fertilizers, metal processing, fabricated metal products, and machinery. Further, food manufacturing likely offers the best opportunity to evolve the region's agricultural strengths into higher-value activity.

The figure below provides a summary of the data.

The region’s talent, innovation, and enabling infrastructure fit with manufacturing potential. Analysis shows that manufacturing is an area of particularly high “talent adjacency” with existing labor knowledge and skill capabilities in regional sectors, including oil and gas workers, as noted elsewhere in this document. These talent factors can be boosted by new program resources, such as the Bakersfield College industrial automation degree, or a targeting of workforce development. Some limited regional innovation assets identified could connect to process and product problem-solving. Industrial park development potential, business-friendly permitting, and logistics platforms reinforce the environment. However, while the data and qualitative analyses uncovered potential, it also suggests that scale will not be realized through organic growth without ongoing focus and proactive strategy.

CHANGE IN JOBS WITHIN KERN COUNTY’S TRADABLE MANUFACTURING CLUSTERS*, 2009 TO 2019



* Excludes local-serving manufacturing industries, aerospace manufacturing, agricultural and food manufacturing, and oil and gas manufacturing.

Source: Brookings analysis of Economic Modeling Specialists Intl. estimates and U.S. Clusters Mapping Project cluster definitions.

Logistics grew dramatically, focused on warehousing, storage, and fulfillment

Logistics has been a major focus of Kern's economic development efforts in recent years, resulting in a wave of ribbon-cuttings at major new warehouse facilities for companies like Amazon and L'Oreal.

This expansion has leveraged Kern County's physical location proximate to southern California and other major markets, accessibility of land and active developers, good enabling infrastructure, and efficient regulatory processes.

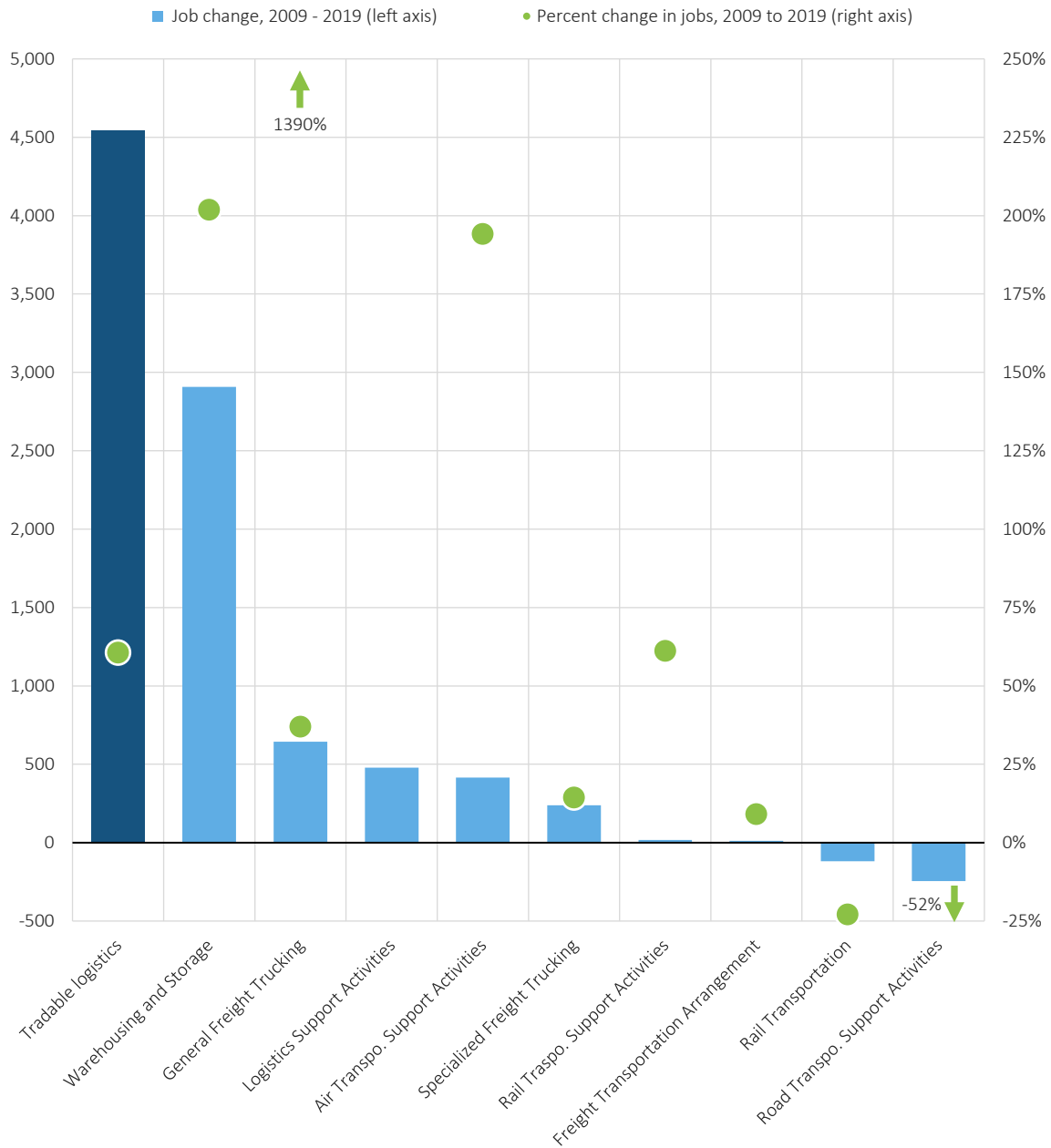
Between 2009 and 2019, Kern County's tradable logistics cluster added 4,500 jobs, growing to over 12,000 total. Two-thirds of this job growth came from the warehousing and storage subcluster, which contains e-commerce activities. The subcluster tripled in size during this period. The following figure provides a summary of the data.

However, most of the warehousing and storage subcluster employs a majority of low-paid workers, alongside a few very highly-skilled and highly-paid managers and executives. When averaged, these two extremes make the cluster look reasonably well paid, while job quality actually is low for most workers. As explored in more detail on the following pages, the current mix of primary sector growth in Kern does not appear poised to deliver jobs that enable worker self-sufficiency and economic mobility at scale.

In contrast, the elements of the tradable logistics cluster that deal with goods movement often contain higher-quality jobs. This includes subclusters for trucking, logistics support, air transportation, and rail transportation. However, most of these subclusters have grown at a slower rate than warehousing and storage and account for fewer new jobs.

Momentum in logistics growth is likely to continue, building on local competitiveness factors and new market forces in e-commerce, raising strategic economic development questions regarding job quality and leveraging related sector opportunities (*e.g., manufacturing*).

CHANGE IN JOBS WITHIN KERN COUNTY'S LOGISTICS SECTOR, 2009 TO 2019



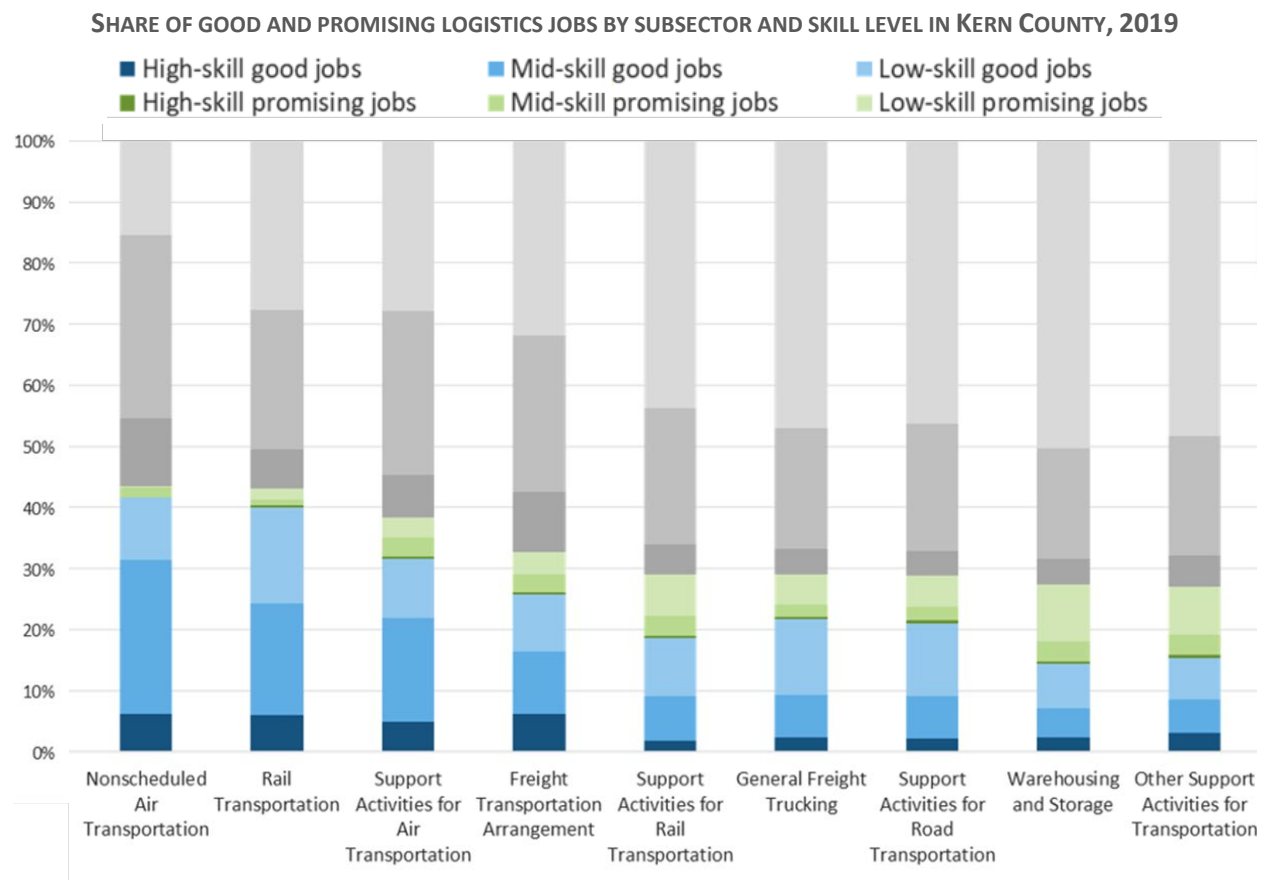
Source: Brookings analysis of Economic Modeling Specialists Intl. estimates and U.S. Clusters Mapping Project cluster definitions.

Job quality in logistics varies by sub-sector functions, raising questions of focus and prioritization

As described above, logistics offers wide variation in job quality between different sub-sectors, types of activity, and skill levels. Goods movement and supply chain management functions, such as those of an inland port, generate a notably higher concentration of quality jobs compared to warehousing and fulfillment, with a difference of up to 10 percentage points for “good” jobs. Still, absolute job creation is

far greater in warehousing, which creates a notable number of “promising” jobs that lead to good jobs in any sector within a decade. The figure below provides a summary of the data.

As warehousing and fulfillment continue to grow, the questions for economic development strategy are: (i) the overall trade-off in value of focusing on logistics versus other industries offering higher job quality; (ii) how to target supports and incentives to those subsectors of logistics that concentrate job quality; and (iii) how to promote warehousing that provides positions meeting the “good jobs” standard for the region and offers incumbent worker training that enables pathways from promising jobs.



*Source: Brookings Opportunity Industries analysis. This methodology is introduced and presented in more detail elsewhere in this document.

Business services suffered as economy restructured, but options for subclusters pending digital skills

Kern’s tradable business services clusters have shifted over the past decade as the rest of its economy has evolved; again, the split in performance between Greater Bakersfield and East Kern is notable.

In fact, prior economic development strategies proactively removed business services as a target for growth, considering it a local sector serving regional businesses rather than externally. The most prominent business services subclusters shed extremely large numbers of jobs on net:

- **Engineering services** jobs dropped by more nearly 25%, likely due to the decline in the county's oil and gas and heavy construction sectors.

- The **computer services** cluster declined in Bakersfield and environs where it largely services the private sector, even as it added jobs in East Kern with military and federal agency clients.
- In **insurance services**, anchor State Farm pulled 700 jobs out of Bakersfield as it consolidated operations in Tempe, Arizona.

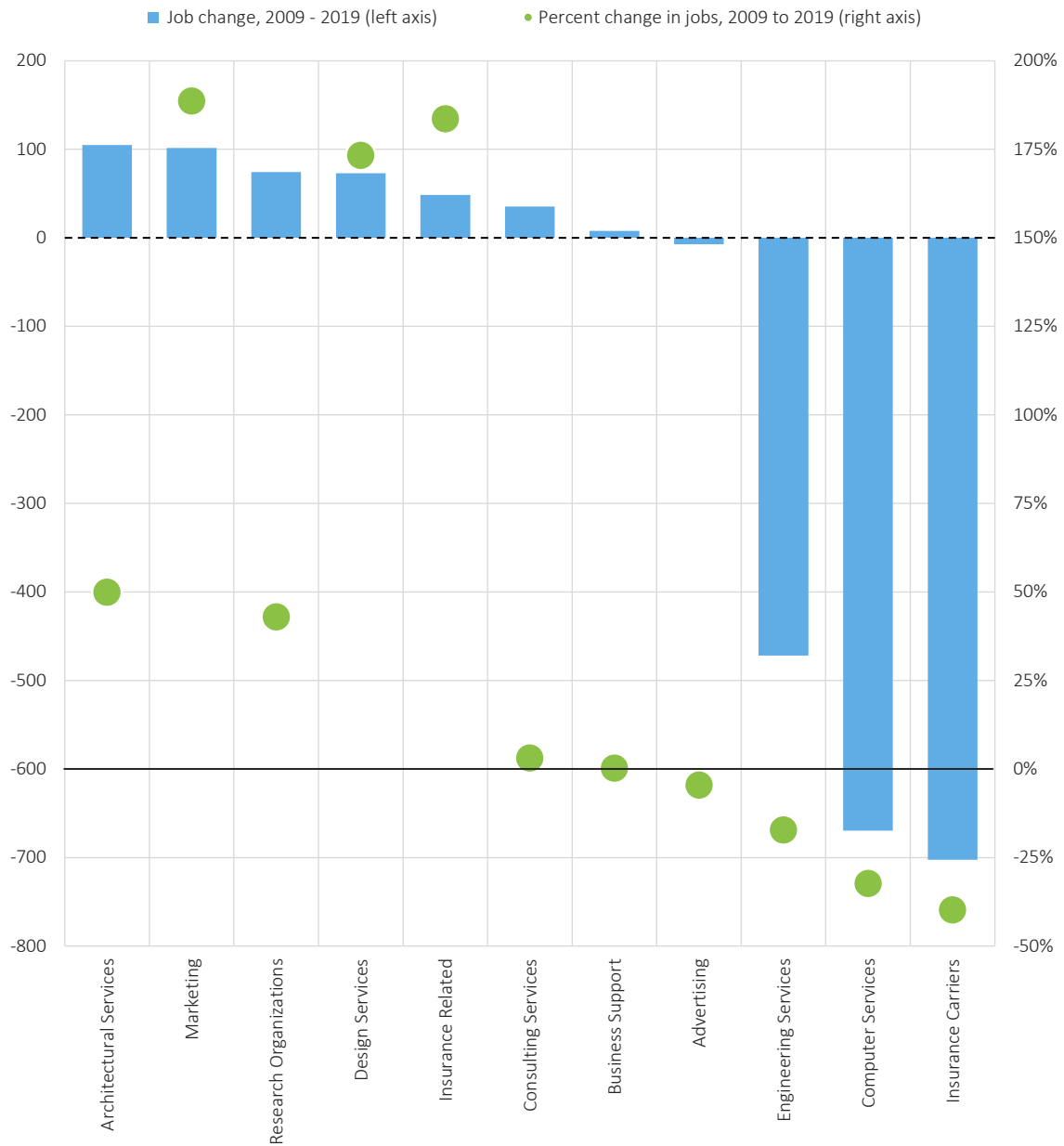
Still, a few subclusters experienced dramatic rates of job growth, more than doubling in size from 2009 to 2019, albeit off relatively low employment baselines. Research organizations, including scientific and technical consulting grew especially fast in East Kern, with other areas in marketing, design, and consulting also expanding.

The following figure provides a summary of the data.

These data points by themselves do not indicate significant strength. Thus, business services may offer a longer-term -- rather than short-term -- growth and diversification option, despite the recent declines in Greater Bakersfield. This would target support for young tech-oriented firms, as well as capturing back-office function “leakage” from more expensive coastal markets, either through “second office” locations or expanded outsource contracting to serve firms based elsewhere (*e.g., Stria*).

However, talent analysis, as discussed elsewhere in this document, indicates that any prospects for business services expansion will require development of a stronger digital skills and tech talent base as a prerequisite component of a deliberate overall effort.

CHANGE IN JOBS WITHIN KERN COUNTY'S TRADABLE BUSINESS SERVICES SUBCLUSTERS, 2009 TO 2019



Source: Brookings analysis of Economic Modeling Specialists Intl. estimates and U.S. Clusters Mapping Project cluster definitions.

Industry Targeting: Building Toward Recommendations

Recognizing that targeting clusters plays a pivotal role as the global economy rewards regional specialization and concentration, the challenge is how to identify and prioritize opportunities to achieve economic development goals. Rarely do these emerge from scratch, and then most often by good fortune versus intervention. Virtually every successful cluster has emerged from entrepreneurial activity that relates to evolution off a historic strength, via convergence of disciplines, commercialization of research, or talent spinning off into new ventures. Otherwise, accelerated outcomes are linked to major public or philanthropic investments such as establishing centers of excellence that draw new innovators and businesses looking to be close to assets, subsidizing capture of very high-value anchors, or defense spending.

Sometimes the sectoral choices are obvious – a critical mass of interdependent firms that jointly benefit from sharing upstream and downstream supply chains and tailored infrastructure, matching specialized talent from a deep common labor market, and learning through open innovation assets and knowledge transfers.

More often, “emerging” subsector strengths are hidden by lack of regional scale or specialization relative to other markets, but can be uncovered by observing growth off a relatively low base complemented by data on other selection factors. However, these data often present an inconsistent picture across criteria, so weighting and evaluation depends on discretion.

To identify these possibilities, the region’s industry mix set was assessed for deeper consideration based on a minimum threshold of factors –

1. Traded sector activity
2. National job growth
3. Regional job growth
4. Contain industry categories that are individually or collectively either:
 - (i) specialized in Greater Bakersfield and/or East Kern; or
 - (ii) exceeding national performance in Greater Bakersfield and/or East Kern.
5. Indirect job multipliers greater than 1.0
6. Offer a combined good and promising job concentration above the regional average (with “other jobs” less than the average)

In some instances, subsectors were retained that did not meet all threshold criteria but were frequently raised in qualitative discussions or appeared strategic for review based on regional outlier characteristics or contiguity to other industries, institutional assets, or supply chain links.

Categories that passed were evaluated using data on growth and demand trajectories, economic effects, institutional research capacity relevance, skills transferability, and concentration of job quality. Current job counts were used to interpret growth, but not factored heavily given the purpose of identifying emerging and adjacent potential.

Applying these techniques to the evidence base, the prioritization process suggested four sets of Opportunity Industry subsectors that would benefit most from greater economic development focus to

generate higher quality, accessible job growth built on the region's assets – (1) renewable fuels and carbon management; (2) aerospace; (3) “advanced” manufacturing subsectors like chemicals, plastics, metalworking, and machinery, as well as aerospace and food; and (4) business services outsourcing / “second office.”

Building on its distinctive industry base, talent and expertise, and geological assets -- as well as “net zero” market and policy opportunities -- the region can extend its energy cluster into renewable fuels and carbon management, to encompass both innovation and delivery, which generate greater numbers of durable high-quality jobs:

- Renewable biofuels expansion, including development of new production technologies and processes for export.
- Other renewable fuels and energy production and innovation, including hydrogen and agricultural or woody biomass.
- Carbon Capture and Storage implementation and innovation as first-movers in proof of concepts, products, and services for export, leveraging industry and public sector demand.
- The new subsector possibilities offer an emerging global market niche for knowledge generation, exporting, and investment. Jobs in these areas also are closely correlated to the existing talent base. They are distinct from renewable electricity generation in solar and wind, where the region already is a production leader with supports in place, and they generate more permanent job creation.
- Despite comparatively low innovation, the region has some strength in related disciplines and military research, as well as emerging national research partnerships and nascent local investment. Substantially greater research and development capacities will be required.
- Increasing attention, investment, and policy action by government (federal, state, local), industry, and environmental interests have improved the baseline for financial and other enabling support. Recently released independent research by Livermore National Laboratory and Stanford University / Energy Futures Initiative affirm potential, specific to Kern County.
- No coalition, tactical strategy, or dedicated personnel are in place to translate possibilities and policy discussion into tangible actions. Program activities and regulatory structures are fragmented. Fundamental organizing of stakeholders is the first need, with expectation of accountable staff and seed resources for advancing the effort.

Aerospace is an established globally-competitive sector generating high-quality jobs across skill levels, with both untapped potential for high-growth smaller firms and increased threats to its market position against other regions, requiring a more dedicated, coordinated cluster effort.

- Increasing the cluster density and diversity of business activity, talent availability, and anchor connectivity will benefit both federal and private sector stakeholders that share the benefits of people and ideas moving within the regional aerospace ecosystem.
- Joint action across groups and jurisdictions, organized on a regional level with written strategy, tactics, and commitments, can achieve the scale of assets, resources, influence, and visibility needed to compete with other regions.

- Primary categories for action center on –
 - Cluster Organizing: Establishing a true cluster initiative across the entire cross-border aerospace region, guided by a dedicated, senior lead representing deep industry experience, to meet needs of the sector and organize joint stakeholder action.
 - Commercialization: Unlocking existing federal innovation and financing assets and programs to spur firm growth – centered on smaller and mid-size businesses -- through on-and-off-base programs, per successes in peer regions.
 - Talent-to-Industry Exchange: Improving the local talent pipeline through coordinated industry-driven training programs at scale, making it more likely to retain workers.
 - State Enabling Policy: Addressing issues related to infrastructure expansion (e.g., Mojave Air Spaceport), industry incentives, and pursuing a deliberate intrastate space strategy and investment agenda with other complementary hubs vis-a-vis outside regions.
 - Global Identity: Uniting East Kern and Palmdale/Lancaster and equipping regional champions to achieve scale and visibility needed to capture increasingly mobile business, talent, and investment.

Certain manufacturing subsectors that generate accessible quality jobs show a notable concentration and/or growth against trends, which could be accelerated – through expansion or attraction -- by providing supports targeted to industry needs that are more common in other regions.

- Evaluation of subsector characteristics indicate foundations in specific “advanced” categories that emphasize STEM research and workers – aspects of chemicals, plastics, metalworking, and machinery, as well as aerospace; suggesting potential for expansion within or adjacent to their current market activities. Although food manufacturing does not perform as well on opportunity metrics, it also offers potential for improving the number and quality of jobs within regional strengths.
 - *Evaluation first triaged whether the region met a minimum competitive position against others. Then, after determining an advantage, the data compared the relative strength and opportunity for each subsector against each other within the region itself to help prioritize options.*
- Notwithstanding common state impediments of higher costs and regulation, authentic enablers for expanded manufacturing include growing logistics capabilities and location advantages, talent adjacency, and emerging workforce training assets.
- Typical acceleration supports for manufacturing firms – especially benefitting smaller and middle-market establishments – include intermediaries that create scale and coordinated access to talent pipelines and incumbent worker development, innovation identification and adoption, and problem-solving in product or processes.
- Identifying and securing manufacturing attraction and expansion opportunities might be better achieved by prioritizing and linking efforts among various contributors -- commercial real estate developers, economic developers, workforce program leads, and university / federal researchers, plus more targeted government incentives and infrastructure investments.

Below is a sampling of subsectors that met minimum competitive position vis a vis other regions, reflecting relative advantages of each compared to one another in Kern County itself: (i) colors represent overall strength (high, moderate, lower); and (ii) shares within circles represent intensity.

Subsector examples	Jobs (2019)	Nat'l Growth (2009-19)	Reg'l Growth (2009-19)	Multiplier Effect	Job Quality / Opportunity	Institutional Innovation	Talent Adjacency
Processed Chemical Products	475						
Plastic Products, Materials, and Resins	500						
Inorganic Chemicals	130						
Fabricated Metal Products & Fasteners	250						
Metal Processing – Advanced	90						
Metal Processing – Basic	60						
Aerospace Vehicles & Defense	1000						
Process Equipment & Components	260						
Industrial Machinery	150						
Surgical and Dental Instruments	275						
Food Processing & Manufacturing	6200						

Business and professional services as traded subsectors lack natural growth, but strengthening their presence over the longer term is important to diversification and opportunity for a regional economy of this size.

- While models to spur such traded business services have mixed results, opportunities for exploration include –
 - Talent Base: Preparing more workforce with digital skills to meet needs of current firms and prospects.
 - Onshore Outsourcing: Tapping growth in delivering remote services and outsourced functions through targeting markets, increasing visibility, and aggregating capabilities – targeting specific strengths.
 - Second Office: Capturing relocations of in-house activities from coastal California to out-of-state metros.
 - Internal Market Development: Adjusting procurement policies and connecting deliberately to serve regional anchor institutions, building the foundation of firms and talent.
 - Entrepreneurship Link: Meeting incubation and expansion needs of emerging tech-oriented service firms.

Subsector (examples)	Jobs (2019)	Nat'l Growth (2009-19)	Reg'l Growth (2009-19)	Multiplier Effect	Job Quality / Opportunity	Institutional Innovation	Talent Adjacency
Business Support	3400					NA	
Computer Services	1400						
Consulting (general)	1200						
R&D Consulting	250						
Marketing / Design	260					NA	
Insurance Carriers	1000					NA	

Prominent sectors that are large sources of employment and growth – Logistics and Agriculture – are critical foundational assets; however, given constrained economic development resources, other Opportunity Industries can both benefit more from a priority focus and yield greater progress toward regional performance goals.

- Economic development actors still must work to support and serve firms in these sectors as part of their core operations. The challenge for stakeholders is balancing the level of activities for greatest impact – recognizing that progress is achieved through focus, and strategy requires choices among credible options.
- Logistics capabilities and strengths also can be an enabler or platform for growth of other high-value traded sectors, such as manufacturing, recognizing that the region’s advantages lie in geography, population, and greenfield versus drivers like being a source of exportable innovation.
- To better advance growth, prosperity, and inclusion objectives within these industries, efforts could focus on:
 - evaluating attraction or expansion assistance using “good” jobs factors
 - targeting subsectors that afford better quality (*e.g., rail transportation vs warehousing*)
 - promoting improvements to existing job quality by firms through supports or incentives (*e.g., inventorying job standards and hiring practices, incumbent worker training*).

Below is a sampling of Logistics subsector evaluation showing relative advantages and contributions, for reference. Talent adjacency reflects correlation to maximum use of labor knowledge and skills, not just having workforce capabilities present in the region to fulfill sector needs.

Subsector (examples)	Jobs (2019)	Nat'l Growth (2009-19)	Reg'l Growth (2009-19)	Multiplier Effect	Job Quality / Opportunity	Institutional Innovation	Talent Adjacency
Warehousing and Storage	3800					NA	
Rail Transportation	500					NA	

H. Community and Private Sector Participation

The CEDS process was bolstered by a multi-layered set of stakeholders representing business, government, civic, and community interests across Kern County:

Steering Committee -- A broad base of 120+ community stakeholders was convened to inform, consult, and be involved in establishing a shared understanding of economic principles and challenges – developing strategy through participation in topical workgroups, ensuring representation of community needs, amplifying communication to non-traditional constituencies, and potentially seeding roles in implementation. This group convened at key milestones in the CEDS process, such as: the project launch in Summer 2020, an information session with peer practitioners implementing similar processes in Kansas City and Syracuse, a review of the final market assessment findings and outcomes, and at the beginning and conclusion of the workgroup process.

Executive Committee -- A smaller group of about 35 private, public, and civic leaders, reflecting the diverse composition of Steering Committee interests, at a scale able to provide more regular feedback and strategic direction on process and interim analyses, critique interpretations, lead strategy workgroups, represent and advocate for the overall B3K effort, and who were expected to make commitments toward execution. The Executive Committee is an advisory body, which provided key input and direction throughout the CEDS process, and to that end met regularly through the summer and fall of 2020 (4 times) and at the culmination of each phase of the strategy development process in January - May 2021 (4 times) to review and provide feedback on strategies and tactics developed by locally-led workgroups.

Workgroups -- five locally-led workgroups developed strategies to accelerate the growth of key clusters and invest in the broader business ecosystem. These groups were tasked with defining in-depth problem statements and goals in response to research findings, developing strategies and tactics, and ultimately producing operational approaches to implementing tactics, such as assignments of responsibility and metrics. With local chairs and 15-25 members representing business, government, education, association, and community interests each, the participants committed to more than providing input through occasional meetings; rather they engaged directly in ongoing problem-solving, research, and results by personally completing tasks over several months.

An overarching Deep Prosperity Planning Team assisted and assessed workgroup consideration of equity and inclusion objectives throughout strategy development, as well as design of metrics that will measure outcomes for marginalized communities. The Research Committee, representing academics and analysts from educational and civic institutions who informed, contributed to and ground-truthed research, developed a set of metrics that provide a common vision for defining and tracking regional economic success over time across organizations and initiatives, guiding collective action moving forward.

In addition to these regular group meetings, the qualitative research effort undertook individual interviews, six topically-focused roundtables, and other ongoing engagement that totaled more than 100 substantive contacts with government, community, and business stakeholders – in order to collect market insights, contextualize quantitative findings, inventory programs and pilots, and consider civic governance capacity. These contacts extended beyond the 150+ combined participants in Steering, Executive, and Research Committees.

I. Competitive Analysis

Competitive Assessment Summary

This section provides a summary of the TNDG Competitive Assessment completed (under separate cover) for the CEDS process, and includes elements from the B3K process. The TNDG Competitive Assessment evaluates the County's competitive position in comparison with the 11 cities within Kern County. In addition to comparing Kern County to cities within Kern County, the assessment also compares Kern County to larger-area benchmark of the State of California.

The summary of the Competitive Assessment shown below includes the following topics, which are representative of the total set of tabulated data in the full report:

- Median Household Income and Per Capita Income

- Owner-Occupied Housing and Single-Family Detached Housing

- Educational Attainment

- Resident Workers by Industry Composition

- Labor force participation rate by age segment

- Travel Time to Work

- Jobs by Industry Composition

- Comparison of the Jobs and Resident Workers by Industry Composition

A summary of the conclusions from the data related to the selected topics is shown below:

Figure Topics	County's Position	Benefits	Challenges
Median Household Income and Per Capita Income	26% to 36% less than the State, respectively	Suggests moderately priced community	Other data show the costs of housing relative to household income to be similar to other areas of California
Owner-Occupied Housing and Single-Family Detached Housing	Higher percentage of detached Single-Family homes, and also owner-occupied, than the State.	Suggests community stability	Possible scarcity and gap in housing options and therefore relative affordability
Educational Attainment	Less than half the percentage with bachelors and higher degrees than the State.		Competitive disadvantage for diversifying the economy
Resident Workers by Industry	lower share of manufacturing, and slightly lower share of educational services / health care and professional services, in comparison to the State		More workers in higher-wage industries, such as professional and scientific services, would be desirable
Labor Force Participation Rate by Age Segment	Slightly below the State for all levels, especially for those 65 to 74	Kern County probably has untapped resources in middle to older age groups	
Travel Time to Work	Above the State figures for categories "less than 5" to "20 to 29," and below the State figures in all categories of greater travel time	Less time commuting suggests a better quality of living, relative to live/work balance	
Jobs by Industry	Slightly lower in professional services, manufacturing, information/finance/real estate, and arts/entertainment in comparison to the State		Greater diversification would be more desirable
Comparison of the Number of Jobs and Resident Workers	Resident workers in the Kern County outnumber the number of jobs hosted there, by a fairly wide margin		This is another indication of the desirability of bringing the community into a greater jobs/workers balance

Performance is benchmarked against economic, geographic, federal R&D peers and aspirational metros

Benchmarking Kern externally against peers is required to understand the region's performance and competitive attributes, and to identify transferable program or policy interventions from comparable circumstances. Four categories are identified to provide insights on different aspects of the region.

Economic Peers are identified based on similarities in industrial mix, population, Gross Metropolitan Product, wealth, productivity, anchor institutions (*e.g., no Tier 1 research university*), and other competitiveness factors.

Geographic Peers are California city-regions typically associated with each other given their location in the San Joaquin Valley and prominence in agriculture. However, the historic tendency to associate these areas based on their inland location, agribusiness presence, and high unemployment and poverty rates does not necessarily reflect a close economic likeness or connection; in fact, the economic characteristics of Kern are very distinct from other San Joaquin Valley metros, and they also are differentiated from each other. Geographic comparisons did not include southern California regions like Los Angeles or the Inland Empire that do not resemble Kern, despite local theories about a connection in migration in residents and businesses.

Federal R&D Peers are mid-size metro areas with national lab or military base research centers akin to those in East Kern, particularly in aerospace and without attachment to a major research university. While not particularly similar in industry composition, size, or economic outputs, these comparisons reveal performance in translating federal assets to commercial advantages.

Aspirational Metros are larger "American Middleweight" regions with characteristics that Kern could reasonably target for long-term improvement in performance. These metros experience steady economic progress with at least one globally-relevant export niche, an educated talent base, and commercially-valuable anchor institutions, but compared to high-growth "knowledge capitals" still grapple with larger concentrations of local services, a lack of elite innovation outputs and Tier 1 research universities, less foreign investment, and lower traded sector productivity. See the following figure for reference.

BENCHMARK PEERS

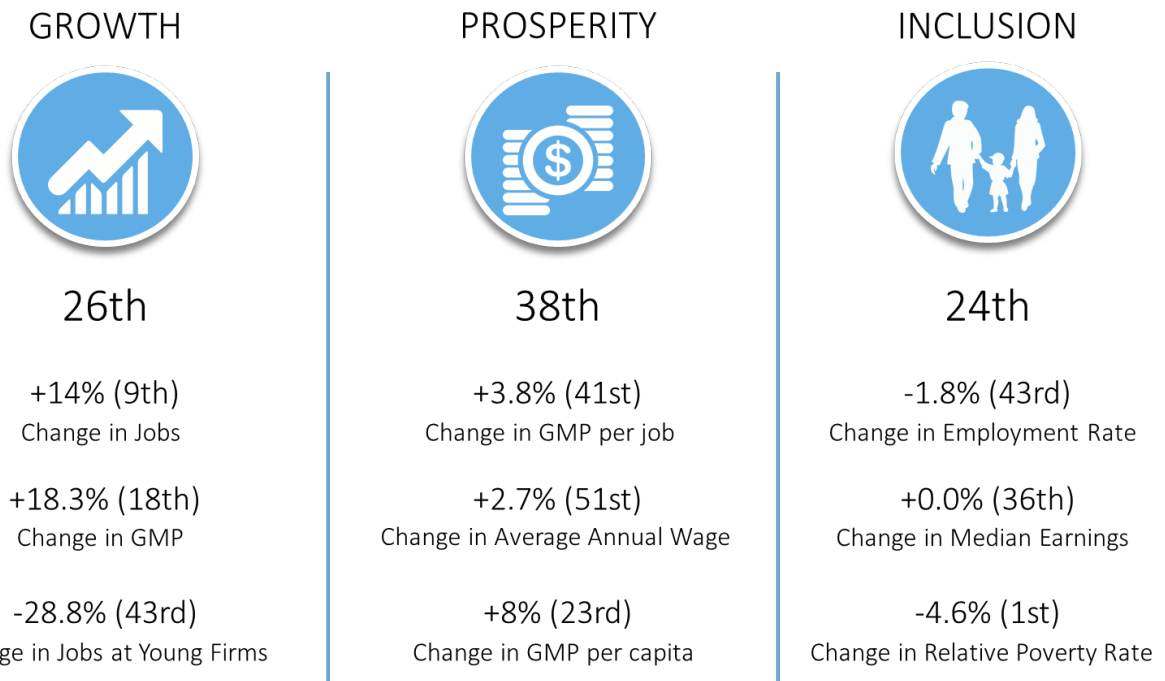


- | | |
|---------------------|--------------------------------------|
| ● Economic Peers | ● Aspirational Metros |
| • Albuquerque, NM | • Indianapolis, IN |
| • Boise, ID | • Kansas City, MO-KS |
| • Ogden, UT | • San Antonio, TX |
| • Oklahoma City, OK | • Tulsa, OK |
| ● Geographic Peers | ● Federal R&D Peers |
| • Fresno | • Dayton, OH |
| • Modesto | • Huntsville, AL |
| • Stockton | • Santa Fe, NM |
| • Salinas | • Santa Maria /
Santa Barbara, CA |

Prior regional strategies identify recurring themes

Comparing against other “large” metros with population of 500,000 to 1 million, the region excelled in traditional economic development “growth” metrics of new job creation and total value of regional production over ten years, ranking in the top third of each, driven by a rebound from the Great Recession, population growth, and industry mix. However, that job creation did not differentiate for job quality, and the region suffered relatively large declines in business dynamism.

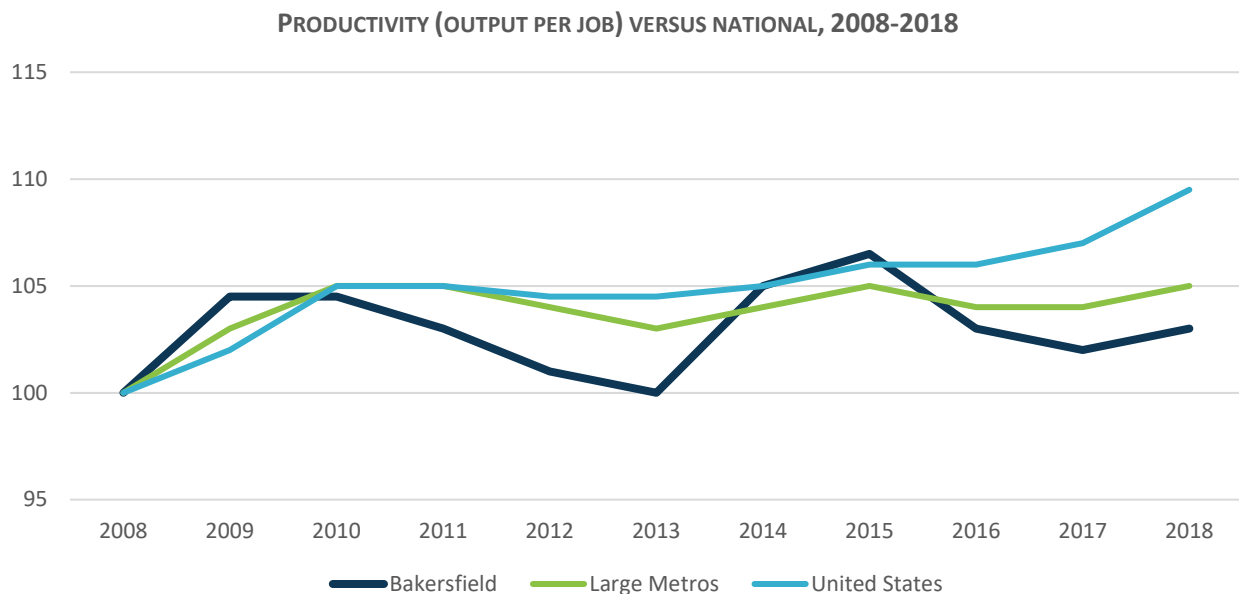
In general, measures of relative versus absolute performance can distort perspective, depending on the baseline. For regions with a very low starting point, a small shift in absolute numbers can yield a large percentage change. The following figure provides a summary of the data.



Source: Brookings Metro Monitor (2020)

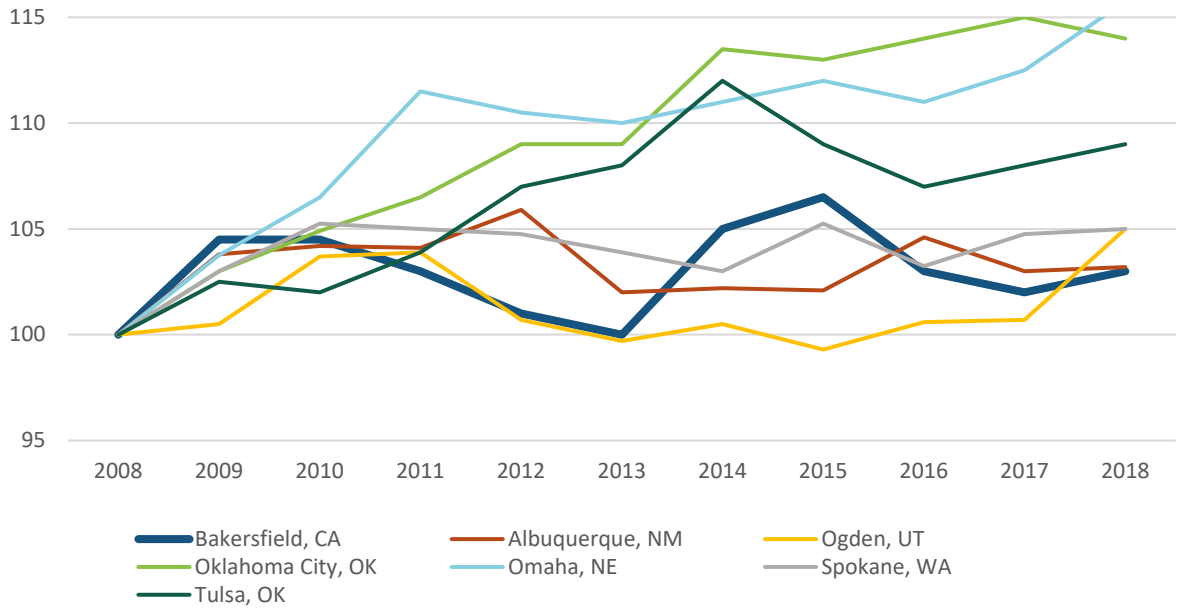
Kern lags national and peer comparisons in improving productivity, which correlates to lower wages

Prosperity indicators show changes in the wealth and income generated by an economy. Improved productivity of workers through upgraded skills or adoption of process innovation results in raising the value of labor, which enables and usually tracks to increased wages. The region's lag in productivity versus peers also is reflected in the comparatively flat trajectory of average wages. The following figures provide a summary of the data.



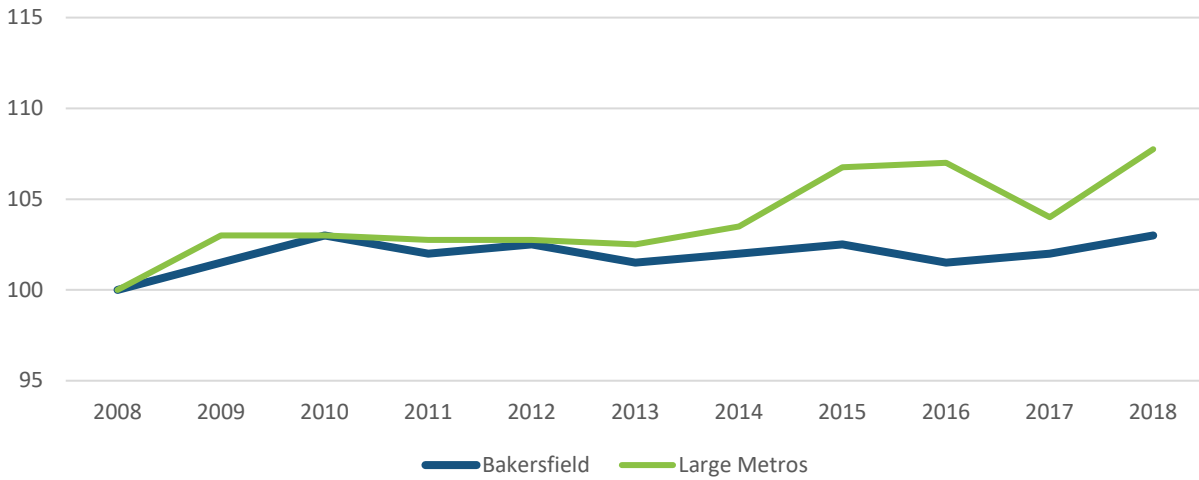
Source: Brookings Metro Monitor (2020)

PRODUCTIVITY VERSUS ECONOMIC PEERS, 2008-2018



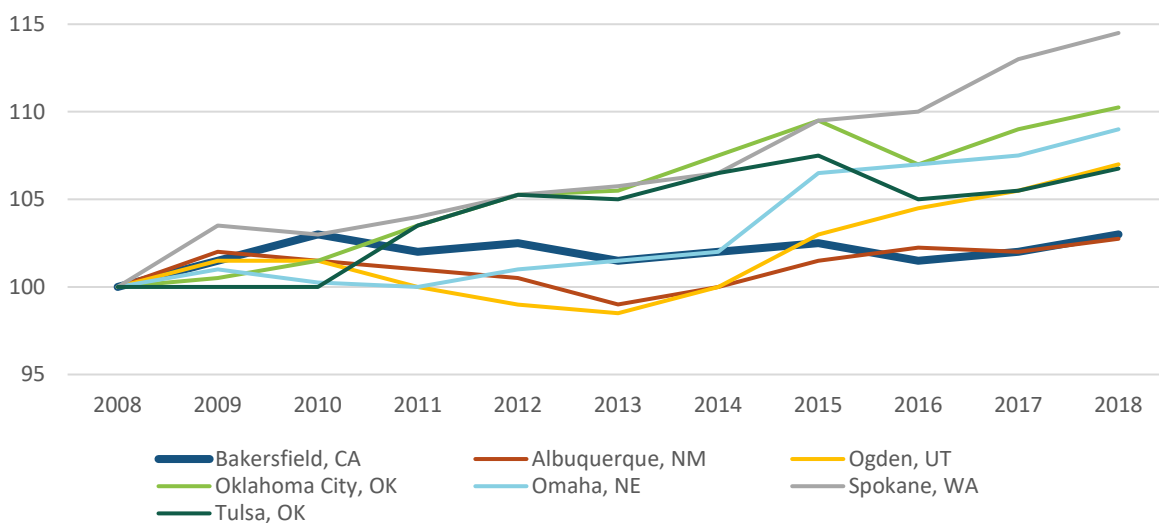
Source: Brookings Institution Metro Monitor (2020)

AVERAGE ANNUAL WAGE VERSUS LARGE METROS, 2008-2018



Source: Brookings Institution Metro Monitor (2020)

AVERAGE ANNUAL WAGE VERSUS ECONOMIC PEERS, 2008-2018

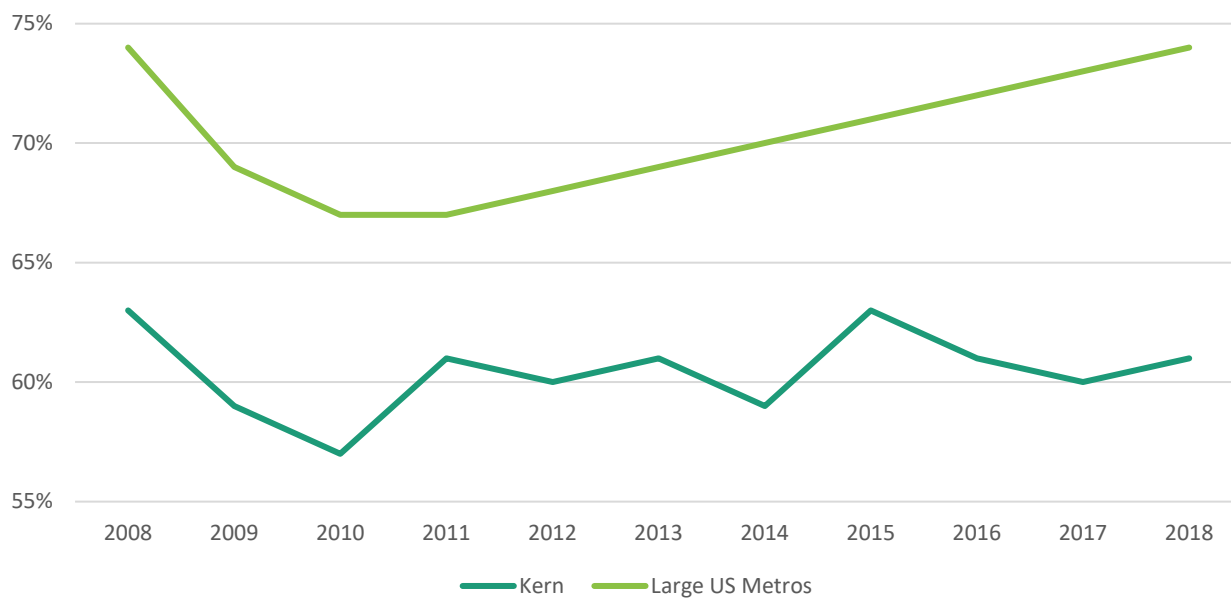


Source: Brookings Institution Metro Monitor (2020)

Kern lags employment rate / median earnings versus large metros, shows regional disparity among races

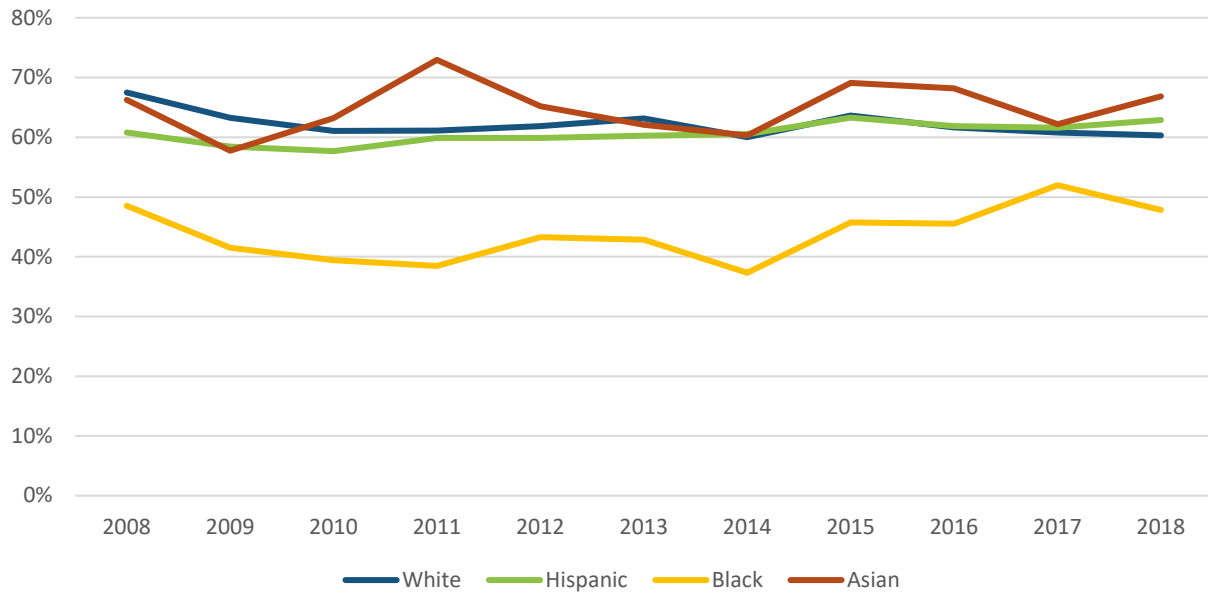
Although the region lags employment rates overall against population peers, ranking in the bottom quartile, it has maintained reasonably small gaps among whites, Hispanics, and Asians, with the exception of Blacks lagging by about 13%. However, there is a large and stubbornly consistent gap in median earnings for the region versus the nation, and between white residents and other racial groups within the region. The following figures provide a summary of the data.

KERN VS LARGE METRO EMPLOYMENT RATE, 2008-2018



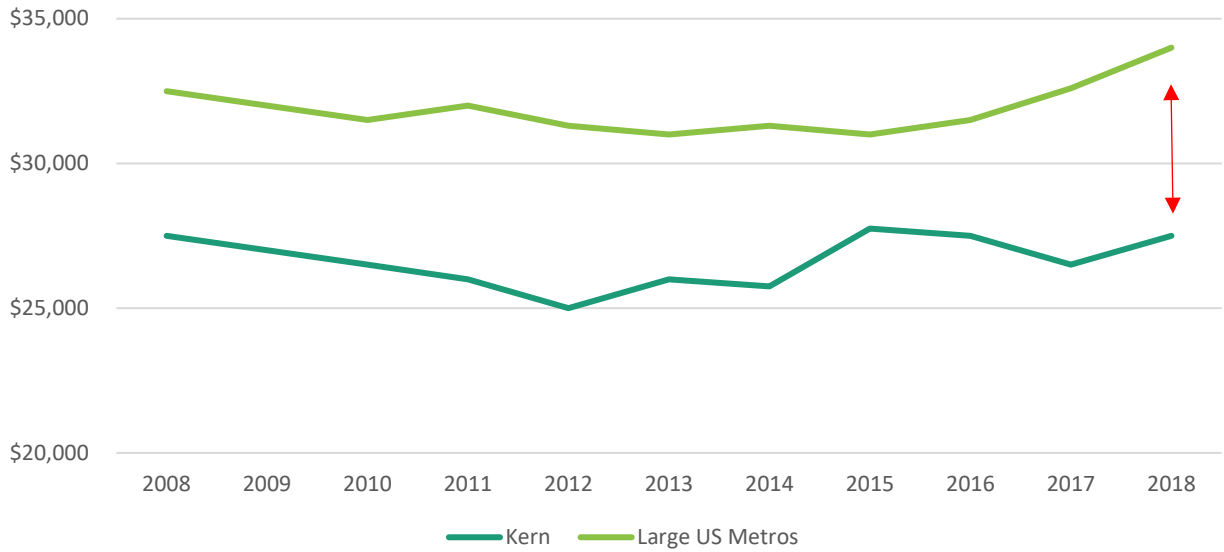
Source: Brookings Institution Metro Monitor (2020)

KERN EMPLOYMENT RATE BY RACE, 2008-2018



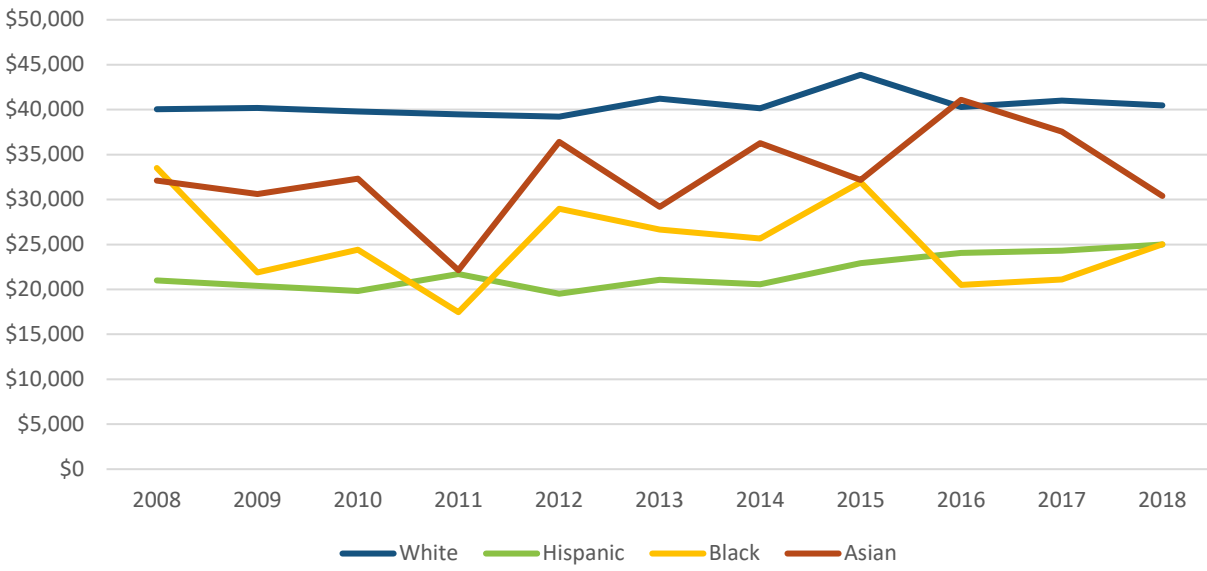
Source: Brookings Institution Metro Monitor (2020)

KERN VS LARGE METRO AREA MEDIAN EARNINGS, 2008-2018



Source: Brookings Institution Metro Monitor (2020)

MEDIAN EARNINGS LEVELS BY RACE, 2008-2018



Source: Brookings Institution Metro Monitor (2020)

Competitiveness Drivers: Talent

Why talent matters:

In the modern economy, workforce capabilities far surpass any other single input to regional economic development.

Regions grow when they develop and deploy residents to maximize their productive potential.

The pool of available knowledge, skills, and expertise – and ability to cultivate more – is the top factor in cluster formation and business location decisions.

The economic success of individuals, firms, and regions correlates closely to educational attainment and the density of relevant talent to draw from.

Educational attainment in the region lags economic peers, with deficits hidden by historic job mix

Talent drives regional economic performance, and economic outcomes for workers are closely correlated to higher educational attainment levels of the local labor force. As demonstrated by the Opportunity Industries analysis, higher-skilled workers are considerably more likely to hold a good or promising job. According to research by the City Observatory, educational attainment now explains about two-thirds of the variation in per capita incomes across large US city-regions.

Kern has been a dramatic outlier. While consistently lagging behind California and national comparisons in levels of educational attainment, Kern benefited from the unique presence of high-wage extraction industry jobs that are accessible to residents holding a high school degree or less.

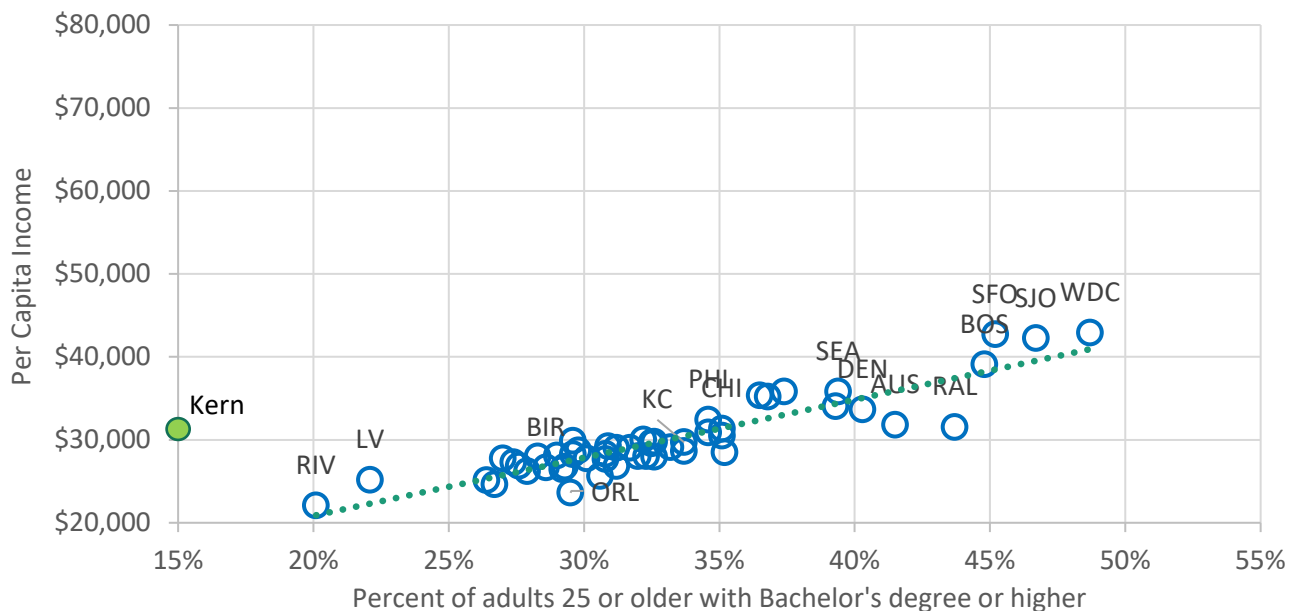
As a result, the region placed far outside the trend line in offering economic mobility for a relatively uneducated workforce. In 2010, Kern per capita earnings were roughly \$31,000 despite less than 15% of residents holding at least a Bachelor's degree. That put the region ahead of the Inland Empire and Las Vegas, and on par with metros having about twice the educational attainment.

However, by 2018, declines in core low-skill industries and job quality caught up with Kern. Per capita income grew to \$39,700 while educational attainment only rose to 16%, but the more educated regions experienced substantially greater improvements that surpassed Kern in economic opportunity.

While still exceeding expectations, the decline in oil industry jobs and economic drag from over 50% of the population lacking more than a high school degree has pulled Kern more in line with national standards. These downward trends will continue.

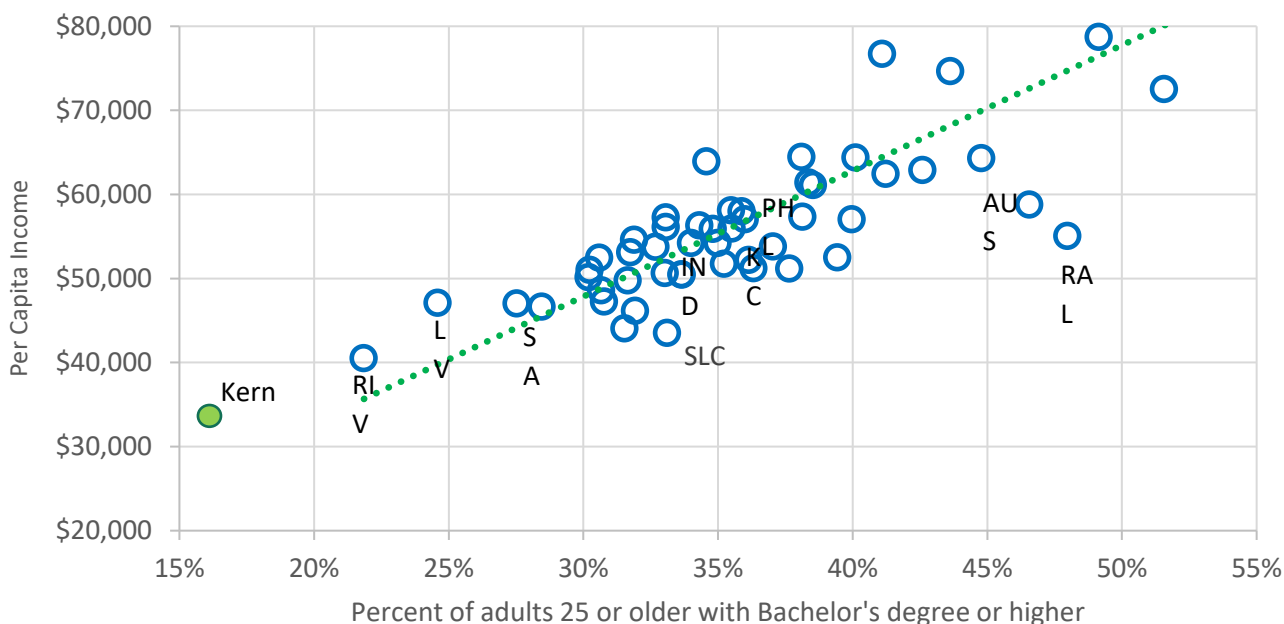
No economic development strategy can change long-term outcomes in job quality, vitality, and competitiveness if the region does not dramatically improve educational attainment rates at all levels. This responsibility extends beyond educators to all stakeholders – business, government, and community. The following figures provide a summary of the data.

METRO PER CAPITA INCOME VS EDUCATIONAL ATTAINMENT, 2010



Source: City Observatory analysis of ACS and BEA data

METRO PER CAPITA INCOME VS EDUCATIONAL ATTAINMENT, 2018



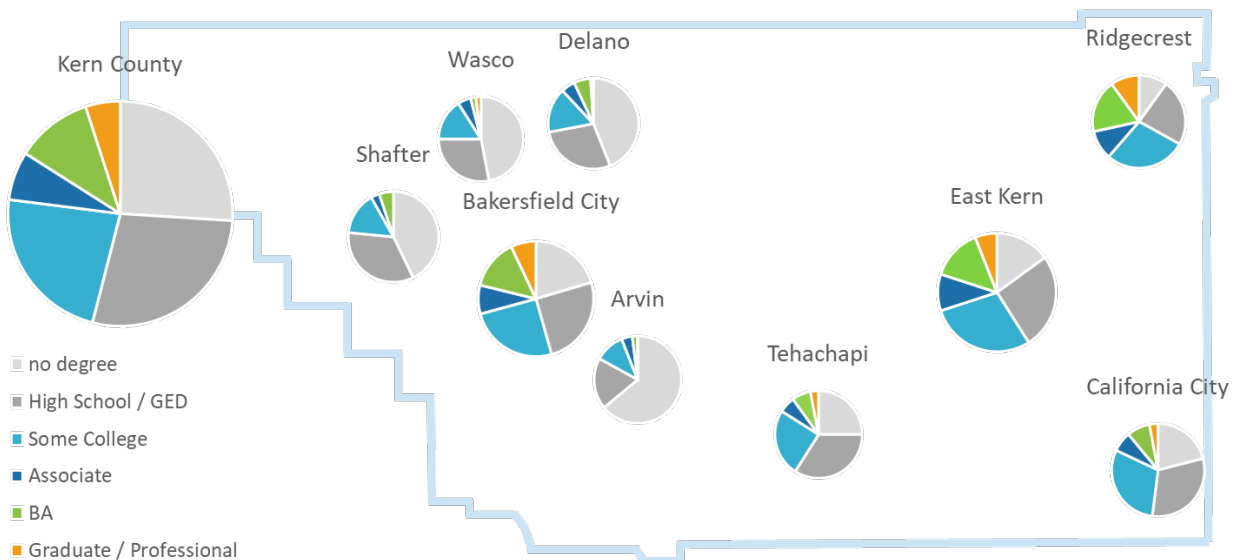
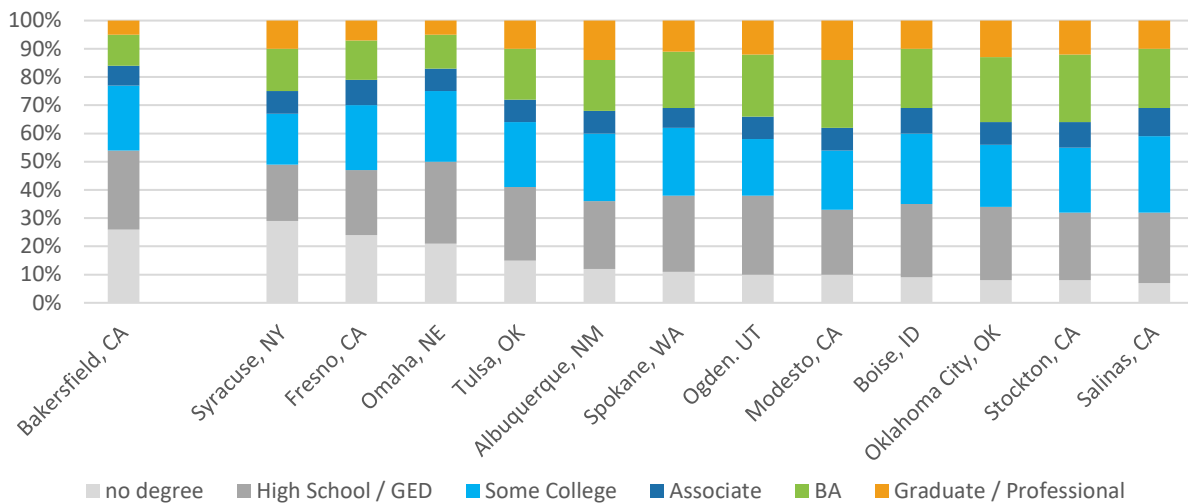
Source: City Observatory analysis of ACS and BEA data

Educational attainment is below economic peers, dramatically split between East and West Kern

Against economic peers nationally and within the state, the region has among the largest share of residents lacking a high school degree or equivalent, and the smallest with a Bachelor’s degree or above (Omaha is similar in profile).

Inside the County is a dramatic split: in East Kern, only 16% of working age adults lack a degree and 20% hold a bachelor's degree or more, significantly higher than population centers in West Kern. However, while the military bases and aerospace industry may attract more educated workers to East Kern, that does not account for the exceptionally low levels elsewhere.

Efforts are underway related to these objectives, such as the Kern Education Pledge and individual initiatives like KCSOS career pathway programs and California Community Colleges' Vision for Success campaign. However, in the near term, geographically targeting and scaling workforce credentialing and outreach efforts must be considered specific to sectoral economic development opportunities. The following figures provide a summary of the data.



Source: Brookings analysis of American Community Survey data.

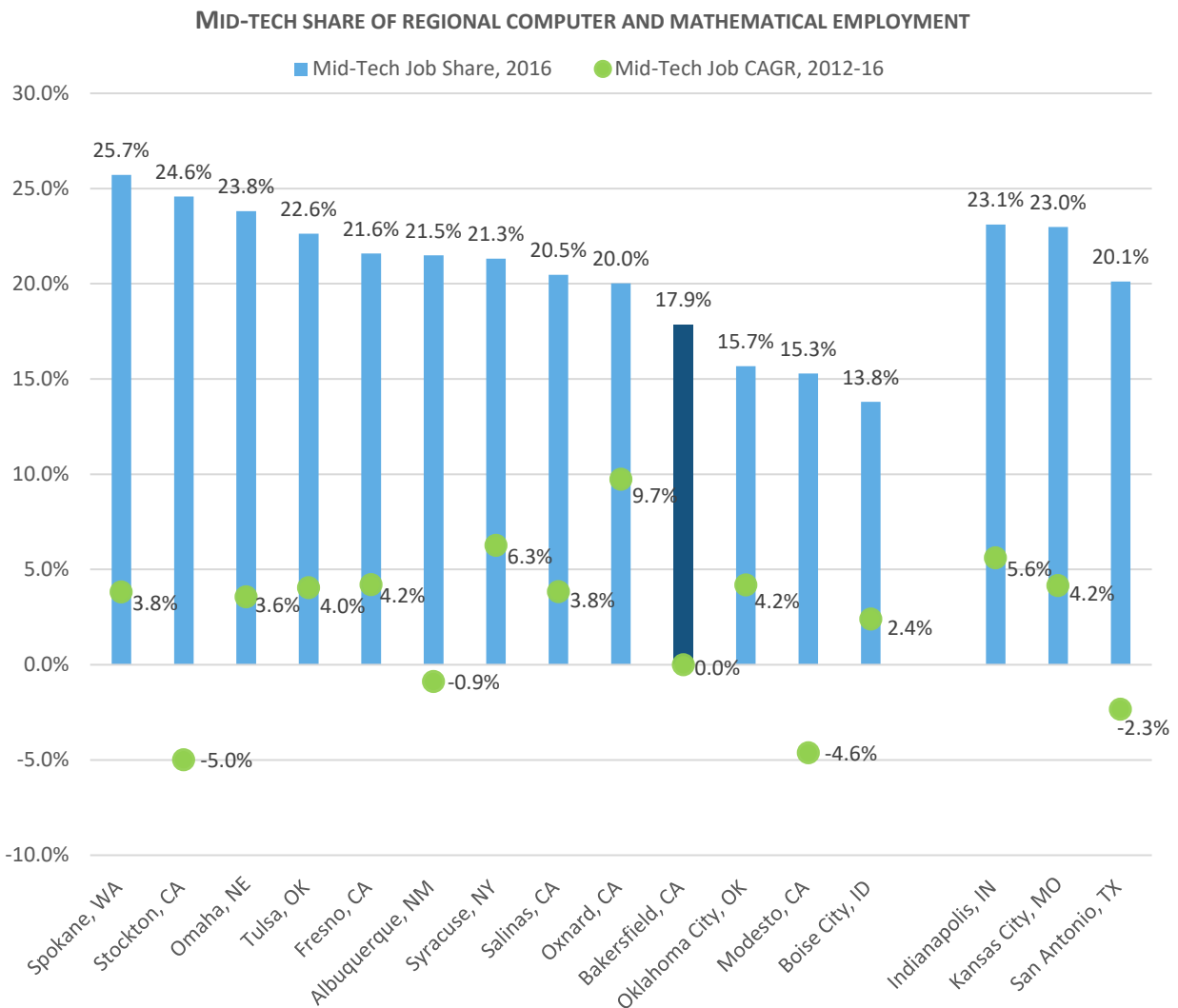
Kern lags comparison regions in tech employment growth and mid-tech opportunities

Outside of the major high-tech hubs like Silicon Valley, Seattle, and DC, there is promising growth in a middle-skill portion of technology-based jobs, accessible to workers without a bachelor's degree. The

core occupations include computer network architects (52%), support specialists (50%), and systems analysts (31%), and to a lesser extent programmers and security analysts (22%).

High-tech hubs where Big Tech is headquartered and creative leaps are made actually employ lower concentrations of mid-tech workers. Regions with more mid-tech work revolve around applications, buildouts, and backoffice opportunities. Some bias is associated with the presence of government and higher education institutions with large digital networks. The strongest locations in scale and growth are in mid-size Midwest metros, linked to support for advancing tech and digital skill demands in other industries.

Kern had both a relatively small proportion of mid-tech jobs and a zero compound annual growth in jobs over five years, which is an unusual combination against economic peers or aspirational regions. The lower share of jobs could be associated with the disproportionately high-tech job presence in East Kern. However, the absence of growth in mid-tech jobs may suggest some combination of an existing industrial mix with low tech adoption, lack of diversification in business, professional, and back-office services, and talent constraints; all of which could be targeted to bring the region more in line with these opportunities. The figure below provides a summary of the data.



Source: Brookings, "Could 'mid-tech' jobs elevate more people and non-coastal places?", 2018.

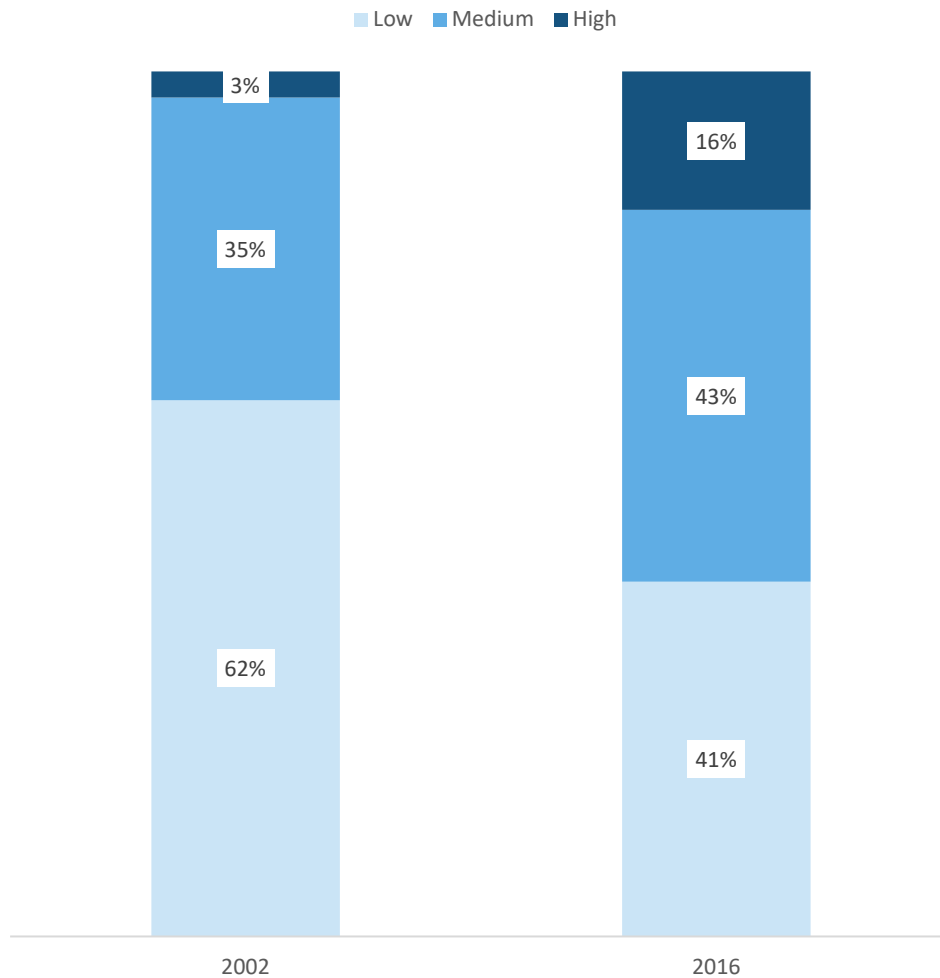
Digital skills among workers are a challenge and opportunity

Despite the lack of tech job growth, regional employers are demanding workers with more digital skills and technology aptitudes across other job functions – whether in agriculture, logistics, or business services.

The share of Kern jobs requiring either medium or high levels of digital skills increased from 38% to 59% over 14 years. While this is very significant for workers, it actually ranks among the lowest levels of overall change among large metropolitan areas. With a high correlation between income and occupational digital skill requirements, the smaller relative impact on the County again indicates less advancement in technological advantage and the economic opportunities that brings.

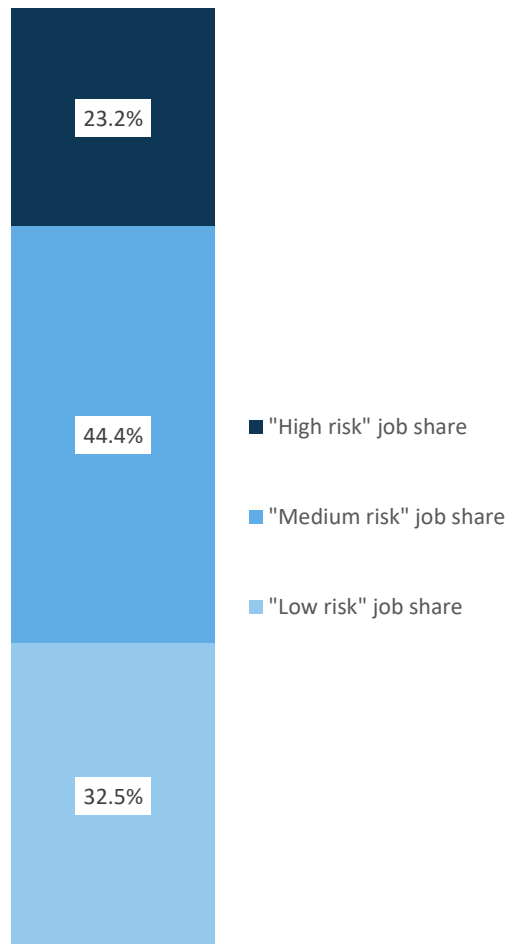
At the same time, Kern has an above-average proportion of job tasks that are at medium risk of automation versus economic peers, although fewer high-risk jobs. This suggests an urgency for improving the digital skills base for the region, both to take advantage of current potential and prepare for future demands. The following figures provide a summary of the data.

SHARE OF REGIONAL JOBS REQUIRING VARIOUS DIGITAL SKILL LEVELS, 2002-2016



Sources: Brookings, Digitalization and the American Workforce, 2017; Automation and artificial intelligence: How machines are affecting people and places, 2019.

RISK OF AUTOMATION FOR JOB TASKS



Sources: Brookings, Digitalization and the American Workforce, 2017; Automation and artificial intelligence: How machines are affecting people and places, 2019.

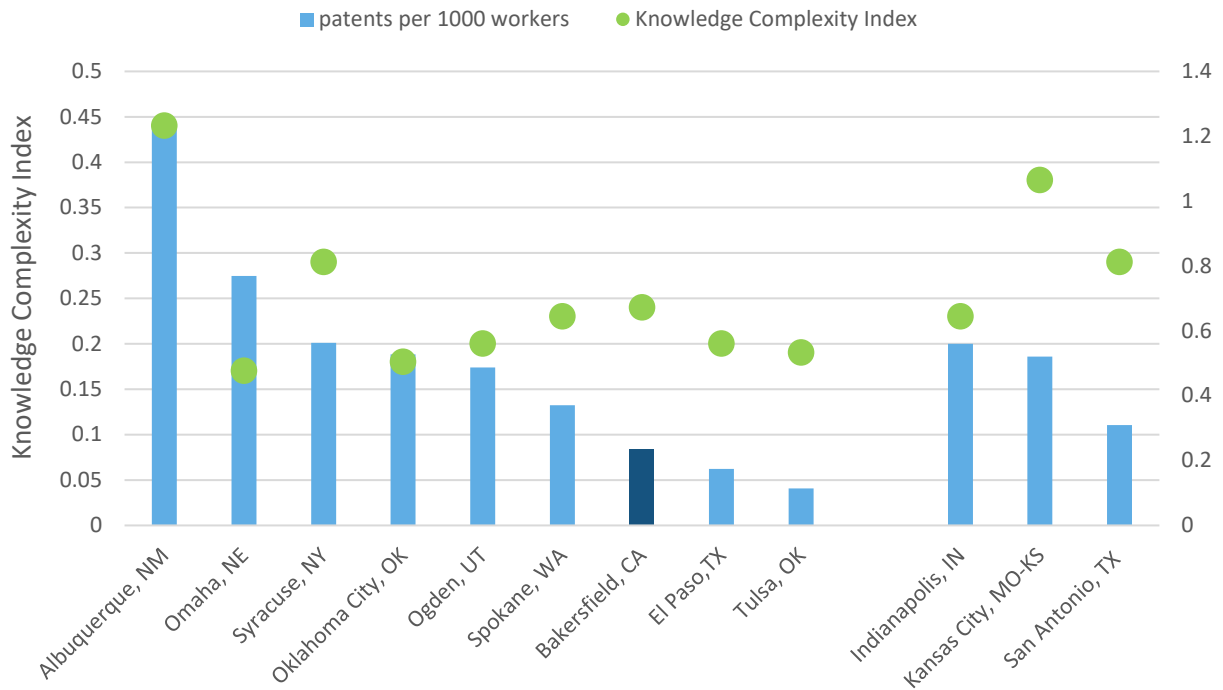
Kern lags economic peers in utility patent generation, but with above-median distinctiveness

The region generates a below-average number of patents compared to its economic and size peers, as well as larger aspirational “middleweight” regions, even accounting for the absence of a Tier 1 research university (e.g., Omaha, Ogden, Spokane, Indianapolis, Kansas City). However, military-associated patents like those produced at China Lake are difficult to assign and compare consistently attached to the specific locations that generate them, so likely are underreported for the region.

Despite the low volume, the distinctiveness of the patents generated in the region is slightly above the median among all metro areas. This “knowledge complexity index” (KCI) metric is based on the ubiquity versus novelty of the patent content. Taking into account the novelty of military intellectual property, both the output and the KCI assigned to the region is likely understated.

This further reinforces the potential and importance for (1) bringing existing innovation and financing tools “off base” for commercialization (2) accessing base resources, and (3) investing in new private-public innovation capabilities and activities highly focused on sector priorities. The following figure provides a summary of the data.

PATENT OUTPUT AND NOVELTY AMONG PEER ECONOMIES AND ASPIRATIONAL MIDDLEWEIGHTS



* Note: Fresno ranks similarly to Bakersfield. Boise is excluded as an extreme outlier in both productivity and complexity, driven by two major computer innovators (HP and Micron Technology). Oxnard also overproduces based on the concentration of Amgen and other biotech companies.

Source: Analysis of USPTO data, Kogler and Rigby.

SBIR/STTR awards underperform federal R&D and economic peers, demanding focus to tap potential

A proxy for the region’s effectiveness in tapping federal research and innovation assets toward commercial activities are the Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs. These competitive awards enable domestic and small businesses to engage with federal R&D with potential for commercialization. A requirement is to partner with a federal or non-profit research partner.

Accessibility and geographic distribution of SBIR/STTR is much greater than venture capital, with more than 55% of funds received outside the 10 most populous metro areas versus 20% of VC dollars. Still, the activities that SBIR/STTR support naturally gravitate to knowledge capitals and major research universities with relevant expertise, even in smaller population centers.

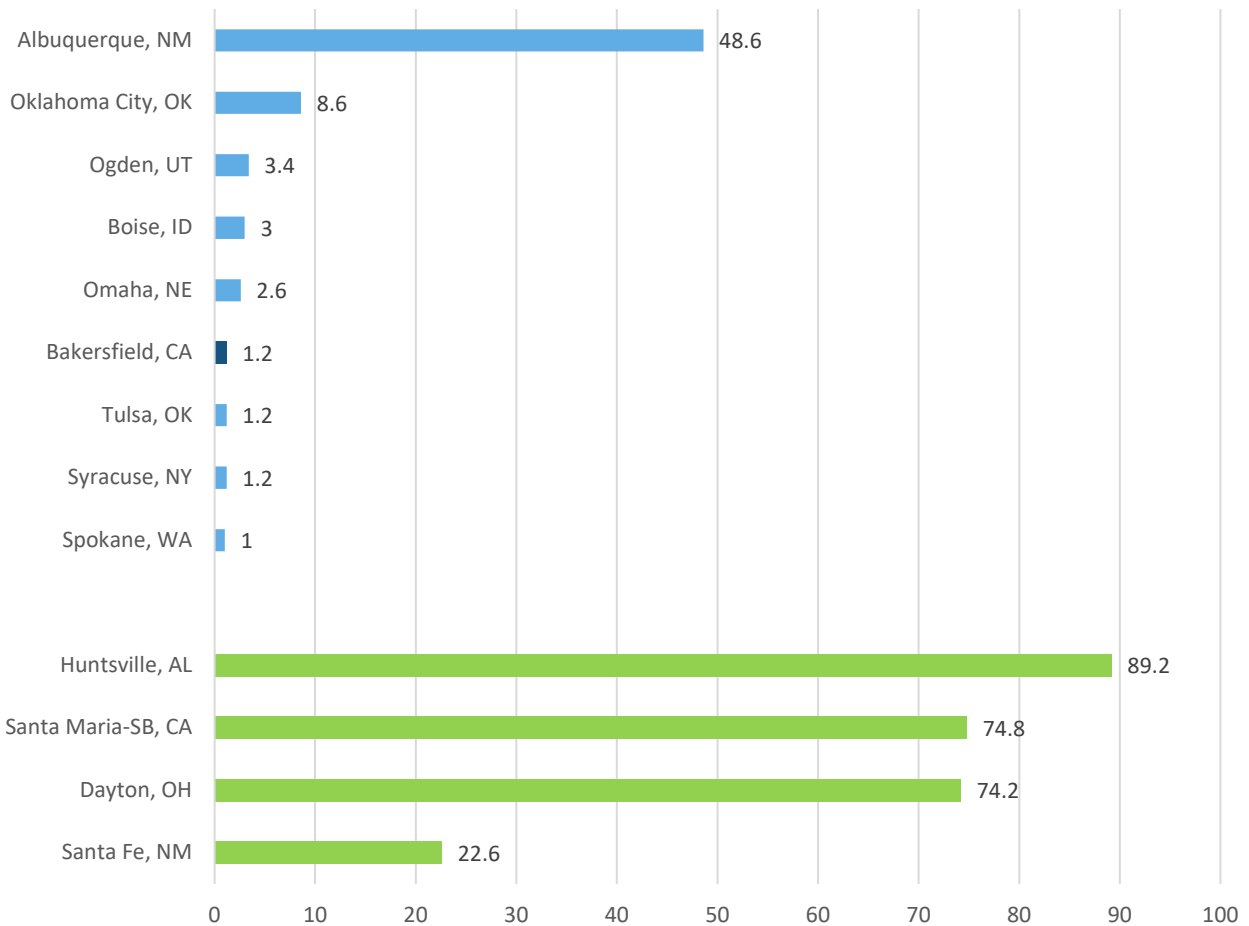
SBIR/STTR awards also disproportionately concentrate in regions -- like Kern -- with large federal R&D assets (national labs or military bases) which spin off both tech and talent to the recipient businesses and are available partners in support of the work. For example, Huntsville, Santa Maria - Santa Barbara, Dayton, and Santa Fe rank among the most intense SBIR/STTR regions, leveraging proximity to NASA Marshall Space Flight Center, Vandenberg AFB, Wright-Patterson AFB, and Los Alamos National Lab, respectively. Notably, neither Dayton nor Santa Fe feature a Tier 1 research university, demonstrating that is not a prerequisite to successful commercialization and scale.

Kern economic development practitioners have called the region a “death zone” for SBIR/STTR. The scale of awards lags economic peers, even taking into account those without a major research university. **Even more problematic is the extraordinary underperformance of the region against federal R&D counterparts, where comparable assets actually should put Kern far ahead of those economic peers.**

This benchmarking again reveals enormous untapped potential in federal assets, and the need to focus a highly organized and sustained effort on that agenda.

A deliberate, proactive approach can help advance toward the overall objective of commercialization, adapting local models like establishing external collaboration centers, providing centralized proposal development assistance, or nationally promoting access to federal assets in the region to attract entrepreneurs and innovators. Examples of such efforts include: the Commercialization Academy partnership between the Air Force Research Laboratory (AFRL) Information Directorate in Rome, NY and the Griffiss Institute; the Military-to-Market program collaboration between Naval Surface Warfare Center and Indiana's Ball State University; and the Technology Acceleration Program of The Wright Brothers Institute and AFRL directorates at Wright-Patterson AFB in Dayton. The figure below provides a summary of the data.

AVERAGE SBIR/STTR AWARDS PER YEAR (2013-2017)



Sources: Analysis of SSTI data on SBIR/STTR awards by metro area, May 2018; SSTI, Useful Stats: SBIR/STTR awards by metro (2013-2017), 2018; Brookings, Maximizing the Local Economic Impact of Federal R&D, 2016.

Despite strengths in firm formation, impact of entrepreneurship and business dynamism in Kern is low

Most net new job creation in a region comes from two types of firms: (1) new knowledge-intensive, high-growth companies under 5 years old; and (2) established mid-size traded sector businesses that expand steadily over time.

Between these, the formation of new firms is extremely important for competitive reasons beyond job creation, per ongoing research from the Kauffman Foundation.

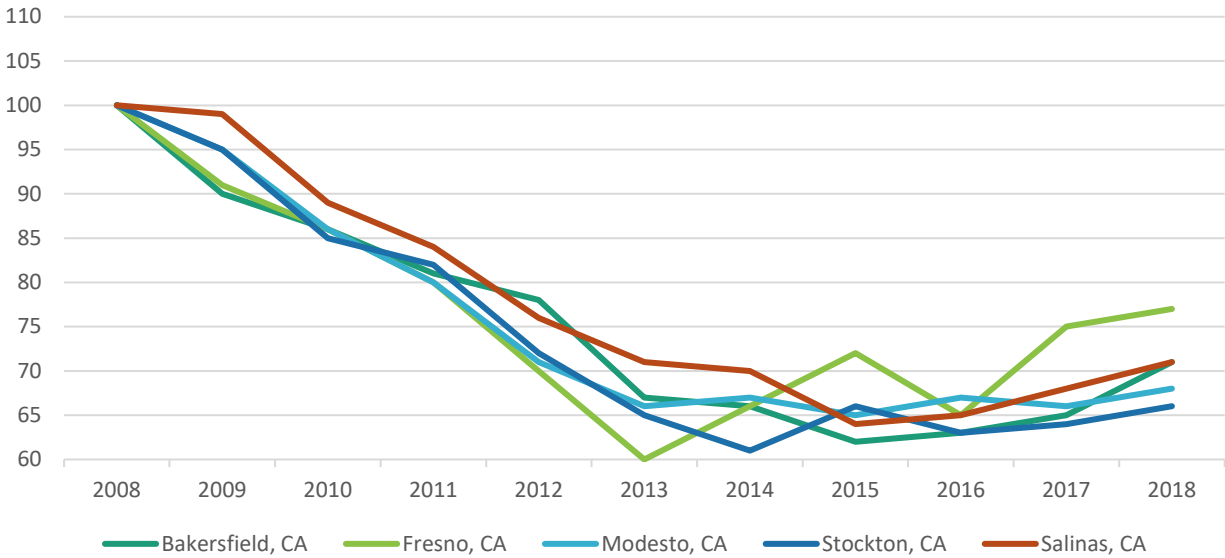
While startup firms are by default “small businesses” to begin, small businesses are not necessarily young. The focus and benefit is in firm age, not size. Young firms in traded sectors generate greater multiplier effects and economic impact. They also contribute disproportionately to aggregate productivity and innovation, where Kern generally lags.

Toward these outcomes, assessment of Kern entrepreneurship and business dynamism captures the quantity and quality of job creation in the Kern region compared against other metro economies. Each dimension is a useful baseline to gauge the Bakersfield region’s performance and potential for improvement, recognizing that U.S. regions generally have experienced downturns in this area.

These dimensions incorporate the Kauffman Foundation “Indicators of Entrepreneurship” across different firm age groupings, plus regional employment contributions and density of high-growth firms.

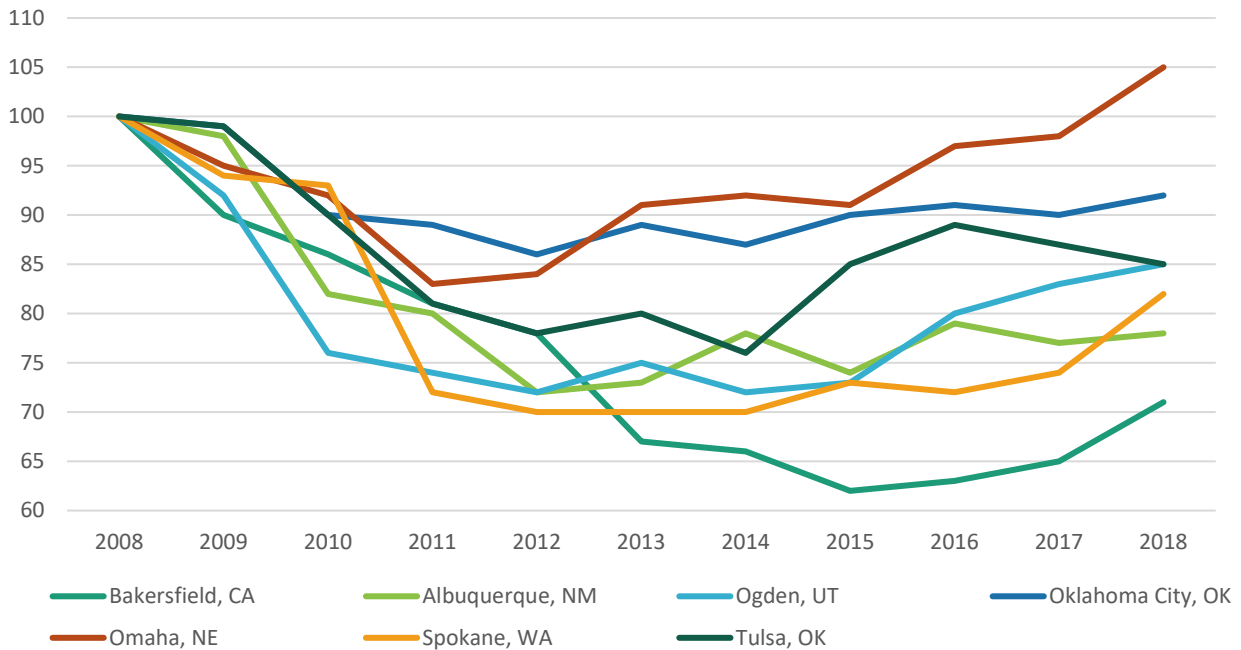
First, Kern experienced a substantial decline in the employment impact of entrepreneurship over ten years, equivalent to other inland California but much worse than economic peers. This employment is reflected by the percent change in total jobs at young firms active for up to five years, normalized from a common starting point. However, Kern is also on a sharp upswing in the past few years. The following figures provide a summary of the data.

CHANGE IN JOBS AT YOUNG FIRMS AMONG CALIFORNIA PEERS, 2008-2018



Analysis of U.S. Census Bureau’s Longitudinal Employer-Household Dynamics (LEHD) program.

CHANGE IN JOBS AT YOUNG FIRMS AMONG ECONOMIC PEERS, 2008-2018



Analysis of U.S. Census Bureau’s Longitudinal Employer-Household Dynamics (LEHD) program.

Second, Kern tops economic peers in “contribution” of jobs by young firms, and by a substantial margin, counter to lagging overall change in number of jobs at young firms. Kauffman defines contribution as the proportion of the total private sector jobs in a region attributable to young firms at each age segment up to five years. Counter to lagging overall change in number of jobs at young firms, Kern has outperformed national baselines and countered general downward trends in contribution. This indicates relative strength in new firm formation.

Third, Kern ranks low in “compensation” for jobs in young firms, by a notable amount, although improves its position over time. Kauffman measures compensation as the percentage of earnings a typical job in young firm in the region offers relative to a typical private sector job in a business of any age nationally. Jobs at new firms are expected to pay substantially less than a national standard, and may also be influenced by localized cost of living, but the gap suggests that many firms started may not be knowledge-based or well-resourced for durability.

Fourth, Kern jobs created at young firms are destroyed most rapidly, ranking at the bottom for job “constancy” among peers. Kauffman tracks constancy as the share of jobs in firms at each age segment that last more than three consecutive quarters; for example, only 29% of jobs created at Kern firms under two years-old survived beyond nine months. Durability of jobs is less than half or 2/3 the rate of peers in each of the age segments, thus losing the advantages in firm formation.

Composite comparisons across economic regions can be ranked by the Kauffman “Jobs Quality-Quantity Index.” This aggregates and equally weights the indicators of job contribution, earnings compensation, and constancy of jobs to provide a comprehensive picture of job-related dynamics in young firms within a geographic area. Blending these attributes, Kern is lowest among peers. The following tables provide a summary of the data.

Contribution: Share of private sector jobs in a region accounted for by firms of a given age

	0-1 yrs	2-3 yrs	4-5 yrs	Kauffman Index
Boise, ID	3.79%	4.33%	4.03%	1
Oklahoma City, OK	3.21%	4.50%	3.66%	1
Omaha, NE	3.54%	3.42%	3.23%	1
Spokane, WA	3.53%	4.20%	3.61%	1
Albuquerque, NM	2.76%	3.29%	3.62%	0.99
Syracuse, NY	2.35%	2.84%	2.34%	0.99
Tulsa, OK	3.12%	3.76%	3.59%	0.99
Fresno, CA	5.45%	5.88%	4.46%	0.98
Ogden, UT	2.91%	5.39%	3.85%	0.98
Bakersfield, CA	6.64%	6.62%	6.49%	0.95

Compensation: relative earnings of typical job in young firms regionally versus any age nationally

	0-1 yrs	2-3 yrs	4-5 yrs	Kauffman Index
Boise, ID	50.04%	57.06%	62.55%	1
Oklahoma City, OK	59.25%	69.22%	65.19%	1
Omaha, NE	61.54%	59.53%	58.50%	1
Spokane, WA	54.72%	54.37%	80.23%	1
Albuquerque, NM	49.63%	53.25%	58.50%	0.99
Syracuse, NY	46.62%	53.50%	60.74%	0.99
Tulsa, OK	62.28%	74.71%	66.88%	0.99
Fresno, CA	43.82%	47.08%	59.93%	0.98
Ogden, UT	47.92%	48.66%	52.07%	0.98
Bakersfield, CA	38.53%	38.58%	58.38%	0.95

Constancy: share of jobs held in young firms that last more than three quarters

	0-1 yrs	2-3 yrs	4-5 yrs	Kauffman Index
Boise, ID	0.52	0.62	0.66	1
Oklahoma City, OK	0.51	0.63	0.62	1
Omaha, NE	0.57	0.64	0.65	1
Spokane, WA	0.54	0.63	0.66	1
Albuquerque, NM	0.53	0.62	0.67	0.99
Syracuse, NY	0.53	0.62	0.67	0.99
Tulsa, OK	0.51	0.62	0.59	0.99
Fresno, CA	0.44	0.49	0.58	0.98
Ogden, UT	0.5	0.52	0.64	0.98
Bakersfield, CA	0.29	0.33	0.49	0.95

Key: Best 2nd Worst Worst

Source: Kauffman Foundation Indicators of Entrepreneurship – multi-dimensional private jobs analysis

Increasing sustainability of young firms requires more basic supports, focus on knowledge-intensive firms

Finally, not all new businesses are the same. The vast majority of entrepreneurs are in locally-serving businesses, not driven to growth or oriented toward innovation. The impact of entrepreneurship relies on concentrations of “high-growth” firms. A longitudinal Census analysis showed that businesses reaching one-year employment growth of 25% or higher account for nearly 60% of job creation

nationwide. Similarly, the 12% of businesses with a one-year revenue growth rate of at least 25% generate 50% of economy-wide total revenue growth.

Distinguishing among these young firms is a core issue. High-growth firms concentrate in knowledge-intensive or STEM traded sectors that enable rapid and sustained differentiation; young tech and ICT firms tend to be net positive job creators, while other young firms lose jobs at a higher rate. Unsurprisingly, concentrations of knowledge-intensive firms also correlate to effective university commercialization programs. This leads to targeting different types of assistance for traded sector growth firms versus “Main Street” locally-serving businesses, and startups versus scaleups later in the life-cycle.

Kern ranks low in its density of high-growth young firms against multiple comparison groups. Kern performs below all other peer regions for young tech-oriented companies per capita. In analysis of Inc 5000 firm entries based on three-year consecutive high-growth rates meeting OECD definitions, Kern lags against economic peers, California peers, aspirational middleweight regions, and military innovation hubs.

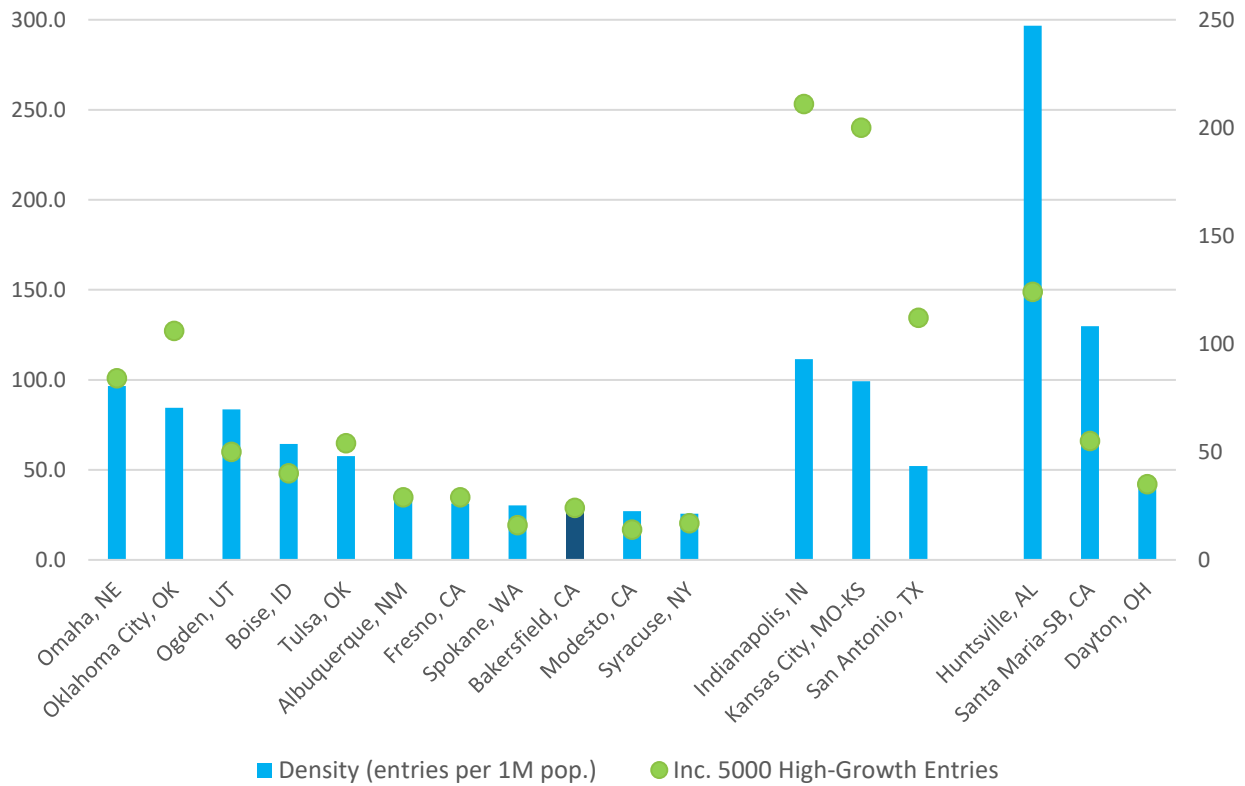
Reinforcing these themes, Heartland Forward analysis across 375 metro areas also ranked the Bakersfield MSA extremely high in (9th) in share of young firm employment, but extremely low in knowledge-intensity (346th).

Braiding the findings of strong firm formation and job contributions with weak job durability and development of high-growth, knowledge-intensive firms raises implications for targeting basic missing supports to young firms, beyond generic “small business services” – assets like incubators and accelerators, programs in commercialization and problem-solving assistance, and nurturing of digital / tech talent. The following figures provide a summary of the data.

Regional Predictors for High-Growth Firms in Kern - Inherited vs Influenceable?

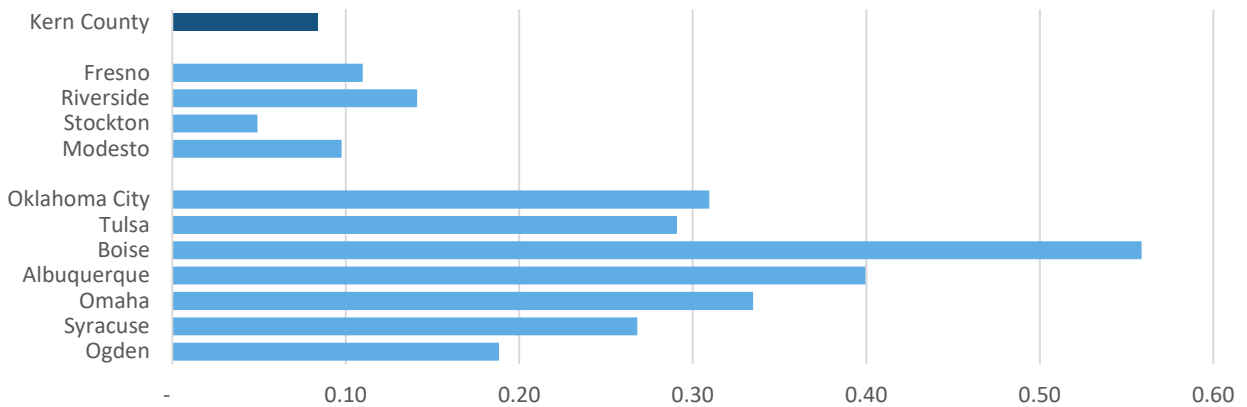
- Overall rate of business formation in the region, because entrepreneurial regions tend to stay that way due to culture and networked experience.
- Workers with college degrees, which drives entrepreneurship broadly and the likelihood of forming knowledge-intensity of firms.
- Employment in high-tech industries generally, for spinning off new firms, plus supply chain proximity to serving high-tech, high-growth customers.
- Population in prime entrepreneurship age (35-44 years), where professionals have accumulated experience and wealth, but are not yet risk-averse approaching retirement.

HIGH-GROWTH YOUNG FIRM DENSITY, 2011-2017



Sources: Brookings. High-growth firms and cities in the U.S., 2018; Heartland Forward, Young Firms and Regional Economic Growth, 2020. Brookings analysis of Crunchbase and EMSI data.

NUMBER OF TECH COMPANIES PER THOUSAND JOBS SINCE 2009*



Sources: Brookings. High-growth firms and cities in the U.S., 2018; Heartland Forward, Young Firms and Regional Economic Growth, 2020. Brookings analysis of Crunchbase and EMSI data.

J. CEDS Implementation

Governance and ecosystem findings (per B3K)

- 1. Kern needs to engage in ambitious collective action, invest in public goods to address economic and social challenges, and create mechanisms for accountability** -- As the data Book describes, Kern faces significant barriers to ensuring long-term growth that advances the region's competitiveness and improves living standards for all of its residents. Addressing these issues will require the region to act collaboratively, at scale, across systems and sub-regions, over a sustained period. This almost assuredly requires additional investments in structures, programs, and partnerships (such as those described elsewhere in this document) that have not existed to date in Kern, but increasingly form the mainstream of economic development in leading and peer regions. Crucially, this will also require the development of shared metrics and accountability to ensure strategies and tactics are ultimately implemented and effective.
- 2. Kern needs to more fully direct economic and workforce development efforts towards growing and sustaining a broader range of priority clusters** -- Like the data Book, previous analyses and strategies have identified the significance of specific clusters to the region's economic future. While the region has succeeded in logistics attraction, regional efforts have been largely unable to support identified clusters at either the depth or breadth matching the vision. Ensuring Kern remains competitive in aerospace and defense and adapts legacy strengths in oil/gas and other industries into new growth drivers will require sustained effort and expertise to organize industry to address market failures; identify and develop customized programming; engage with partners in workforce institutions and universities; fast-track local service needs, and advance effective advocacy at the state and federal levels. Until Kern does so, it runs the risk of losing opportunities to other regions seeking a foothold in similar areas.
- 3. Kern also needs to enhance resources supporting entrepreneurs and other general enablers of business dynamism** -- While Kern needs to bolster support for specific clusters, it also needs to add capacity to broader services promoting entrepreneurship and business growth. This includes expanding capital access and potentially providing more comprehensive entrepreneurship supports through a dedicated incubator or accelerator. Public sector leaders can also continue to look for ways to streamline local service delivery and regulations.
- 4. Kern needs to expand access to leadership tables and ensure governance reflects its increasingly diverse population** -- While Kern has an active social justice community, these efforts have typically been disconnected from mainstream strategy and decision-making. Improving connections could help target and facilitate interventions to: a) ensure more residents benefit from cluster development through targeted workforce training, b) broaden access to entrepreneurship services, and c) address challenges around educational attainment and disconnected youth.

Findings | Transitioning assessments into implications and practical responses

Analysis clearly shows that Bakersfield / Kern County is falling behind economic peers and the nation in core aspects of competitiveness and performance, masked by exceptional job growth mainly attributable to increases in population and expansion of industry sectors with lower job quality. Where a unique industry mix had enabled the region to be a remarkable outlier in providing economic mobility for residents, despite very low educational attainment, market and regulatory forces have pushed the

region back toward the mean and threaten long-term vitality. As a result, the economy produces less opportunity, and more working families struggle to achieve self-sufficiency and middle-class prospects across all demographics, and disproportionately for Hispanic and Black populations.

With the objective to achieve economic outcomes in growth, prosperity, and inclusion, findings from the quantitative and qualitative analysis identify likely priorities and trade-offs for topical workgroups to convert from strategic implications to tactical responses, operational commitments, and performance measures. These findings are classified into three categories:

1. Cross-cutting considerations that must be dealt with in determining strategy interventions, including (1) geography, (2) workforce development integration, (3) race and gender differences, and (4) state policy and cooperation
2. Core economic development program responses to address (1) four potential cluster / sub-sector opportunities, (2) fundamental entrepreneurship and business supports, and (3) gaps in implementation
3. Broad, systemic issues that are connected to and enablers of regional economic success, but beyond the manageable scope of a regional economic development strategy, encompassing (1) educational attainment, (2) placemaking, and (3) community development links

The novelty of findings and implications varies. Some were identified in prior reviews and strategies, but not converted into tactics or actually implemented. Several bring together ideas and initiatives from separate efforts into a comprehensive and focused agenda for joint programmatic response. Others are entirely new or bring fresh perspective to long-standing issues.

The B3K assessments and findings are not a critique of any individual activity or stakeholders, but of the region's performance and ecosystem as a whole. Organizations with responsibilities that relate to the findings naturally may feel challenged because they already are working to address identified issues. The assessments did not evaluate or question the efficacy or appropriateness of particular program activities, which may be of high quality and relevance. However, the regional data and quantitative feedback on collective impact of existing activities clearly suggests significant space for improvement in various existing efforts, whether in achieving scale, targeting participants, continuing duration for results, filling gaps, or simply aligning to eliminate redundancies and maximize return on limited time and resources.

Finding #1: Cross-cutting considerations for strategy development

1. **Greater Bakersfield and East Kern are two functionally distinctive economic areas that should be treated differently with tailored strategies and resources.** Industry and talent mix, local resources, and infrastructure needs are divergent; complementary strengths are limited; and potential for connections is narrowly targeted for mutual benefit, like anchor institution relationships, rather than fully integrated.
2. **With greater clarity on economic development objectives anchored in priority sectors and job quality, workforce development activities can target efforts to address those talent needs versus more opportunistically filling openings.** Although regional workforce capabilities outweigh other competitiveness drivers, the economic development system is not built to address talent issues, and workforce systems are not aligned or incentivized to focus on achieving economic development goals or deep prosperity. Strategies must include integrating Kern's mainstream workforce programs

with sector-specific tactics, plus improving outreach and reducing barriers to access for specific populations.

3. **Economic development interventions must consider how to address race and gender gaps in access to quality jobs and economic opportunities.** Regions that are more economically inclusive are also more competitive in growth and productivity. Given the data, an intentional approach will be required to enable deep prosperity for all residents, whether through programs or individual business practices.
4. **State policy has disproportionate effects on Kern's economy; education and engagement of the State through strategy development is required to find areas of mutual benefit.** While Kern should continue to advocate for the health of its oil and gas and agricultural sectors, the region must also pursue proactive partnerships with the state. Meanwhile, Kern's assets and leadership in various sectors are needed by the State to meet its own policy goals. Engaging the State inside strategy creation must be vigorously pursued to establish an ongoing problem-solving relationship, proactively navigate issues, and secure commitments for delivering on Regions Rise Together principles.

Finding #2: Opportunity Industry target identification considers multiple factors

The approach to prioritizing sector opportunities overlays multiple criteria to build a holistic view of a region's unique economic DNA using both data and qualitative inputs. While evidence-based, this analysis is discretionary versus formulaic, requiring interpretation and weighting. The factors explicitly consider the core drivers of economic competitiveness and all three dimensions of regional economic development success – growth, prosperity, and inclusion.

Basic economic development sector analysis typically centers on prior industry performance, scale, and regional "specializations" based on industry job counts versus national average. However, to find true advantages in the global marketplace, that review then must identify very specific sub-sectoral targets versus broad industry classes (*e.g.*, "manufacturing" vs "industrial machinery production"). It also must consider how traditional industries are blending into new hybrid sectors that are not captured within a single existing standard industry classifications (*e.g.*, *unmanned aerial vehicles*).

Further, to forecast opportunities outside of historic industry segments, the B3K assessments consider diverse factors that better gauge emerging and future sectoral opportunities, such as:

- transferability of prevalent occupational skill-sets into new industry areas;
- cross-disciplinary links in innovation and R&D activities with commercial applications;
- potential to build off one sub-sector strength into another part of the value chain;
- global market trends;
- policy influences on future demand and funding availability;
- competitor regions or niche.

With evidence of economic potential, the relative value of those options can be considered to set priorities:

- multiplier effects on other job creation;

- job quality and accessibility.

Finding #3: Fundamental entrepreneurship and business supports are required to fill gaps

Basic business and entrepreneurship supports need to be established or scaled to address core issues: durability of young firms, creation of more traded sector firms with high growth potential, and expansion of mid-sized companies.

- The region lacks foundational resources common in comparably-sized areas, such as business incubators or accelerators.
- Existing technical assistance resources and access to problem-solving for innovation adoption or workforce support are not at a scale to have impact.
- Entrepreneurs face challenges raising capital without the presence of a well-resourced, locally-based CDFI or transparency around alternative funding sources.
- Targeted programming and interventions to address barriers to women and minority entrepreneurs are underdeveloped throughout the region.
- Efforts can be (1) organized by stage of firm life cycle; (2) differentiated between “Main Street” locally-serving businesses versus traded sector growth businesses; and (3) categorized among technical assistance, capital, and infrastructure needs.

Finding #4: Economic Development Delivery Ecosystem requires adjustments to achieve vision

The economic development delivery ecosystem currently has significant implementation gaps that must be filled to execute a comprehensive regional strategy.

- The region lacks a shared vision, goals, and metrics for regional economic success toward which all economic development contributors can orient.
- Implementation of prior strategic ideas has faltered without clear ownership, attention, accountability, or authority for execution, and attendant resource commitments.
 - “Clusters” previously named as regional priorities were not supported by any actual cluster development strategies or initiatives, nor was structure established for targeted, ongoing collaboration with industry to identify and fill distinctive needs.
- Interactions among economic development contributors rarely result in functional collaborations or joint programmatic implementation, versus information exchange and networking.
 - Impediments to more substantive collaboration include outcomes against which organizations and individual performance is measured, with few incentives or resources rewarding such efforts; institutional self-interest and competition for limited resources; difficulty changing long-standing practices; and no agreed “center of gravity” or consistent forum to transparently vet, organize, and partner around opportunities.
- The delivery system is not structured to sufficiently account for race and gender disparities and the distinctive needs of specific populations.
- Compared to other regions, the business community does not take a leadership role in setting and implementing an economic development agenda for collective benefit.

Finding #5: Systemic Issues beyond Regional Economic Development

1. **Educational Attainment** – No economic development strategy can change outcomes in job quality, vitality, and competitiveness if the region does not dramatically improve educational attainment rates at all levels. That is the purview of collaboratives like the Kern Education Pledge versus a regional economic strategy, but all stakeholders with interest in economic development – including the private sector – must commit equally to advancing that agenda.
2. **Placemaking** – Lack of commercial and residential development to provide quality of life for workforce is a challenge in particular sub-regions and neighborhoods across the county, most acutely in East Kern. The economics of making these viable in the marketplace is a technical and policy issue that should be addressed by a task force of real estate developers, financiers, and county officials – to determine what is required for placemaking to “pencil out,” and if that is feasible.
3. **Community Development** – The traded sector economy functions at a regional scale, and regional strategies can prioritize the creation of accessible good and promising jobs. However, regional efforts cannot target the economy into local communities. For distressed areas, specific city and neighborhood strategies are required to connect residents to these regional opportunities. Additionally, stakeholders must recognize complementary differences in the purpose and method of these activities, by definition. Economic development works to change the behavior of FIRMS toward creating jobs, increasing investment, and building wealth in regions. Community development works to empower RESIDENTS toward building and sustaining healthy, vibrant neighborhoods.

CEDS Implementation Plan

An implementation plan for the CEDS is shown in the table below,⁵ which is organized as follows:

- The first two columns in the table include:
 - a) Categorical Heading/Strategies – the two categorical headings of (I) Establish Positioning for Economic Development, and (II) Establish Specific Focus for Core Economic Development Functions, and strategies and Action Items within each of those two categories.
 - b) Why Included/Special Considerations – discussions where relevant of why a particular strategy is included and the context for considering it.
- The last two columns link the strategies, where applicable, with two other sources, representing the following (Legends for which are shown at the end of the strategy table):
 - Objectives mentioned elsewhere in the CEDS, and
 - Goals stated in the prior CEDS from 2012, which are reproduced here (edited for brevity) partly to show the consistency between contemporary and previous concerns, particularly those related to equitable economic development.

⁵ A substantial portion of material in this table is taken directly or adapted from the B3K *Draft Market Assessment* of March 2021.

ECONOMIC DEVELOPMENT STRATEGIES BY CATEGORY

Categorical Heading/Strategy/Action Item	Why Included/Special Considerations	Supports 2020 Objectives [#]	2012 CEDS Goal #
Category I. Establish Positioning for Economic Development			
A. Generally, ensure that opportunities are inclusive across the demographic spectrum, for all strategies		3	2
B. Nurture existing partnerships, form new as appropriate, and leverage		5.b	
1. Promote the concept of uniting East Kern and Palmdale/Lancaster (in adjacent Los Angeles County), to help maximize the effectiveness of the aerospace cluster there, and empowering regional leaders within this concept to achieve scale and visibility	This approach will help capture increasingly mobile business, talent, and investment. Some of Kern’s aircraft job losses have been due to relocation across the county line to Palmdale/Lancaster, which is effectively part of the same cluster and functional economic area	1	
2. Pursue a deliberate intrastate space strategy and investment agenda with other complementary hubs vis-a-vis outside regions	East Kern faces increasing competition from existing and emerging aerospace hubs in Colorado, Florida, New Mexico, and Texas. The Central Coast's REACH strategy and partnership with the state to enhance aerospace activity at Vandenberg AFB is an example of growing competition even within California	1	
3. Build on B3K workgroup organizations and structures to establish ongoing partnerships as appropriate		5	
4. In West Kern, opportunities to leverage existing oil and gas activity through renewable fuels and carbon management (as one example, discussed below), could benefit from creation of strategic partnerships	The complex set of issues surrounding both the existing oil/gas cluster and emerging complementary activities suggests that multiple types of expertise, in technology, policy, etc. would be useful	4, 5	1, 3
C. Establish and apply shared metrics and systems of accountability for strategies		5.a	
Category II. Establish Specific Focus for Core Economic Development Functions			
A. Establish and support/pursue target industries ⁶ of:			
1. Renewable Fuels and Carbon Management		4	3

⁶ Target industries are also discussed in-depth elsewhere in this CEDS, and are summarized here for this section.

Categorical Heading/Strategy/Action Item	Why Included/Special Considerations	Supports 2020 Objectives [#]	2012 CEDS Goal #
<p><i>Subsectors:</i></p> <ul style="list-style-type: none"> • Renewable biofuels expansion, including development of new production technologies and processes for export. • Other renewable fuels and energy production and innovation, including hydrogen and agricultural or woody biomass • Carbon Capture and Storage (CCS) – implementation and innovation in concepts, products, and services for export 	<p>By building on its distinctive industry base, talent and expertise, and geological assets, the region can extend its energy cluster into this subsector. The new subsector possibilities represent an emerging global market niche. Jobs are closely correlated to the existing talent base.⁷ Increasing attention, investment, and policy action by government (federal, state, local), industry, and environmental interests have improved the baseline for financial and other enabling support. Research by Livermore National Laboratory and Stanford University / Energy Futures Initiative affirm potential, specific to Kern</p>		
<p>2. Aerospace. Note that the Aerospace Vehicles & Defense subsector is included below under Advanced Manufacturing. Aerospace-specific strategies are primarily described within other strategy categories such as cluster and business support, and the like</p>	<p>With considerable assets in aerospace, the region can benefit by establishing cluster initiatives to support aerospace generally and address specific competitive and potential partnership issues in a strategic, sustained, and collaborative manner</p>	<p>See I.C.1 1</p>	
<p>3. Advanced Manufacturing Subsectors</p> <p><i>Subsectors:</i></p> <ul style="list-style-type: none"> • Processed Chemical Products • Plastic Products, Materials, and Resins • Inorganic Chemicals • Fabricated Metal Products & Fasteners • Metal Processing – Advanced • Metal Processing – Basic • Aerospace Vehicles & Defense • Process Equipment & Components • Industrial Machinery • Surgical and Dental Instruments • Food Processing/Manufacturing 	<p>Certain manufacturing subsectors that generate accessible, quality jobs show a notable concentration and/or growth in Kern, in spite of overall (national) trends of mfg. employment decline. Kern’s positive trends could be accelerated by providing support to industry needs. In spite of common California impediments – higher costs and regulation – assets for expanded manufacturing include growing logistics capabilities and location advantages, talent adjacency, and emerging workforce training assets.</p> <p>B3K noted potential benefits of supporting food manufacturing, which generates better-quality jobs than agricultural production, as well as higher multiplier effects, and could benefit from universities</p>		<p>1.a</p>

⁷ Subsectors are distinct from renewable electricity generation in solar and wind, where the region already is a production leader with supports in place, and they generate more permanent jobs.

Categorical Heading/Strategy/Action Item	Why Included/Special Considerations	Supports 2020 Objectives [#]	2012 CEDS Goal #
	developing strong R&D in food processing innovation, or a food mfg. incubator or public test kitchen		
4. Business Services Outsourcing / Second Office			1.a
<i>Subsector examples:</i> <ul style="list-style-type: none"> • Business Support • Computer Services • Consulting (general) • R&D Consulting • Marketing / Design • Insurance Carriers 	Business and professional services, in the form of traded (nonlocal) subsectors, will not necessarily grow naturally within any given region, but strengthening their presence long-term is important to the region's diversification and business capacity, for a regional economy of this size		
5. Other prominent, legacy sectors			
<ul style="list-style-type: none"> • Agriculture 	Agriculture is a critical foundational asset, and economic development actors must work to support and serve firms in these sectors as part of their core operations. State groundwater management constraints, potential for automation, and historically low job quality contribute to a strategic question: whether agriculture can be leveraged into expanded, more enduring segments of the value chain, with better-quality jobs	4	3
<ul style="list-style-type: none"> • Logistics 	Logistics capabilities and strengths, which are inherent to the region based on factors such as geography and land availability, also can be an enabler or platform for growth of other high-value traded sectors, such as manufacturing		3
<i>Subsector examples:</i> <ul style="list-style-type: none"> ○ Warehousing and Storage ○ Rail Transportation 			
B. Establish core functions to maximize the success of targeted industries			
1. Provide specific support for target industries/clusters			
<ul style="list-style-type: none"> • In strategic positions and documents, and ongoing policy formation, reinforce the relationship between certain newly targeted industries and legacy industries of: a) Oil/Gas (with ties to renewable fuels and carbon management) and b) Agriculture 	Studies by the RAND Corporation and others have determined that activities to support the CCS industrial base are largely shared with the Oil and Gas sector. There are also 37 occupations that correspond to CCS	4	3

Categorical Heading/Strategy/Action Item	Why Included/Special Considerations	Supports 2020 Objectives [#]	2012 CEDS Goal #
(with ties to certain manufacturing and business services sectors, and logistics)	and are aligned with occupational capabilities present in the region (as detailed elsewhere in this document)		
<ul style="list-style-type: none"> For Renewable Fuels and Carbon Management, set up a coalition, tactical strategy, and dedicated personnel to translate possibilities and policy discussion into tangible actions. Fundamental organizing of stakeholders is the first need 	Existing relevant program activities and regulatory structures are currently fragmented	4	3
<ul style="list-style-type: none"> For Aerospace, establish a strong cluster initiative across the entire cross-border aerospace region, guided by a dedicated, senior lead representing deep industry experience, to meet needs of the sector and organize joint stakeholder action 	See I.C.1	5.c	
<ul style="list-style-type: none"> For Aerospace, establish specific industry incentives 		5.c	
<ul style="list-style-type: none"> For Manufacturing, provide typical acceleration supports for manufacturing firms – especially for benefitting smaller and middle-market establishments – that include intermediaries, who create: a) scale and coordinated access to talent pipelines and incumbent worker development, b) innovation identification and adoption, and 3) problem-solving in products or processes 		5.c	
2. Support development of entrepreneurship, through physical and/or virtual programs			1.b
<ul style="list-style-type: none"> For Aerospace, pursue existing federal innovation and financing assets and programs to spur firm growth – with a focus on smaller and mid-size businesses 			
<ul style="list-style-type: none"> To help support Business Services, provide incubation services and/or facilities for tech-related service firms 			
3. Support workforce development, tied to targeted industries as well as existing		2	
<ul style="list-style-type: none"> For Aerospace, improve the local talent pipeline through coordinated industry-driven training programs at scale, helping to retain workers 	Federal research centers face massive retirements in the next five years, which could affect R&D in the aerospace sector generally as well as locally. Local access to talent is inhibited by the absence of a four-year university in the immediate area, and other coordinated training		
<ul style="list-style-type: none"> For the Business Services workforce, provide digital skills training to meet needs of current firms and prospects 			

Categorical Heading/Strategy/Action Item	Why Included/Special Considerations	Supports 2020 Objectives [#]	2012 CEDS Goal #
<ul style="list-style-type: none"> • To better advance growth, prosperity, and inclusion objectives within Logistics industries: <ul style="list-style-type: none"> ○ Evaluate attraction or expansion assistance using “good” jobs factors ○ Target subsectors that can be expected to afford quality jobs (e.g., rail transportation vs warehousing), and ○ Promote improvements to existing job quality within firms through supports or incentives (e.g., inventorying job standards and hiring practices, providing incumbent worker training) 			
4. Support critical infrastructure development			1.a
<ul style="list-style-type: none"> • Promote the expansion of Mojave Air Spaceport, as support to the Aerospace cluster 			
<ul style="list-style-type: none"> • Encourage and coordinate development of projects reflecting “placemaking” amenities, which help attract and keep workers 	Ideally, these kinds of projects would be distributed where desired clusters’ jobs are also present		
5. Incorporate focused cluster marketing into other marketing programs		5.c	1.a
<ul style="list-style-type: none"> • Onshore Outsourcing. Tap into growth in delivery of remote services and outsourced functions, through targeting specific markets, increasing visibility, and aggregating capabilities 			
<ul style="list-style-type: none"> • Second Office. Capture relocations of in-house activities, from coastal California to out-of-state metros 			
<ul style="list-style-type: none"> • Internal Market Development. Adjust procurement policies and make concerted efforts to serve regional anchor institutions, building the foundation of local firms and talent 			

LEGEND for “Supports 2020 Objectives” – Overall considerations/objectives for strategy development, extracted from elsewhere in this CEDS

6. Greater Bakersfield and East Kern are two functionally distinctive economic areas that should be treated differently with tailored strategies and resources.
7. With greater clarity on economic development objectives anchored in priority sectors and job quality, workforce development activities can target efforts to address those talent needs versus more opportunistically filling openings.
8. Economic development interventions must consider how to address race and gender gaps in access to quality jobs and economic opportunities.
9. State policy has disproportionate effects on Kern’s economy; education and engagement of the State through strategy development is required to find areas of mutual benefit.
10. The economic development delivery ecosystem currently has significant implementation gaps that must be filled to execute a comprehensive regional strategy. For example:
 - a. The region lacks a shared vision, goals, etc.
 - b. Interactions among economic development contributors can be more functionally collaborative.
 - c. Compared to other regions, the business community in Kern needs to have a greater leadership role in economic development policy and implementation.

LEGEND for “2012 CEDS” – *Kern 2012 CEDS* strategy goals (excerpts)⁸

Goal 1: Expand Jobs and Overall Prosperity. Support the growth of clusters into higher value-added activities. Forge greater linkages between Kern’s colleges and clusters to promote local innovations and increase workforce skills and use of technology

Goal 2: Foster Inclusion and Increased Equity. Kern County has many elements of disparity that must be reduced to strengthen the overall economy, with high poverty and unemployment along with local industries that pay low wages. Support industries with high-quality jobs and solid wages that provide career ladder opportunities

Goal 3: Promote Sustainability and High Quality of Life. “Competitiveness” includes ensuring that growth does not degrade the environment and quality of life. Current growth patterns are threatening this sustainability, both economically and environmentally. There is a need to begin applying principles of sustainability today. The County should encourage industries and firms to incorporate sustainable practices.

Economic Sustainability/Resilience and the CEDS Strategy Group Categories

While the overall CEDS reflects a complete spectrum of strategic themes that relate directly to the concept of economic resiliency, sustainability and economic resiliency are also embodied within each of the CEDS Strategy Groups, as summarized in the following table.

⁸ 2012-2013 Annual Report: County of Kern, *Comprehensive Economic Development Strategy Update*. pp. 21-22

STRATEGIES/ACTION ITEMS AND SUSTAINABILITY/ECONOMIC RESILIENCY MATRIX

		Resiliency Theme Key -									
		A	B	C	D	E	F	G	H	I	J
Category I. Establish Positioning for Economic Development											
A.	Generally, ensure that opportunities are inclusive across the demographic spectrum, for all strategies	X	X	X	X				X	X	X
B.	Nurture existing partnerships, form new as appropriate, and leverage										
1.	Promote the concept of uniting East Kern and Palmdale/Lancaster (in adjacent Los Angeles County)	X	X				X				
2.	Pursue a deliberate intrastate space strategy and investment agenda with other complementary hubs vis-a-vis outside regions	X	X			X					X
3.	Build on B3K workgroup organizations and structures to establish ongoing partnerships as appropriate	X	X	X	X		X		X	X	
4.	In West Kern, opportunities to leverage existing oil and gas activity through renewable fuels and carbon management, could benefit from creation of strategic partnerships	X	X	X	X	X	X	X		X	
C.	Establish and apply shared metrics and systems of accountability for strategies		X	X			X			X	
Category II. Establish Specific Focus for Core Economic Development Functions											
A.	Establish and support/pursue target industries of:										
1.	Renewable Fuels and Carbon Management	X	X	X	X	X	X	X	X	X	
2.	Advanced Manufacturing. Aerospace	X	X	X		X	X				
3.	Other Advanced Manufacturing Subsectors	X	X	X	X		X		X		
4.	Business Services Outsourcing / Second Office	X	X	X	X		X		X		X
5.	Other prominent, legacy sectors	X	X	X			X	X	X	X	
B.	Establish core functions to maximize the success of targeted industries										
1.	Provide specific support for target industries/clusters	X	X	X	X		X		X	X	X
2.	Support development of entrepreneurship, through physical and/or virtual programs	X	X	X	X				X	X	X
3.	Support workforce development, tied to targeted industries as well as existing	X	X	X	X				X	X	X
4.	Support critical infrastructure development		X			X	X	X	X	X	X
5.	Incorporate focused cluster marketing into other marketing programs	X	X	X	X					X	X

LEGEND, Resiliency Themes

Key	Description
A	Diversification of the County's industry/employment base;
B	Focus on strengthening existing and emerging industry clusters in the region;
C	Focus on strengthening the existing business base through implementing a retention/expansion program for existing businesses;
D	Creating a business environment conducive to entrepreneurial and small business development;
E	Infrastructure investments that leverage local, state and federal funding;
F	Integration of economic development programming with broader planning, land use and environmental initiatives;

Key	Description
G	Improving the County's fiscal position;
H	Ensuring social equity in economic development measures through training, targeting geographic areas of focus, etc.;
I	Recognizing the need for greater resiliency and adaptation for the oil and gas and Agricultural sectors as a result of the current policies affecting environmental, water management, and the general business climate; and
J	Leveraging the range of benefits associated with opportunities for remote work, spurred by the pandemic.

K. Evaluation Framework

This section of the report outlines the metrics that will be utilized to evaluate implementation of the CEDS in future years (in the Annual Performance Reports to be submitted to EDA). The evaluation framework focuses on standard economic performance measures utilizing official government (state and federal) data sources.

In addition to the standardized metrics, specific programmatic accomplishments of the CEDS jurisdictions will be summarized in a separate narrative discussion in each Annual Performance Report.

Statistical Performance Measures

The tables below highlight the following key performance measures to be considered in each year's Annual Performance Report:

- One-year **population growth** compared to County and State benchmarks (2019-2020 data);
- One-year and two-year changes in **resident unemployment** rates (2018-2020 data);
- One-year and longer-term (10-year) change in **sales tax revenue** compared to County and State benchmarks (2010-2020 data);
- Five-year trends for key Census/ACS data (cities, county, state, U.S.) (2014-2018 data) for the following measures
 - **Educational attainment**
 - **Labor force participation rate**
 - **Home ownership rate**
 - **Median household and average per capita income levels**

The data on these tables are for the most recent years available, and will be utilized as baseline benchmarks in subsequent years (each of the data sources is updated on an annual basis).

Baseline conditions pertaining to the following aspects of an evaluation process: Measure, Period, Kern County Target Area Performance, and Economic Favorability Rating – are summarized on the following page.

Measure	Period	Kern County Target Area Performance	Economic Favorability Rating
Population growth	2019-2020	Population in Kern County grew at a slightly higher rate (1.0%) than the state (0.2%) benchmark. In general, the performance of the county was consistent with many of the other cities in the county. The cities with the highest rates included Wasco (4.8%) and Shafter (3.0%). The cities with the lowest rates included Taft (-7.8%), McFarland (-4.0%), and Tehachapi (-2.3%).	Neutral
Change in resident unemployment rate	2018-2020	The unemployment rate in Kern County is slightly lower than the state benchmark. In general, the unemployment rate of the county was slightly higher than the many of the other cities in the county.	Neutral
Growth in sales tax revenue	2010-2020	Although sales tax revenue has declined in the county, Kern County's sales tax revenue has been growing for the past 10 years. Sales tax revenue over the past 10 years has been lower than the state benchmark. In general, sales tax revenue of the county was also slightly lower than many of the cities in the county in the past year as well as the past 10 years.	Less Favorable
Labor force participation	2014-2018	Dropping slightly across geographies evaluated, except Delano and Taft which experienced an increase. Kern County has a slightly lower rate in comparison to the state and U.S. benchmarks. In general, labor force participation for the county was higher than many of the cities in the county.	Declining
Home ownership rate	2014-2018	Increasing slightly across most geographies evaluated, except Arvin, California City, Maricopa, and Shafter which experienced a decrease. Kern County has a slightly higher rate in comparison to the state and U.S. benchmarks. In general, the rate of home ownership for the county was higher than many of the cities in the county.	Favorable
Median household and per capita income levels	2014-2018	Improving for most geographies evaluated, except California City, Maricopa, McFarland, and Wasco with California City being the lowest. Kern County has a lower rate in comparison to the state and U.S. benchmarks. In general, median household and per capita income for the county was higher than many of the cities in the county.	Favorable

TOTAL POPULATION BY YEAR

KERN COUNTY AND REFERENCE AREAS 2019-2020

Place	2019	2020	% Change 2019-20
Arvin	21,314	21,677	1.7%
Bakersfield	387,236	392,756	1.4%
California City	14,423	14,161	-1.8%
Delano	52,422	53,032	1.2%
Maricopa	1,122	1,127	0.4%
McFarland	14,984	14,388	-4.0%
Ridgecrest	29,067	29,350	1.0%
Shafter	19,849	20,441	3.0%
Taft	9,417	8,680	-7.8%
Tehachapi	13,054	12,758	-2.3%
Wasco	27,548	28,884	4.8%
Kern County	908,405	917,553	1.0%
California	39,695,376	39,782,870	0.2%

Notes:

1. The current year and historical population estimates have been modified to reflect the DOF Estimates as of January 1 for each year.
Source: California Department of Finance, Table 1: E-5 City/County Population and Housing Estimates.

TOTAL RESIDENT UNEMPLOYMENT RATES 2018-2020

KERN COUNTY AND REFERENCE AREAS

Date	July 2018	July 2019	July 2020	2-year change	1-year change
Arvin	7.9%	8.0%	15.6%	7.7%	7.6%
Bakersfield	6.3%	6.1%	16.2%	9.9%	10.1%
California City	16.7%	16.9%	30.1%	13.4%	13.2%
Delano	22.4%	25.1%	25.1%	2.7%	0.0%
Maricopa	11.5%	11.4%	21.7%	10.2%	10.3%
McFarland	10.7%	10.8%	20.4%	9.7%	9.6%
Ridgecrest	3.4%	3.5%	7.3%	3.9%	3.8%
Shafter	11.8%	11.9%	22.3%	10.5%	10.4%
Taft	5.3%	5.4%	10.7%	5.4%	5.3%
Tehachapi	5.6%	5.6%	11.3%	5.7%	5.7%
Wasco	15.2%	14.2%	18.9%	3.7%	4.7%
Kern County	8.4%	8.5%	16.4%	8.0%	7.9%
California	4.5%	4.4%	13.7%	9.2%	9.3%
United States	4.1%	4.0%	10.5%	6.4%	6.5%

Source: United States Bureau of Labor Statistics; California Employment Development Department Labor Force and Unemployment Rate for California Sub County Areas.

ANNUAL PERCENTAGE CHANGE TOTAL SALES TAX REVENUE

KERN COUNTY AND REFERENCE AREAS MOST RECENT YEAR & PAST 10 YEARS

Place	Fiscal Year 2019-2020	Average Annual Change, Past 10 Years^{1,2}
Arvin	-4.2%	7.5%
Bakersfield	-4.3%	6.8%
California City	16.4%	6.7%
Delano	-10.0%	8.8%
Maricopa	8.7%	3.8%
McFarland	-1.7%	8.3%
Ridgecrest	-3.5%	4.9%
Shafter	-1.2%	14.8%
Taft	-1.9%	2.6%
Tehachapi	-0.6%	11.5%
Wasco	-6.7%	7.0%
Kern County	-5.9%	6.9%
California	-3.0%	7.7%

Note:

(1) Underlying data are State distributions of 1% local tax.

(2) Compound Annual Growth Rate

Source: California State Board of Equalization; California Department of Tax and Fee Administration (CDTFA).

COMPARISON OF DEMOGRAPHIC TRENDS BY PLACE % CHANGE 2014-2018, PART 1

Subject	Arvin	Bakersfield	California City	Delano	Maricopa	McFarland	Ridgecrest	Type of Change
Total Population	4.9%	4.7%	3.0%	-0.3%	1.5%	13.1%	1.6%	PC
Educational attainment								
High school diploma	3.0%	1.2%	3.1%	0.9%	-16.8%	6.3%	1.3%	PPC
Bachelor's degree	-0.8%	0.5%	-0.6%	-0.4%	2.8%	-0.5%	1.4%	PPC
Graduate degree	0.4%	0.6%	-1.5%	0.0%	-1.7%	0.3%	-1.6%	PPC
Labor force participation	-4.5%	-0.4%	-11.6%	2.9%	-7.9%	-2.9%	-3.0%	PPC
Unemployment rate	-6.1%	-2.9%	-3.9%	-3.3%	-10.1%	-6.1%	-2.4%	PPC
Home ownership rate	-0.8%	1.8%	-11.8%	4.0%	-5.9%	2.3%	0.0%	PPC
Median household income	8.1%	9.7%	-16.3%	14.6%	-10.3%	-4.2%	5.9%	PC
Per capita income	11.6%	10.7%	-18.6%	22.6%	-15.9%	7.6%	10.0%	PC

Note: The following abbreviations are used for the type of change indicated above: Percentage Change (PC); Percentage Point Change (PPC)

Source: U.S. Census Bureau – American Community Survey (5-year surveys ending in 2014, 2015, 2016, 2017, and 2018).

COMPARISON OF DEMOGRAPHIC TRENDS BY PLACE % CHANGE 2014-2018, PART 2

Subject	Shafter	Taft	Tehachapi	Wasco	Kern County	California	United States	Type of Change
Total Population	9.6%	2.7%	-7.7%	3.3%	3.0%	2.8%	2.8%	PC
Educational attainment								
High school diploma	-1.2%	5.8%	-0.7%	4.0%	1.3%	-0.2%	-0.8%	PPC
Bachelor's degree	0.6%	1.2%	0.3%	0.0%	0.6%	1.2%	1.2%	PPC
Graduate degree	0.4%	-1.6%	2.8%	-1.2%	0.3%	1.1%	1.1%	PPC
Labor force participation	-1.8%	4.3%	-2.3%	-0.1%	-0.8%	-0.3%	-0.6%	PPC
Unemployment rate	-1.1%	-2.8%	-2.1%	-6.3%	-2.9%	-4.3%	-3.3%	PPC
Home ownership rate	-0.8%	2.5%	3.6%	6.9%	0.8%	-0.1%	-0.5%	PPC
Median household income	2.7%	5.1%	9.8%	-3.5%	8.0%	15.8%	12.7%	PC
Per capita income	3.5%	14.3%	13.8%	10.1%	10.2%	17.1%	14.2%	PC

Note: The following abbreviations are used for the type of change indicated above: Percentage Change (PC); Percentage Point Change (PPC)

Source: U.S. Census Bureau – American Community Survey (5-year surveys ending in 2014, 2015, 2016, 2017, and 2018).

L. Candidate CEDS Projects

Project nomination process and project economic development goal categories

A key element of this CEDS is a list of “candidate projects” for potential future grant applications to the U.S. Economic Development Administration (EDA). Kern County jurisdictions were invited to submit projects to be included in this list through an online survey process. Submitting entities were asked in the survey to indicate which of the following economic development goals the proposed project supports or advances (with multiple selections possible):

- Retention of existing businesses/jobs
- Creation of new, well-paying jobs
- Attraction of new firms in targeted growth industries
- Entrepreneurial development in targeted growth industries
- Small business development (general, local-serving)
- Development of underutilized commercial/industrial land
- Revitalization of existing commercial/industrial centers, corridors, or downtown areas
- Facilitation of technology/innovation-related economic development
- Improved employment opportunities in economically distressed areas (or for disadvantaged populations)
- Economic resilience (improved capacity/functionality of infrastructure and/or local businesses to respond to disruptive conditions)
- Sustainable economic development
- Other (please specify) _____

Project List

The projects listed below, along with estimated costs and identified other funding, were identified by various cities and districts within Kern County.

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
California City	Wonder Acres Waterline Project	This project includes a six mile 12" Water Line.	<ul style="list-style-type: none"> • Retention of existing businesses/jobs • Creation of new, well-paying jobs • Attraction of new firms in targeted growth industries • Entrepreneurial development in targeted growth industries • Small business development (general, local-serving) • Development of underutilized commercial/industrial land • Revitalization of existing commercial/industrial centers, corridors, or downtown areas • Improved employment opportunities in economically distressed areas (or for disadvantaged populations) • Economic resilience (improved capacity/functionality of infrastructure and/or local businesses to respond to disruptive conditions) • Sustainable economic development • Allow for Fire Protection pressure, eliminate the need for Mojave's water (neighboring city) 	\$4,200,000 to \$4,500,000	\$2,200,000

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
			and support underserved residents		
California City	Sewer Line Expansion	The State wants to see less on the septic and this Sewer Line expansion will remedy that. It will also increase reclaimed water volume for our landscaping and parks.	<ul style="list-style-type: none"> • Retention of existing businesses/jobs • Creation of new, well-paying jobs • Attraction of new firms in targeted growth industries • Entrepreneurial development in targeted growth industries • Small business development (general, local-serving) • Development of underutilized commercial/industrial land • Revitalization of existing commercial/industrial centers, corridors, or downtown areas • Improved employment opportunities in economically distressed areas (or for disadvantaged populations) • Economic resilience (improved capacity/functionality of infrastructure and/or local businesses to respond to disruptive conditions) • Sustainable economic development • We have 203 square miles and cannot afford to water our parks and city properties. This will 	\$5,000,000	\$2,200,000

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
			increase the reclaimed water volume and allow us to water the areas that need it. Parks, Golf Course, City buildings, our Corridor and bring life back to our town and improve overall quality of life.		
East Kern Health Care District	East Kern Health Care District – Building Improve Bay Ave	This project features building improvements to the roof structure of more potential health care facilities.	<ul style="list-style-type: none"> • Creation of new, well-paying jobs • Small business development (general, local-serving) • Revitalization of existing commercial/industrial centers, corridors, or downtown areas • Economic resilience (improved capacity/functionality of infrastructure and/or local businesses to respond to disruptive conditions) • Bring more health care facilities into California City 	\$1,000,000	\$1,000,000
East Kern Health Care District	East Kern Health Care District – Building Improvements – N. Loop	This project includes building improvements and upgrades to Commercial Health Care Facilities existing at the North Loop Location.	<ul style="list-style-type: none"> • Retention of existing businesses/jobs • Development of underutilized commercial/industrial land • Revitalization of existing commercial/industrial centers, corridors, or downtown areas • Improved employment opportunities in economically 	\$1,000,000	\$1,000,000

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
			distressed areas (or for disadvantaged populations) <ul style="list-style-type: none"> • Economic resilience (improved capacity/functionality of infrastructure and/or local businesses to respond to disruptive conditions) 		
Ridgecrest	Ridgecrest Wastewater Treatment Plant	Currently the City of Ridgecrest and the China Lake Naval Weapons share an outdated and inefficient wastewater treatment plant that is in need of upgrades in order to provide reliable long-term recycled water back into the Basin. The current plant was constructed in 1946 and expanded in 1976 and can no longer meet the needs for any significant economic development required by the city and China Lake NAWS. The proposed project will implement the building of a new wastewater treatment facility via a contract between the Navy and the City of Ridgecrest, which includes a 50-year land easement agreement and a 10-year wastewater service contract. The area's sustainability and economic development are dependent on	<ul style="list-style-type: none"> • Retention of existing businesses/jobs • Development of underutilized commercial/industrial land • Economic resilience (improved capacity/functionality of infrastructure and/or local businesses to respond to disruptive conditions) • Sustainable economic development 	\$53,000,000 to \$67,000,000	\$25,000,000

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
		<p>the sustainable management of groundwater resources. China Lake NAWS is a major economic engine to the region employing over 5,000 people, and depends on access to water to continue its mission. The new wastewater treatment plant will provide continued access to wastewater effluent for use on the base, guaranteeing the Navy access to 525 acre-feet of water annually. In addition, the proposed treatment facility will benefit the citizens of Ridgecrest by providing an estimated 2,000 acre-feet of recycled water to the Indian Wells Groundwater Authority to balance the basin's overdraft and minimize water costs which will be passed on to consumers.</p>			
Kern County	Kern County Revolving Loan Fund	<p>Creation of a revolving loan fund to provide access to a flexible source of capital that can be used in combination with other more conventional sources to assist Kern County businesses with expansion and growth. The goal of the revolving loan fund will be to provide competitive rates and</p>	<ul style="list-style-type: none"> • Retention of existing businesses/jobs • Creation of new, well-paying jobs • Entrepreneurial development in targeted growth industries • Small business development (general, local-serving) 	\$5,000,000	\$2,500,000

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
		flexible terms for the borrower, while lowering overall risk for participating institutional lenders. Eligible uses of funding from the revolving loan fund would include: <ul style="list-style-type: none"> - Operating capital - Acquisition of land and buildings - New construction - Facade and building renovation - Landscape and property improvements - Machinery and equipment 	<ul style="list-style-type: none"> • Facilitation of technology/innovation-related economic development • Improved employment opportunities in economically distressed areas (or for disadvantaged populations) • Economic resilience (improved capacity/functionality of infrastructure and/or local businesses to respond to disruptive conditions) • Sustainable economic development 		
Shafter	Southeast Shafter Water System Improvements	Design and construction of one (1) new water tank and booster pump station and one (1) groundwater well site development to serve current and future development at the Wonderful Industrial Park.	<ul style="list-style-type: none"> • Retention of existing businesses/jobs • Creation of new, well-paying jobs • Attraction of new firms in targeted growth industries • Facilitation of technology/innovation-related economic development • Improved employment opportunities in economically distressed areas (or for disadvantaged populations) • Sustainable economic development 	\$5,000,000	\$4,000,000
Bakersfield	South Union Revitalization	The S. Union Avenue Corridor between Watts Drive and White	<ul style="list-style-type: none"> • Retention of existing businesses/jobs 	\$15,000,000	\$2,800,000

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
		<p>Lane is an important industrial and employment hub for the Bakersfield community. The industrial land and adjacent Bakersfield Municipal Airport provide opportunities for future jobs, new businesses, and the City's manufacturing base. The S. Union Avenue Corridor has several underutilized properties that are either vacant or have the capacity to support additional development. At the same time, several enclaves within the Corridor lack the basic public infrastructure necessary to support urban development – there is deteriorating street pavement, sidewalk gaps, disconnected bicycle facilities, and inadequate utility lines. Furthermore, the Corridor lacks amenities, landscaping, lighting, and aesthetic features that are normally associated with successful employment districts. S. Union Avenue is a notable corridor in Bakersfield that has the potential to revitalize into a much more robust employment center in the metropolitan region</p>	<ul style="list-style-type: none"> • Creation of new, well-paying jobs • Attraction of new firms in targeted growth industries • Small business development (general, local-serving) • Development of underutilized commercial/industrial land • Revitalization of existing commercial/industrial centers, corridors, or downtown areas • Improved employment opportunities in economically distressed areas (or for disadvantaged populations) • Economic resilience (improved capacity/functionality of infrastructure and/or local businesses to respond to disruptive conditions) • Sustainable economic development 		

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
		– provided that a vision, action plan, and local commitments are in place to transform the Corridor into a productive center for jobs and economic development.			
Bakersfield	Brundage Infrastructure	To bring fiber/broad and infrastructure needs to the E. Brundage Lane corridor. Bringing conduit expansion into an underserved area that would assist residents, businesses, the City and local schools. The project would provide ready sites for businesses and developers to bring their businesses and jobs to Bakersfield.	<ul style="list-style-type: none"> • Retention of existing businesses/jobs • Creation of new, well-paying jobs • Attraction of new firms in targeted growth industries • Entrepreneurial development in targeted growth industries • Small business development (general, local-serving) • Development of underutilized commercial/industrial land • Revitalization of existing commercial/industrial centers, corridors, or downtown areas • Facilitation of technology/innovation-related economic development • Improved employment opportunities in economically distressed areas (or for disadvantaged populations) • Economic resilience (improved capacity/functionality of infrastructure and/or local 	\$20,000,000	\$4,000,000

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
			businesses to respond to disruptive conditions) <ul style="list-style-type: none"> • Sustainable economic development 		
Mohave Air and Space Port (MASP)	North Perimeter Road Paving Project	The project would pave the North Perimeter Road at MASP. This would improve the dirt and gravel road that connects MASP's main facilities to a number of tenant facilities along the northern boundary of the airport facility. Several commercial space launch companies utilize areas along the road that connects the main campus area of MASP with the propulsion test sites located at the north area of the property. Many of these companies intend to increase their operational capacity in the coming years. Currently the unpaved perimeter road hinders the progress of development in this part of the airport because vehicles must traverse the road slowly, and the dirt road requires frequent grading to enable continual use.	<ul style="list-style-type: none"> • The improved road would make transit to the testing areas much more efficient and reliable. • This development could also attract new commercial space tenants, encourage investments to expand and develop the existing sites, and increase the number of jobs for the area. 	\$5,000,000	\$4,000,000
Mohave Air and Space Port (MASP)	Eastside Utility Corridor	MASP is a General Aviation (GA) Airport and maintains an FAA Launch Site Operators License (LSOL) to conduct horizontal	<ul style="list-style-type: none"> • Completion of the Eastside Utility Corridor project will provide the catalyst for the development of 232 acres positioned between the 	\$4,000,000	\$3,200,000

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
		<p>launch operations. All structures used for storing and assembling aircraft and horizontal launch vehicles have been at 100% capacity for the previous nine years. These structures include administration buildings, conventional box hangars, and manufacturing assemblies. As a result of this circumstance, MASP is unable to accommodate the growth being experienced by the existing tenant base.</p> <p>Furthermore, MASP is unable to accommodate new tenants, which incentivizes them to select locations outside of California. To address this issue, MASP is preparing land parcels for development, which are located on the eastside of the airfield and owned by the District. The initial step in the process is to develop a utility corridor to accommodate expansion. The project will include the extension of utilities approximately 1,000 feet from the westside of the approach end of Runway 30 near the existing Stratolaunch facility to eastside of Runway 30.</p>	<p>approach end of Runway 26 and the approach end of Runway 30.</p> <ul style="list-style-type: none"> The acreage will accommodate approximately 1,000,000 square feet of aerospace and commercial space development and employ approximately 1,392 high wage long term employees. 		

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
Mohave Air and Space Port (MASP)	Tri-Sonic Wind Tunnel (TSWT)	<p>MASP is currently working with an east coast aerospace developer and the existing MASP tenant base to locate a Tri-Sonic (TSWT) Mach 4.0 wind tunnel at MASP. The aerospace developer is prepared to provide for the end-to-end TSWT system including the tunnel itself and associated systems including controls, data acquisition systems, compressors, air storage, and related hardware. The opportunity presented creates a significant national test asset which will be operational within 18-24 months of a signed agreement and at a fraction of the cost for a new development. The TSWT is partially refurbished and stored in various locations. Approximately 70% of the tunnel has been refurbished and is ready for use. The remaining components have been designed and are ready to be manufactured. Additionally, the compressor system to include the storage tanks have been fabricated and are in storage. The aerospace developer also has</p>	<ul style="list-style-type: none"> • The MASP’s philosophy is “To provide entities the ability to conduct activities, which could not be conducted anywhere else.” • There is an increased emphasis on the development of hypersonic vehicles to be applied by the federal government. • With the location of the TSWT at Mojave, existing and new tenants will be provided the additional implement necessary to meet the development demands for hypersonic development. 	\$15,000,000	\$12,000,000

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
		completed a facility design for the building infrastructure required to house this tunnel. The project will require approximately 6-acres and \$15.0 million for the supporting infrastructure.			
Bakersfield	MLK Commercial District	Construction of infrastructure and façade improvements to increase job opportunities in commercial district of economically distressed area.	<ul style="list-style-type: none"> • Retention of existing businesses/jobs • Creation of new, well-paying jobs • Small business development (general, local-serving) • Revitalization of existing commercial/industrial centers, corridors, or downtown areas • Improved employment opportunities in economically distressed areas (or for disadvantaged populations) • Economic resilience (improved capacity/functionality of infrastructure and/or local businesses to respond to disruptive conditions) 	\$10,000,000	\$7,000,000
Bakersfield	34thst Commercial/Industrial Corridor	Construction of infrastructure improvements to support increase in industrial and commercial uses and create jobs along 34th street corridor	<ul style="list-style-type: none"> • Retention of existing businesses/jobs • Creation of new, well-paying jobs • Attraction of new firms in targeted growth industries 	\$5,000,000	\$3,500,000

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
			<ul style="list-style-type: none"> • Entrepreneurial development in targeted growth industries • Small business development (general, local-serving) • Development of underutilized commercial/industrial land • Economic resilience (improved capacity/functionality of infrastructure and/or local businesses to respond to disruptive conditions) 		
Bakersfield	Bakersfield Research & Technology Park	Development of research park including infrastructure, faculties and operational labs.	<ul style="list-style-type: none"> • Creation of new, well-paying jobs • Attraction of new firms in targeted growth industries • Entrepreneurial development in targeted growth industries • Facilitation of technology/innovation-related economic development • Economic resilience (improved capacity/functionality of infrastructure and/or local businesses to respond to disruptive conditions) • Sustainable economic development 	\$15,000,000	\$10,500,000
Bakersfield	Sports Village Commercial Area	Construction of infrastructure improvements to support commercial/lodging in support of regional recreational facility	<ul style="list-style-type: none"> • Retention of existing businesses/jobs • Small business development (general, local-serving) 	\$7,000,000	\$4,900,000

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
			<ul style="list-style-type: none"> • Revitalization of existing commercial/industrial centers, corridors, or downtown areas • Economic resilience (improved capacity/functionality of infrastructure and/or local businesses to respond to disruptive conditions) 		
Bakersfield	Bakersfield Gateway Infrastructure	Construction of infrastructure to support regional commercial projects	<ul style="list-style-type: none"> • Retention of existing businesses/jobs • Creation of new, well-paying jobs • Attraction of new firms in targeted growth industries • Entrepreneurial development in targeted growth industries • Economic resilience (improved capacity/functionality of infrastructure and/or local businesses to respond to disruptive conditions) 	\$10,000,000	\$7,000,000
Bakersfield	Saco Industrial Area Infrastructure	Construction of infrastructure implements to support industrial development	<ul style="list-style-type: none"> • Retention of existing businesses/jobs • Creation of new, well-paying jobs • Attraction of new firms in targeted growth industries • Entrepreneurial development in targeted growth industries • Small business development (general, local-serving) 	\$10,000,000	\$7,000,000

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
			<ul style="list-style-type: none"> • Facilitation of technology/innovation-related economic development • Economic resilience (improved capacity/functionality of infrastructure and/or local businesses to respond to disruptive conditions) 		
Bakersfield	Bakersfield Center for Innovation & Entrepreneurship	Development of small business incubator, accelerator and resource center to provide solutions for real time issues that small business are facing in the Greater Bakersfield area.	<ul style="list-style-type: none"> • Retention of existing businesses/jobs • Creation of new, well-paying jobs • Attraction of new firms in targeted growth industries • Entrepreneurial development in targeted growth industries • Small business development (general, local-serving) • Facilitation of technology/innovation-related economic development • Economic resilience (improved capacity/functionality of infrastructure and/or local businesses to respond to disruptive conditions) • Sustainable economic development 	\$5,200,000	\$3,640,000
Bakersfield	Mt. Vernon Industrial Area	Construction of infrastructure to support industrial growth in	<ul style="list-style-type: none"> • Retention of existing businesses/jobs 	\$10,000,000	\$7,000,000

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
		economically distressed area of the City	<ul style="list-style-type: none"> • Entrepreneurial development in targeted growth industries • Small business development (general, local-serving) • Development of underutilized commercial/industrial land • Improved employment opportunities in economically distressed areas (or for disadvantaged populations) • Economic resilience (improved capacity/functionality of infrastructure and/or local businesses to respond to disruptive conditions) 		
Kern Economic Development Corporation; Kern County; Bakersfield; California State University, Bakersfield	Industry Cluster Initiatives	<p>The region seeks to better organize its priority industries to nurture and sustain its unique regional specialties - and create opportunities for quality job growth - through long-term, cross-sectoral developmental leadership and ecosystem-building.</p> <p>B3K has identified Energy and Aerospace as the industries that would benefit most from this kind of activity. Below are brief overviews of how the region is</p>	<ul style="list-style-type: none"> • Retention of existing businesses/jobs • Creation of new, well-paying jobs • Attraction of new firms in targeted growth industries • Entrepreneurial development in targeted growth industries • Facilitation of technology/innovation-related economic development • Improved employment opportunities in economically distressed areas (or for disadvantaged populations) 	\$70,000,000	\$35,000,000

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
		<p>organizing around these two industries.</p> <p>Energy Innovation Cluster: Despite market and regulatory pressures, the region’s Energy industry nonetheless offers significant potential extending from the historic base of assets and expertise into adjacent subsectors. To capture that potential, preliminary input by diverse private, public, and civic stakeholders has yielded a concept to:</p> <p>Establish Kern County as a leading clean energy innovation and production cluster to capitalize on the evolving global market for renewable and lower carbon intensity fuels as well as carbon management – focusing on sustainable products, services, and emerging technology and its implementation at scale, while driving long-term economic growth and new, durable high-quality jobs for residents. With this focus in mind, the cluster is intended to grow and attract</p>	<ul style="list-style-type: none"> • Economic resilience (improved capacity/functionality of infrastructure and/or local businesses to respond to disruptive conditions) 		

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
		<p>innovative firms in the space; enhance the local talent base to support those firms; produce applied research, demonstration and validation at scale; and drive communications efforts / navigate policy on behalf of the ecosystem.</p> <p>Aerospace Cluster: East Kern County and the Antelope Valley face substantial untapped potential and emerging competitive threats to the region’s distinctive aerospace concentration. The region struggles around basic cluster organizing, commercialization, talent development and access, state enabling policy, and global identity, especially compared to peers.</p> <p>With support and participation of local military, private sector, and public sector partners, the region is forming a cohesive, dedicated cluster initiative to bind fragmented economic development and workforce efforts to both service basic</p>			

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
		<p>industry needs and deliver forward-looking strategy.</p> <p>Through this cluster, the region can better exploit opportunities to build an ecosystem of high-growth small and medium-sized firms around federal asset innovation, expertise, and facilities. Defensively against increased competition from other domestic and international hubs, the region will bolster talent availability, enabling policy, and a more cohesive set of industry-led supports. The cluster will also support development of infrastructure to house supports and provide a physical hub for collaboration – for example, a center to anchor the cluster’s tech transfer and commercialization strategy, centralize programming, and serve clients.</p>			
Kern Economic Development Corporation; Kern County; Bakersfield;	Entrepreneurship and Business Ecosystem supports	The B3K Entrepreneurship and Business Ecosystem Workgroup developed a series of strategies to address major gaps in basic supports for young firms in Kern	<ul style="list-style-type: none"> • Retention of existing businesses/jobs • Creation of new, well-paying jobs • Entrepreneurial development in targeted growth industries 	\$17,500,000	\$8,750,000

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
California State University, Bakersfield		<p>County, specifically to address five thematic areas:</p> <ul style="list-style-type: none"> • Ecosystem: building a more robust and integrated network of entrepreneurship and business supports for firms across the lifecycle • Capital: closing regional gaps in capital access • Inclusion: adopting an intentional approach to equity and access in the business support ecosystem • Access: improving availability of resources to communities outside of Greater Bakersfield • Information: establishing a more coherent and connected approach to support young firms, making resources easier to find and ensuring the whole ecosystem knows where best to direct inquiries <p>Though there are many fundable activities resulting from this strategy development process, filling in the missing standard business supports for</p>	<ul style="list-style-type: none"> • Small business development (general, local-serving) • Facilitation of technology/innovation-related economic development 		

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
		<p>entrepreneurs and young firms is fundamental to closing the gap between Bakersfield-Kern and peer regions in the durability of young firms and economic impact of entrepreneurship. Major deficits include the lack of an authentic incubator or accelerator, a local CDFI, or a Revolving Loan Fund (listed and explained above).</p> <p>The group proposes developing three types of Accelerators/Incubators: a General Business Incubator for idea-stage firms and startup assistance in solving technical or market issues and building a successful team; an Entrepreneurial Accelerator for early-stage firms with a validated minimum viable product to spur rapid growth; as well as Sector-specific Accelerators or Incubators dedicated to priority industry clusters to support regional businesses and attract global investors to Kern County.</p>			

Nominating Agency	Title	Project Description	CEDS Goals Addressed	Estimated Cost	EDA Assistance Requested
		Formation of a local CDFI would improve the viability of the broader entrepreneurial ecosystem, and specifically reduce barriers for women and non-white entrepreneurs in Kern County. Specific products and offerings (e.g. loans, microloans, other social enterprise programs) will be determined based on an ongoing needs assessment and ecosystem mapping now underway by a national consultant.			
ESTIMATED COSTS TOTAL ⁽¹⁾				\$307,200,000	\$158,190,000

Notes:

1. Total costs assume high end of items for which costs are provided in ranges.

M. Qualifying Census Tracts

The tables in Appendix A provide the latest available Census (ACS) data to identify the individual census tracts within the CEDS area that would potentially qualify for EDA investment based on unemployment rates and per capita income levels. These tables reflect the following qualifying criteria:

- 24-month unemployment rate is at least one percentage point greater than the national average unemployment rate
- Per capita income is not more than 80% of the national average per capita income

Appendix A – Census Data

National Outlook

Source: U.S. Census, 2017 and 2018 American Community Survey 1-Year Estimates

U.S.			
Unemployment		Per Capita	
2017	5.3%	2016	\$32,397
2018	4.9%	2017	\$33,831
Average	5.1%	Average	\$33,114

County of Kern			
Unemployment		Per Capita	
2017	7.7%	2016	\$21,346
2018	8.9%	2017	\$22,778
Average	8.3%	Average	\$22,062

City of Bakersfield			
Unemployment		Per Capita	
2017	8.7%	2016	\$24,170
2018	7.7%	2017	\$26,630
Average	8.2%	Average	\$25,400

National Outlook on Population

Source: U.S. Census, 2017 and 2018 American Community Survey 1-Year Estimates

	2017	2018	Average
U.S.	325,719,178	327,167,439	326,443,309
County of Kern	893,119	896,764	894,942
City of Bakersfield	380,887	383,601	382,244

Incorporated Target-Area Cities within Kern County

Source: U.S. Census, 2014-2018 American Community Survey 5-Year Estimates

U.S.	Unemployment		Per Capita	
	5.9%			\$32,621

County of Kern	Population:	883,053		
Unemployment			Per Capita	
2014-2018	10.3%	2014-2018		\$22,553

Arvin	Population:	21,005		
Unemployment			Per Capita	
2014-2018	9.8%	2014-2018		\$11,805

Bakersfield	Population:	375,699		
Unemployment			Per Capita	
2014-2018	8.7%	2014-2018		\$26,323

California City	Population:	13,646		
Unemployment			Per Capita	
2014-2018	20.2%	2014-2018		\$18,654

Delano	Population:	52,713		
Unemployment			Per Capita	
2014-2018	12.5%	2014-2018		\$12,813

Maricopa	Population:	1,175		
Unemployment			Per Capita	
2014-2018	13.9%	2014-2018		\$15,013

McFarland	Population:	14,456		
Unemployment			Per Capita	
2014-2018	13.1%	2014-2018		\$15,013

Ridgecrest	Population:	28,736		
Unemployment			Per Capita	
2014-2018	7.6%	2014-2018		\$30,740

Shafter	Population:	18,923	
Unemployment		Per Capita	
2014-2018	14.4%	2014-2018	\$15,068

Taft	Population:	9,307	
Unemployment		Per Capita	
2014-2018	6.6%	2014-2018	\$21,737

Tehachapi	Population:	12,753	
Unemployment		Per Capita	
2014-2018	6.9%	2014-2018	\$18,904

Wasco	Population:	26,708	
Unemployment		Per Capita	
2014-2018	10.1%	2014-2018	\$12,031

Census Tracts within Kern County Target Area

Source: U.S. Census, 2014-2018 American Community Survey 5-Year Estimates

U.S.	Unemployment 5.9%	Per Capita Income \$32,621	24 month unemployment rate is at least 1 % point greater than the nat'l average unemployment	The per capita income (PCI) is not more than 80 percent of the national average PCI.
Census Tract	Unemployment	Per Capita	Qualifying	Qualifying
Census Tract 1.01	8.5%	\$21,689	TRUE	TRUE
Census Tract 1.02	18.2%	\$22,187	TRUE	TRUE
Census Tract 2	18.5%	\$17,296	TRUE	TRUE
Census Tract 3	16.7%	\$15,054	TRUE	TRUE
Census Tract 4	28.9%	\$11,177	TRUE	TRUE
Census Tract 5.03	3.0%	\$46,264	FALSE	FALSE
Census Tract 5.04	12.8%	\$22,713	TRUE	TRUE
Census Tract 5.05	4.9%	\$36,379	FALSE	FALSE
Census Tract 5.06	3.1%	\$37,700	FALSE	FALSE
Census Tract 5.07	5.8%	\$29,332	FALSE	FALSE
Census Tract 6	24.6%	\$12,394	TRUE	TRUE
Census Tract 7	10.0%	\$23,115	TRUE	TRUE
Census Tract 8	12.2%	\$19,933	TRUE	TRUE
Census Tract 9.02	10.9%	\$20,871	TRUE	TRUE
Census Tract 9.03	10.5%	\$23,723	TRUE	TRUE
Census Tract 9.04	10.6%	\$22,274	TRUE	TRUE
Census Tract 9.05	13.1%	\$22,256	TRUE	TRUE
Census Tract 9.06	10.7%	\$19,503	TRUE	TRUE
Census Tract 9.07	6.9%	\$14,749	TRUE	TRUE
Census Tract 9.08	2.7%	\$26,897	FALSE	FALSE
Census Tract 9.09	8.4%	\$49,259	TRUE	FALSE
Census Tract 9.10	6.7%	\$32,538	TRUE	FALSE
Census Tract 10	10.7%	\$18,941	TRUE	TRUE
Census Tract 11.01	8.3%	\$9,911	TRUE	TRUE
Census Tract 11.02	13.5%	\$12,461	TRUE	TRUE
Census Tract 11.03	12.0%	\$10,781	TRUE	TRUE
Census Tract 12.01	18.8%	\$10,747	TRUE	TRUE
Census Tract 12.02	16.3%	\$8,592	TRUE	TRUE
Census Tract 13	15.7%	\$8,637	TRUE	TRUE
Census Tract 14	22.6%	\$9,975	TRUE	TRUE
Census Tract 15	23.0%	\$8,512	TRUE	TRUE
Census Tract 16	17.9%	\$15,568	TRUE	TRUE
Census Tract 17	8.7%	\$39,663	TRUE	FALSE
Census Tract 18.01	4.3%	\$21,592	FALSE	TRUE
Census Tract 18.02	7.2%	\$29,082	TRUE	FALSE
Census Tract 19.01	5.7%	\$27,806	FALSE	FALSE
Census Tract 19.02	10.3%	\$18,861	TRUE	TRUE

U.S.	Unemployment 5.9%	Per Capita Income \$32,621	24 month unemployment rate is at least 1 % point greater than the nat'l average unemployment	The per capita income (PCI) is not more than 80 percent of the national average PCI.
Census Tract	Unemployment	Per Capita	Qualifying	Qualifying
Census Tract 20	7.6%	\$13,405	TRUE	TRUE
Census Tract 21	20.5%	\$10,267	TRUE	TRUE
Census Tract 22	30.2%	\$8,397	TRUE	TRUE
Census Tract 23.01	17.8%	\$14,067	TRUE	TRUE
Census Tract 23.02	13.4%	\$10,761	TRUE	TRUE
Census Tract 24	14.7%	\$16,259	TRUE	TRUE
Census Tract 25	26.4%	\$11,931	TRUE	TRUE
Census Tract 26	18.9%	\$11,633	TRUE	TRUE
Census Tract 27	12.3%	\$14,848	TRUE	TRUE
Census Tract 28.04	4.8%	\$35,112	FALSE	FALSE
Census Tract 28.06	10.7%	\$38,215	TRUE	FALSE
Census Tract 28.07	4.8%	\$49,973	FALSE	FALSE
Census Tract 28.08	2.7%	\$51,971	FALSE	FALSE
Census Tract 28.11	3.4%	\$80,723	FALSE	FALSE
Census Tract 28.12	13.9%	\$18,310	TRUE	TRUE
Census Tract 28.13	14.4%	\$21,251	TRUE	TRUE
Census Tract 28.14	6.2%	\$19,324	TRUE	TRUE
Census Tract 28.15	7.7%	\$18,780	TRUE	TRUE
Census Tract 28.16	13.8%	\$20,945	TRUE	TRUE
Census Tract 28.17	11.6%	\$18,658	TRUE	TRUE
Census Tract 28.18	4.4%	\$35,495	FALSE	FALSE
Census Tract 28.19	5.6%	\$25,113	FALSE	TRUE
Census Tract 28.20	5.3%	\$33,117	FALSE	FALSE
Census Tract 28.21	4.1%	\$30,913	FALSE	FALSE
Census Tract 29	11.8%	\$16,751	TRUE	TRUE
Census Tract 30	12.7%	\$12,791	TRUE	TRUE
Census Tract 31.03	23.5%	\$14,906	TRUE	TRUE
Census Tract 31.12	9.3%	\$19,863	TRUE	TRUE
Census Tract 31.13	8.6%	\$18,757	TRUE	TRUE
Census Tract 31.14	12.5%	\$25,156	TRUE	TRUE
Census Tract 31.15	14.6%	\$13,615	TRUE	TRUE
Census Tract 31.21	18.3%	\$14,233	TRUE	TRUE
Census Tract 31.22	5.6%	\$15,483	FALSE	TRUE
Census Tract 31.23	7.1%	\$25,130	TRUE	TRUE
Census Tract 31.24	5.9%	\$23,602	FALSE	TRUE
Census Tract 20	7.6%	\$13,405	TRUE	TRUE
Census Tract 32.02	10.4%	\$16,861	TRUE	TRUE
Census Tract 32.03	8.4%	\$32,694	TRUE	FALSE
Census Tract 32.04	3.5%	\$43,149	FALSE	FALSE
Census Tract 32.05	10.3%	\$25,994	TRUE	TRUE

U.S.	Unemployment 5.9%	Per Capita Income \$32,621	24 month unemployment rate is at least 1 % point greater than the nat'l average unemployment	The per capita income (PCI) is not more than 80 percent of the national average PCI.
Census Tract	Unemployment	Per Capita	Qualifying	Qualifying
Census Tract 32.06	6.1%	\$22,247	TRUE	TRUE
Census Tract 33.03	12.8%	\$16,925	TRUE	TRUE
Census Tract 33.04	11.5%	\$19,522	TRUE	TRUE
Census Tract 33.05	10.9%	\$20,012	TRUE	TRUE
Census Tract 33.06	13.3%	\$28,088	TRUE	FALSE
Census Tract 34	12.0%	\$13,408	TRUE	TRUE
Census Tract 35	6.9%	\$23,358	TRUE	TRUE
Census Tract 36	13.1%	\$18,598	TRUE	TRUE
Census Tract 37	12.0%	\$18,360	TRUE	TRUE
Census Tract 38.03	7.0%	\$45,444	TRUE	FALSE
Census Tract 38.04	3.8%	\$32,427	FALSE	FALSE
Census Tract 38.05	10.5%	\$33,724	TRUE	FALSE
Census Tract 38.06	4.3%	\$43,599	FALSE	FALSE
Census Tract 38.07	6.9%	\$29,805	TRUE	FALSE
Census Tract 38.08	4.1%	\$38,203	FALSE	FALSE
Census Tract 38.09	4.7%	\$43,130	FALSE	FALSE
Census Tract 38.10	4.7%	\$51,720	FALSE	FALSE
Census Tract 38.11	4.6%	\$39,387	FALSE	FALSE
Census Tract 38.12	6.9%	\$32,459	TRUE	FALSE
Census Tract 38.13	6.8%	\$48,640	TRUE	FALSE
Census Tract 39	3.8%	\$17,209	FALSE	TRUE
Census Tract 40	9.5%	\$15,224	TRUE	TRUE
Census Tract 41.01	13.3%	\$19,733	TRUE	TRUE
Census Tract 41.02	22.5%	\$10,224	TRUE	TRUE
Census Tract 42	7.9%	\$20,038	TRUE	TRUE
Census Tract 43.01	8.4%	\$14,253	TRUE	TRUE
Census Tract 43.02	-	\$3,988	TRUE	TRUE
Census Tract 44.01	10.3%	\$16,867	TRUE	TRUE
Census Tract 44.02	13.5%	\$10,157	TRUE	TRUE
Census Tract 45	4.4%	\$12,477	FALSE	TRUE
Census Tract 46.01	-	\$4,450	TRUE	TRUE
Census Tract 46.03	-	\$1,700	TRUE	TRUE
Census Tract 46.04	17.8%	\$14,268	TRUE	TRUE
Census Tract 47.01	13.3%	\$9,886	TRUE	TRUE
Census Tract 47.02	12.8%	\$11,764	TRUE	TRUE
Census Tract 48	5.5%	\$10,452	FALSE	TRUE
Census Tract 49.01	10.4%	\$13,613	TRUE	TRUE
Census Tract 49.02	10.0%	\$16,972	TRUE	TRUE
Census Tract 50.03	13.2%	\$11,788	TRUE	TRUE
Census Tract 50.04	13.8%	\$19,111	TRUE	TRUE

U.S.	Unemployment 5.9%	Per Capita Income \$32,621	24 month unemployment rate is at least 1 % point greater than the nat'l average unemployment	The per capita income (PCI) is not more than 80 percent of the national average PCI.
Census Tract	Unemployment	Per Capita	Qualifying	Qualifying
Census Tract 51.03	7.6%	\$28,857	TRUE	FALSE
Census Tract 51.04	2.6%	\$54,097	FALSE	FALSE
Census Tract 52.01	4.8%	\$31,752	FALSE	FALSE
Census Tract 52.03	15.3%	\$21,807	TRUE	TRUE
Census Tract 52.04	14.4%	\$23,775	TRUE	TRUE
Census Tract 53	22.8%	\$14,690	TRUE	TRUE
Census Tract 54.01	2.8%	\$33,281	FALSE	FALSE
Census Tract 54.02	7.8%	\$32,507	TRUE	FALSE
Census Tract 54.03	8.1%	\$29,779	TRUE	FALSE
Census Tract 54.04	7.2%	\$31,465	TRUE	FALSE
Census Tract 55.01	9.8%	\$37,916	TRUE	FALSE
Census Tract 55.06	8.7%	\$27,604	TRUE	FALSE
Census Tract 55.07	18.3%	\$22,540	TRUE	TRUE
Census Tract 55.08	23.5%	\$21,614	TRUE	TRUE
Census Tract 56	6.7%	\$24,154	TRUE	TRUE
Census Tract 57	12.4%	\$22,817	TRUE	TRUE
Census Tract 58.01	9.5%	\$31,600	TRUE	FALSE
Census Tract 58.02	16.4%	\$18,253	TRUE	TRUE
Census Tract 59	21.6%	\$16,758	TRUE	TRUE
Census Tract 60.02	-	\$755	TRUE	TRUE
Census Tract 60.03	5.3%	\$23,027	FALSE	TRUE
Census Tract 60.04	9.3%	\$27,263	TRUE	FALSE
Census Tract 60.06	4.2%	\$40,633	FALSE	FALSE
Census Tract 60.07	11.9%	\$28,739	TRUE	FALSE
Census Tract 60.08	6.9%	\$38,558	TRUE	FALSE
Census Tract 61	7.7%	\$27,924	TRUE	FALSE
Census Tract 62.01	10.6%	\$14,221	TRUE	TRUE
Census Tract 62.02	6.3%	\$13,290	TRUE	TRUE
Census Tract 63.01	10.0%	\$14,616	TRUE	TRUE
Census Tract 63.03	12.1%	\$10,707	TRUE	TRUE
Census Tract 63.04	11.5%	\$9,186	TRUE	TRUE
Census Tract 64.01	10.5%	\$12,422	TRUE	TRUE
Census Tract 64.03	8.4%	\$11,364	TRUE	TRUE
Census Tract 64.04	10.5%	\$13,203	TRUE	TRUE
Census Tract 65	16.0%	\$11,830	TRUE	TRUE

Census Tracts by Incorporated City within Kern County Target Area

Source: U.S. Census, 2014-2018 American Community Survey 5-Year Estimates

U.S.	Unemployment 5.9%	Per Capita Income \$32,621	Census Tracts within Kern County Incorporated Cities	24 month unemployment rate is at least 1 % point greater than the nat'l average unemployment	The per capita income (PCI) is not more than 80 percent of the national average PCI.
Census Tract	Unemployment	Per Capita	Cities	Qualifying	Qualifying
Census Tract 1.01	8.5%	\$21,689	Unincorporated	TRUE	TRUE
Census Tract 1.02	18.2%	\$22,187	Unincorporated	TRUE	TRUE
Census Tract 2	18.5%	\$17,296	Unincorporated	TRUE	TRUE
Census Tract 3	16.7%	\$15,054	Unincorporated	TRUE	TRUE
Census Tract 4	28.9%	\$11,177	Bakersfield	TRUE	TRUE
Census Tract 5.03	3.0%	\$46,264	Bakersfield	FALSE	FALSE
Census Tract 5.04	12.8%	\$22,713	Bakersfield	TRUE	TRUE
Census Tract 5.05	4.9%	\$36,379	Bakersfield	FALSE	FALSE
Census Tract 5.06	3.1%	\$37,700	Bakersfield	FALSE	FALSE
Census Tract 5.07	5.8%	\$29,332	Bakersfield	FALSE	FALSE
Census Tract 6	24.6%	\$12,394	Bakersfield	TRUE	TRUE
Census Tract 7	10.0%	\$23,115	Bakersfield	TRUE	TRUE
Census Tract 8	12.2%	\$19,933	Bakersfield	TRUE	TRUE
Census Tract 9.02	10.9%	\$20,871	Bakersfield	TRUE	TRUE
Census Tract 9.03	10.5%	\$23,723	Bakersfield	TRUE	TRUE
Census Tract 9.04	10.6%	\$22,274	Bakersfield	TRUE	TRUE
Census Tract 9.05	13.1%	\$22,256	Unincorporated	TRUE	TRUE
Census Tract 9.06	10.7%	\$19,503	Bakersfield	TRUE	TRUE
Census Tract 9.07	6.9%	\$14,749	Bakersfield	TRUE	TRUE
Census Tract 9.08	2.7%	\$26,897	Bakersfield	FALSE	FALSE
Census Tract 9.09	8.4%	\$49,259	Bakersfield	TRUE	FALSE
Census Tract 9.10	6.7%	\$32,538	Bakersfield	TRUE	FALSE
Census Tract 10	10.7%	\$18,941	Bakersfield	TRUE	TRUE
Census Tract 11.01	8.3%	\$9,911	Bakersfield	TRUE	TRUE
Census Tract 11.02	13.5%	\$12,461	Unincorporated	TRUE	TRUE
Census Tract 11.03	12.0%	\$10,781	Unincorporated	TRUE	TRUE
Census Tract 12.01	18.8%	\$10,747	Bakersfield	TRUE	TRUE
Census Tract 12.02	16.3%	\$8,592	Bakersfield	TRUE	TRUE
Census Tract 13	15.7%	\$8,637	Bakersfield	TRUE	TRUE
Census Tract 14	22.6%	\$9,975	Bakersfield	TRUE	TRUE
Census Tract 15	23.0%	\$8,512	Bakersfield	TRUE	TRUE
Census Tract 16	17.9%	\$15,568	Bakersfield	TRUE	TRUE
Census Tract 17	8.7%	\$39,663	Bakersfield	TRUE	FALSE
Census Tract 18.01	4.3%	\$21,592	Bakersfield	FALSE	TRUE
Census Tract 18.02	7.2%	\$29,082	Bakersfield	TRUE	FALSE
Census Tract 19.01	5.7%	\$27,806	Bakersfield	FALSE	FALSE
Census Tract 19.02	10.3%	\$18,861	Bakersfield	TRUE	TRUE
Census Tract 20	7.6%	\$13,405	Bakersfield	TRUE	TRUE
Census Tract 21	20.5%	\$10,267	Bakersfield	TRUE	TRUE

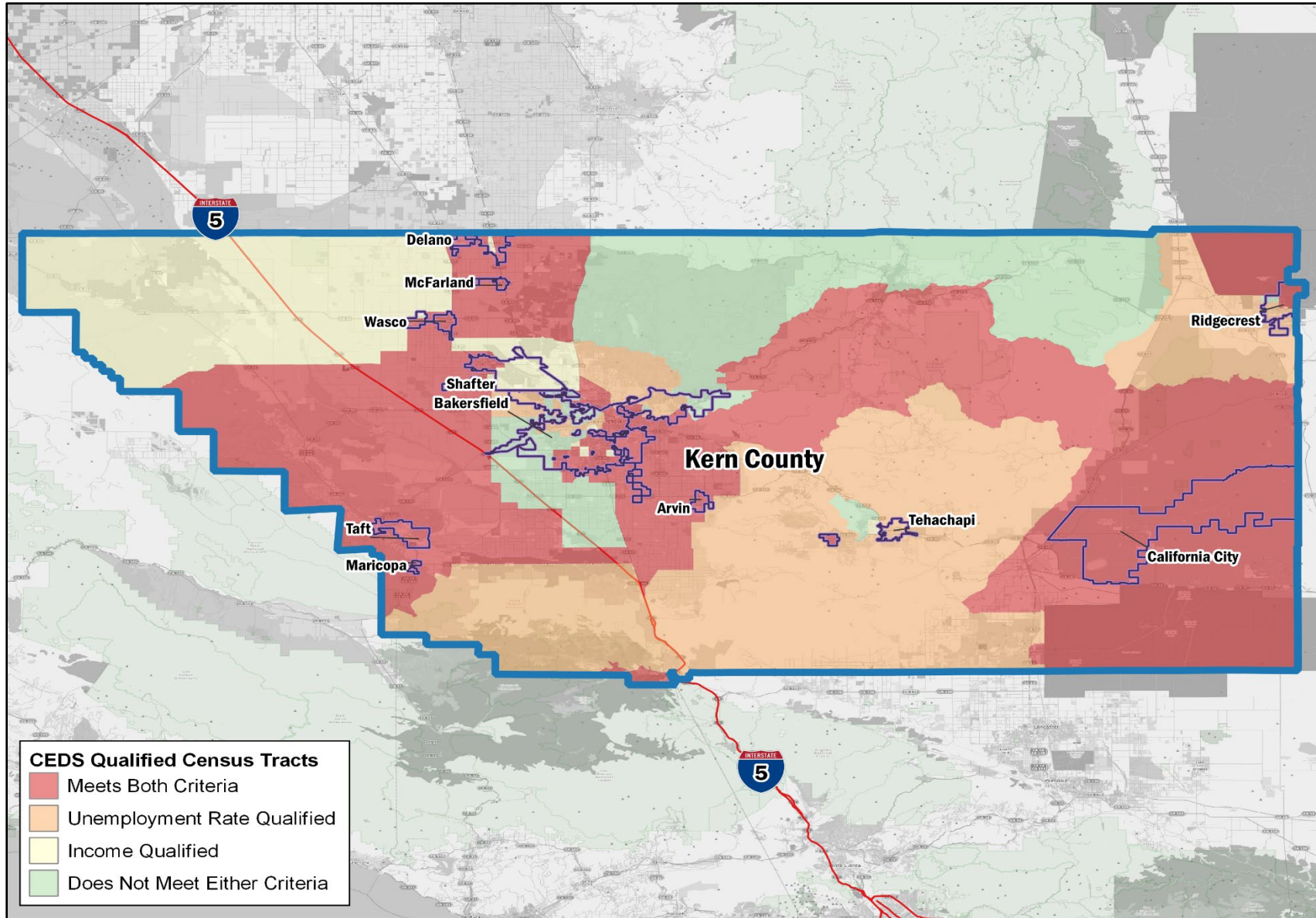
U.S.	Unemployment 5.9%	Per Capita Income \$32,621	Census Tracts within Kern County Incorporated Cities	24 month unemployment rate is at least 1 % point greater than the nat'l average unemployment	The per capita income (PCI) is not more than 80 percent of the national average PCI.
Census Tract	Unemployment	Per Capita	Cities	Qualifying	Qualifying
Census Tract 22	30.2%	\$8,397	Bakersfield	TRUE	TRUE
Census Tract 23.01	17.8%	\$14,067	Bakersfield	TRUE	TRUE
Census Tract 23.02	13.4%	\$10,761	Bakersfield	TRUE	TRUE
Census Tract 24	14.7%	\$16,259	Bakersfield	TRUE	TRUE
Census Tract 25	26.4%	\$11,931	Bakersfield	TRUE	TRUE
Census Tract 26	18.9%	\$11,633	Bakersfield	TRUE	TRUE
Census Tract 27	12.3%	\$14,848	Bakersfield	TRUE	TRUE
Census Tract 28.04	4.8%	\$35,112	Bakersfield	FALSE	FALSE
Census Tract 28.06	10.7%	\$38,215	Bakersfield	TRUE	FALSE
Census Tract 28.07	4.8%	\$49,973	Bakersfield	FALSE	FALSE
Census Tract 28.08	2.7%	\$51,971	Bakersfield	FALSE	FALSE
Census Tract 28.11	3.4%	\$80,723	Bakersfield	FALSE	FALSE
Census Tract 28.12	13.9%	\$18,310	Bakersfield	TRUE	TRUE
Census Tract 28.13	14.4%	\$21,251	Bakersfield	TRUE	TRUE
Census Tract 28.14	6.2%	\$19,324	Bakersfield	TRUE	TRUE
Census Tract 28.15	7.7%	\$18,780	Bakersfield	TRUE	TRUE
Census Tract 28.16	13.8%	\$20,945	Bakersfield	TRUE	TRUE
Census Tract 28.17	11.6%	\$18,658	Bakersfield	TRUE	TRUE
Census Tract 28.18	4.4%	\$35,495	Bakersfield	FALSE	FALSE
Census Tract 28.19	5.6%	\$25,113	Bakersfield	FALSE	TRUE
Census Tract 28.20	5.3%	\$33,117	Bakersfield	FALSE	FALSE
Census Tract 28.21	4.1%	\$30,913	Bakersfield	FALSE	FALSE
Census Tract 29	11.8%	\$16,751	Bakersfield	TRUE	TRUE
Census Tract 30	12.7%	\$12,791	Bakersfield	TRUE	TRUE
Census Tract 31.03	23.5%	\$14,906	Bakersfield	TRUE	TRUE
Census Tract 31.12	9.3%	\$19,863	Bakersfield	TRUE	TRUE
Census Tract 31.13	8.6%	\$18,757	Bakersfield	TRUE	TRUE
Census Tract 31.14	12.5%	\$25,156	Bakersfield	TRUE	TRUE
Census Tract 31.15	14.6%	\$13,615	Bakersfield	TRUE	TRUE
Census Tract 31.21	18.3%	\$14,233	Bakersfield	TRUE	TRUE
Census Tract 31.22	5.6%	\$15,483	Bakersfield	FALSE	TRUE
Census Tract 31.23	7.1%	\$25,130	Bakersfield	TRUE	TRUE
Census Tract 31.24	5.9%	\$23,602	Bakersfield	FALSE	TRUE
Census Tract 32.02	10.4%	\$16,861	Bakersfield	TRUE	TRUE
Census Tract 32.03	8.4%	\$32,694	Bakersfield	TRUE	FALSE
Census Tract 32.04	3.5%	\$43,149	Bakersfield	FALSE	FALSE
Census Tract 32.05	10.3%	\$25,994	Bakersfield	TRUE	TRUE
Census Tract 32.06	6.1%	\$22,247	Bakersfield	TRUE	TRUE
Census Tract 33.03	12.8%	\$16,925	Maricopa	TRUE	TRUE
Census Tract 33.04	11.5%	\$19,522	Taft	TRUE	TRUE
Census Tract 33.05	10.9%	\$20,012	Unincorporated	TRUE	TRUE
Census Tract 33.06	13.3%	\$28,088	Unincorporated	TRUE	FALSE
Census Tract 34	12.0%	\$13,408	Taft	TRUE	TRUE

U.S.	Unemployment 5.9%	Per Capita Income \$32,621	Census Tracts within Kern County Incorporated Cities	24 month unemployment rate is at least 1 % point greater than the nat'l average unemployment	The per capita income (PCI) is not more than 80 percent of the national average PCI.
Census Tract	Unemployment	Per Capita	Cities	Qualifying	Qualifying
Census Tract 35	6.9%	\$23,358	Taft	TRUE	TRUE
Census Tract 36	13.1%	\$18,598	Taft	TRUE	TRUE
Census Tract 37	12.0%	\$18,360	Bakersfield	TRUE	TRUE
Census Tract 38.03	7.0%	\$45,444	Bakersfield	TRUE	FALSE
Census Tract 38.04	3.8%	\$32,427	Bakersfield	FALSE	FALSE
Census Tract 38.05	10.5%	\$33,724	Bakersfield	TRUE	FALSE
Census Tract 38.06	4.3%	\$43,599	Bakersfield	FALSE	FALSE
Census Tract 38.07	6.9%	\$29,805	Bakersfield	TRUE	FALSE
Census Tract 38.08	4.1%	\$38,203	Bakersfield	FALSE	FALSE
Census Tract 38.09	4.7%	\$43,130	Bakersfield	FALSE	FALSE
Census Tract 38.10	4.7%	\$51,720	Bakersfield	FALSE	FALSE
Census Tract 38.11	4.6%	\$39,387	Bakersfield	FALSE	FALSE
Census Tract 38.12	6.9%	\$32,459	Bakersfield	TRUE	FALSE
Census Tract 38.13	6.8%	\$48,640	Bakersfield	TRUE	FALSE
Census Tract 39	3.8%	\$17,209	Shafter	FALSE	TRUE
Census Tract 40	9.5%	\$15,224	Shafter	TRUE	TRUE
Census Tract 41.01	13.3%	\$19,733	Shafter	TRUE	TRUE
Census Tract 41.02	22.5%	\$10,224	Shafter	TRUE	TRUE
Census Tract 42	7.9%	\$20,038	Shafter	TRUE	TRUE
Census Tract 43.01	8.4%	\$14,253	Wasco	TRUE	TRUE
Census Tract 43.02	-	\$3,988	Wasco	TRUE	TRUE
Census Tract 44.01	10.3%	\$16,867	Wasco	TRUE	TRUE
Census Tract 44.02	13.5%	\$10,157	Wasco	TRUE	TRUE
Census Tract 45	4.4%	\$12,477	Wasco	FALSE	TRUE
Census Tract 46.01	-	\$4,450	Delano	TRUE	TRUE
Census Tract 46.03	-	\$1,700	Delano	TRUE	TRUE
Census Tract 46.04	17.8%	\$14,268	Delano	TRUE	TRUE
Census Tract 47.01	13.3%	\$9,886	McFarland	TRUE	TRUE
Census Tract 47.02	12.8%	\$11,764	McFarland	TRUE	TRUE
Census Tract 48	5.5%	\$10,452	Delano	FALSE	TRUE
Census Tract 49.01	10.4%	\$13,613	Delano	TRUE	TRUE
Census Tract 49.02	10.0%	\$16,972	Delano	TRUE	TRUE
Census Tract 50.03	13.2%	\$11,788	Delano	TRUE	TRUE
Census Tract 50.04	13.8%	\$19,111	Delano	TRUE	TRUE
Census Tract 51.03	7.6%	\$28,857	Bakersfield	TRUE	FALSE
Census Tract 51.04	2.6%	\$54,097	Bakersfield	FALSE	FALSE
Census Tract 52.01	4.8%	\$31,752	Unincorporated	FALSE	FALSE
Census Tract 52.03	15.3%	\$21,807	Unincorporated	TRUE	TRUE
Census Tract 52.04	14.4%	\$23,775	Unincorporated	TRUE	TRUE
Census Tract 53	22.8%	\$14,690	Ridgecrest	TRUE	TRUE
Census Tract 54.01	2.8%	\$33,281	Ridgecrest	FALSE	FALSE
Census Tract 54.02	7.8%	\$32,507	Ridgecrest	TRUE	FALSE
Census Tract 54.03	8.1%	\$29,779	Ridgecrest	TRUE	FALSE

U.S.	Unemployment 5.9%	Per Capita Income \$32,621	Census Tracts within Kern County Incorporated Cities	24 month unemployment rate is at least 1 % point greater than the nat'l average unemployment	The per capita income (PCI) is not more than 80 percent of the national average PCI.
Census Tract	Unemployment	Per Capita	Cities	Qualifying	Qualifying
Census Tract 54.04	7.2%	\$31,465	Ridgecrest	TRUE	FALSE
Census Tract 55.01	9.8%	\$37,916	Ridgecrest	TRUE	FALSE
Census Tract 55.06	8.7%	\$27,604	Unincorporated	TRUE	FALSE
Census Tract 55.07	18.3%	\$22,540	California City	TRUE	TRUE
Census Tract 55.08	23.5%	\$21,614	California City	TRUE	TRUE
Census Tract 56	6.7%	\$24,154	Unincorporated	TRUE	TRUE
Census Tract 57	12.4%	\$22,817	California City	TRUE	TRUE
Census Tract 58.01	9.5%	\$31,600	Unincorporated	TRUE	FALSE
Census Tract 58.02	16.4%	\$18,253	Unincorporated	TRUE	TRUE
Census Tract 59	21.6%	\$16,758	Unincorporated	TRUE	TRUE
Census Tract 60.02	-	\$755	Tehachapi	TRUE	TRUE
Census Tract 60.03	5.3%	\$23,027	Tehachapi	FALSE	TRUE
Census Tract 60.04	9.3%	\$27,263	Tehachapi	TRUE	FALSE
Census Tract 60.06	4.2%	\$40,633	Unincorporated	FALSE	FALSE
Census Tract 60.07	11.9%	\$28,739	Tehachapi	TRUE	FALSE
Census Tract 60.08	6.9%	\$38,558	Unincorporated	TRUE	FALSE
Census Tract 61	7.7%	\$27,924	Tehachapi	TRUE	FALSE
Census Tract 62.01	10.6%	\$14,221	Bakersfield	TRUE	TRUE
Census Tract 62.02	6.3%	\$13,290	Arvin	TRUE	TRUE
Census Tract 63.01	10.0%	\$14,616	Arvin	TRUE	TRUE
Census Tract 63.03	12.1%	\$10,707	Arvin	TRUE	TRUE
Census Tract 63.04	11.5%	\$9,186	Arvin	TRUE	TRUE
Census Tract 64.01	10.5%	\$12,422	Unincorporated	TRUE	TRUE
Census Tract 64.03	8.4%	\$11,364	Unincorporated	TRUE	TRUE
Census Tract 64.04	10.5%	\$13,203	Bakersfield	TRUE	TRUE
Census Tract 65	16.0%	\$11,830	California City	TRUE	TRUE

The following map shows the census tracts referenced above and indicates which criteria they meet in being CEDS qualified tracts.

KERN COUNTY CEDS QUALIFIED CENSUS TRACTS



Source: TNDG; US Census.

Appendix B – Overview of Stakeholder Outreach Process

The CEDS process was bolstered by a multi-layered set of stakeholders representing business, government, civic, and community interests across Kern County:

Steering Committee -- A broad base of 120+ community stakeholders was convened to inform, consult, and be involved in establishing a shared understanding of economic principles and challenges – developing strategy through participation in topical workgroups, ensuring representation of community needs, amplifying communication to non-traditional constituencies, and potentially seeding roles in implementation. This group convened at key milestones in the CEDS process, such as: the project launch in Summer 2020, an information session with peer practitioners implementing similar processes in Kansas City and Syracuse, a review of the final market assessment findings and outcomes, and at the beginning and conclusion of the workgroup process.

CEDS Committee – A smaller group of more than 40 private, public, and civic leaders, reflecting the diverse composition of Steering Committee interests, at a scale able to provide more regular feedback and strategic direction on process and interim analyses, critique interpretations, lead strategy workgroups, represent and advocate for the overall CEDS effort, and who were expected to make commitments toward execution. The CEDS Committee served as an advisory body, which provided key input and direction throughout the CEDS process, and to that end met regularly through the summer and fall of 2020 (4 times) and at the culmination of each phase of the strategy development process in January - May 2021 (4 times) to review and provide feedback on strategies and tactics developed by locally-led workgroups.

Workgroups -- Five locally-led workgroups developed strategies to accelerate the growth of key clusters and invest in the broader business ecosystem. These groups were tasked with defining in-depth problem statements and goals in response to research findings, developing strategies and tactics, and ultimately producing operational approaches to implementing tactics, such as assignments of responsibility and metrics. With local chairs and 15-25 members representing business, government, education, association, and community interests each, the participants committed to more than providing input through occasional meetings; rather they engaged directly in ongoing problem-solving, research, and results by personally completing tasks over several months.

An overarching **Deep Prosperity Planning Team** assisted and assessed workgroup consideration of equity and inclusion objectives throughout strategy development, as well as design of metrics that will measure outcomes for marginalized communities. A **Research Committee**, representing academics and analysts from educational and civic institutions who informed, contributed to and ground-truthed research, developed a set of metrics that provide a common vision for defining and tracking regional economic success over time across organizations and initiatives, guiding collective action moving forward.

In addition to these regular group meetings, the qualitative research effort undertook individual interviews, six topically-focused roundtables, and other ongoing engagement that totaled more than 100 substantive contacts with government, community, and business stakeholders – in order to collect market insights, contextualize quantitative findings, inventory programs and pilots, and consider civic governance capacity.

Appendix C – Census Designated Areas

HOUSEHOLD AND EDUCATION RELATED DATA - KERN COUNTY CENSUS DESIGNATED PLACES, PART 1

	Alta Sierra CDP	Bear Valley Springs CDP	Bodfish CDP	Boron CDP	Button-willow CDP	Cherokee Strip CDP	China Lake Acres CDP	Derby Acres CDP
Household-Related Data Variables								
Percentage of Family households	76.3%	68.9%	49.7%	59.0%	79.8%	91.8%	56.8%	70.8%
Percentage of Households below poverty level	20.0%	6.4%	22.8%	25.8%	35.0%	24.5%	28.2%	15.4%
Median Household Income	\$82,705	\$76,346	\$22,746	\$48,011	\$35,703	\$52,813	\$29,545	\$44,500
Education-Related Data Variables								
Percentage of the population 25 years and over that have attained a Bachelor's degree or higher	29.3%	28.1%	17.8%	12.9%	4.1%	0.0%	22.0%	6.7%
Percentage of the Fields of Bachelor's Degrees attained by the population								
Science and Engineering Fields	45.4%	33.4%	53.1%	32.1%	12.5%	0.0%	70.0%	31.3%
Science and Engineering-Related Fields	10.5%	8.6%	9.1%	25.0%	0.0%	0.0%	0.0%	31.3%
Business Fields	13.6%	19.0%	9.1%	5.6%	59.4%	0.0%	0.0%	12.5%
All other fields combined	2.8%	14.5%	12.0%	6.1%	0.0%	0.0%	5.3%	12.5%

	Dustin Acres CDP	Edmund-son Acres CDP	Edwards AFB CDP	Fellows CDP	Ford City CDP	Frazier Park CDP	Fuller Acres CDP	Golden Hills CDP
Household-Related Data Variables								
Percentage of Family households	84.4%	90.3%	97.4%	70.0%	71.4%	54.5%	85.1%	75.5%
Percentage of Households below poverty level	11.0%	20.4%	6.9%	10.0%	31.0%	22.8%	34.0%	11.1%
Median Household Income	\$74,412	\$66,750	\$74,750	\$60,833	\$35,430	\$33,281	\$37,273	\$62,094
Education-Related Data Variables								
Percentage of the population 25 years and over that have attained a Bachelor's degree or higher	2.4%	7.8%	46.7%	2.9%	6.8%	15.2%	9.0%	19.1%
Percentage of the Fields of Bachelor's Degrees attained by the population								
Science and Engineering Fields	55.6%	15.8%	48.1%	100.0%	54.9%	32.2%	78.9%	43.4%
Science and Engineering-Related Fields	0.0%	0.0%	11.6%	0.0%	3.7%	0.0%	0.0%	3.1%
Business Fields	44.4%	15.8%	12.9%	0.0%	18.3%	23.4%	0.0%	13.8%
All other fields combined	0.0%	68.4%	5.6%	0.0%	6.1%	3.5%	0.0%	15.3%

Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

HOUSEHOLD AND EDUCATION RELATED DATA - KERN COUNTY CENSUS DESIGNATED PLACES, PART 2

	Greenfield CDP	Greenacres CDP	Inyo kern CDP	Johannesburg CDP	Keene CDP	Kernville CDP	Lake Isabella CDP	Lake of the Woods CDP
Household-Related Data Variables								
Percentage of Family households	75.3%	88.5%	90.8%	31.3%	91.3%	35.1%	58.3%	47.7%
Percentage of Households below poverty level	12.3%	18.0%	24.2%	41.3%	25.2%	14.8%	20.8%	23.2%
Median Household Income	\$75,987	\$53,179	\$74,453	-	-	-	\$38,750	\$48,173
Education-Related Data Variables								
Percentage of the population 25 years and over that have attained a Bachelor's degree or higher	15.7%	6.9%	30.5%	0.0%	31.7%	47.4%	10.4%	16.2%
Percentage of the Fields of Bachelor's Degrees attained by the population								
Science and Engineering Fields	34.1%	0.0%	31.9%	0.0%	34.4%	20.1%	67.7%	38.4%
Science and Engineering-Related Fields	14.4%	11.5%	0.0%	0.0%	0.0%	0.0%	6.5%	46.5%
Business Fields	9.7%	0.0%	8.9%	0.0%	18.8%	4.1%	19.7%	0.0%
All other fields combined	7.8%	21.8%	8.9%	0.0%	0.0%	49.0%	0.0%	0.0%

	Lamont CDP	Lebec CDP	Lost Hills CDP	McKittrick CDP	Mettler CDP	Mexican Colony CDP	Mojave CDP	Mountain Mesa CDP
Household-Related Data Variables								
Percentage of Family households	84.7%	69.5%	73.8%	91.5%	60.0%	91.2%	67.5%	65.1%
Percentage of Households below poverty level	32.9%	13.3%	23.2%	23.4%	42.2%	65.9%	38.5%	23.6%
Median Household Income	\$41,332	\$40,774	\$35,188	\$36,250	\$29,750	\$28,705	\$24,958	\$29,420
Education-Related Data Variables								
Percentage of the population 25 years and over that have attained a Bachelor's degree or higher	2.4%	17.4%	0.0%	1.9%	3.7%	2.7%	8.6%	23.0%
Percentage of the Fields of Bachelor's Degrees attained by the population								
Science and Engineering Fields	27.3%	0.0%	0.0%	0.0%	0.0%	0.0%	50.9%	8.8%
Science and Engineering-Related Fields	0.0%	24.4%	0.0%	0.0%	0.0%	0.0%	6.3%	0.0%
Business Fields	36.1%	23.5%	0.0%	100.0%	0.0%	0.0%	13.4%	2.2%
All other fields combined	20.6%	6.3%	0.0%	0.0%	0.0%	0.0%	12.5%	34.6%

Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

HOUSEHOLD AND EDUCATION RELATED DATA - KERN COUNTY CENSUS DESIGNATED PLACES, PART 3

	North Edwards CDP	Oildale CDP	Onyx CDP	Pine Mountain Club CDP	Randsburg CDP	Rosamond CDP	Rosedale CDP	Smith Corner CDP
Household-Related Data Variables								
Percentage of Family households	64.4%	63.4%	53.3%	53.9%	12.5%	72.4%	86.0%	93.2%
Percentage of Households below poverty level	29.0%	25.1%	12.5%	13.2%	51.8%	13.3%	5.2%	0.0%
Median Household Income	\$56,750	\$38,254	\$32,770	\$64,083	-	\$56,286	\$110,288	\$62,188
Education-Related Data Variables								
Percentage of the population 25 years and over that have attained a Bachelor's degree or higher	6.5%	9.8%	21.2%	25.4%	0.0%	18.8%	30.8%	0.0%
Percentage of the Fields of Bachelor's Degrees attained by the population								
Science and Engineering Fields	57.8%	35.2%	0.0%	43.4%	0.0%	37.2%	31.7%	0.0%
Science and Engineering-Related Fields	22.2%	4.0%	0.0%	3.3%	0.0%	4.7%	7.8%	0.0%
Business Fields	0.0%	23.0%	51.5%	19.0%	0.0%	30.8%	20.6%	0.0%
All other fields combined	20.0%	7.6%	48.5%	0.9%	0.0%	8.7%	11.4%	0.0%

Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

HOUSEHOLD AND EDUCATION RELATED DATA - KERN COUNTY CENSUS DESIGNATED PLACES, PART 4

	South Taft CDP	Squirrel Mountain Valley CDP	Stallion Springs CDP	Taft Heights CDP	Tupman CDP	Valley Acres CDP	Weedpatch CDP	Weldon CDP	Wofford Heights CDP
Household-Related Data Variables									
Percentage of Family households	76.4%	62.7%	67.9%	82.7%	63.9%	89.9%	83.0%	58.1%	46.8%
Percentage of Households below poverty level	28.9%	15.6%	15.9%	24.0%	32.8%	4.3%	47.4%	32.0%	15.0%
Median Household Income	\$27,433	\$50,063	\$51,204	\$45,347	\$27,361	\$64,583	\$26,793	\$37,132	\$30,386
Education-Related Data Variables									
Percentage of the population 25 years and over that have attained a Bachelor's degree or higher	7.0%	21.7%	14.3%	6.0%	11.8%	7.7%	0.0%	15.4%	15.0%
Percentage of the Fields of Bachelor's Degrees attained by the population									
Science and Engineering Fields	60.3%	15.3%	33.5%	29.0%	61.5%	0.0%	0.0%	43.4%	57.6%
Science and Engineering-Related Fields	0.0%	0.0%	15.7%	0.0%	38.5%	0.0%	0.0%	0.0%	5.7%
Business Fields	14.7%	18.0%	16.6%	18.8%	0.0%	0.0%	0.0%	0.0%	5.7%
All other fields combined	0.0%	46.0%	0.0%	23.2%	0.0%	48.4%	0.0%	5.2%	12.2%

Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

RESIDENT UNEMPLOYMENT RATES, 2018 – 2020, KERN COUNTY CENSUS DESIGNATED PLACES

Date	2018	2019	2020	2-year change	1-year change
Alta Sierra CDP	-	-	-	-	-
Bear Valley Springs CDP	4.1%	3.8%	8.5%	4.4%	4.7%
Bodfish CDP	8.8%	8.2%	12.9%	4.1%	4.7%
Boron CDP	5.1%	5.0%	9.4%	4.3%	4.4%
Buttonwillow CDP	8.5%	8.1%	16.4%	7.9%	8.3%
Cherokee Strip CDP	-	-	-	-	-
China Lake Acres CDP	6.9%	6.6%	4.7%	-2.2%	-1.9%
Derby Acres CDP	1.7%	1.7%	13.0%	11.3%	11.3%
Dustin Acres CDP	3.5%	3.5%	3.9%	0.4%	0.4%
Edmundson Acres CDP	-	-	-	-	-
Edwards AFB CDP	9.2%	8.9%	11.2%	2.0%	2.3%
Fellows CDP	11.1%	11.1%	0.0%	-11.1%	-11.1%
Ford City CDP	9.1%	8.6%	15.7%	6.6%	7.1%
Frazier Park CDP	8.8%	8.3%	15.3%	6.5%	7.0%
Fuller Acres CDP	-	-	-	-	-
Golden Hills CDP	3.9%	3.7%	5.0%	1.1%	1.3%
Greenfield CDP	-	-	-	-	-
Greenacres CDP	-	-	-	-	-
Inyokern CDP	0.0%	0.0%	0.0%	0.0%	0.0%
Johannesburg CDP	0.0%	0.0%	0.0%	0.0%	0.0%
Keene CDP	8.7%	7.9%	0.0%	-8.7%	-7.9%
Kernville CDP	0.0%	0.0%	1.2%	1.2%	1.2%
Lake Isabella CDP	11.3%	10.7%	20.3%	9.0%	9.6%
Lake of the Woods CDP	8.0%	7.5%	0.0%	-8.0%	-7.5%
Lamont CDP	7.4%	7.1%	11.4%	4.0%	4.3%
Lebec CDP	14.0%	13.4%	26.8%	12.8%	13.4%
Lost Hills CDP	2.9%	2.9%	5.7%	2.8%	2.8%
McKittrick CDP	0.0%	0.0%	0.0%	0.0%	0.0%
Mettler CDP	16.2%	16.0%	18.1%	1.9%	2.1%
Mexican Colony CDP	-	-	-	-	-
Mojave CDP	18.4%	17.6%	22.7%	4.3%	5.1%
Mountain Mesa CDP	7.3%	6.6%	17.1%	9.8%	10.5%
North Edwards CDP	12.3%	11.8%	20.9%	8.6%	9.1%
Oildale CDP	11.9%	11.4%	18.8%	6.9%	7.4%
Onyx CDP	0.0%	0.0%	0.0%	0.0%	0.0%
Pine Mountain Club CDP	5.6%	5.3%	9.1%	3.5%	3.8%
Randsburg CDP	0.0%	0.0%	0.0%	0.0%	0.0%
Rosamond CDP	9.7%	9.3%	13.1%	3.4%	3.8%
Rosedale CDP	4.8%	4.5%	7.9%	3.1%	3.4%
Smith Corner CDP	-	-	-	-	-
South Taft CDP	18.9%	18.1%	34.6%	15.7%	16.5%
Squirrel Mountain Valley CDP	20.2%	19.3%	21.8%	1.6%	2.5%
Stallion Springs CDP	13.3%	12.7%	15.8%	2.5%	3.1%
Taft Heights CDP	7.6%	7.2%	13.7%	6.1%	6.5%
Tupman CDP	18.8%	18.5%	16.4%	-2.4%	-2.1%

Date	2018	2019	2020	2-year change	1-year change
Valley Acres CDP	18.3%	17.4%	27.1%	8.8%	9.7%
Weedpatch CDP	8.9%	8.5%	16.1%	7.2%	7.6%
Weldon CDP	11.3%	10.8%	6.0%	-5.3%	-4.8%
Wofford Heights CDP	8.3%	7.9%	18.3%	10.0%	10.4%

Notes:

1. Percentages are represented as percentage point changes.
2. Unemployment rates are not seasonally adjusted.
3. Most of the unemployment rates presented represent the final rate, however there are some that represent a preliminary figure that was not updated from prior reports.

Source: United States Bureau of Labor Statistics; California Employment Development Department, Historical Annual LAUS Unemployment Rates.

COMPARISON OF DEMOGRAPHIC TRENDS BY KERN COUNTY CENSUS DESIGNATED PLACES, PART 1

% Change 2014 - 2018									
Subject	Alta Sierra CDP	Bear Valley Springs CDP	Bodfish CDP	Boron CDP	Button-willow CDP	Cherokee Strip CDP	China Lake Acres CDP	Derby Acres CDP	Type of Change
Total Population	4.4%	7.6%	-29.4%	3.2%	16.0%	-35.3%	41.5%	17.3%	PC
Educational attainment									
High school diploma	-5.5%	1.0%	15.6%	2.3%	14.4%	-1.8%	0.9%	-6.9%	PPC
Bachelor's degree	1.3%	1.5%	0.0%	4.3%	3.2%	0.0%	19.3%	-3.5%	PPC
Graduate degree	-0.6%	-8.3%	0.0%	-1.6%	-0.6%	0.0%	-3.7%	0.4%	PPC
Labor force participation	0.4%	-6.3%	-0.3%	-0.8%	-2.2%	-0.3%	-0.5%	-6.5%	PPC
Unemployment rate	0.7%	-0.3%	-1.0%	-8.6%	-8.6%	-1.0%	-3.4%	-4.8%	PPC
Home ownership rate	1.8%	3.7%	-0.3%	-4.7%	0.9%	-0.3%	-22.2%	-5.6%	PPC
Median household income	20.2%	-7.8%	13.0%	53.2%	4.2%	45.7%	34.5%	27.9%	PC
Per capita income	3.2%	-3.6%	27.8%	58.2%	2.6%	45.9%	53.5%	-22.2%	PC
Note: The following abbreviations are used for the type of change indicated above: Percentage Change (PC); Percentage Point Change (PPC)									
Source: U.S. Census Bureau – American Community Survey (5-year surveys ending in 2014, 2015, 2016, 2017, and 2018).									

COMPARISON OF DEMOGRAPHIC TRENDS BY KERN COUNTY CENSUS DESIGNATED PLACES, PART 2

% Change 2014 - 2018									
Subject	Dustin Acres CDP	Edmundson Acres CDP	Edwards AFB CDP	Fellows CDP	Ford City CDP	Frazier Park CDP	Fuller Acres CDP	Golden Hills CDP	Type of Change
Total Population	100.0%	87.6%	2.7%	-50.0%	5.1%	-5.9%	-9.0%	12.0%	PC
Educational attainment									
High school diploma	26.1%	-5.9%	-5.4%	12.5%	7.2%	-3.1%	-12.5%	4.6%	PPC
Bachelor's degree	1.3%	-4.1%	-1.5%	-0.4%	0.0%	-5.7%	5.0%	-0.3%	PPC
Graduate degree	-4.1%	4.1%	8.8%	0.0%	2.4%	-0.7%	0.0%	-0.3%	PPC
Labor force participation	3.4%	8.0%	-1.2%	-14.1%	-4.9%	1.6%	3.9%	1.9%	PPC
Unemployment rate	-8.3%	-5.8%	0.0%	3.5%	2.3%	1.8%	-2.9%	-2.8%	PPC
Home ownership rate	-14.4%	11.2%	-1.6%	-5.7%	-0.1%	6.7%	1.8%	1.1%	PPC
Median household income	54.2%	90.7%	18.3%	-3.8%	10.3%	-22.7%	10.4%	-3.6%	PC
Per capita income	-4.5%	66.1%	14.4%	4.5%	-9.7%	-9.0%	-4.5%	3.4%	PC
Note: The following abbreviations are used for the type of change indicated above: Percentage Change (PC); Percentage Point Change (PPC)									
Source: U.S. Census Bureau – American Community Survey (5-year surveys ending in 2014, 2015, 2016, 2017, and 2018).									

COMPARISON OF DEMOGRAPHIC TRENDS BY KERN COUNTY CENSUS DESIGNATED PLACES, PART 3

% Change 2014 - 2018									
Subject	Green-acres CDP	Green-field CDP	Inyokern CDP	Johannes-burg CDP	Keene CDP	Kernville CDP	Lake Isabella CDP	Lake of the Woods CDP	Type of Change
Total Population	16.3%	-11.1%	11.3%	74.7%	-3.7%	-25.6%	11.7%	42.5%	PC
Educational attainment									
High school diploma	7.4%	-13.6%	3.0%	6.1%	-2.0%	-18.6%	-4.9%	-22.3%	PPC
Bachelor's degree	1.8%	1.7%	6.2%	0.0%	4.7%	14.0%	6.9%	7.7%	PPC
Graduate degree	-0.4%	2.3%	5.0%	0.0%	6.6%	5.2%	1.2%	-0.1%	PPC
Labor force participation	2.6%	-1.5%	-6.2%	0.0%	1.3%	0.0%	3.0%	-4.9%	PPC
Unemployment rate	-4.5%	-3.4%	0.0%	0.0%	-16.9%	-6.0%	4.9%	1.8%	PPC
Home ownership rate	-9.5%	13.0%	-20.6%	-62.5%	-18.0%	-4.7%	-2.8%	5.8%	PPC
Median household income	18.6%	3.4%	45.5%	-100.0%	-100.0%	-100.0%	70.5%	42.7%	PC
Per capita income	2.6%	-8.9%	2.6%	-37.3%	27.3%	7.3%	37.6%	-3.3%	PC
Note: The following abbreviations are used for the type of change indicated above: Percentage Change (PC); Percentage Point Change (PPC)									
Source: U.S. Census Bureau – American Community Survey (5-year surveys ending in 2014, 2015, 2016, 2017, and 2018).									

COMPARISON OF DEMOGRAPHIC TRENDS BY KERN COUNTY CENSUS DESIGNATED PLACES, PART 4

% Change 2014 - 2018									
Subject	Lamont CDP	Lebec CDP	Lost Hills CDP	McKittrick CDP	Mettler CDP	Mexican Colony CDP	Mojave CDP	Mountain Mesa CDP	Type of Change
Total Population	-7.0%	35.2%	-11.4%	13.4%	56.8%	68.1%	1.4%	172.2%	PC
Educational attainment									
High school diploma	0.9%	-9.4%	4.8%	-13.3%	-1.0%	42.4%	-0.1%	-9.5%	PPC
Bachelor's degree	0.8%	8.2%	0.0%	1.9%	0.0%	2.7%	2.7%	7.8%	PPC
Graduate degree	-0.4%	0.5%	0.0%	0.0%	-1.8%	0.0%	0.3%	-2.5%	PPC
Labor force participation	-1.0%	-3.8%	-1.7%	-10.1%	-16.9%	5.5%	-1.8%	0.5%	PPC
Unemployment rate	0.2%	-6.1%	-1.3%	-19.6%	-13.8%	-10.5%	3.4%	-4.2%	PPC
Home ownership rate	-1.7%	7.2%	-7.3%	-2.4%	11.2%	1.3%	-15.1%	-23.8%	PPC
Median household income	23.6%	-27.6%	10.4%	-15.7%	-30.7%	65.2%	-27.7%	-23.1%	PC
Per capita income	17.4%	8.6%	36.5%	-6.3%	-0.9%	35.2%	8.0%	-7.9%	PC
Note: The following abbreviations are used for the type of change indicated above: Percentage Change (PC); Percentage Point Change (PPC)									
Source: U.S. Census Bureau – American Community Survey (5-year surveys ending in 2014, 2015, 2016, 2017, and 2018).									

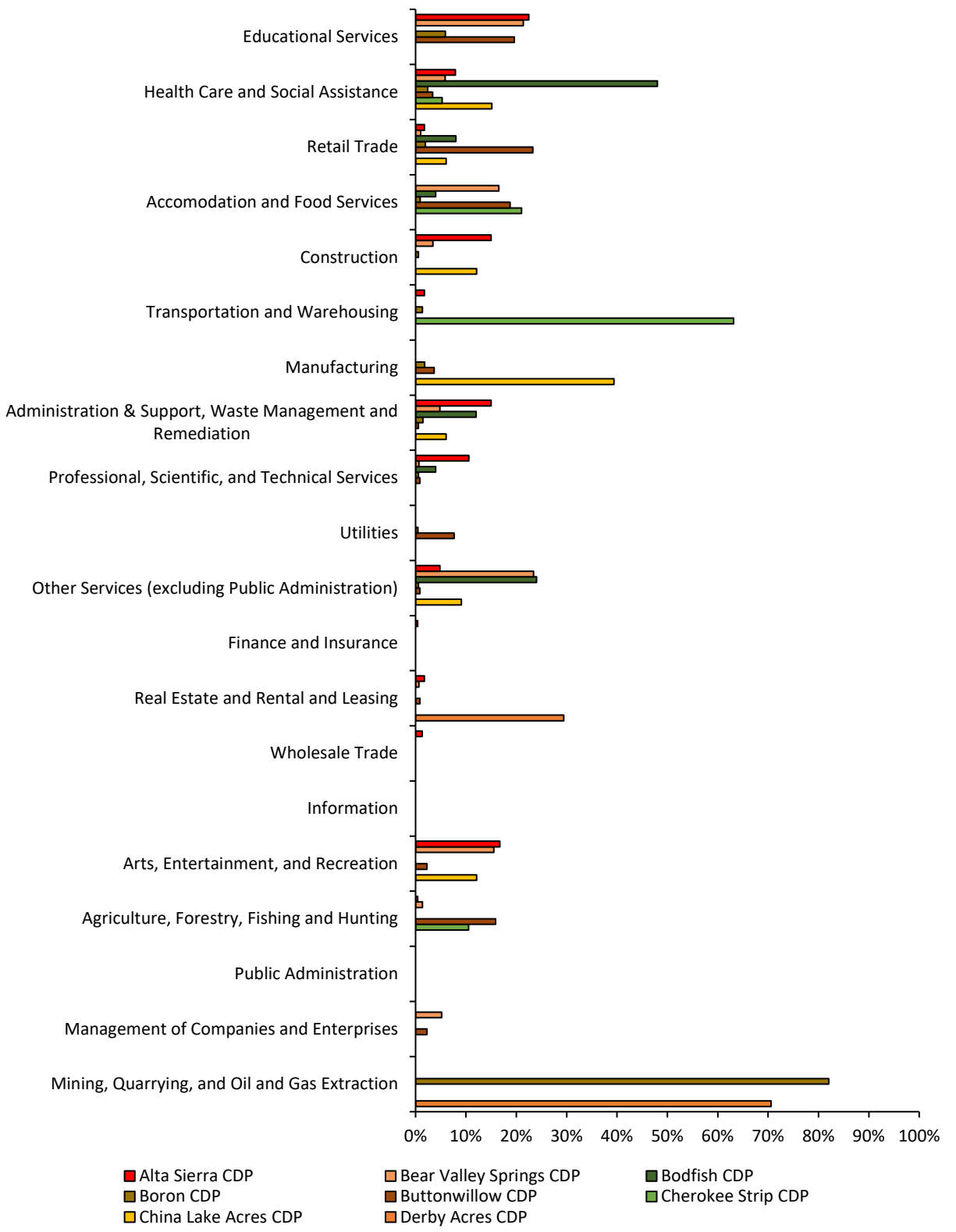
COMPARISON OF DEMOGRAPHIC TRENDS BY KERN COUNTY CENSUS DESIGNATED PLACES, PART 5

% Change 2014 - 2018									
	North Edwards CDP	Oildale CDP	Onyx CDP	Pine Mountain Club CDP	Randsburg CDP	Rosamond CDP	Rosedale CDP	Smith Corner CDP	Type of Change
Total Population	-2.3%	2.5%	-1.8%	-4.6%	-50.0%	7.3%	12.9%	0.5%	PC
Educational attainment									
High school diploma	3.5%	1.9%	10.7%	8.6%	-26.6%	-3.3%	4.8%	13.5%	PPC
Bachelor's degree	-14.1%	-0.4%	-0.2%	2.6%	0.0%	5.1%	-0.3%	-3.1%	PPC
Graduate degree	2.8%	0.4%	5.1%	-3.4%	0.0%	2.6%	0.9%	-4.9%	PPC
Labor force participation	0.0%	-0.1%	13.5%	-1.0%	18.7%	-0.4%	-5.0%	-8.4%	PPC
Unemployment rate	-2.6%	0.6%	-33.6%	3.4%	0.0%	-1.0%	-1.0%	-3.3%	PPC
Home ownership rate	0.1%	-6.4%	5.3%	14.4%	-16.1%	-1.3%	-7.0%	-30.4%	PPC
Median household income	24.3%	13.1%	17.1%	39.6%	-100.0%	-4.8%	-0.9%	72.4%	PC
Per capita income	28.1%	5.0%	59.3%	24.6%	10.8%	15.1%	6.8%	21.7%	PC
Note: The following abbreviations are used for the type of change indicated above: Percentage Change (PC); Percentage Point Change (PPC)									
Source: U.S. Census Bureau – American Community Survey (5-year surveys ending in 2014, 2015, 2016, 2017, and 2018).									

COMPARISON OF DEMOGRAPHIC TRENDS BY KERN COUNTY CENSUS DESIGNATED PLACES, PART 6

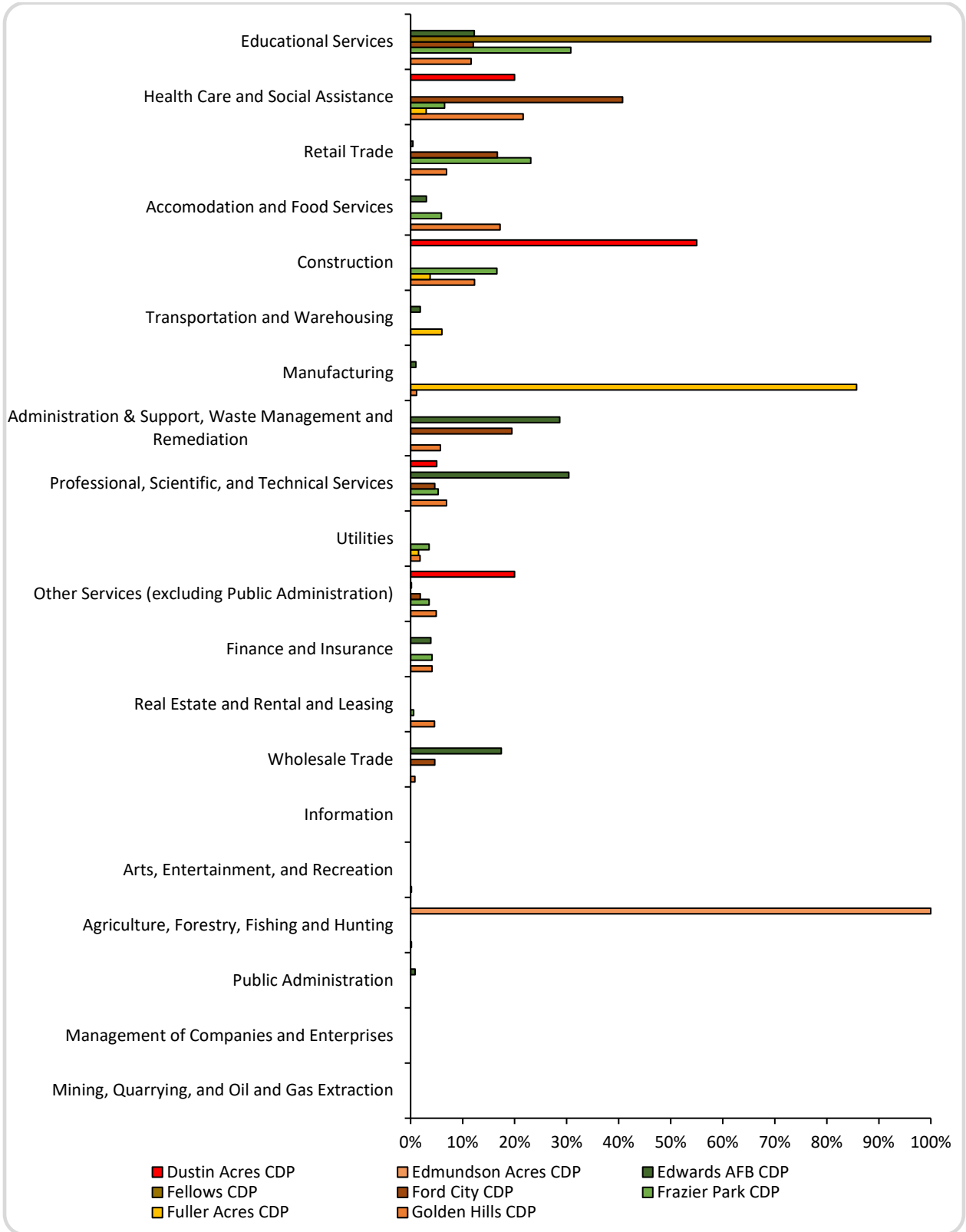
% Change 2014 - 2018										
	South Taft CDP	Squirrel Mountain Valley CDP	Stallion Springs CDP	Taft Heights CDP	Tupman CDP	Valley Acres CDP	Weedpatch CDP	Weldon CDP	Wofford Heights CDP	Type of Change
Total Population	-9.2%	211.6%	21.5%	-7.2%	5.7%	- 13.9%	3.1%	-16.2%	-3.4%	PC
Educational attainment										
High school diploma	3.4%	-12.8%	-8.9%	-4.1%	-1.5%	0.6%	1.0%	-8.1%	21.3%	PPC
Bachelor's degree	-1.1%	-4.0%	0.9%	0.4%	7.3%	1.2%	-0.5%	2.2%	3.9%	PPC
Graduate degree	1.2%	-4.3%	1.4%	0.2%	4.5%	0.0%	-0.5%	2.0%	-1.2%	PPC
Labor force participation	- 13.1%	-3.4%	-6.6%	-0.9%	-7.7%	9.0%	1.2%	3.5%	4.5%	PPC
Unemployment rate	8.1%	18.7%	0.8%	-6.5%	1.3%	7.2%	0.5%	-3.5%	6.5%	PPC
Home ownership rate	-1.1%	-21.3%	2.7%	8.5%	-20.8%	16.9%	3.6%	-8.9%	-0.6%	PPC
Median household income	- 31.0%	17.5%	-8.4%	-16.8%	-39.6%	36.1%	-4.6%	19.8%	-0.4%	PC
Per capita income	17.6%	-26.5%	-25.5%	-11.5%	-3.0%	2.0%	12.5%	19.5%	9.1%	PC
Note: The following abbreviations are used for the type of change indicated above: Percentage Change (PC); Percentage Point Change (PPC)										
Source: U.S. Census Bureau – American Community Survey (5-year surveys ending in 2014, 2015, 2016, 2017, and 2018).										

PERCENTAGE OF JOBS BY INDUSTRY FOR KERN COUNTY CENSUS DESIGNATED PLACES, 2017, PART 1



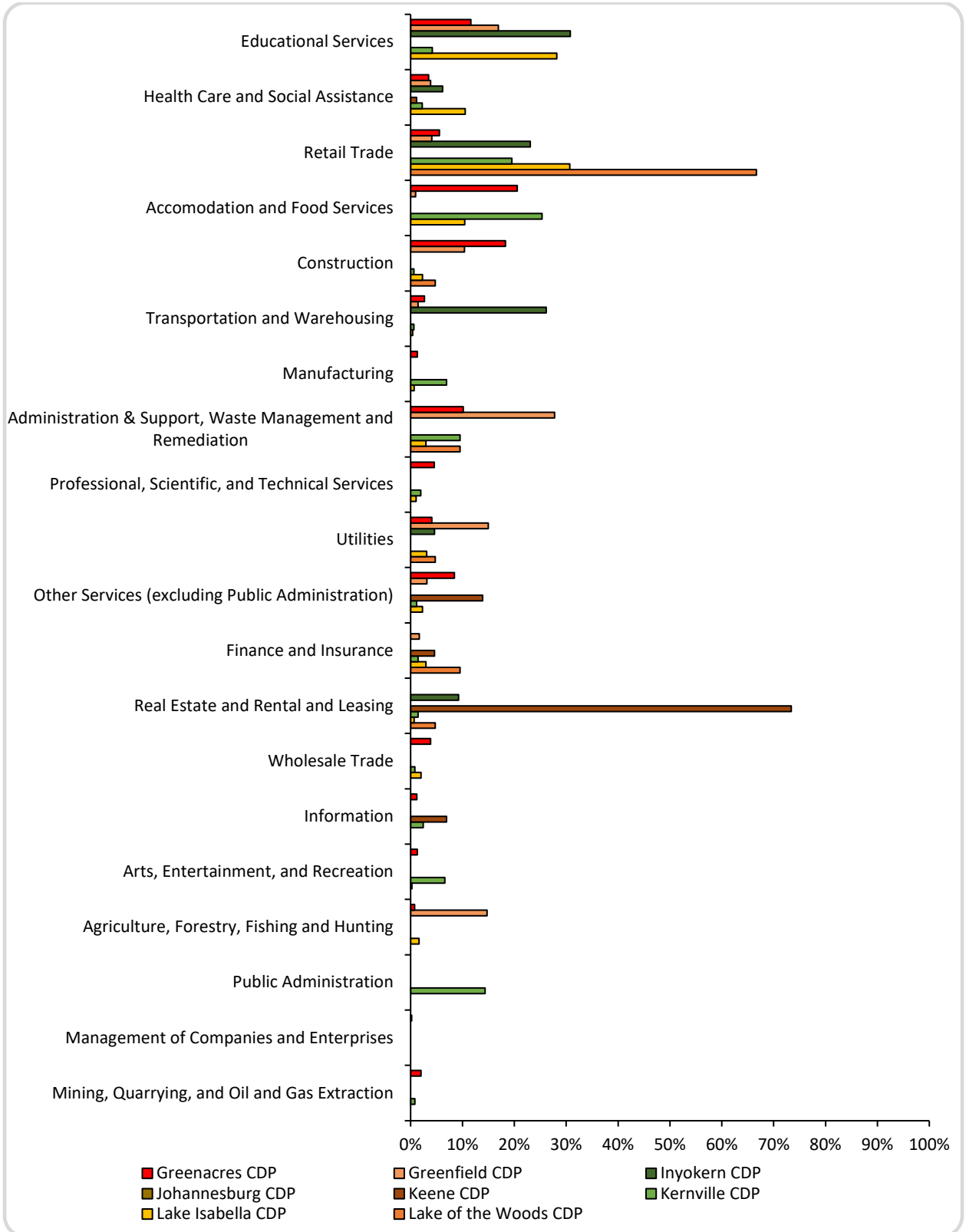
Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

PERCENTAGE OF JOBS BY INDUSTRY FOR KERN COUNTY CENSUS DESIGNATED PLACES, 2017, PART 2



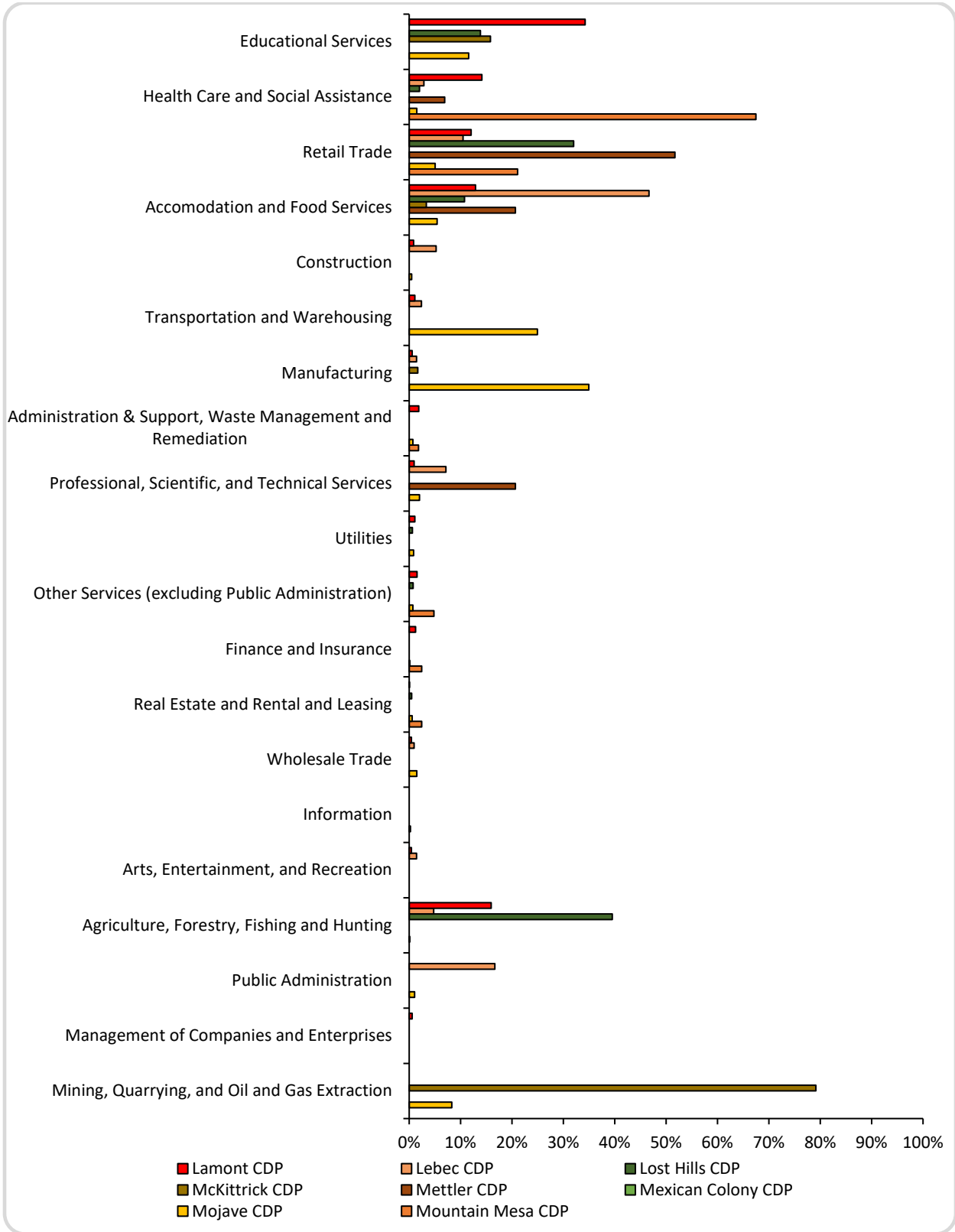
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PERCENTAGE OF JOBS BY INDUSTRY FOR KERN COUNTY CENSUS DESIGNATED PLACES, 2017, PART 3



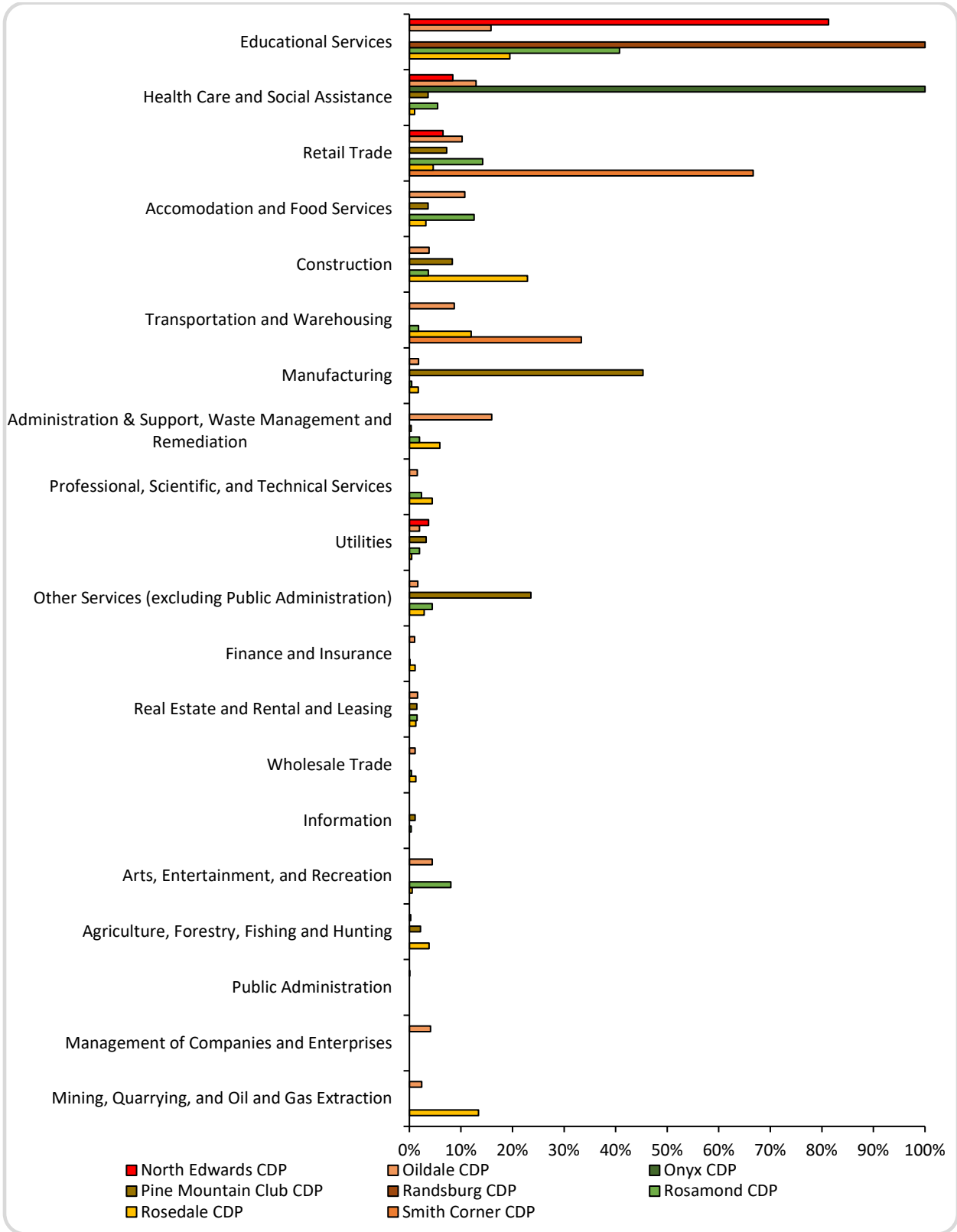
Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

PERCENTAGE OF JOBS BY INDUSTRY FOR KERN COUNTY CENSUS DESIGNATED PLACES, 2017, PART 4



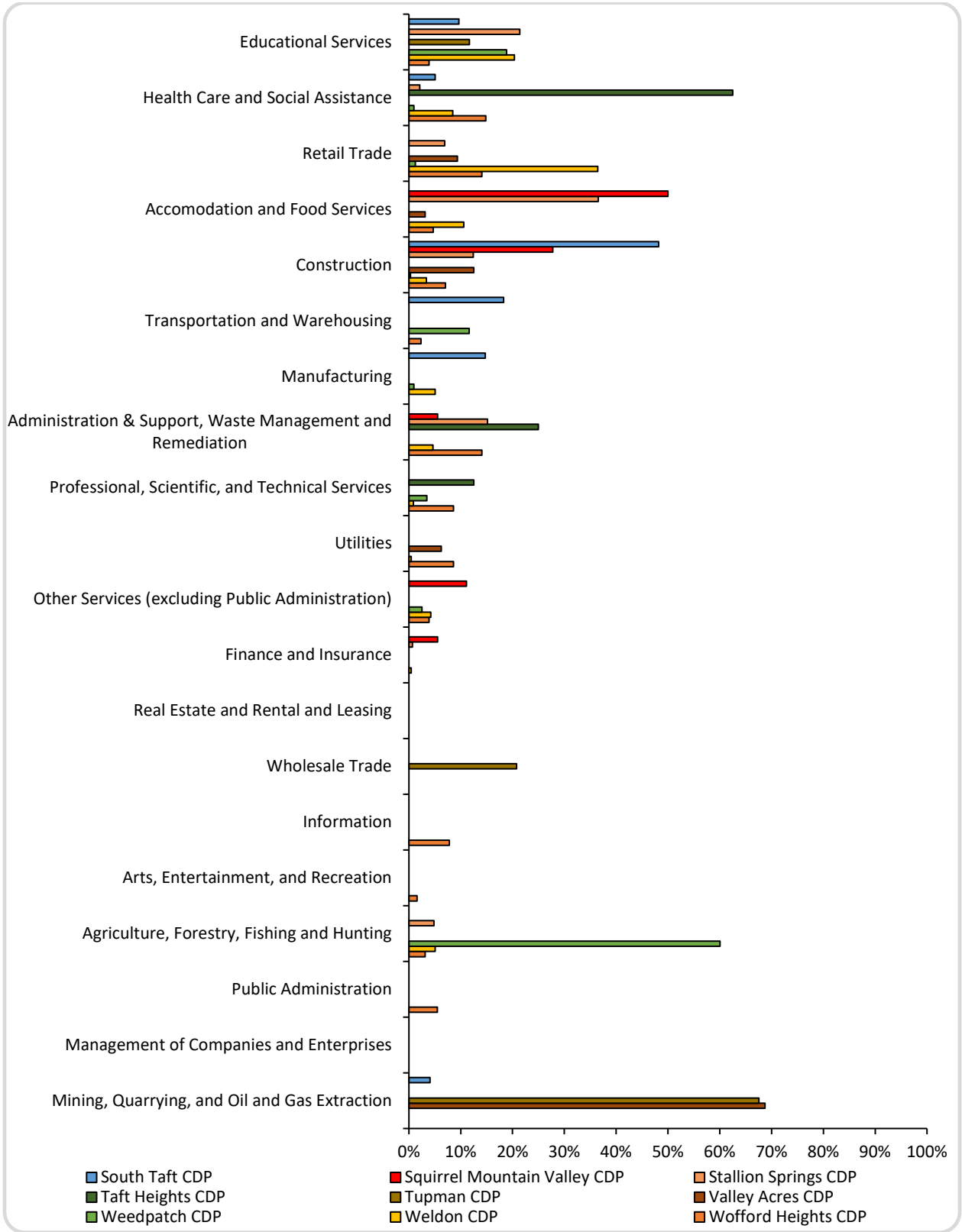
Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

PERCENTAGE OF JOBS BY INDUSTRY FOR KERN COUNTY CENSUS DESIGNATED PLACES, 2017, PART 5



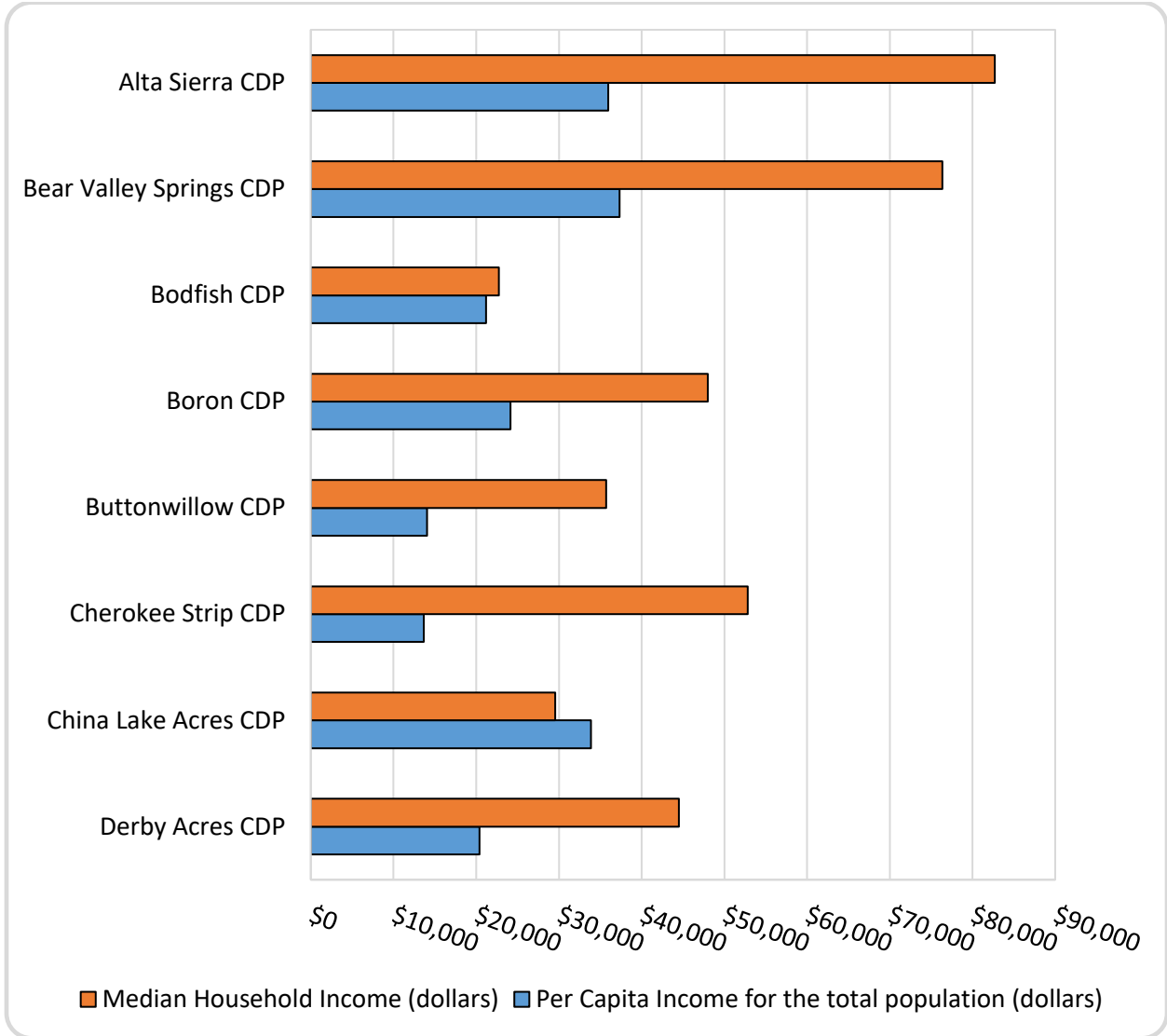
Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

PERCENTAGE OF JOBS BY INDUSTRY FOR KERN COUNTY CENSUS DESIGNATED PLACES, 2017, PART 6



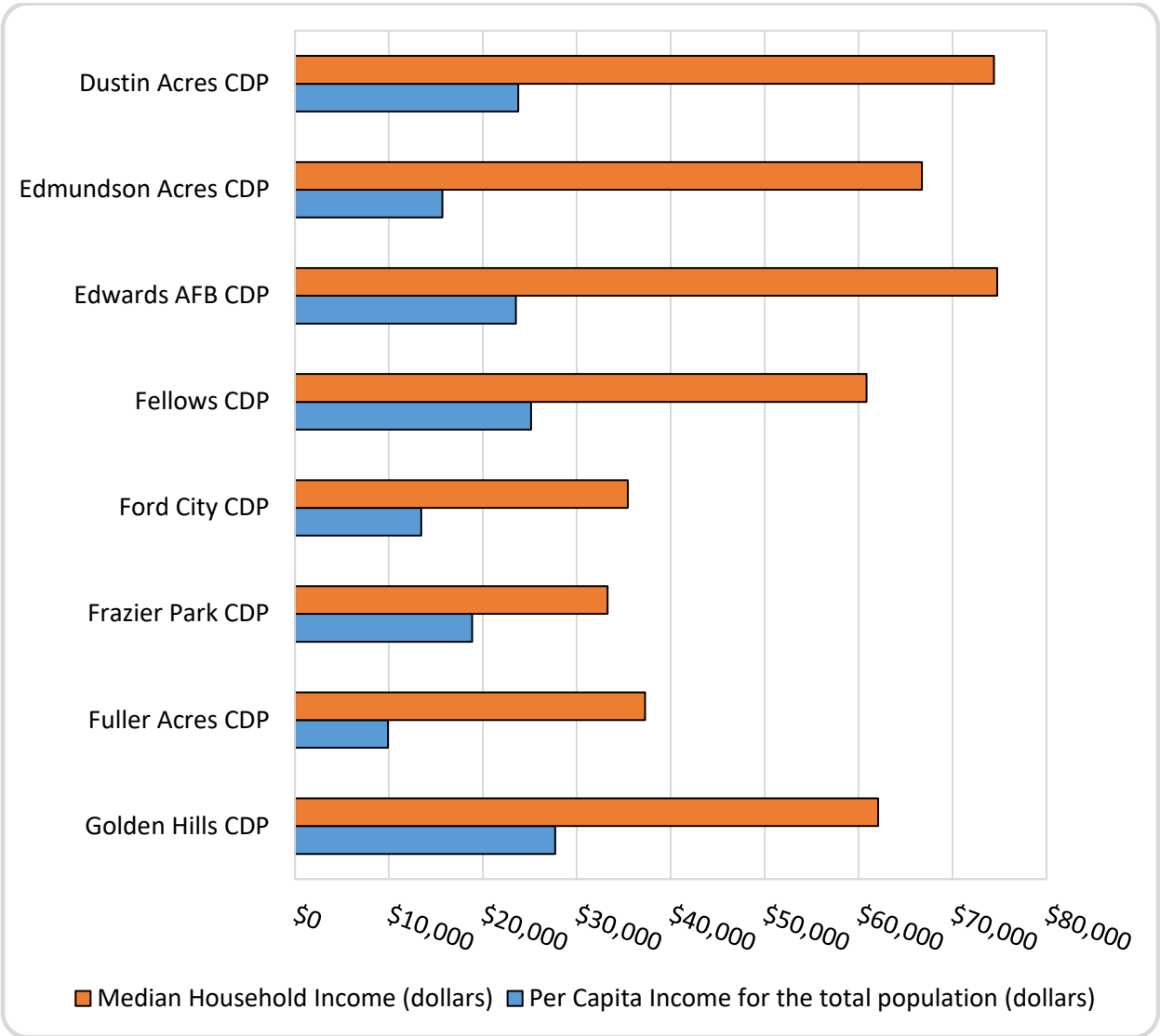
Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

MEDIAN HOUSEHOLD INCOME AND PER CAPITA INCOME, 2018, PART 1



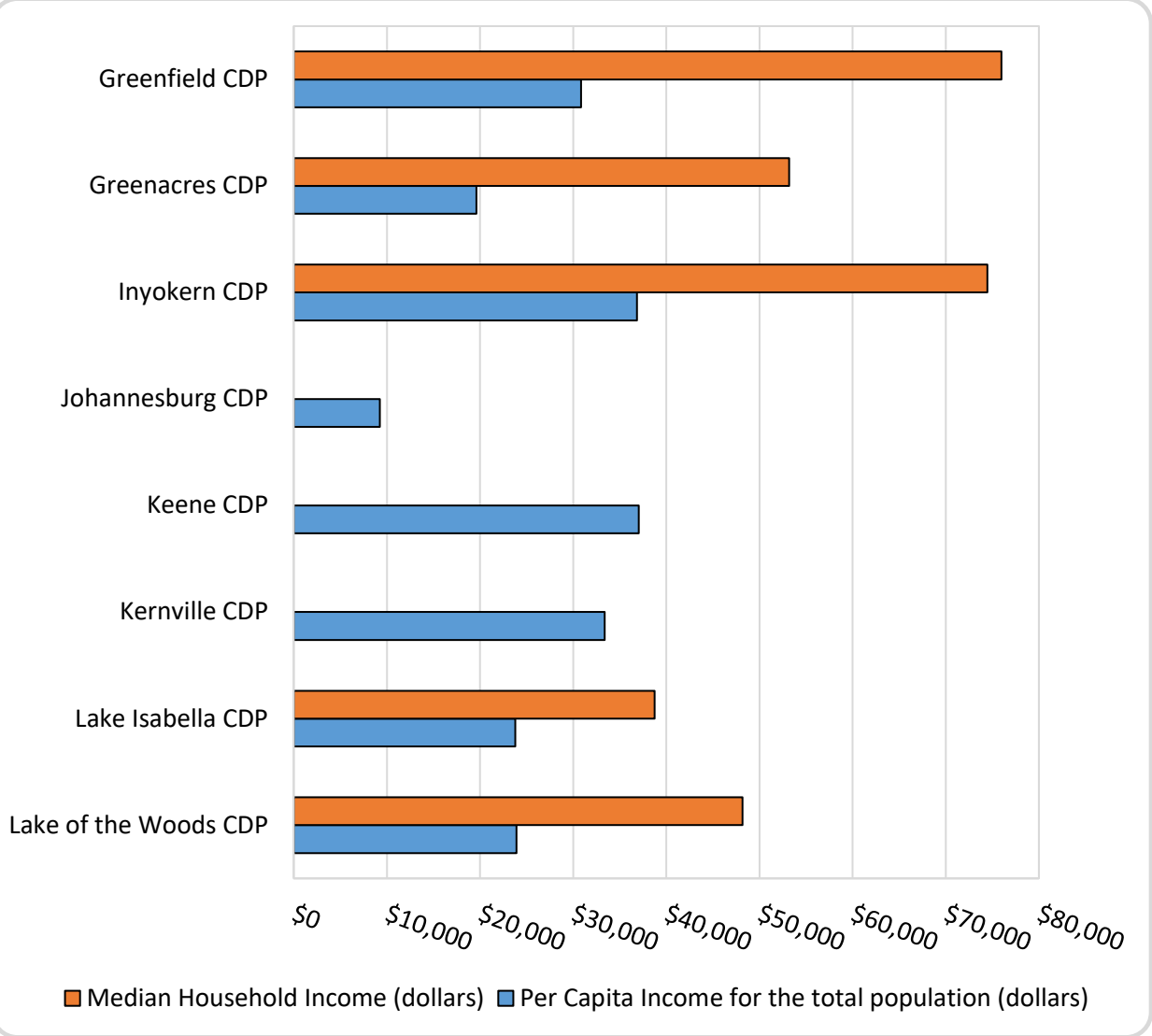
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

MEDIAN HOUSEHOLD INCOME AND PER CAPITA INCOME, 2018, PART 2



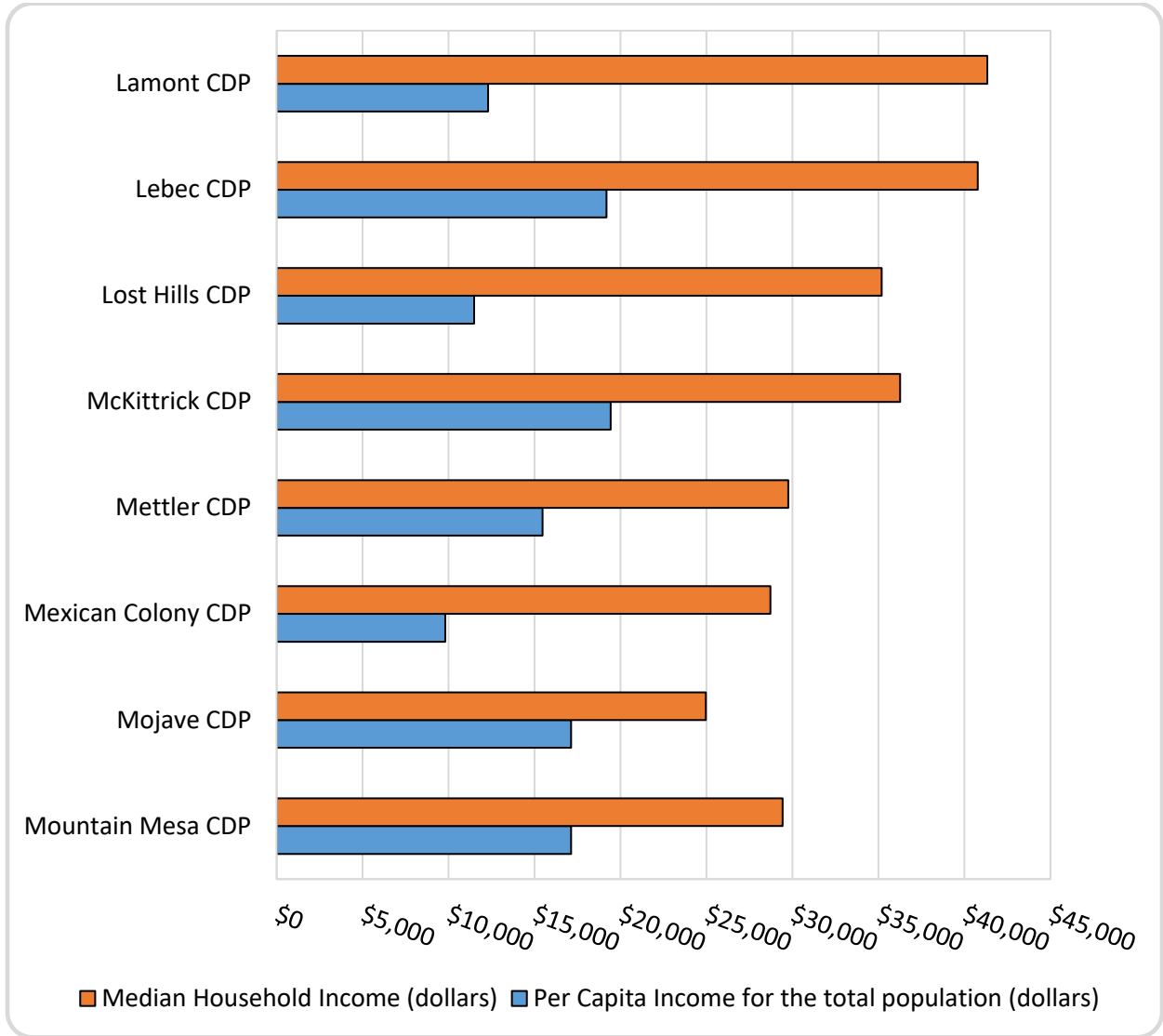
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

MEDIAN HOUSEHOLD INCOME AND PER CAPITA INCOME, 2018, PART 3



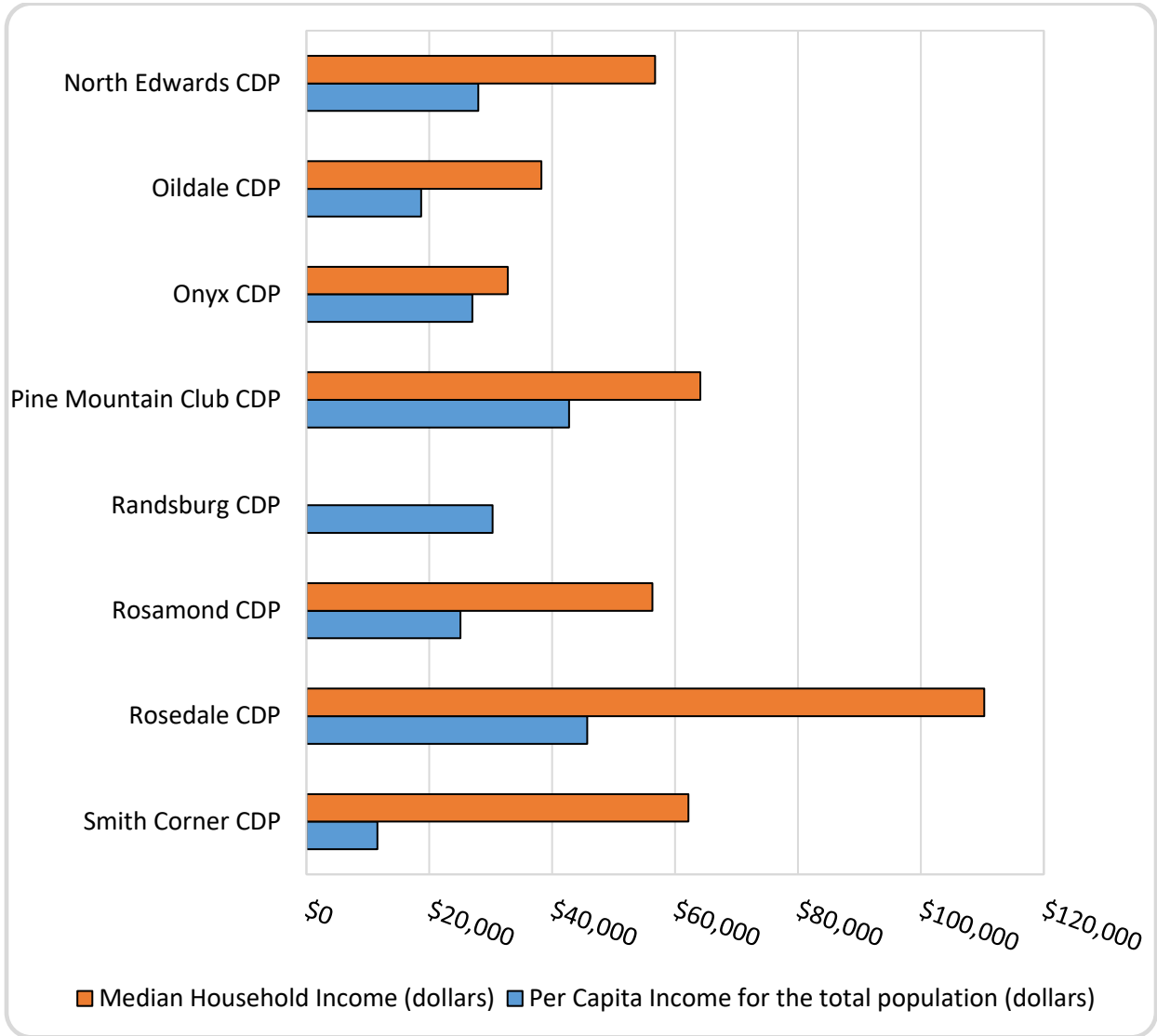
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MEDIAN HOUSEHOLD INCOME AND PER CAPITA INCOME, 2018, PART 4



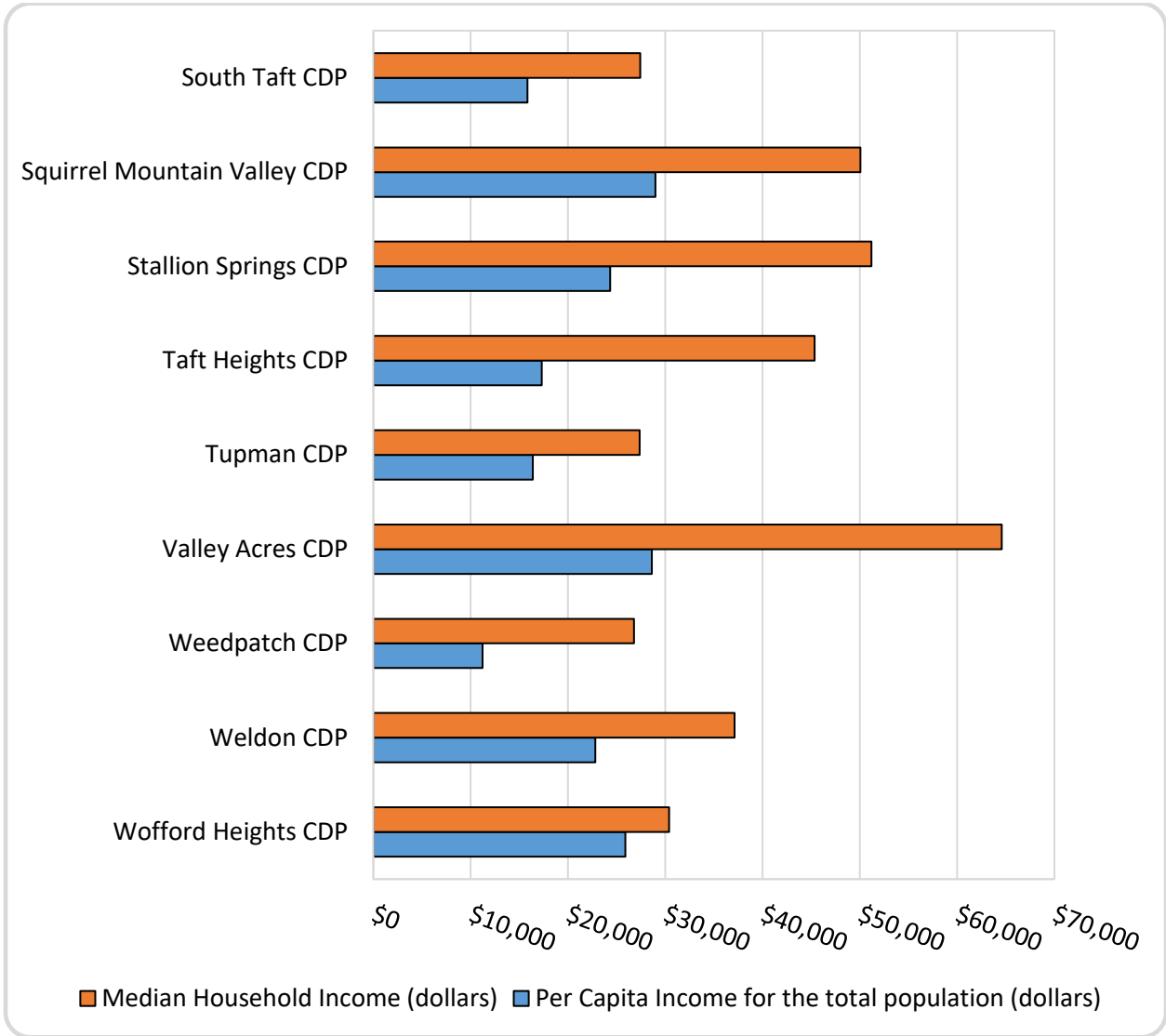
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

MEDIAN HOUSEHOLD INCOME AND PER CAPITA INCOME, 2018, PART 5



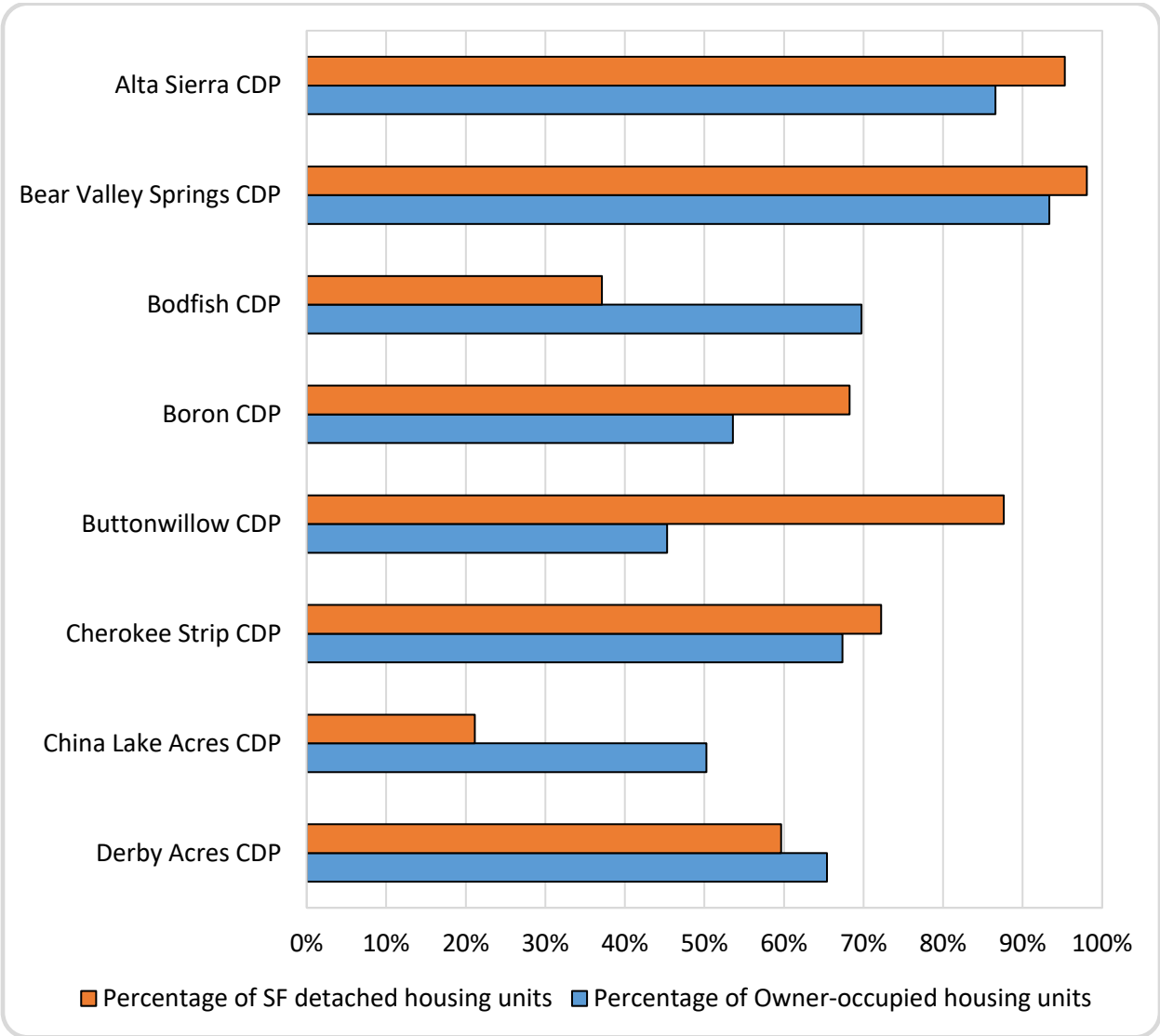
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

MEDIAN HOUSEHOLD INCOME AND PER CAPITA INCOME, 2018, PART 6



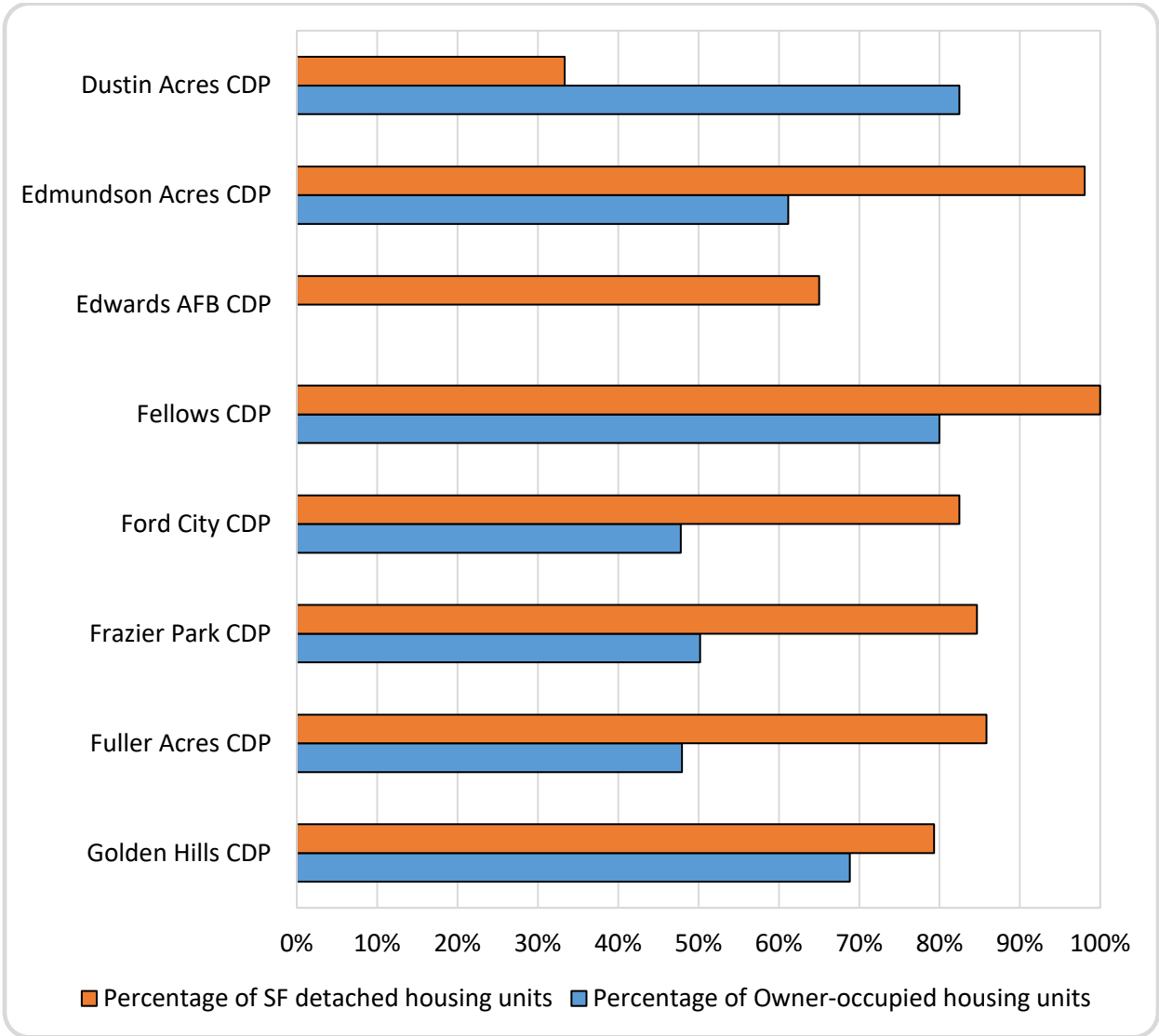
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

PERCENTAGE OF OWNER-OCCUPIED HOUSING AND SINGLE-FAMILY DETACHED HOUSING, 2018, PART 1



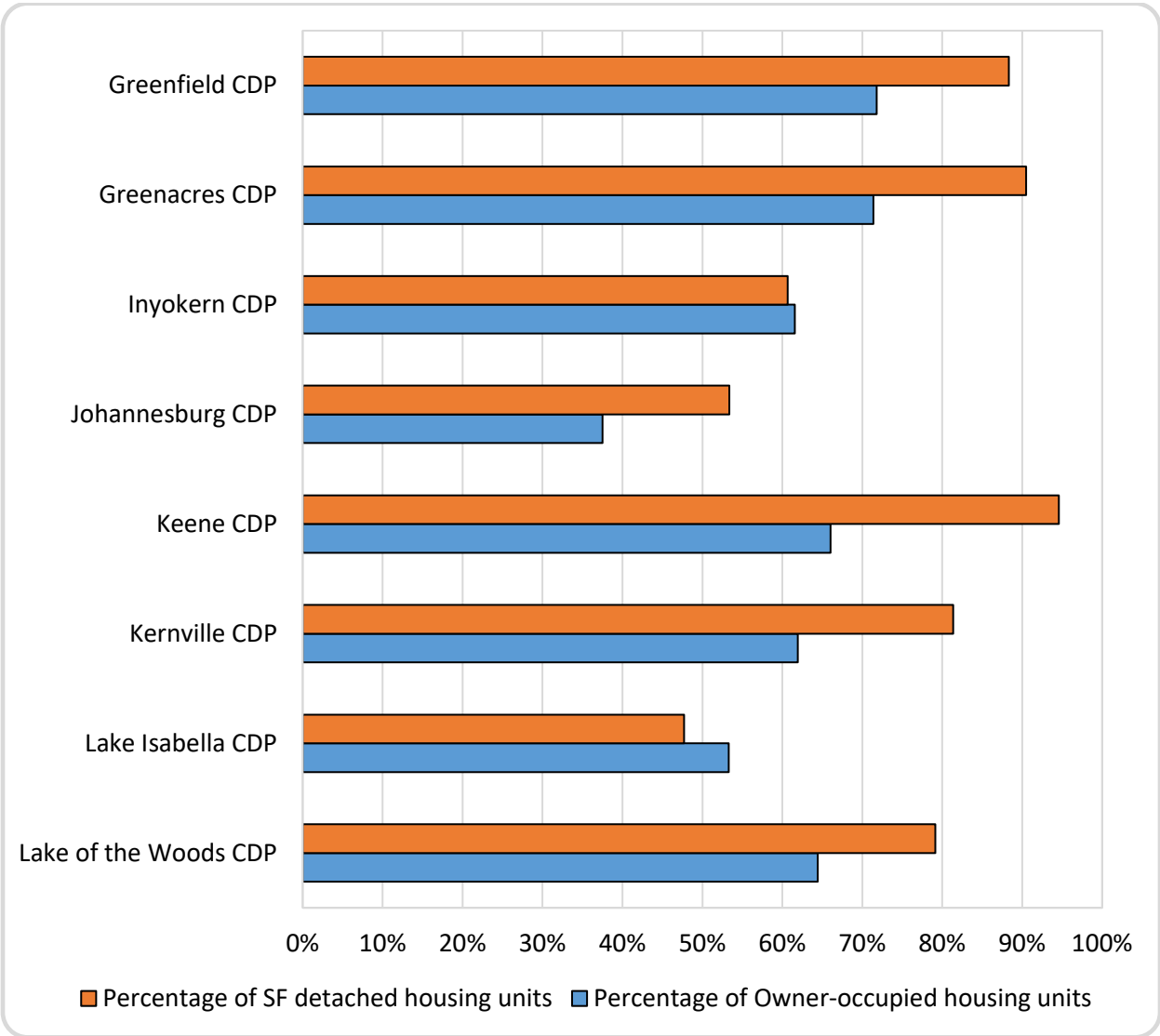
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

PERCENTAGE OF OWNER-OCCUPIED HOUSING AND SINGLE-FAMILY DETACHED HOUSING, 2018, PART 2



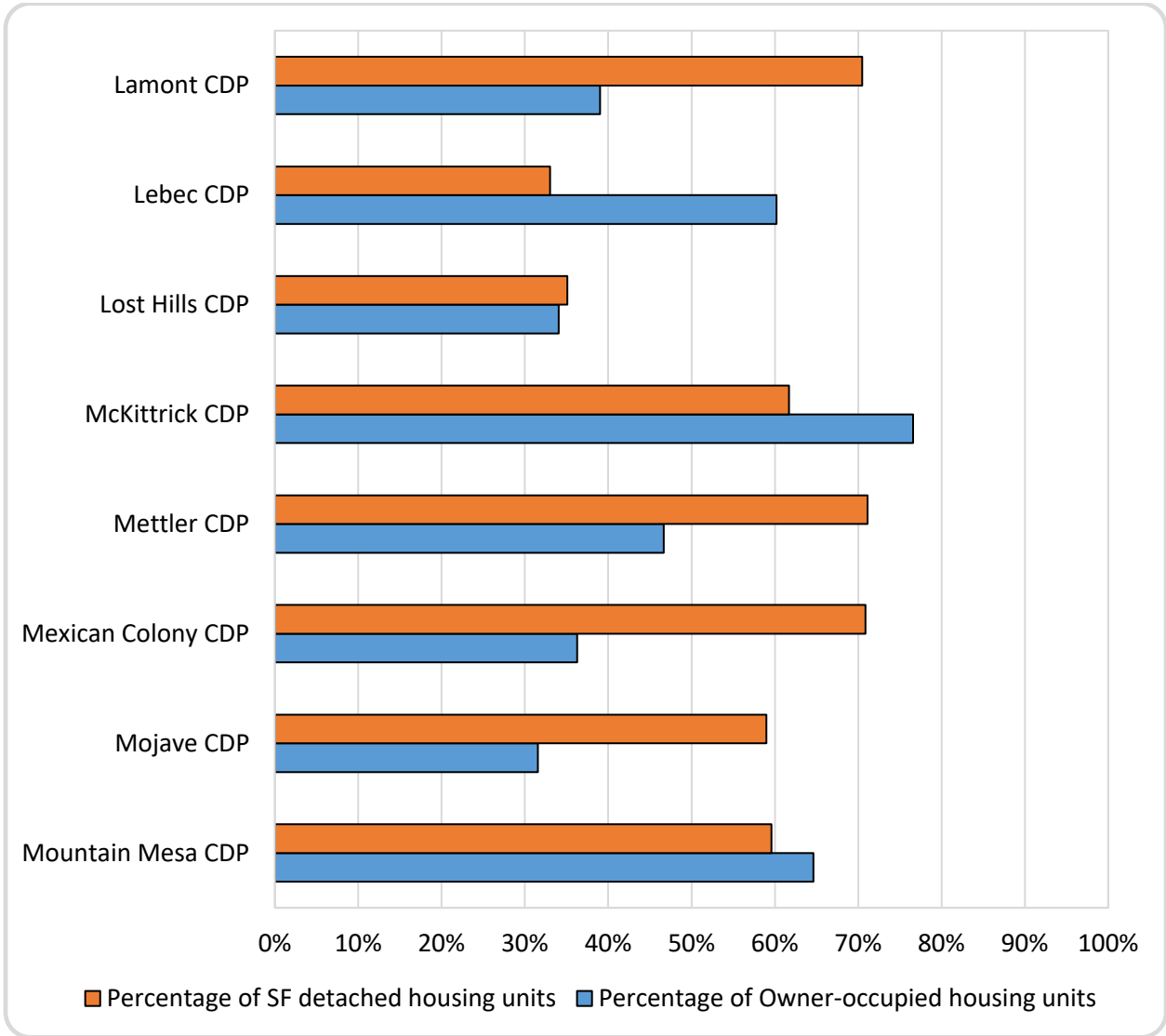
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

PERCENTAGE OF OWNER-OCCUPIED HOUSING AND SINGLE-FAMILY DETACHED HOUSING, 2018, PART 3



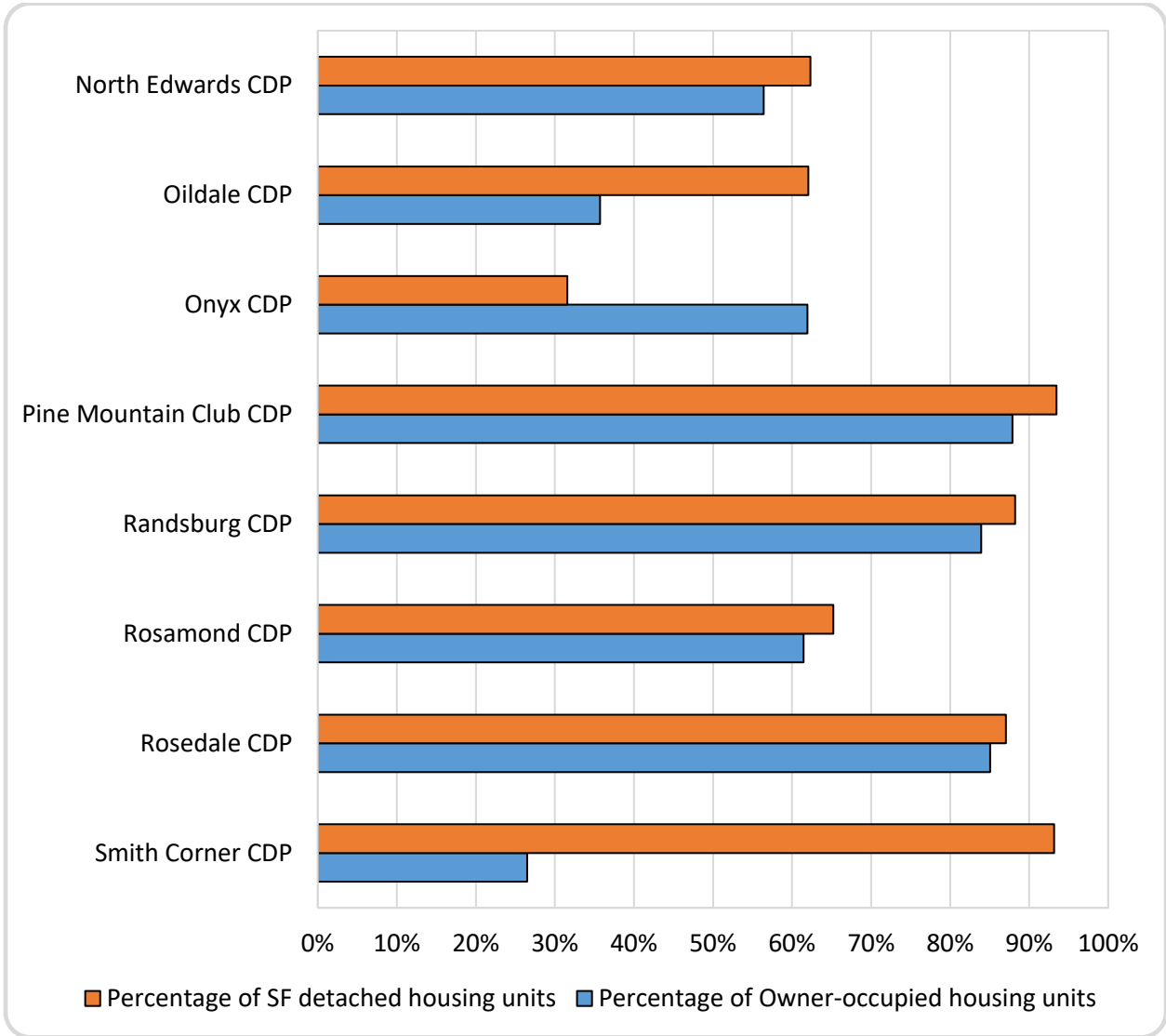
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

PERCENTAGE OF OWNER-OCCUPIED HOUSING AND SINGLE-FAMILY DETACHED HOUSING, 2018, PART 4



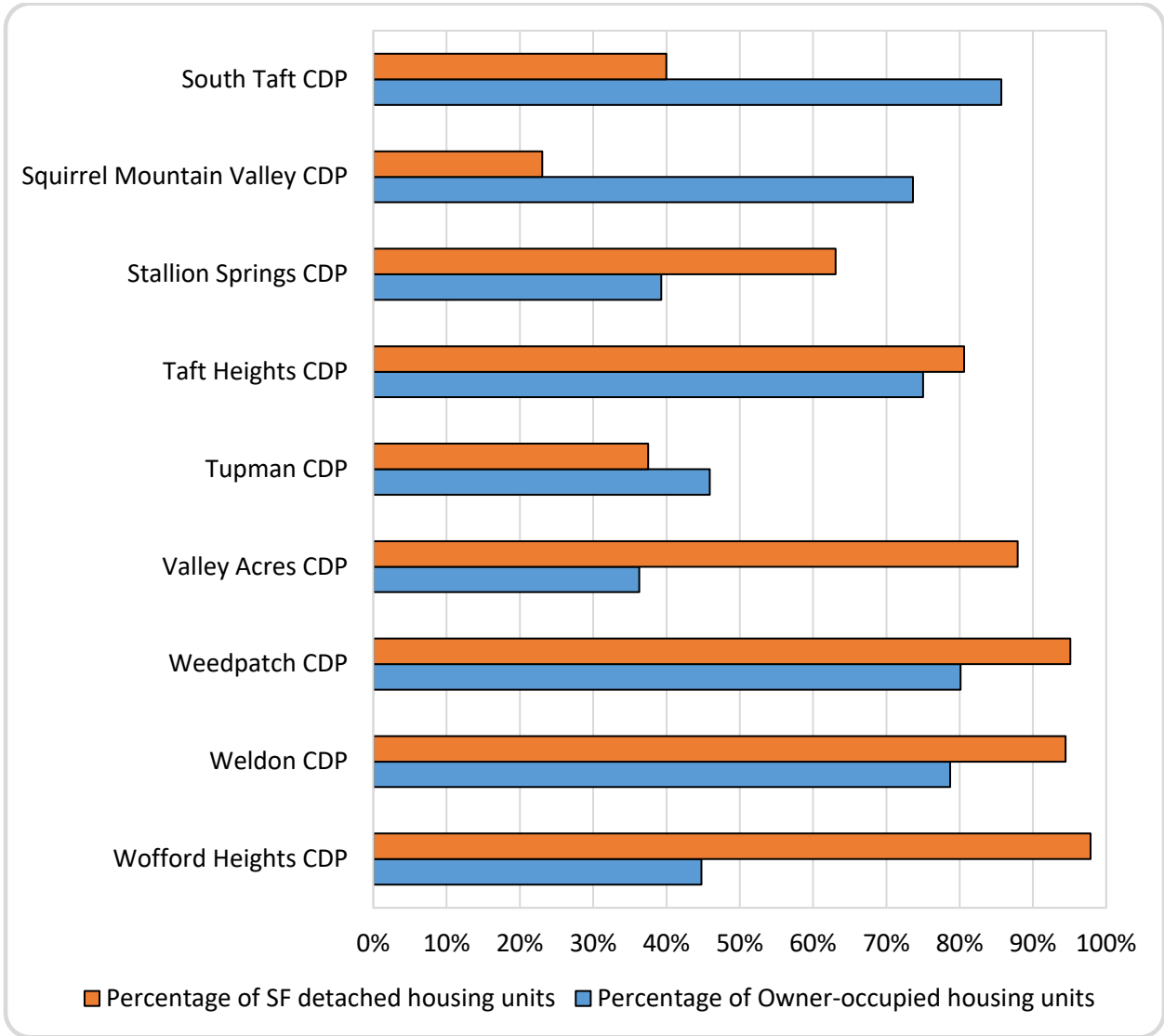
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PERCENTAGE OF OWNER-OCCUPIED HOUSING AND SINGLE-FAMILY DETACHED HOUSING, 2018, PART 5



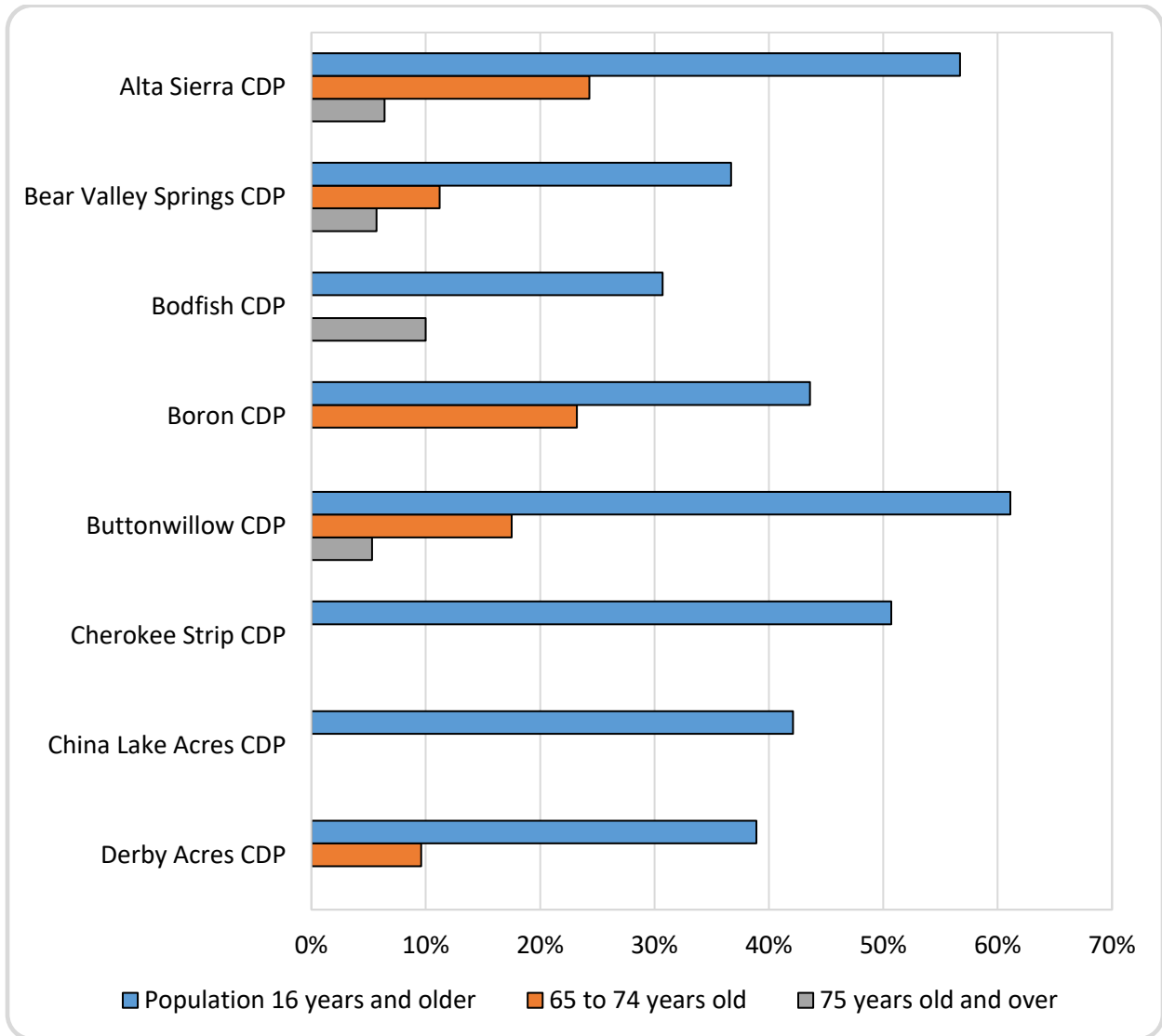
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PERCENTAGE OF OWNER-OCCUPIED HOUSING AND SINGLE-FAMILY DETACHED HOUSING, 2018, PART 6



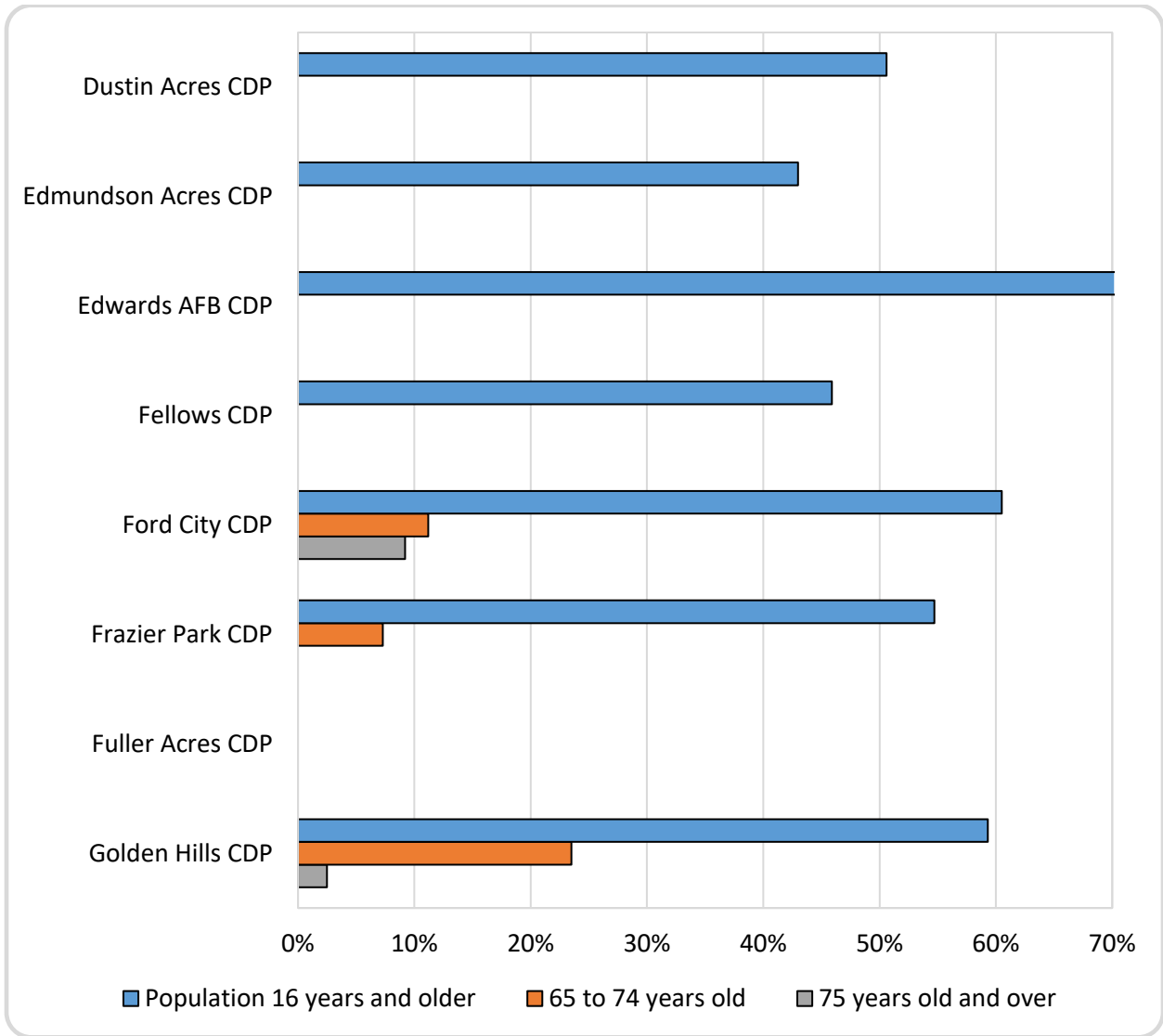
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LABOR FORCE PARTICIPATION RATE BY AGE SEGMENT, 2018, PART 1



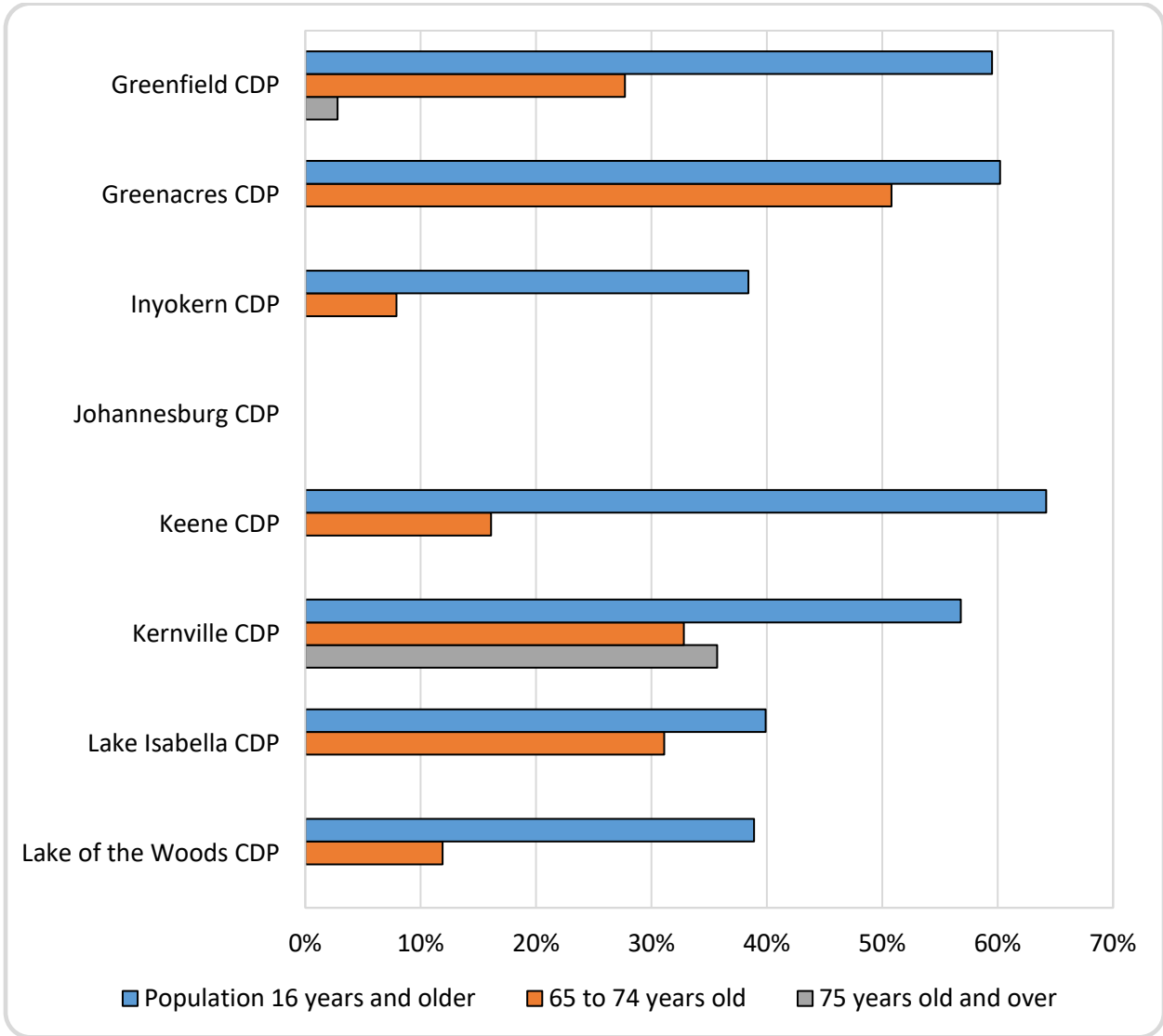
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LABOR FORCE PARTICIPATION RATE BY AGE SEGMENT, 2018, PART 2



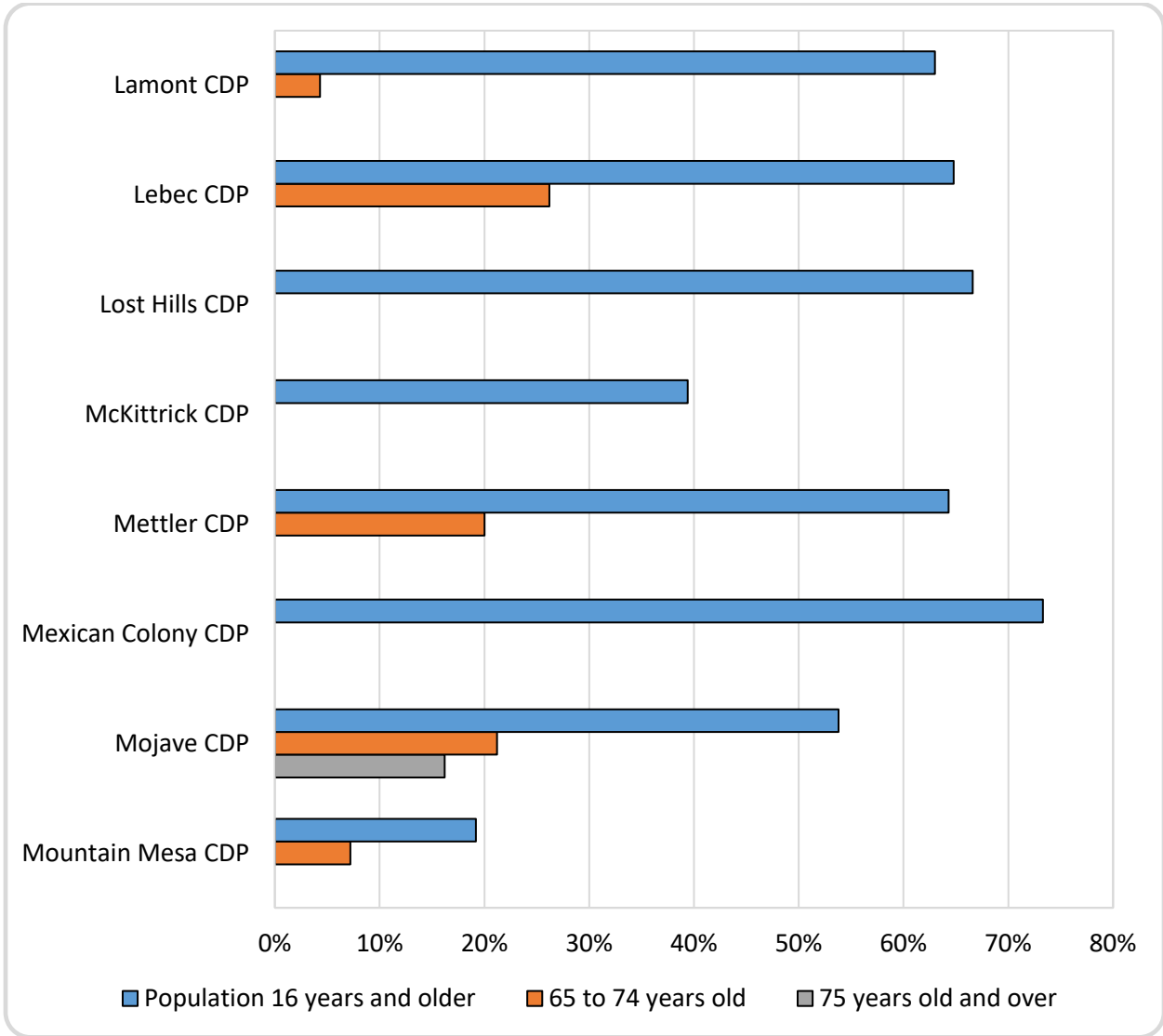
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LABOR FORCE PARTICIPATION RATE BY AGE SEGMENT, 2018, PART 3



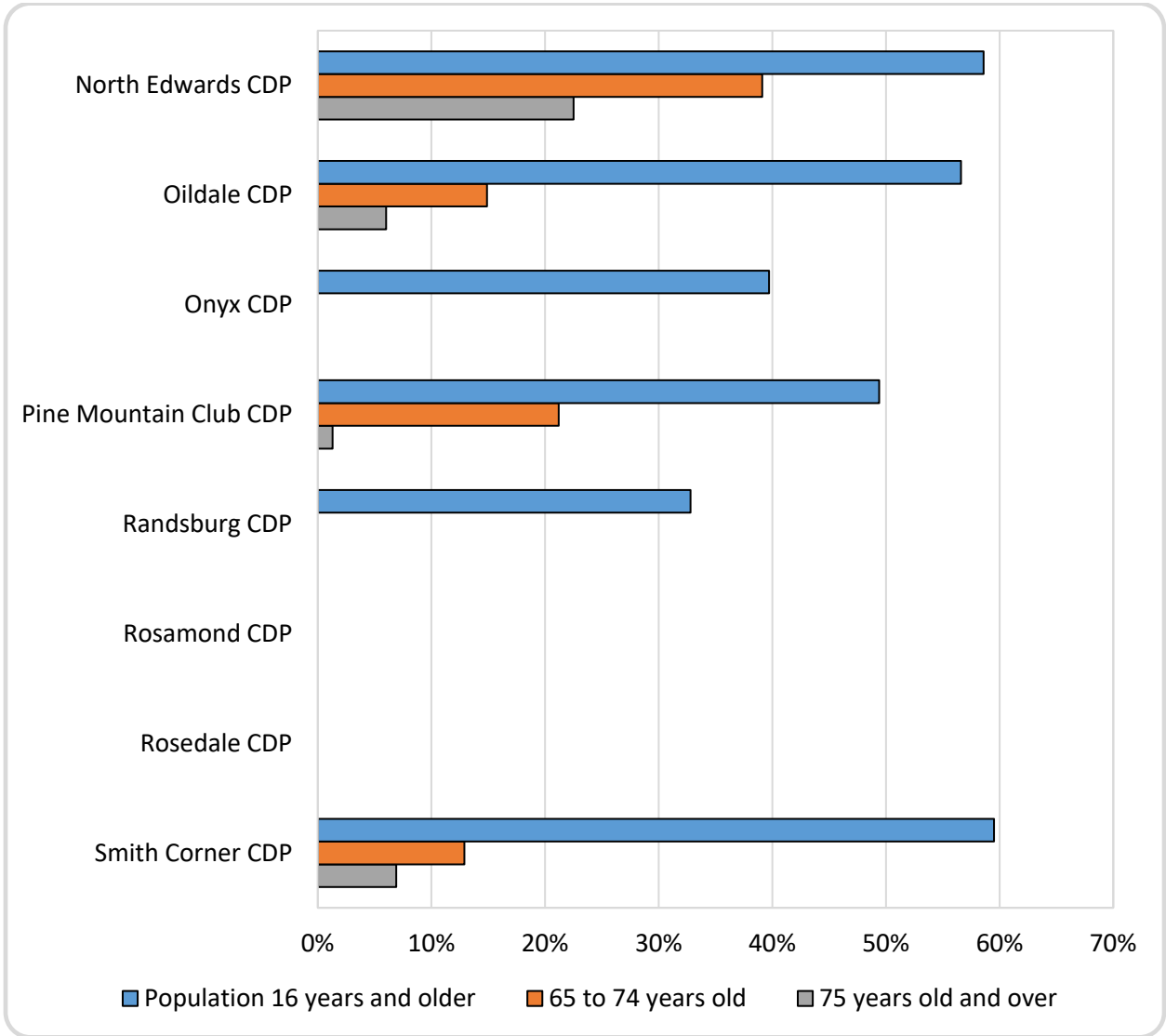
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

LABOR FORCE PARTICIPATION RATE BY AGE SEGMENT, 2018, PART 4



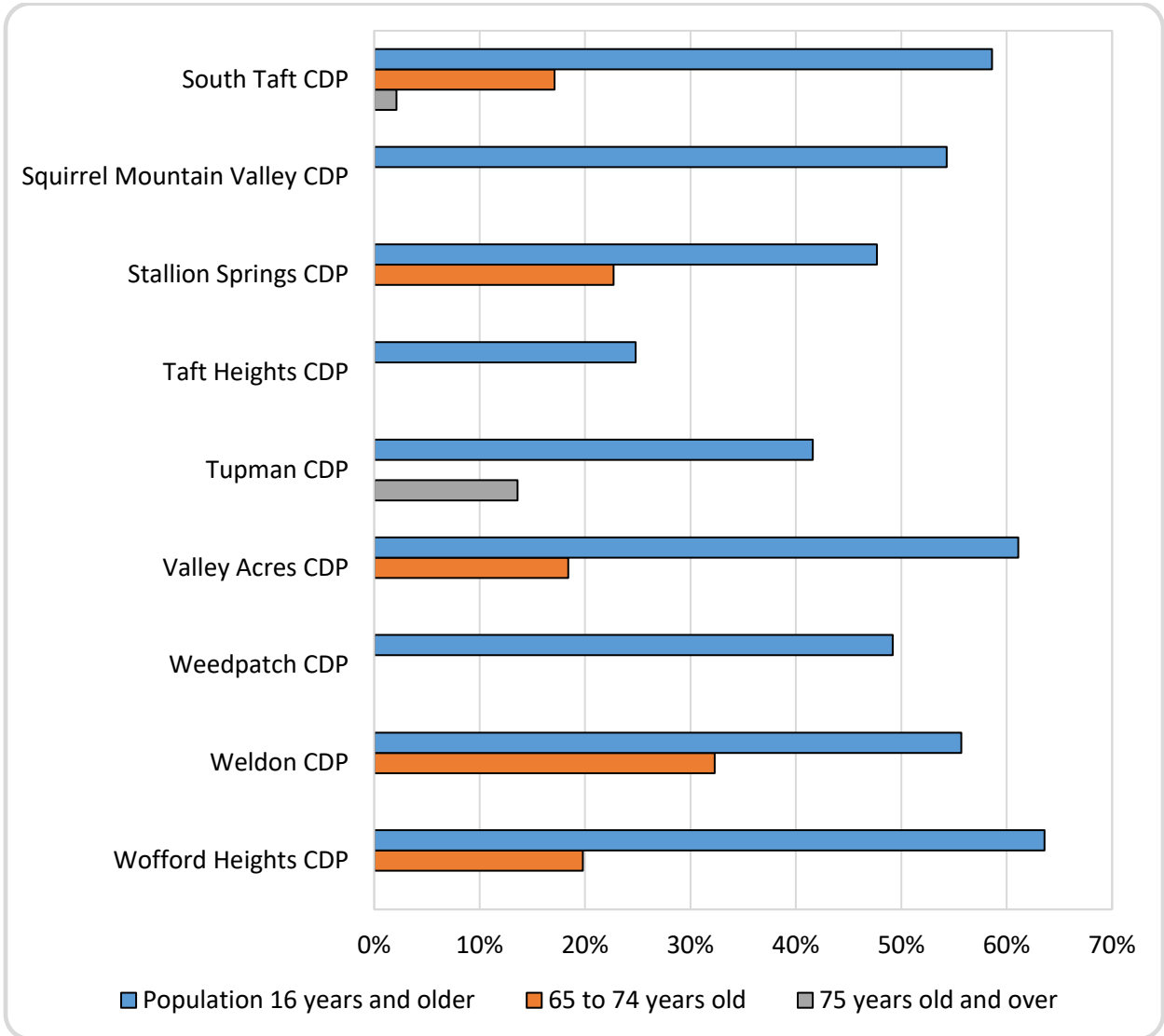
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LABOR FORCE PARTICIPATION RATE BY AGE SEGMENT, 2018, PART 5



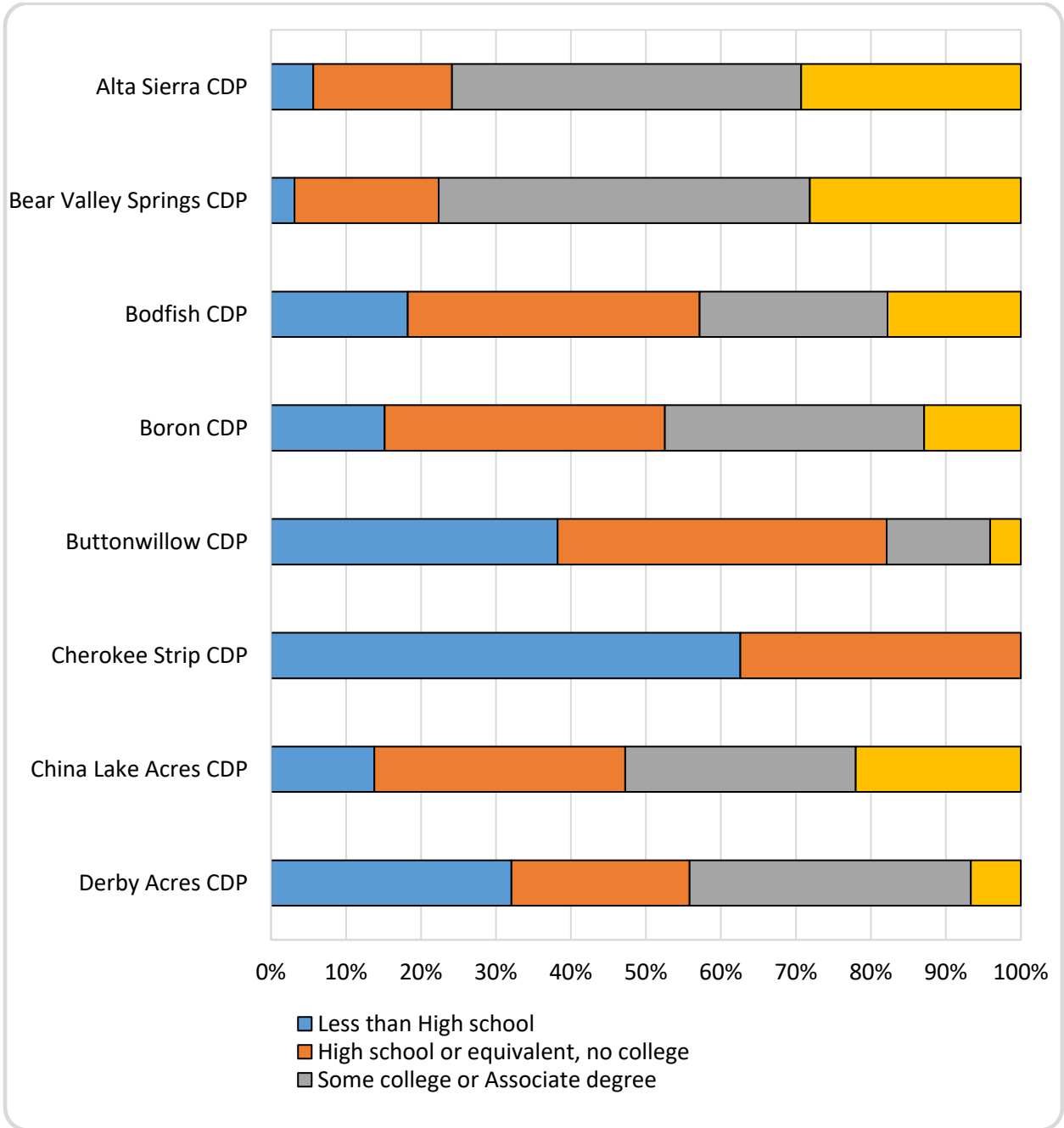
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LABOR FORCE PARTICIPATION RATE BY AGE SEGMENT, 2018, PART 6



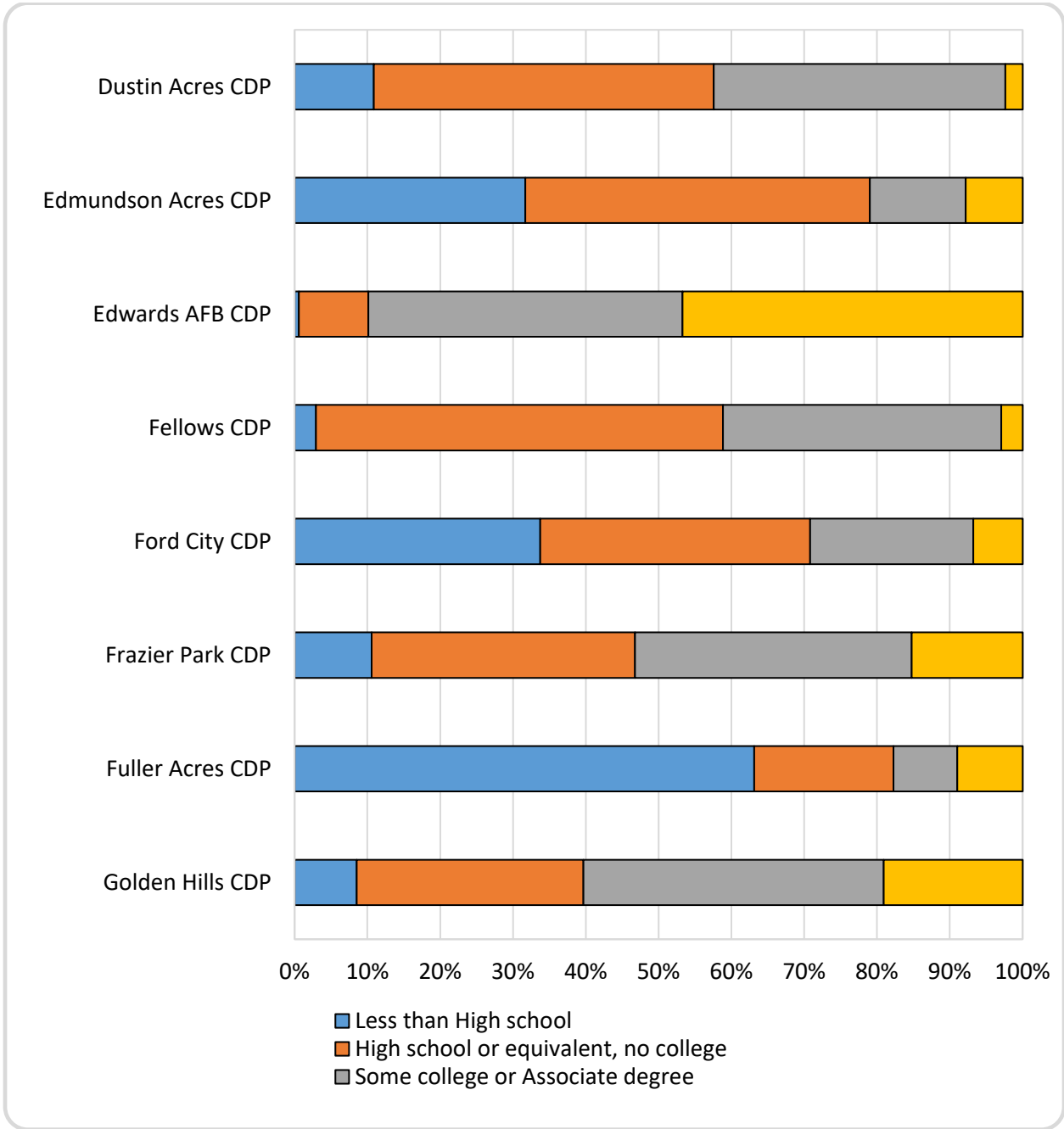
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EDUCATIONAL ATTAINMENT, 2018, PART 1



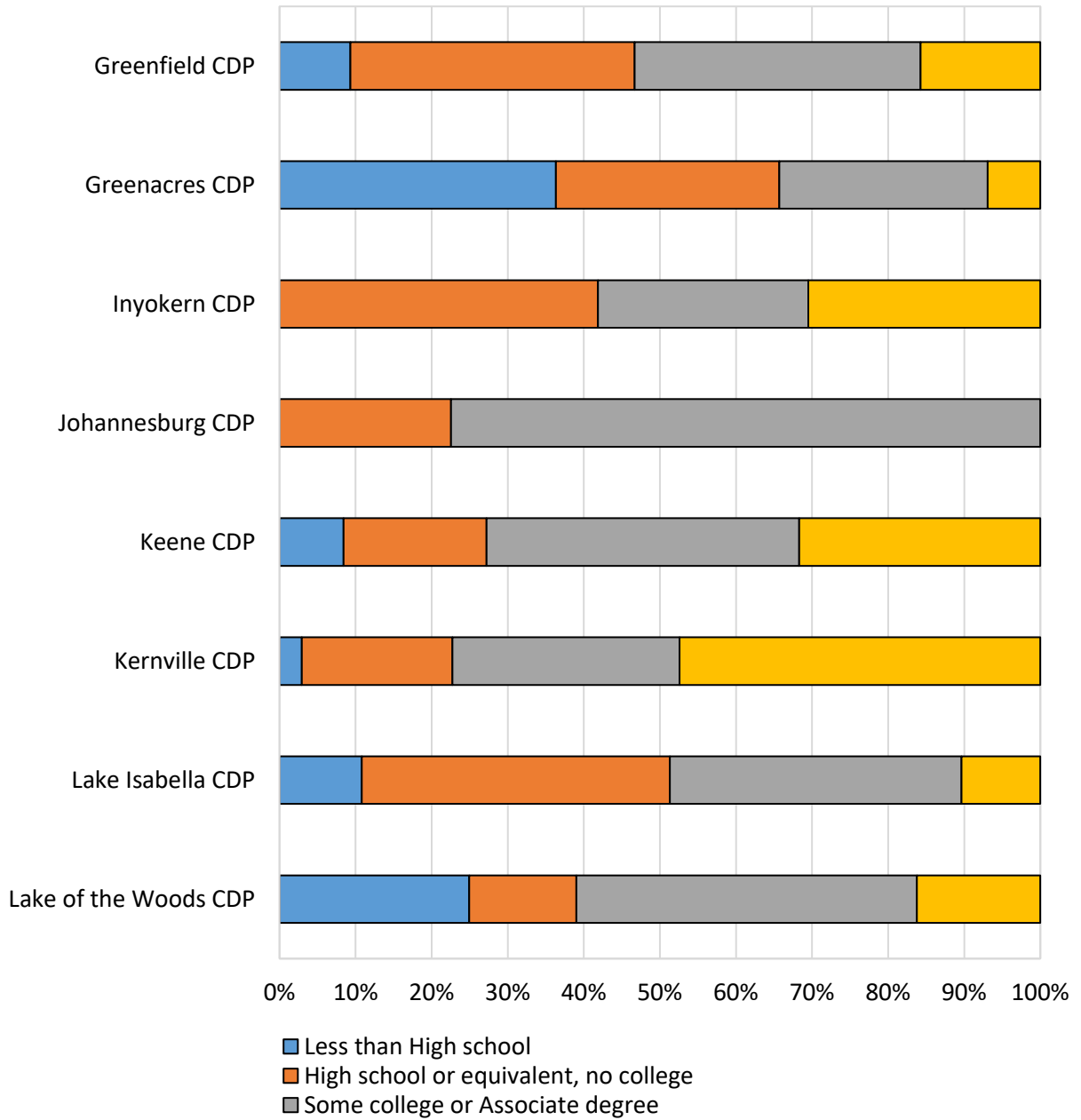
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EDUCATIONAL ATTAINMENT, 2018, PART 2



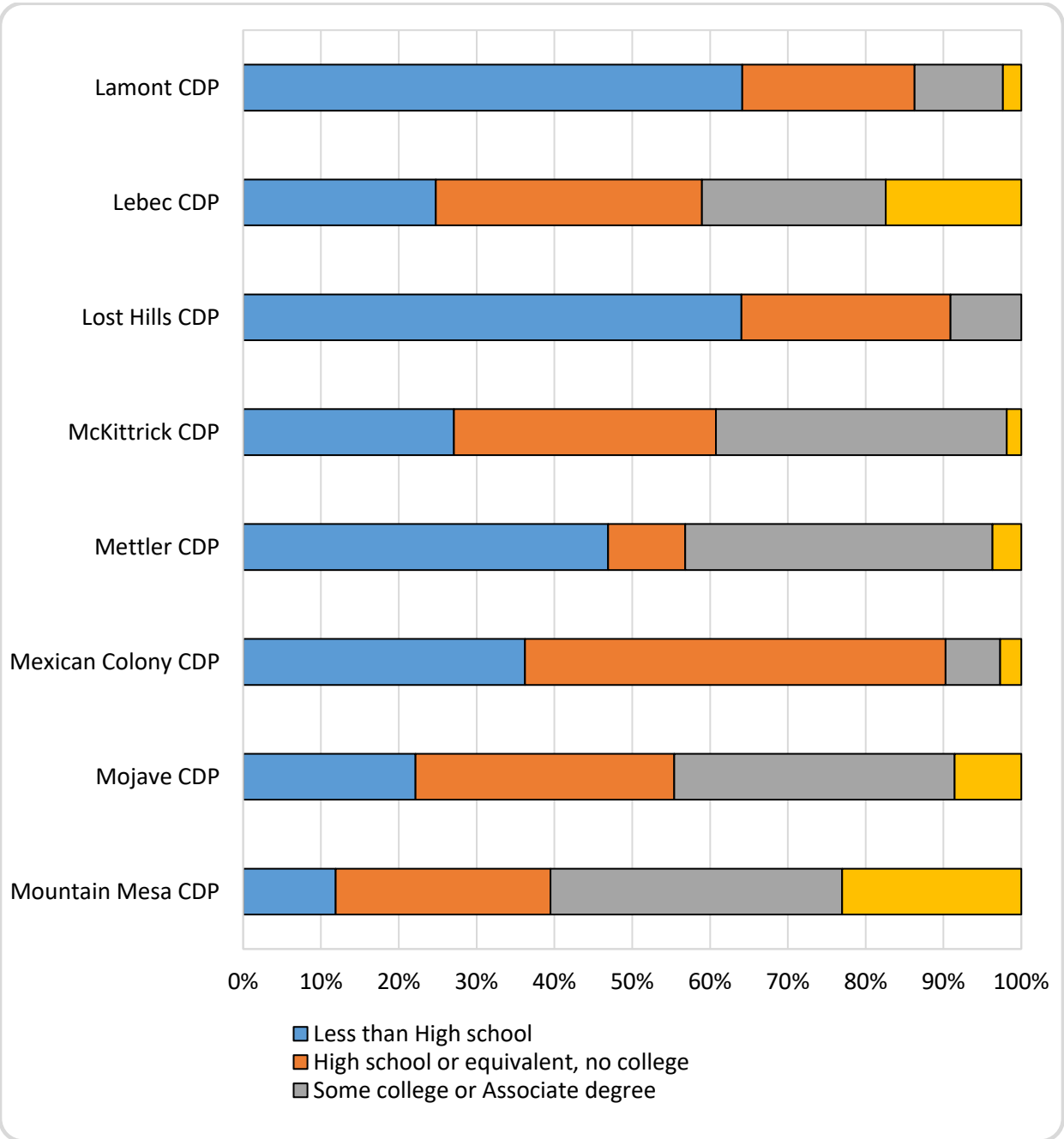
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EDUCATIONAL ATTAINMENT, 2018, PART 3



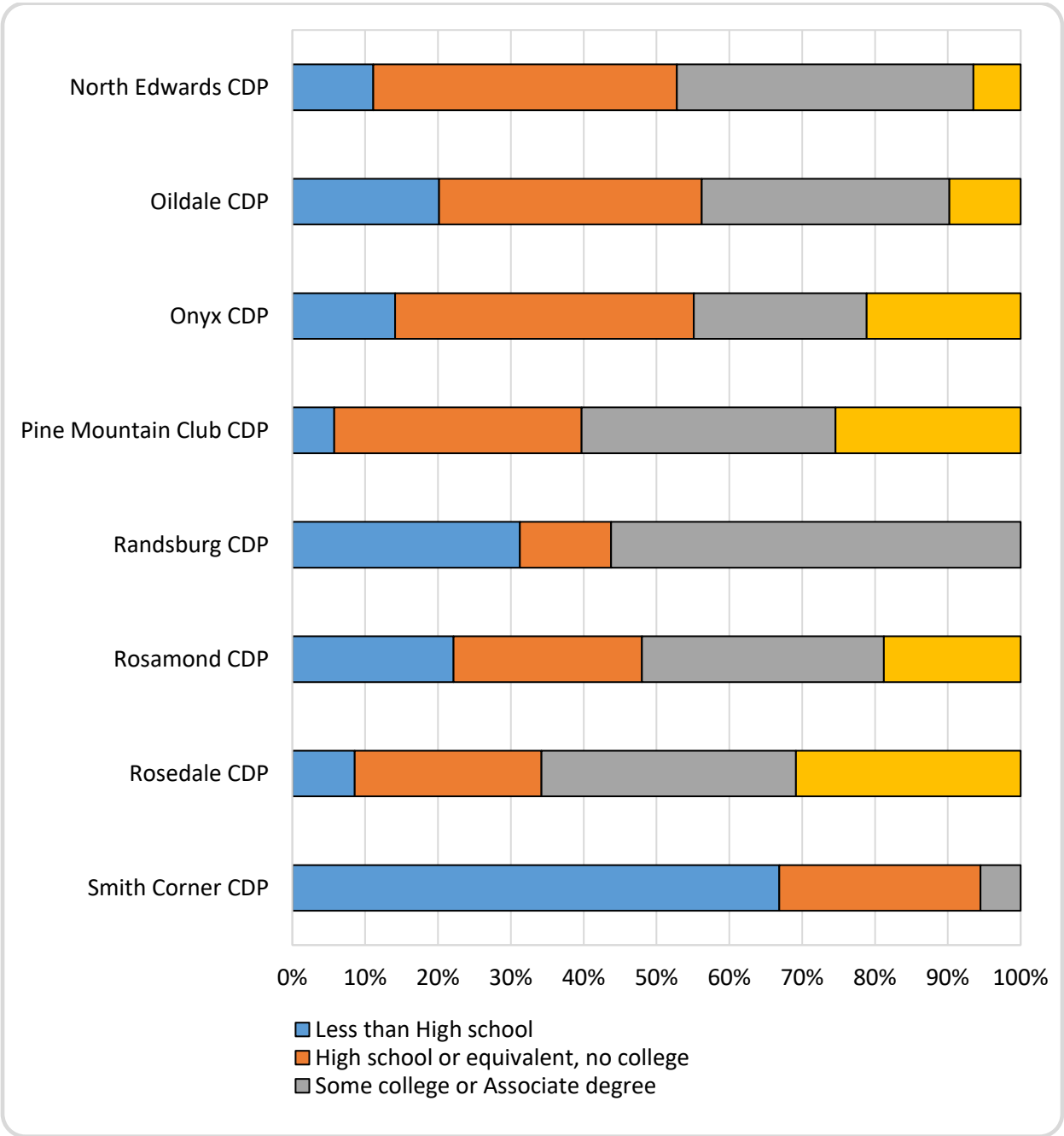
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EDUCATIONAL ATTAINMENT, 2018, PART 4



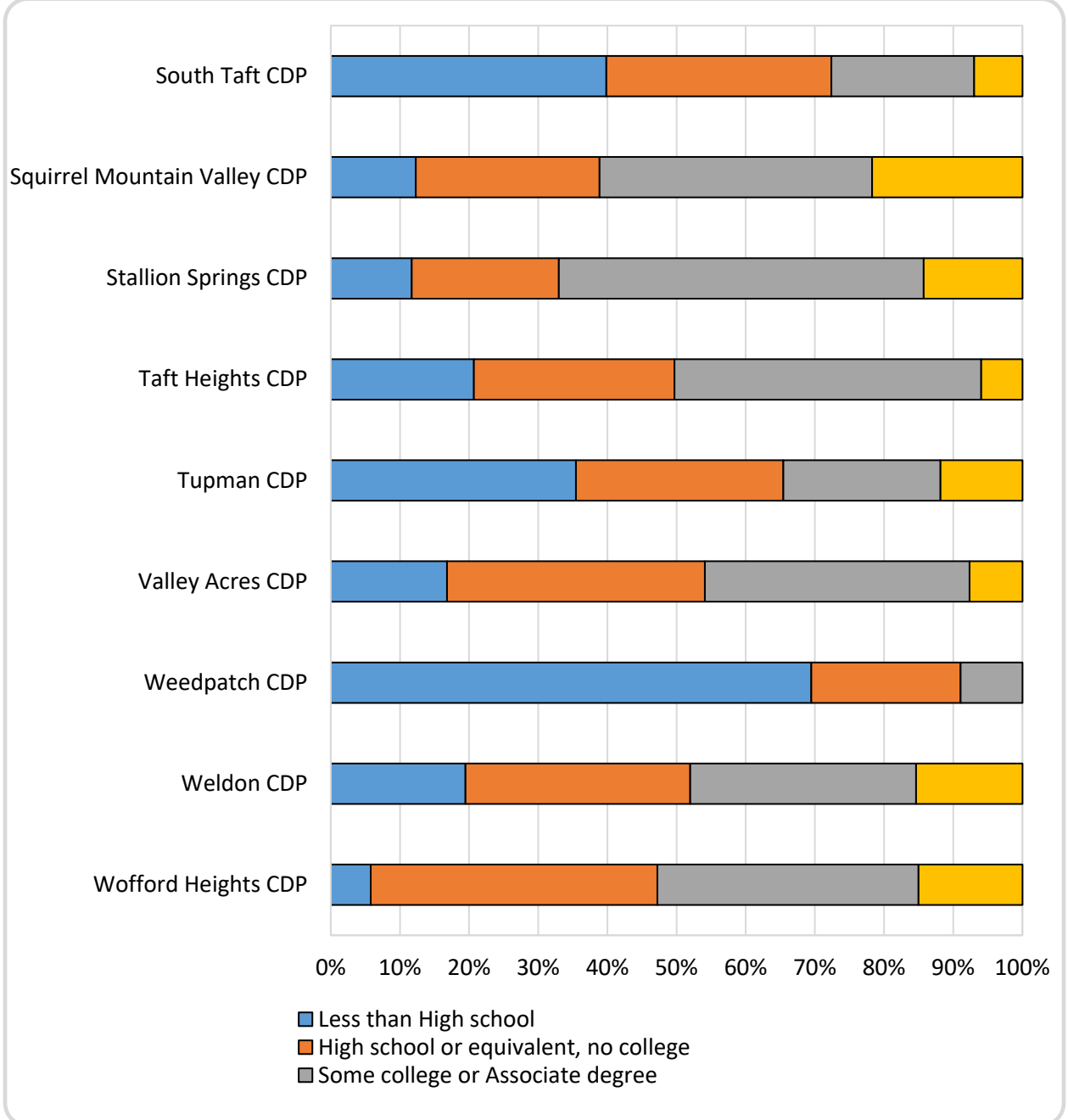
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EDUCATIONAL ATTAINMENT, 2018, PART 5



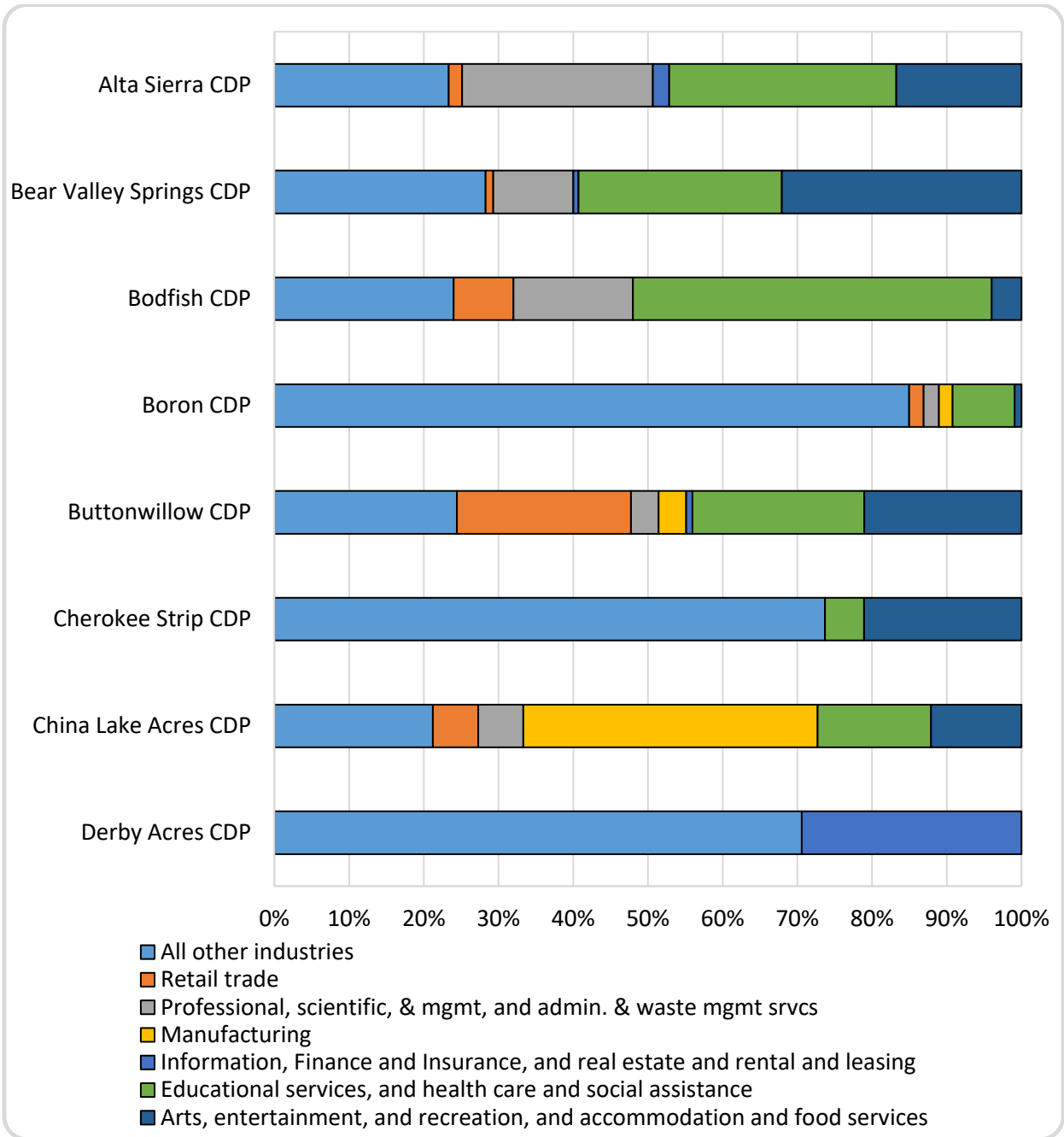
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EDUCATIONAL ATTAINMENT, 2018, PART 6



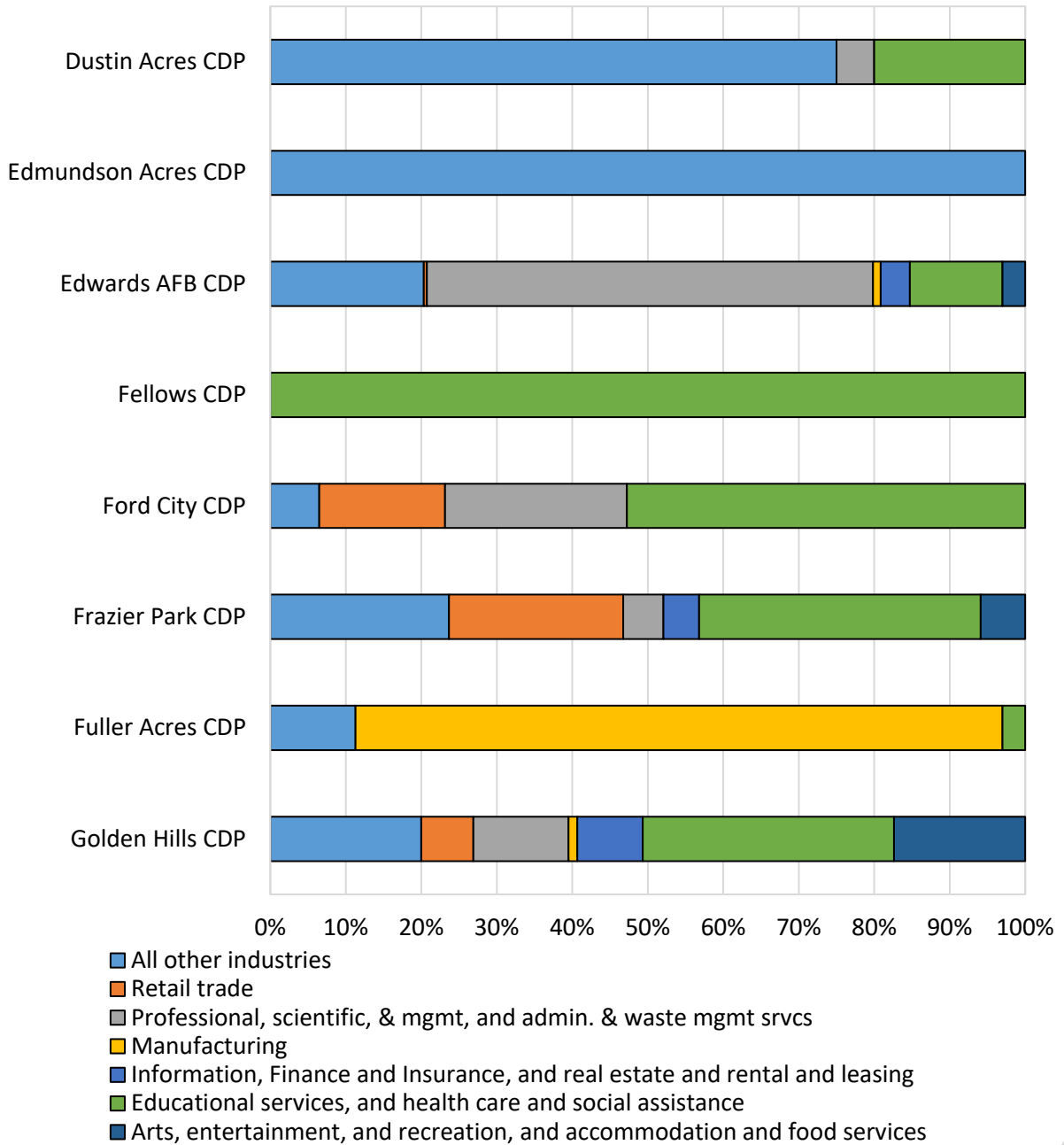
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PERCENTAGE OF JOBS BY INDUSTRY, 2017, PART 1



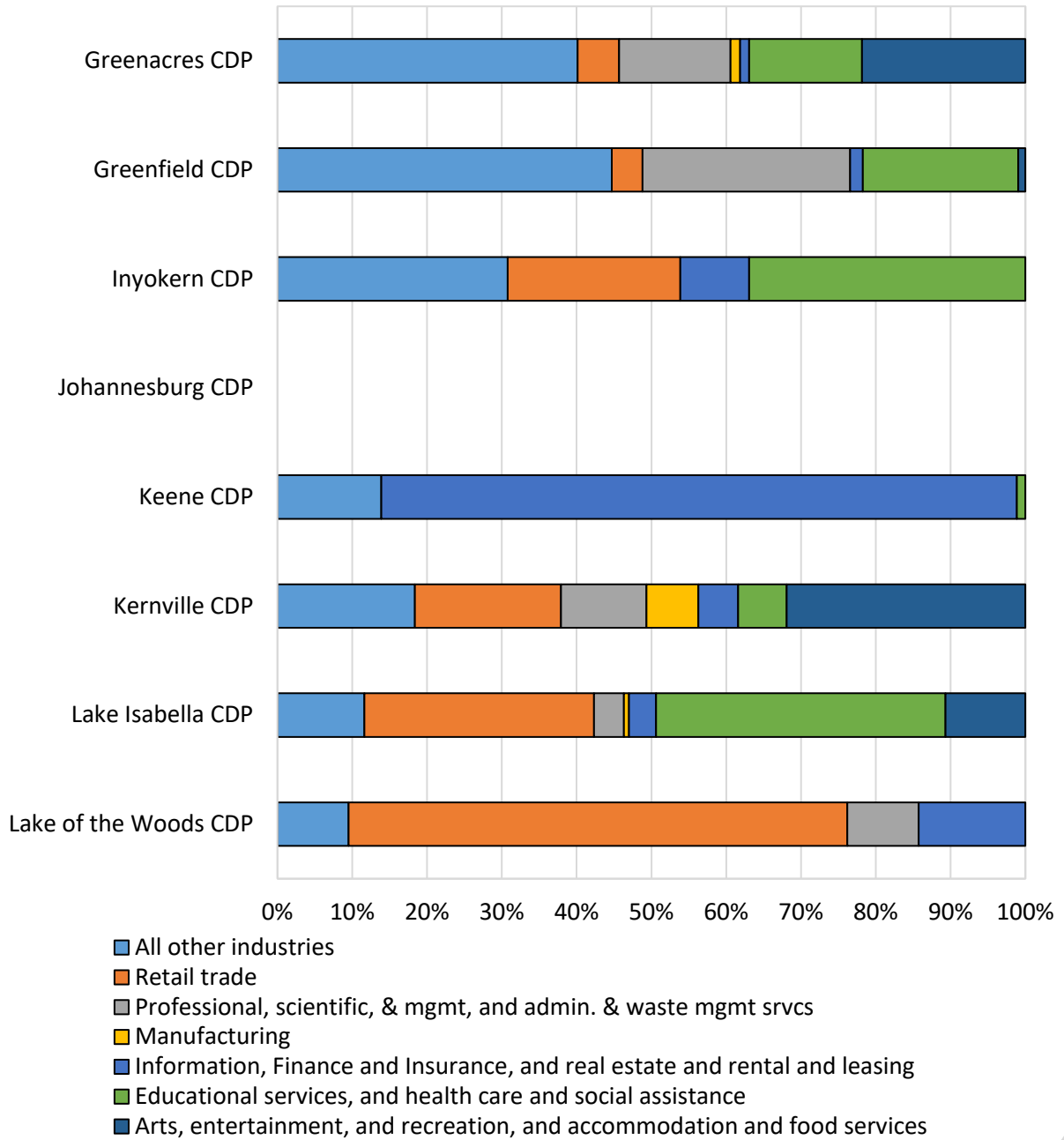
Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

PERCENTAGE OF JOBS BY INDUSTRY, 2017, PART 2



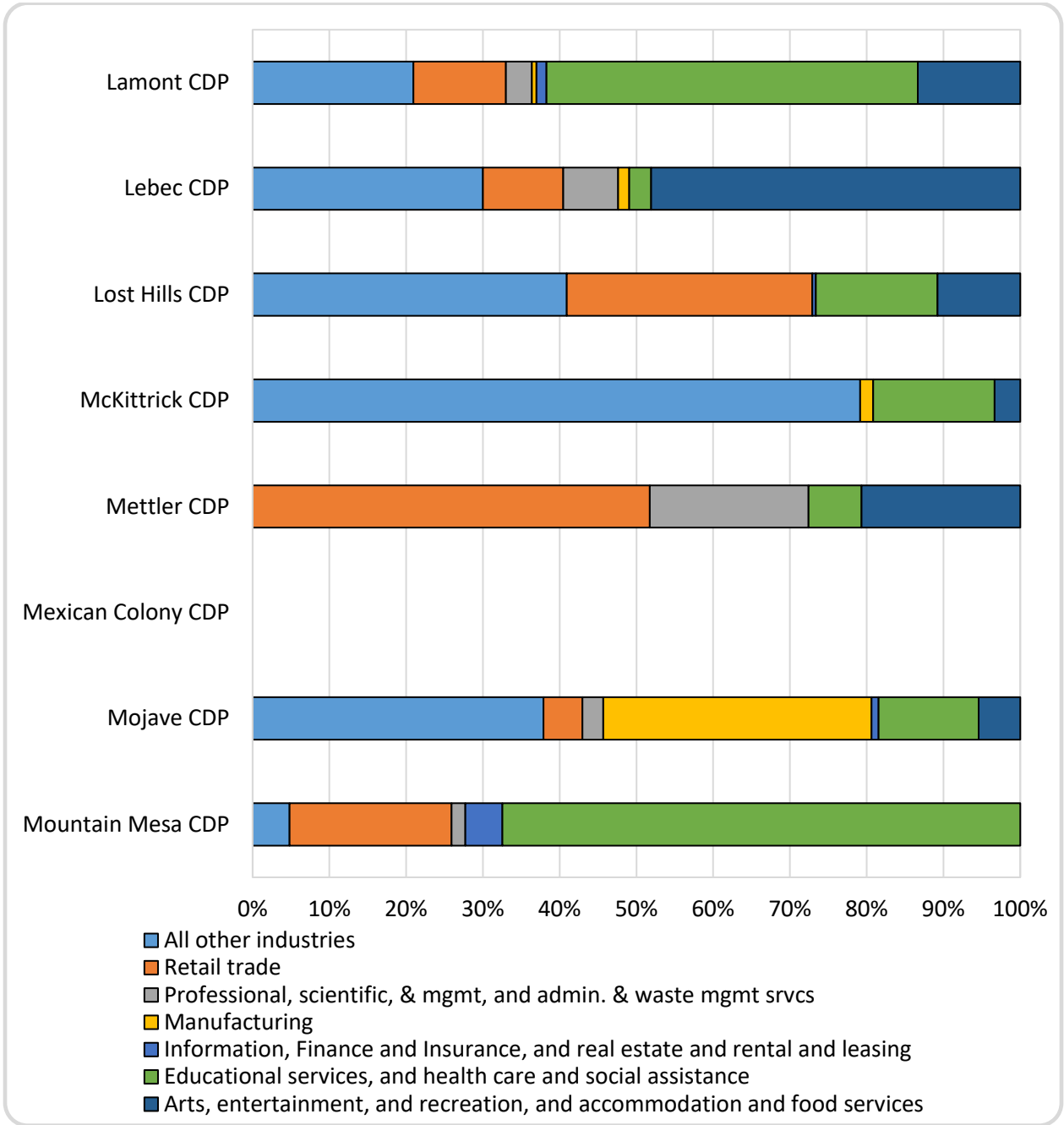
Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

PERCENTAGE OF JOBS BY INDUSTRY, 2017, PART 3



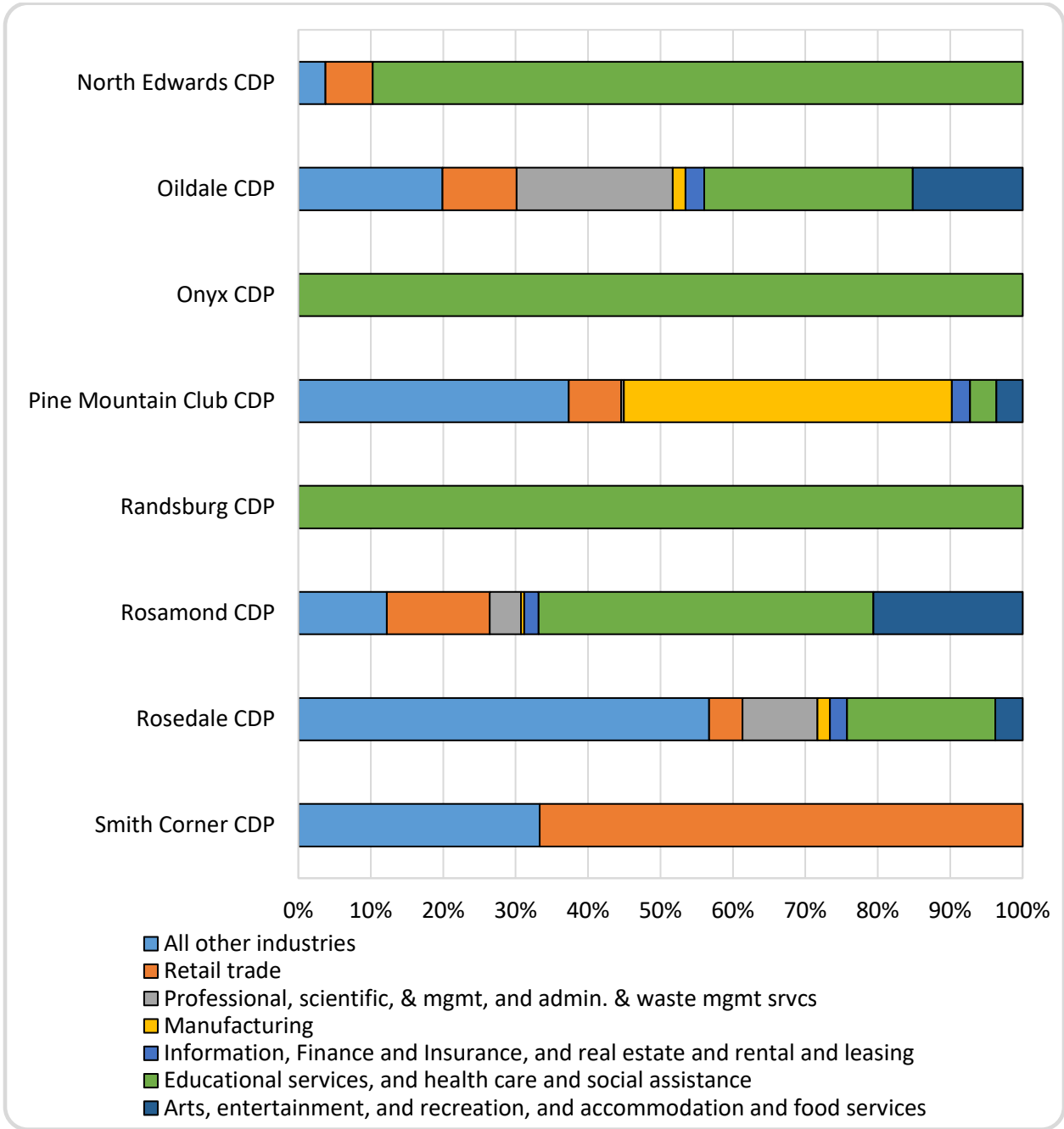
Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

PERCENTAGE OF JOBS BY INDUSTRY, 2017, PART 4



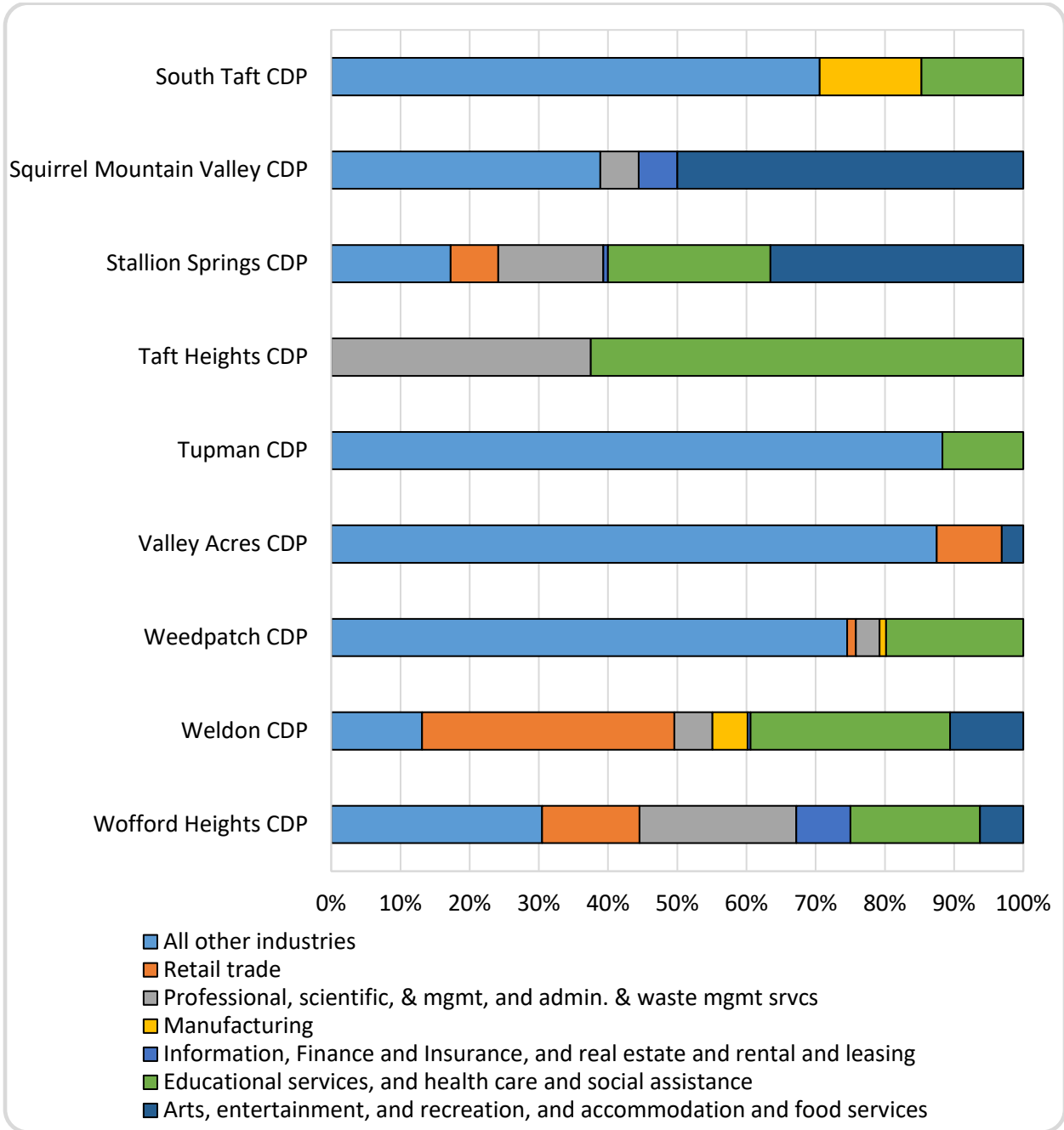
Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

PERCENTAGE OF JOBS BY INDUSTRY, 2017, PART 5



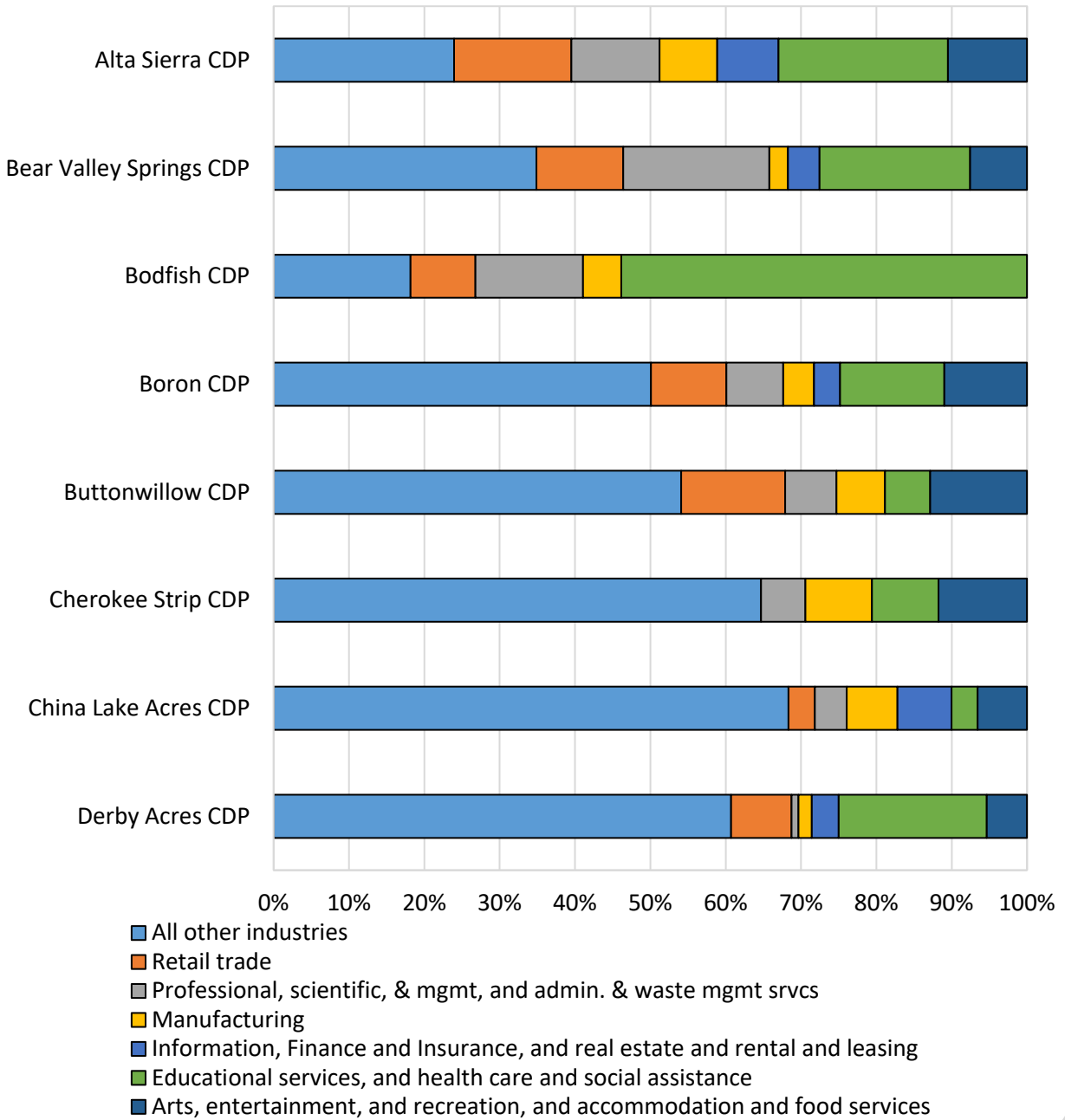
Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

PERCENTAGE OF JOBS BY INDUSTRY, 2017, PART 6



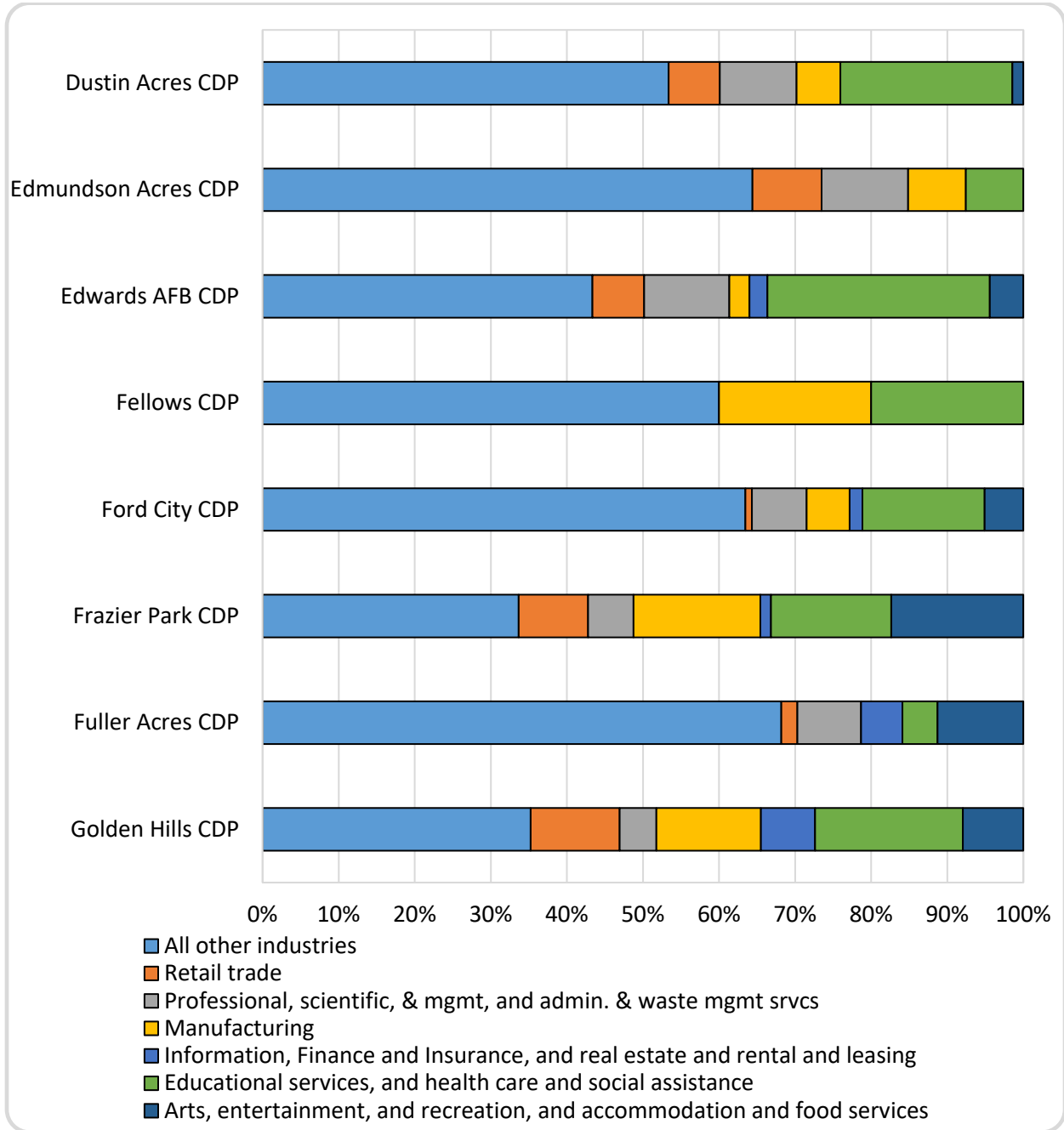
Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

PERCENTAGE OF RESIDENT WORKERS BY INDUSTRY, 2018, PART 1



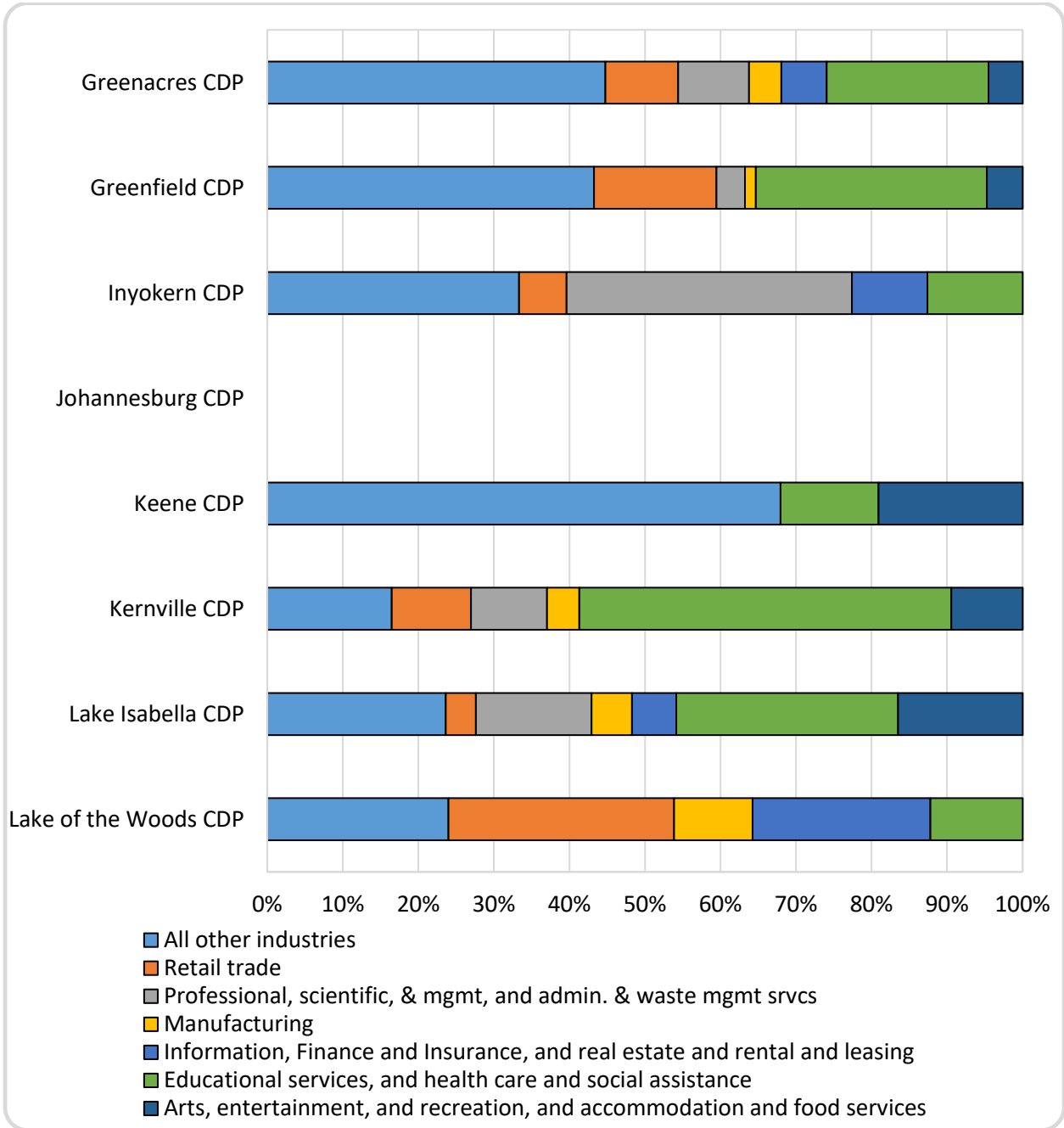
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

PERCENTAGE OF RESIDENT WORKERS BY INDUSTRY, 2018, PART 2



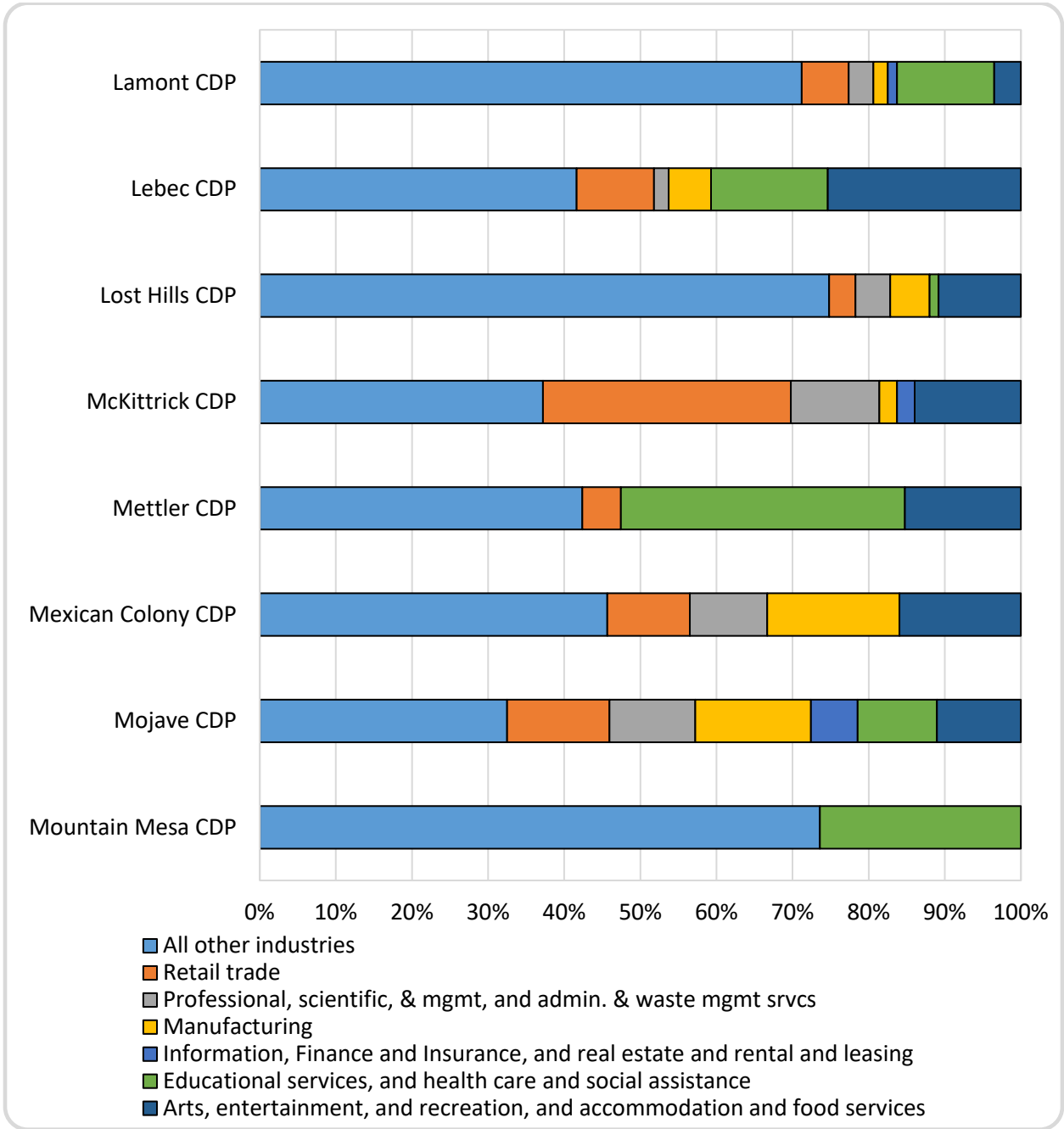
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

PERCENTAGE OF RESIDENT WORKERS BY INDUSTRY, 2018, PART 3



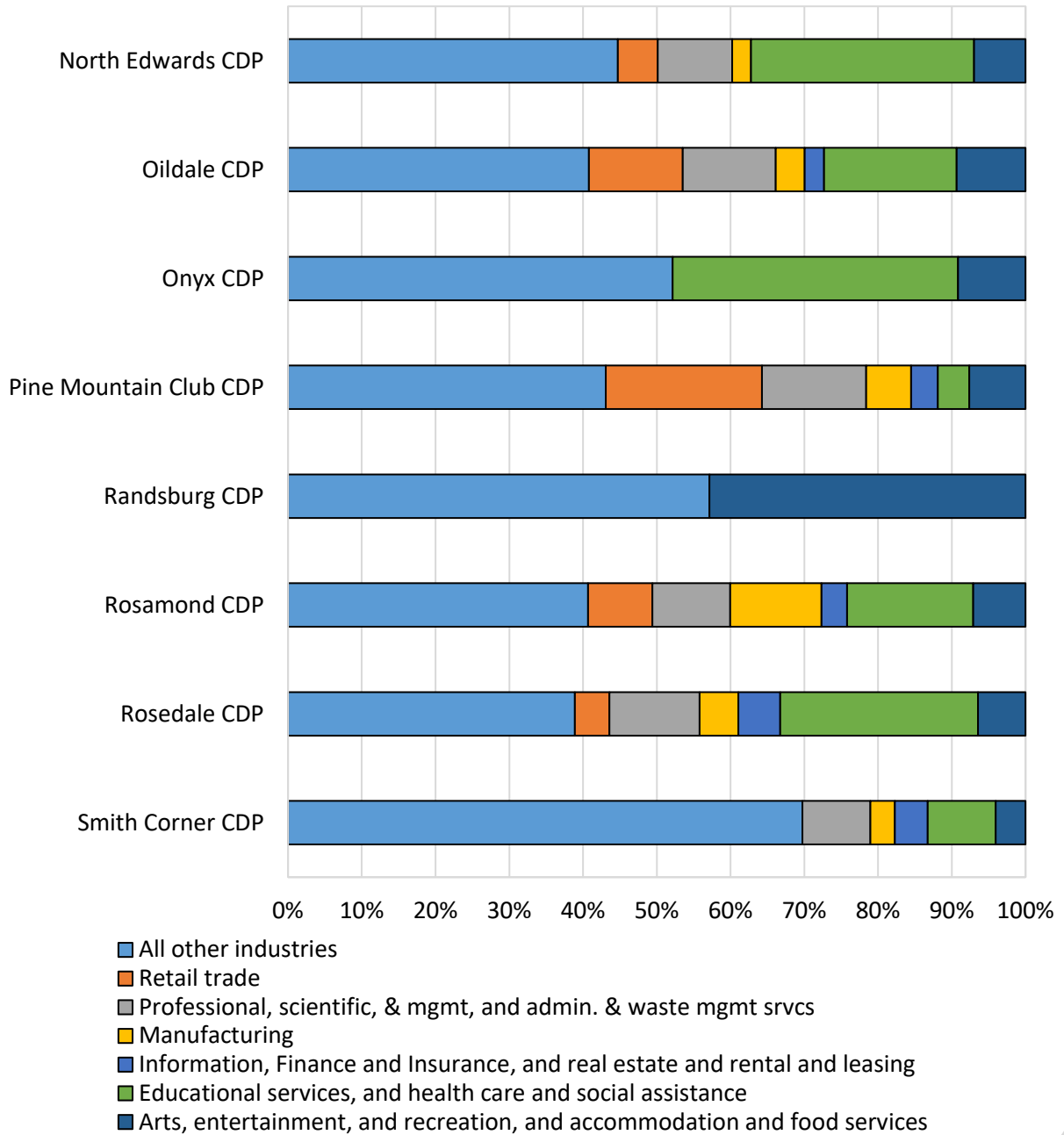
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PERCENTAGE OF RESIDENT WORKERS BY INDUSTRY, 2018, PART 4



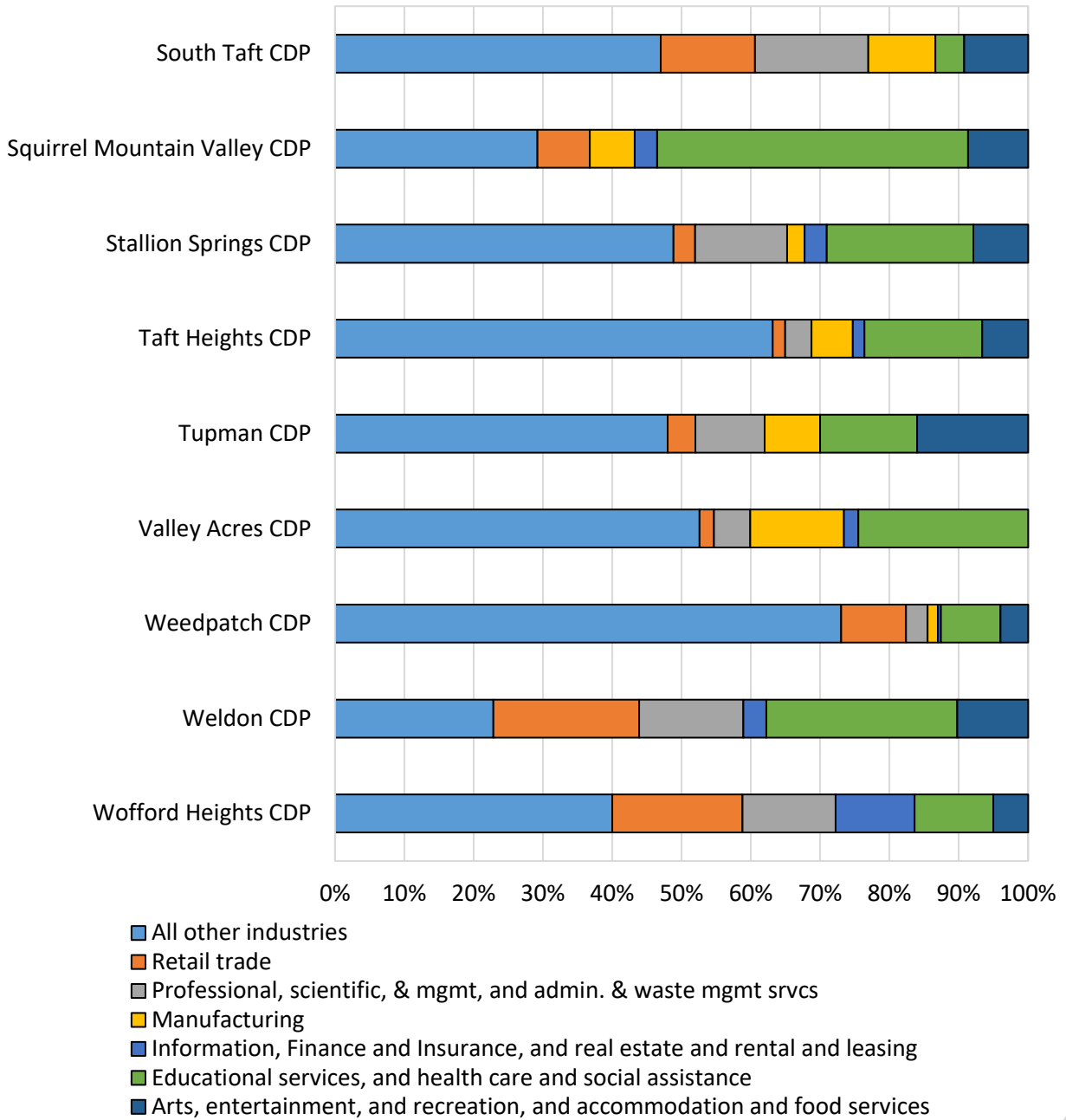
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

PERCENTAGE OF RESIDENT WORKERS BY INDUSTRY, 2018, PART 5



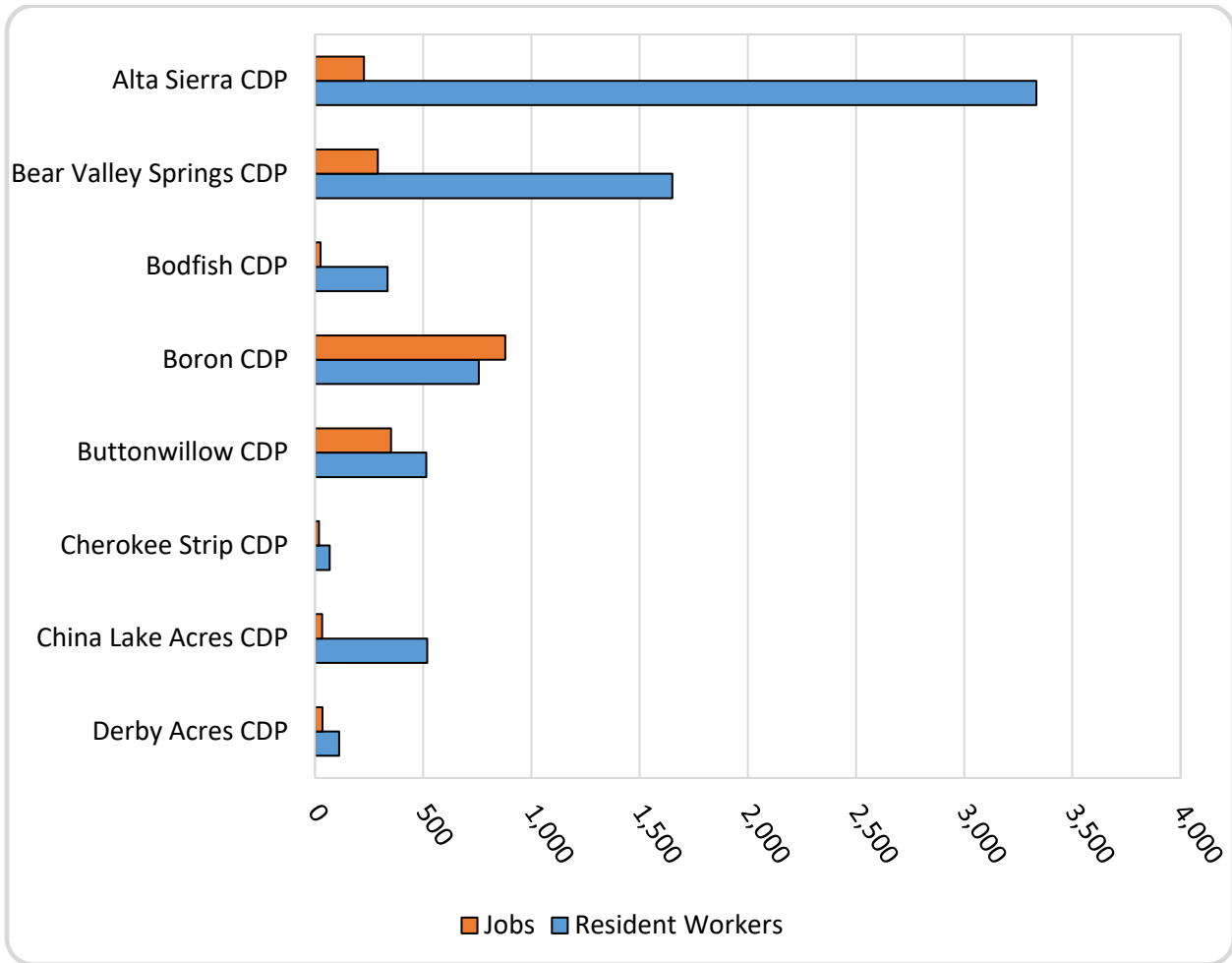
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PERCENTAGE OF RESIDENT WORKERS BY INDUSTRY, 2018, PART 6



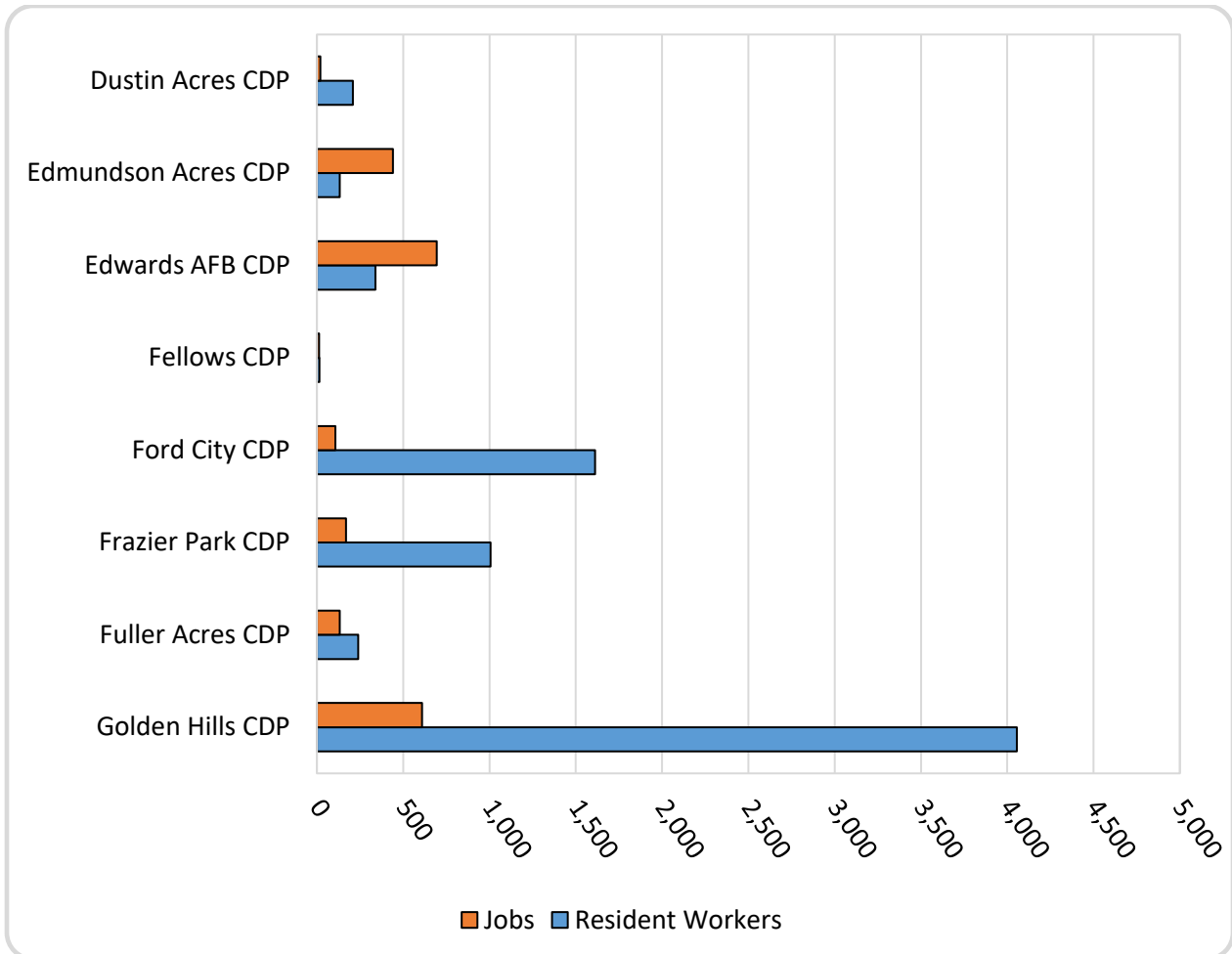
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

COMPARISON OF NUMBER OF JOBS AND RESIDENT WORKERS BY CITY, PART 1



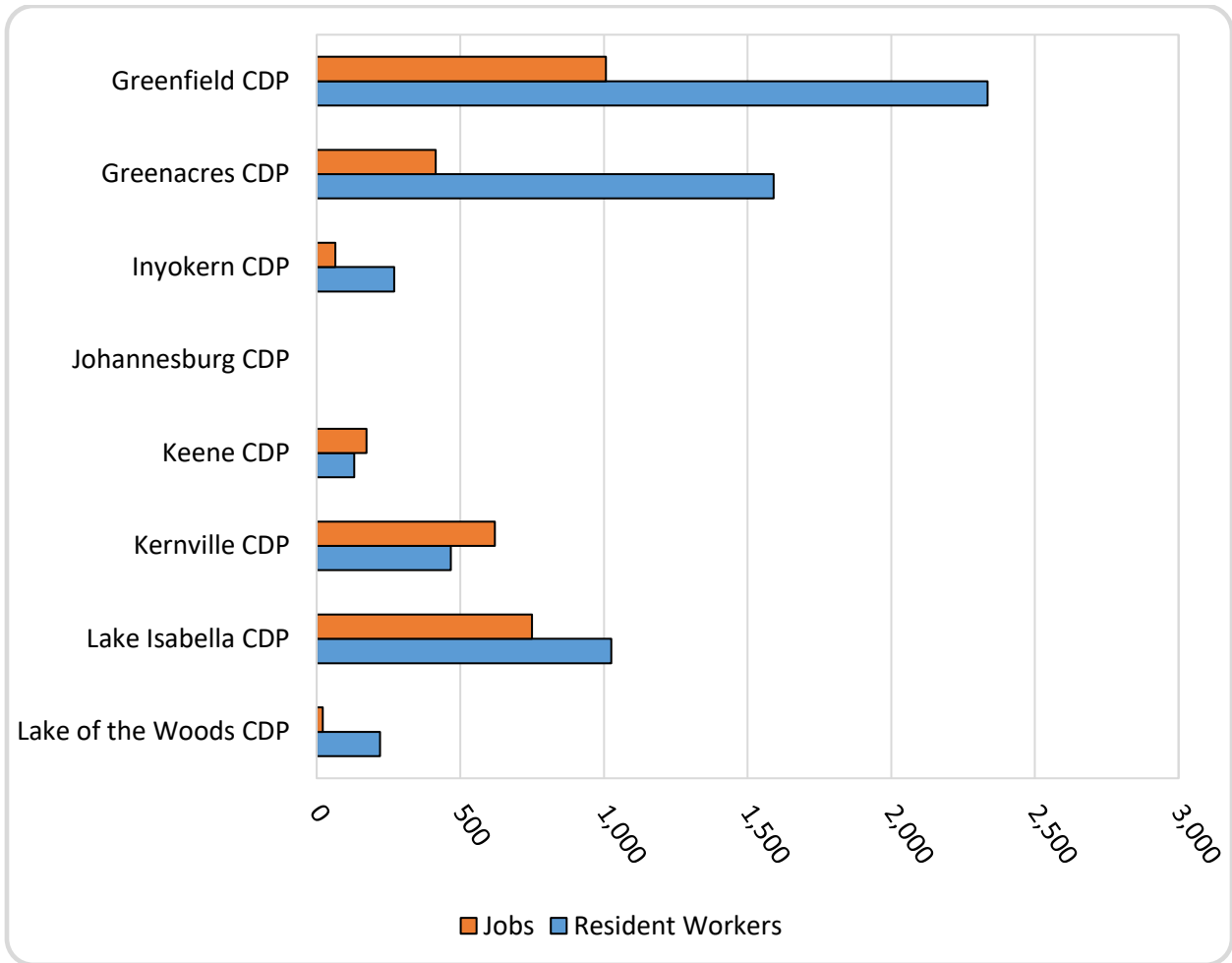
Note: Jobs refer to data estimates compiled from the U.S. Census Bureau’s LEHD program OnTheMap 2017 and Resident Workers refer to estimates compiled from the U.S. Census Bureau’s ACS 2018 5-year estimates.
 Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

COMPARISON OF NUMBER OF JOBS AND RESIDENT WORKERS BY CITY, PART 2



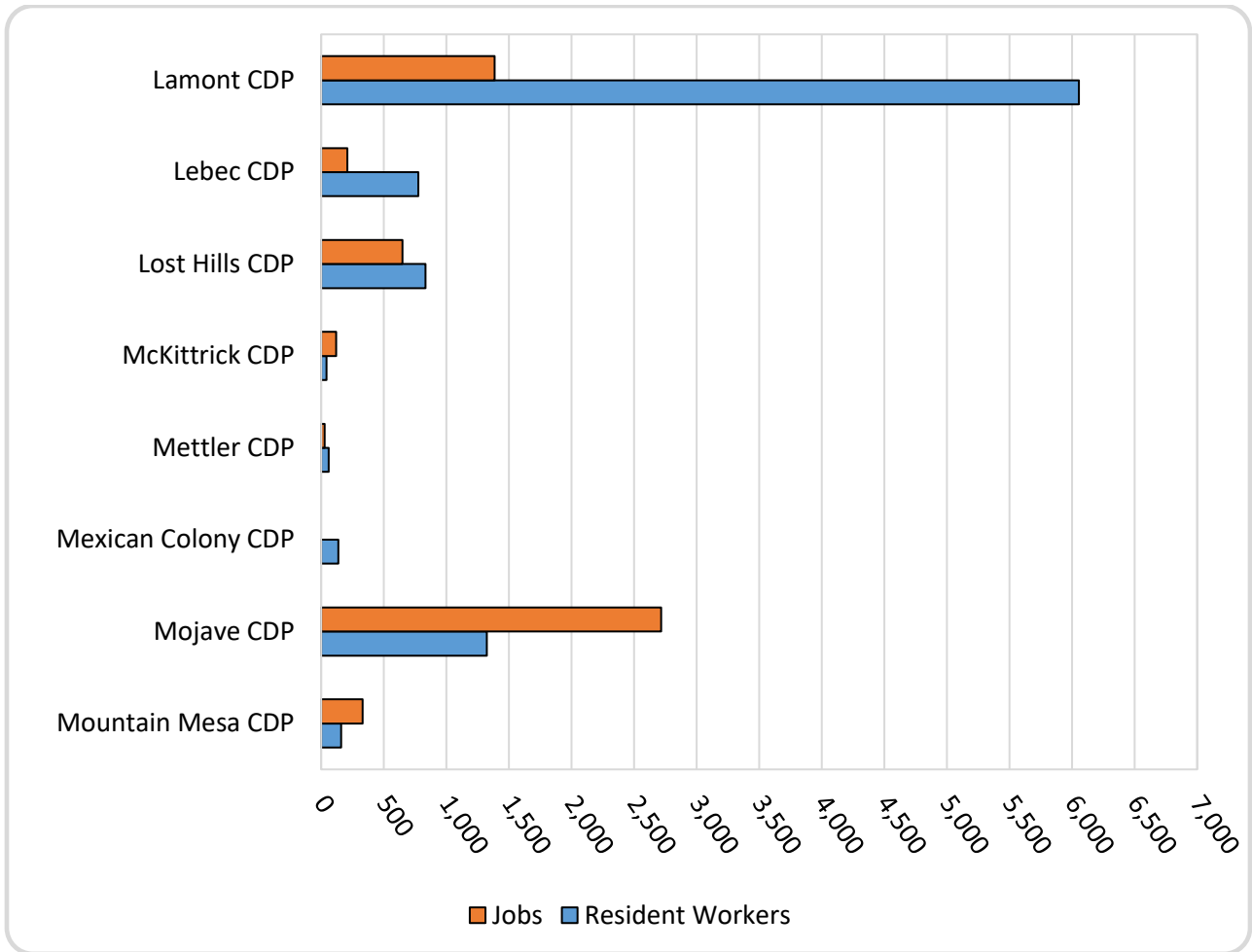
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 Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

COMPARISON OF NUMBER OF JOBS AND RESIDENT WORKERS BY CITY, PART 3



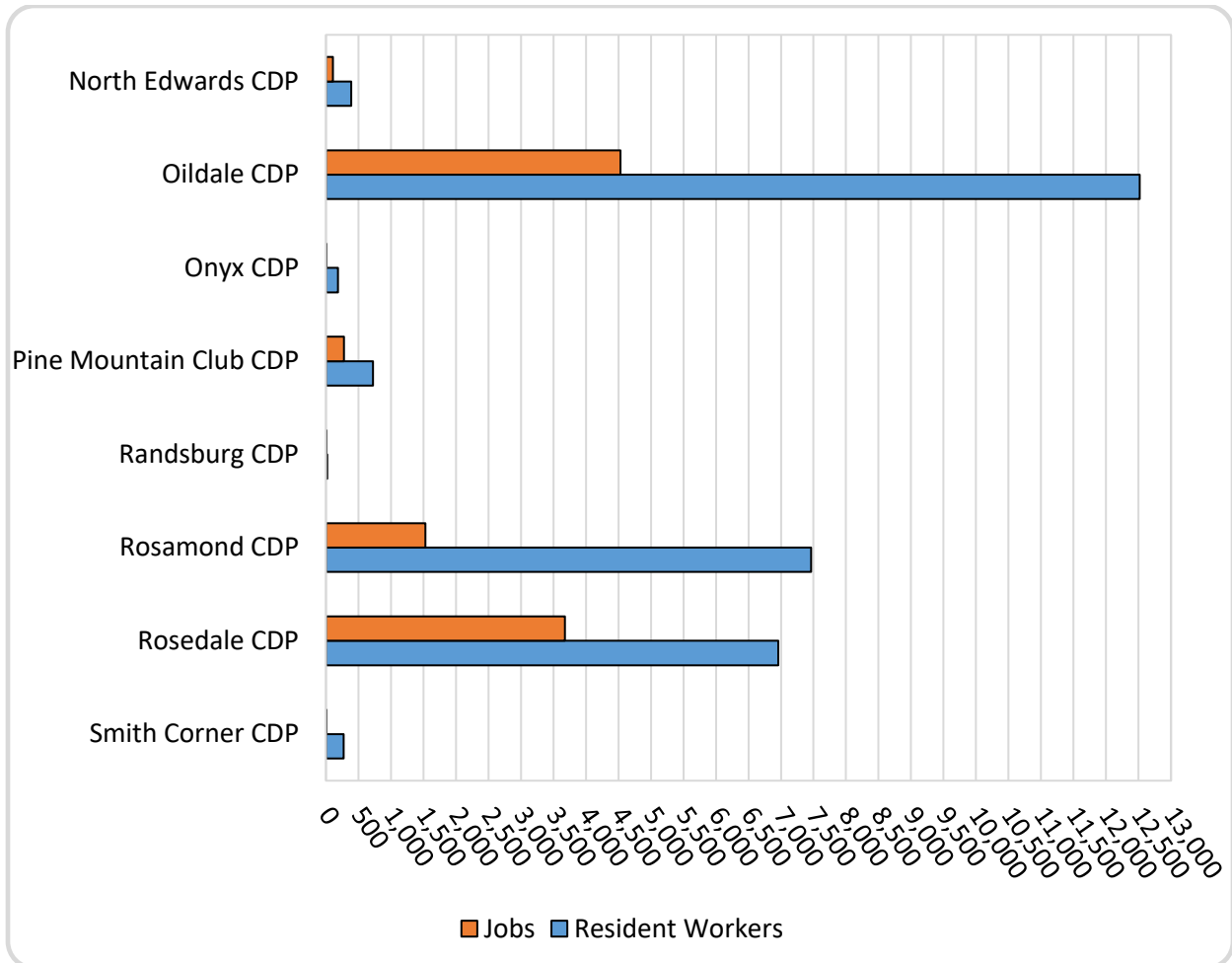
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 Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

COMPARISON OF NUMBER OF JOBS AND RESIDENT WORKERS BY CITY, PART 4



Note: Jobs refer to data estimates compiled from the U.S. Census Bureau’s LEHD program OnTheMap 2017 and Resident Workers refer to estimates compiled from the U.S. Census Bureau’s ACS 2018 5-year estimates.
 Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

COMPARISON OF NUMBER OF JOBS AND RESIDENT WORKERS BY CITY, PART 5



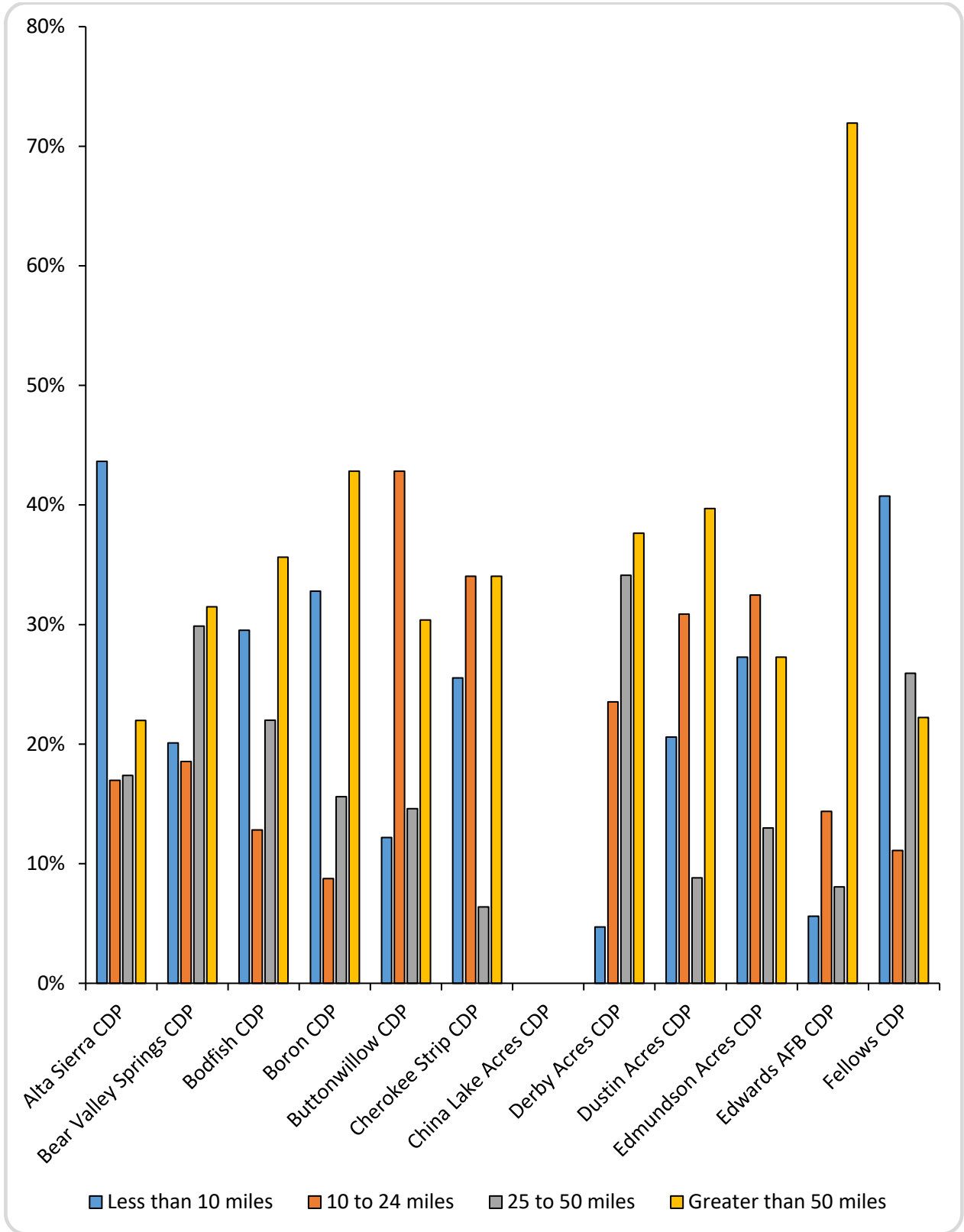
Note: Jobs refer to data estimates compiled from the U.S. Census Bureau’s LEHD program OnTheMap 2017 and Resident Workers refer to estimates compiled from the U.S. Census Bureau’s ACS 2018 5-year estimates.
 Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

COMPARISON OF NUMBER OF JOBS AND RESIDENT WORKERS BY CITY, PART 6



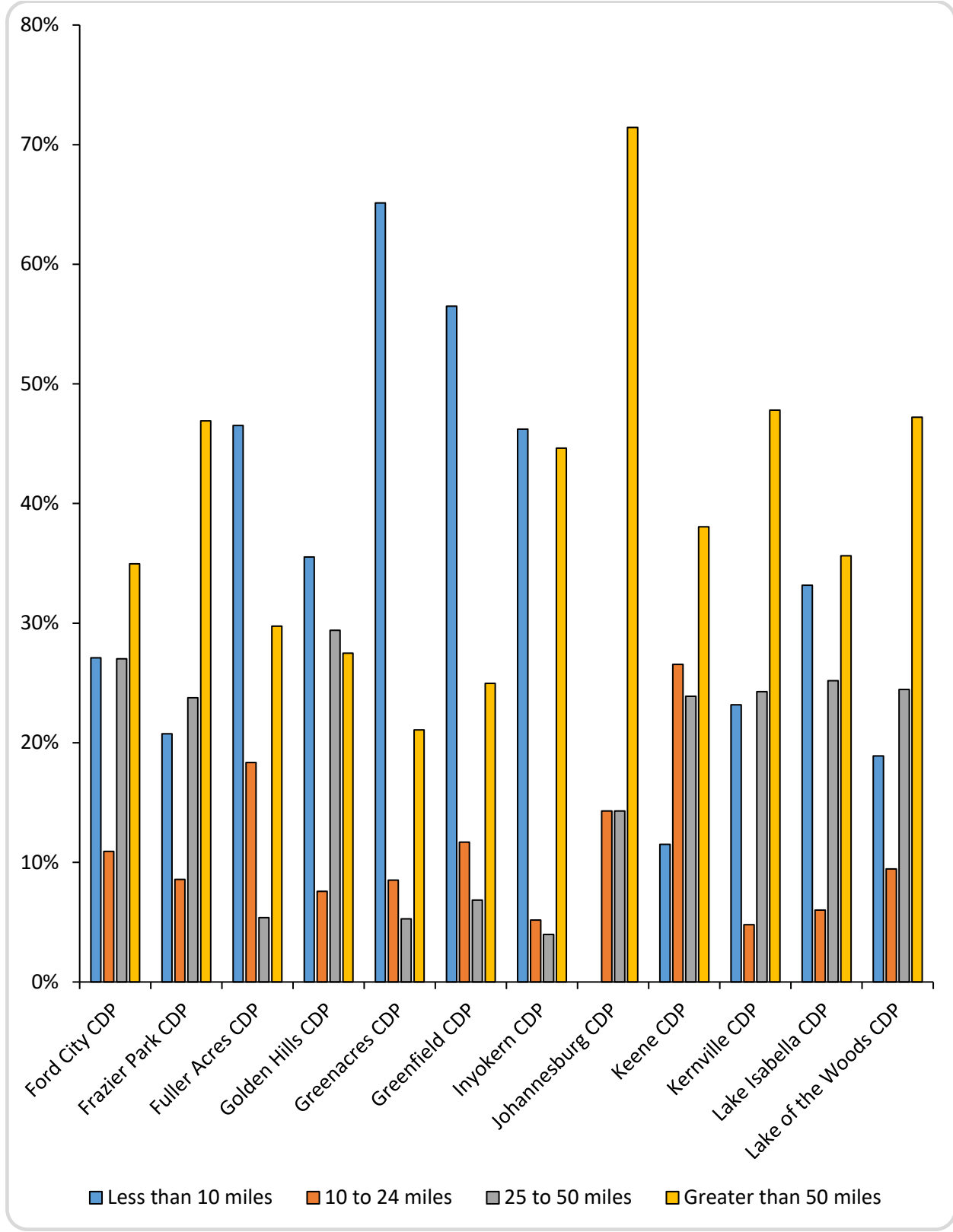
Note: Jobs refer to data estimates compiled from the U.S. Census Bureau’s LEHD program OnTheMap 2017 and Resident Workers refer to estimates compiled from the U.S. Census Bureau’s ACS 2018 5-year estimates.
 Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>; TNDG.

TRAVEL DISTANCES (MILE RANGES) TO WORK: KERN COUNTY CENSUS DESIGNATED PLACES, 2017, PART 1



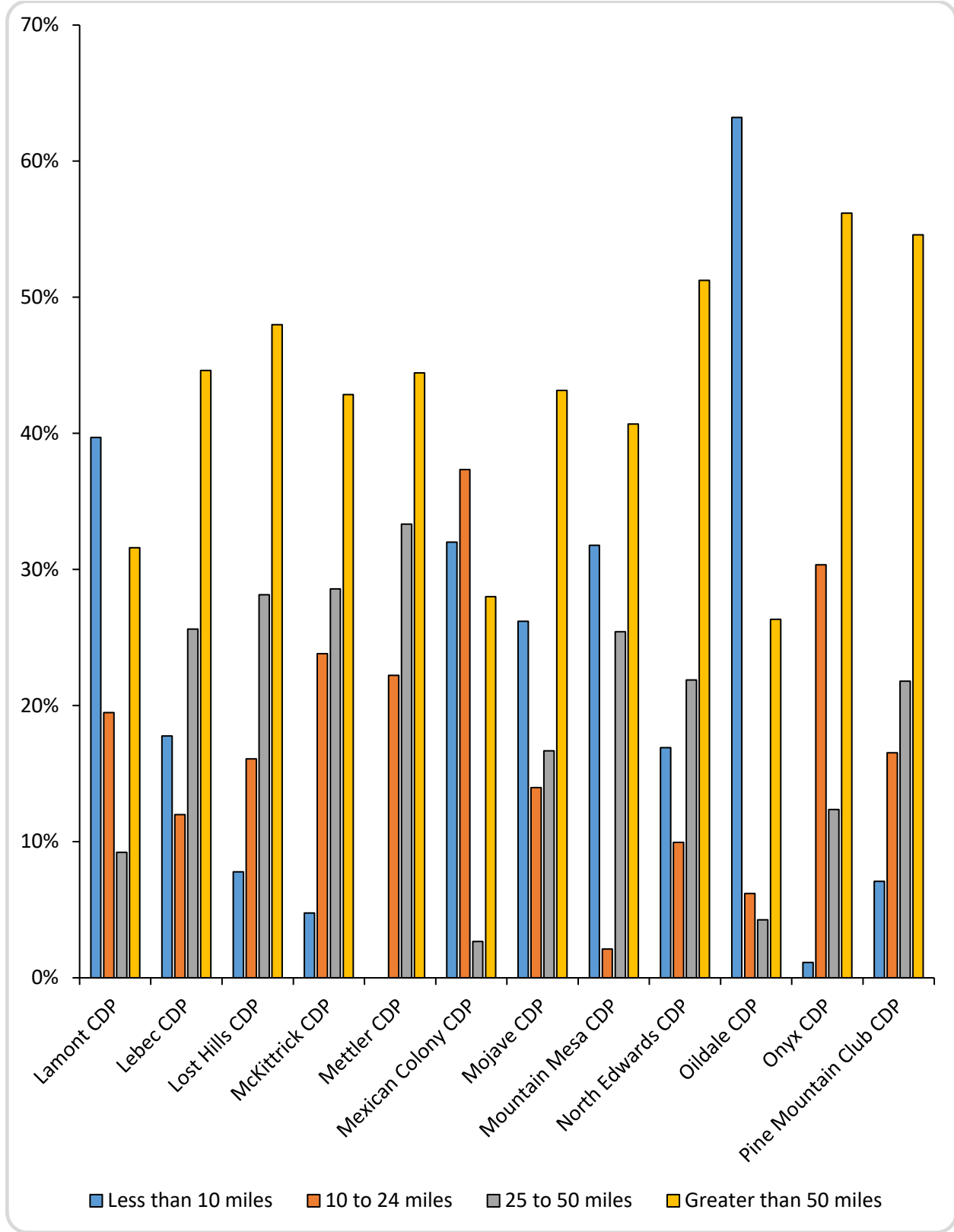
Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>.

TRAVEL DISTANCES (MILE RANGES) TO WORK: KERN COUNTY CENSUS DESIGNATED PLACES, 2017, PART 2



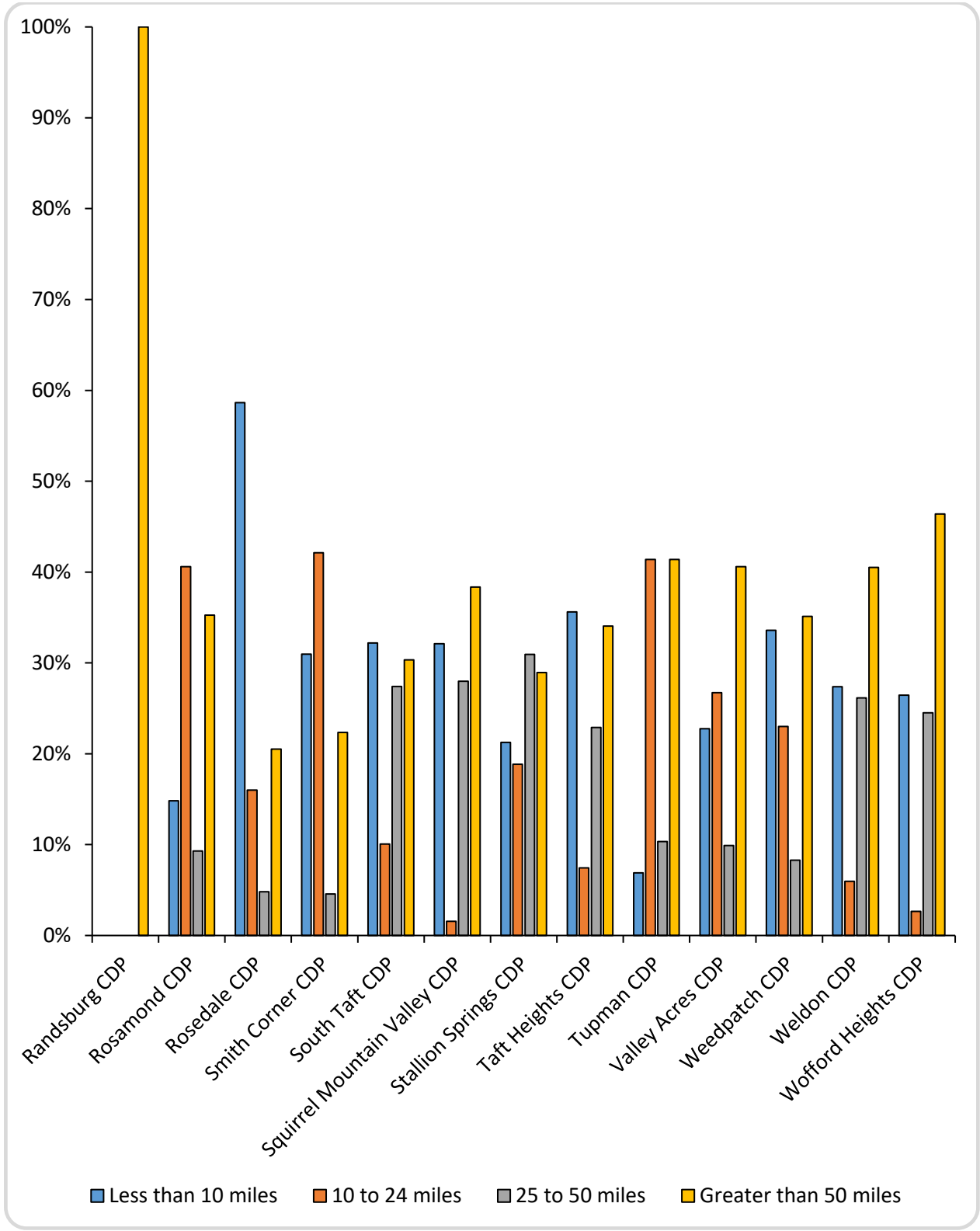
Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>.

TRAVEL DISTANCES (MILE RANGES) TO WORK: KERN COUNTY CENSUS DESIGNATED PLACES, 2017, PART 3



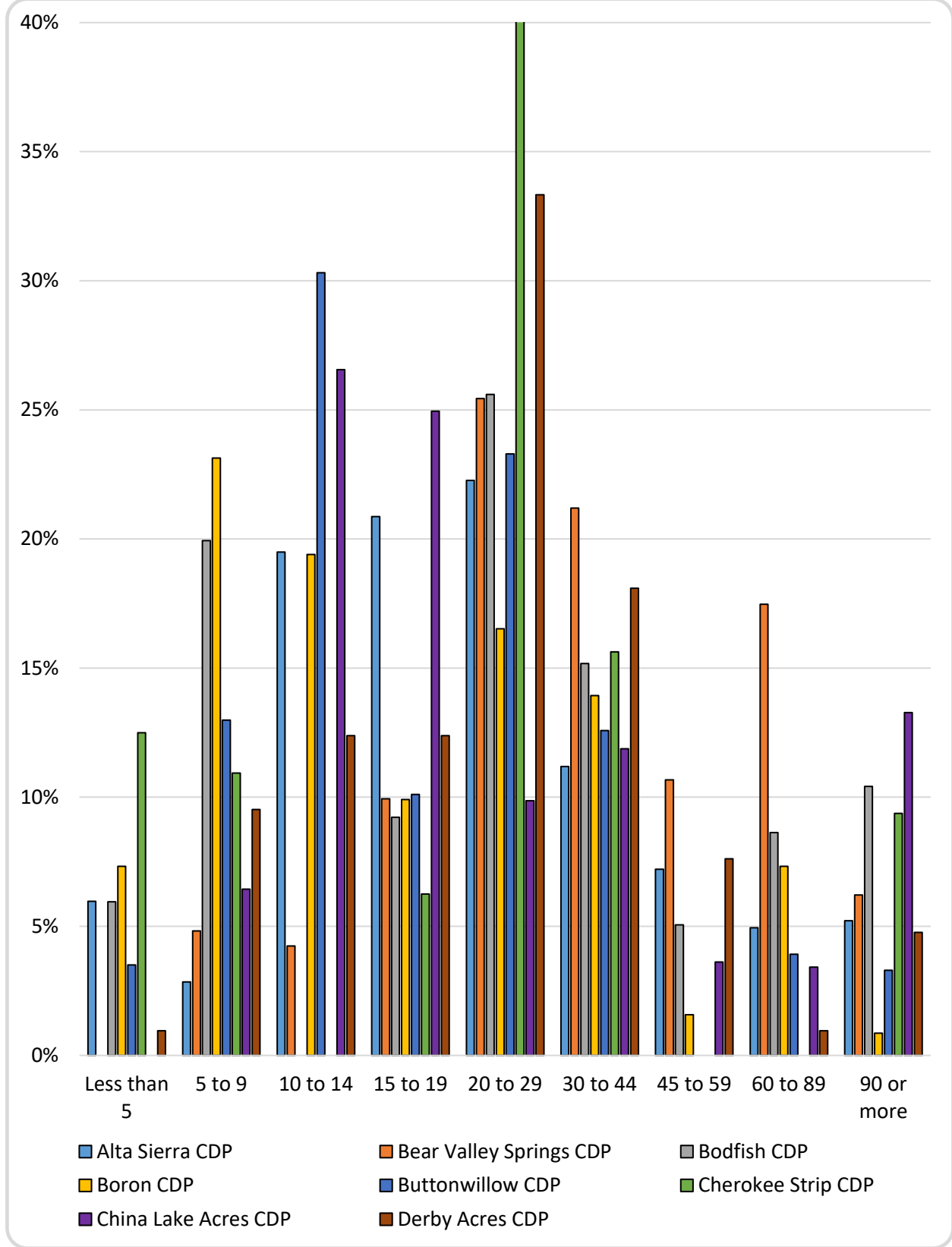
Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>.

TRAVEL DISTANCES (MILE RANGES) TO WORK: KERN COUNTY CENSUS DESIGNATED PLACES, 2017, PART 4



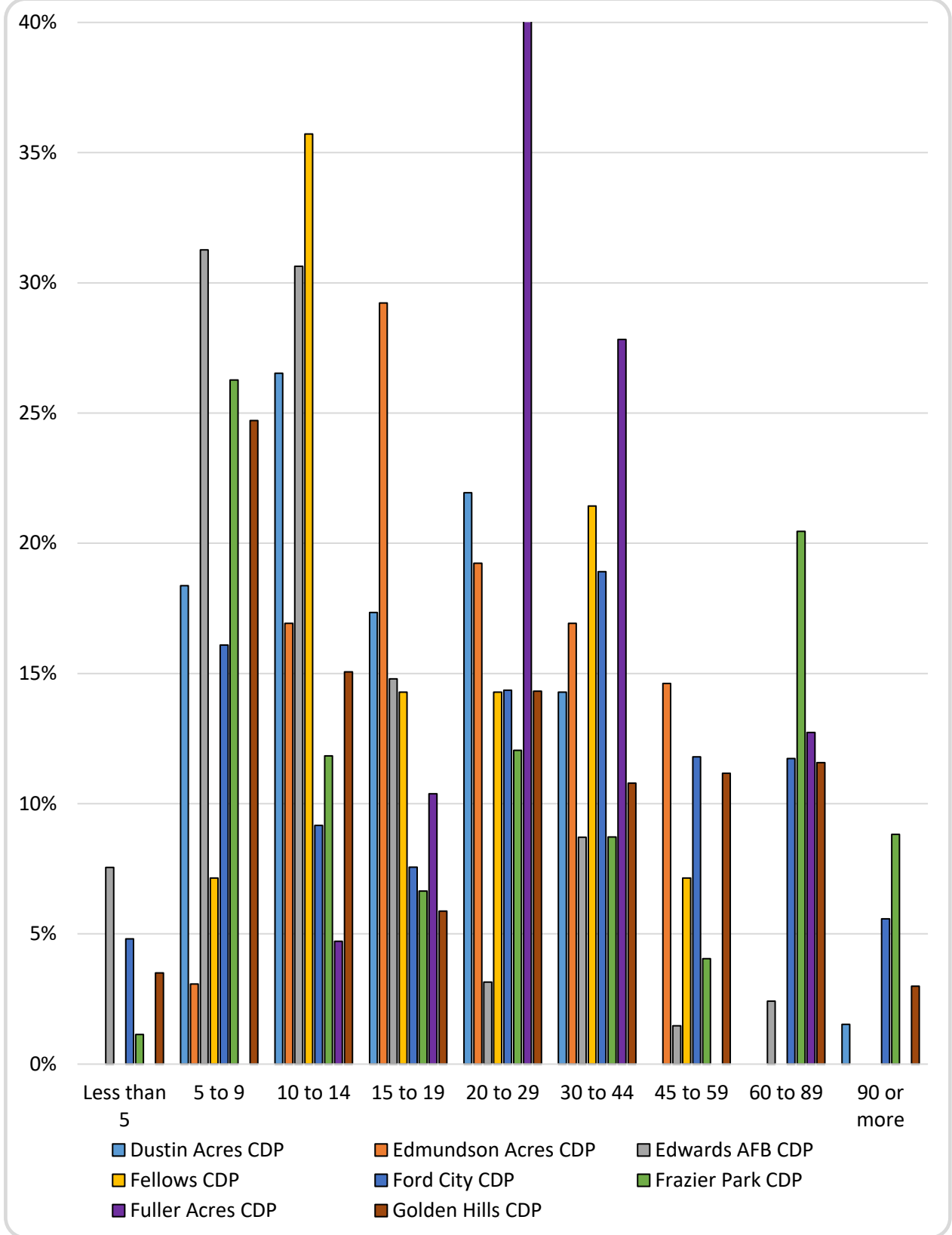
Source: U.S. Census Bureau, Longitudinal Employer-Household Dynamics (LEHD) program, 2017. Accessed at <https://onthemap.ces.census.gov>.

TRAVEL TIME TO WORK, 2018 (MINUTES): KERN COUNTY CENSUS DESIGNATED PLACES, PART 1



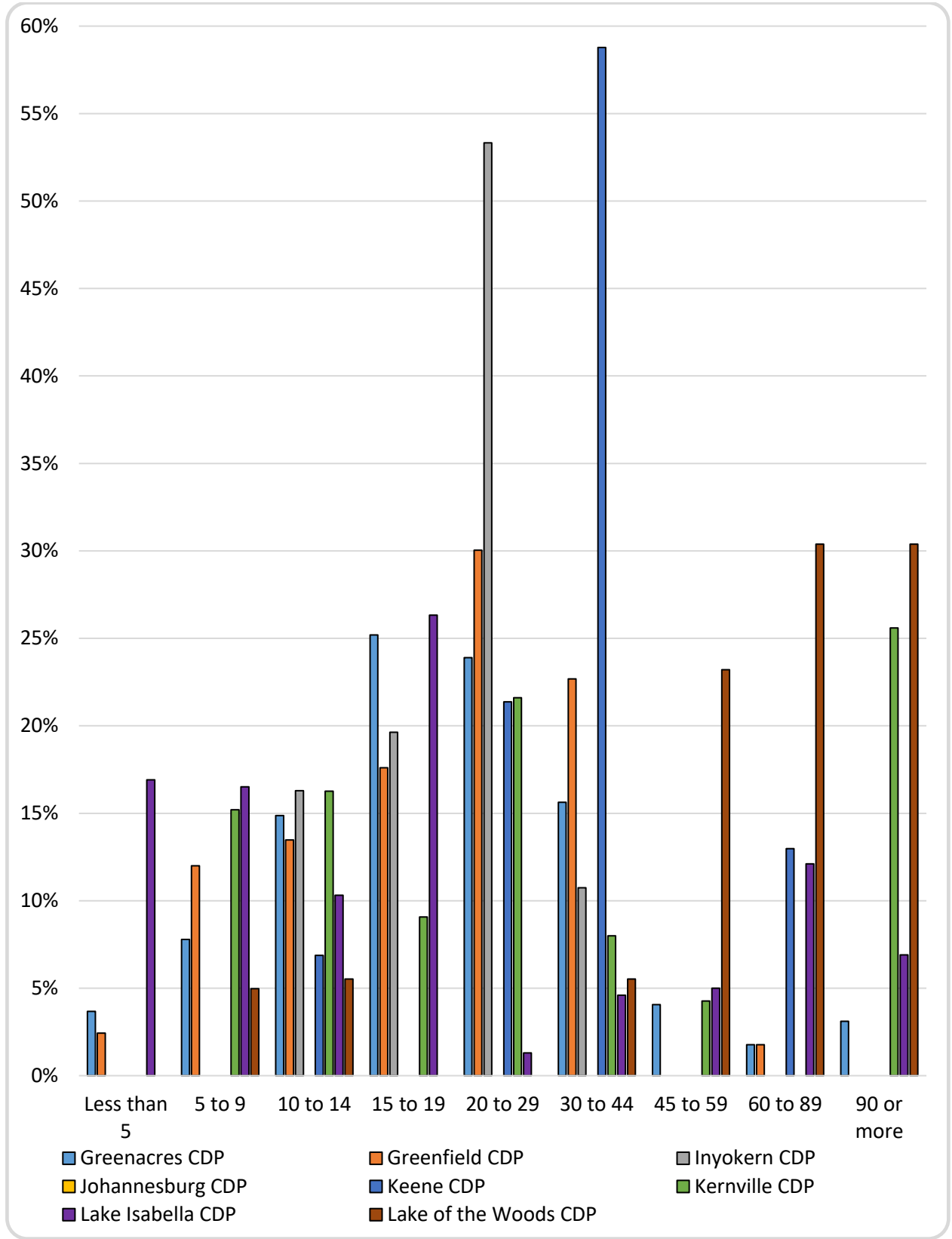
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

TRAVEL TIME TO WORK, 2018 (MINUTES): KERN COUNTY CENSUS DESIGNATED PLACES, PART 2



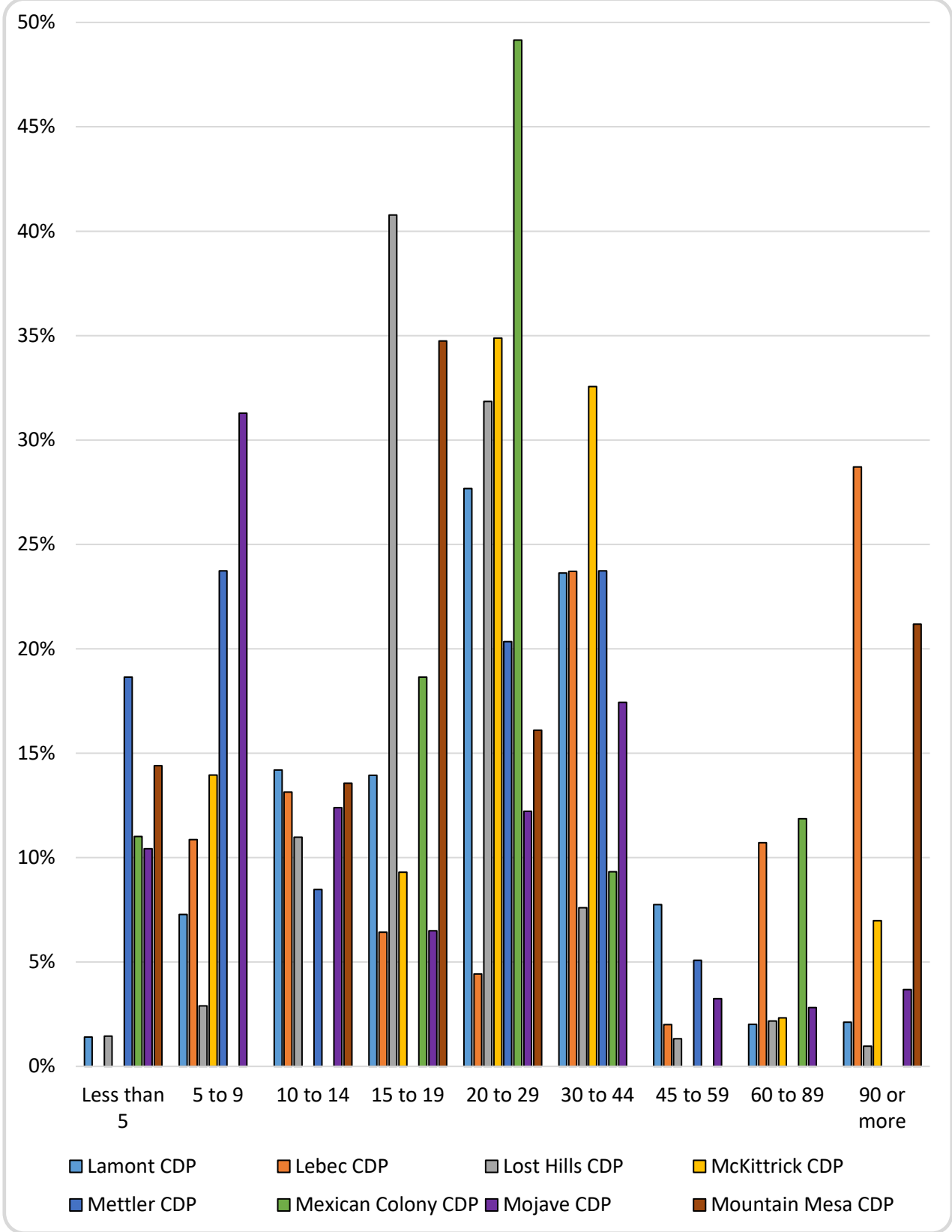
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

TRAVEL TIME TO WORK, 2018 (MINUTES): KERN COUNTY CENSUS DESIGNATED PLACES, PART 3



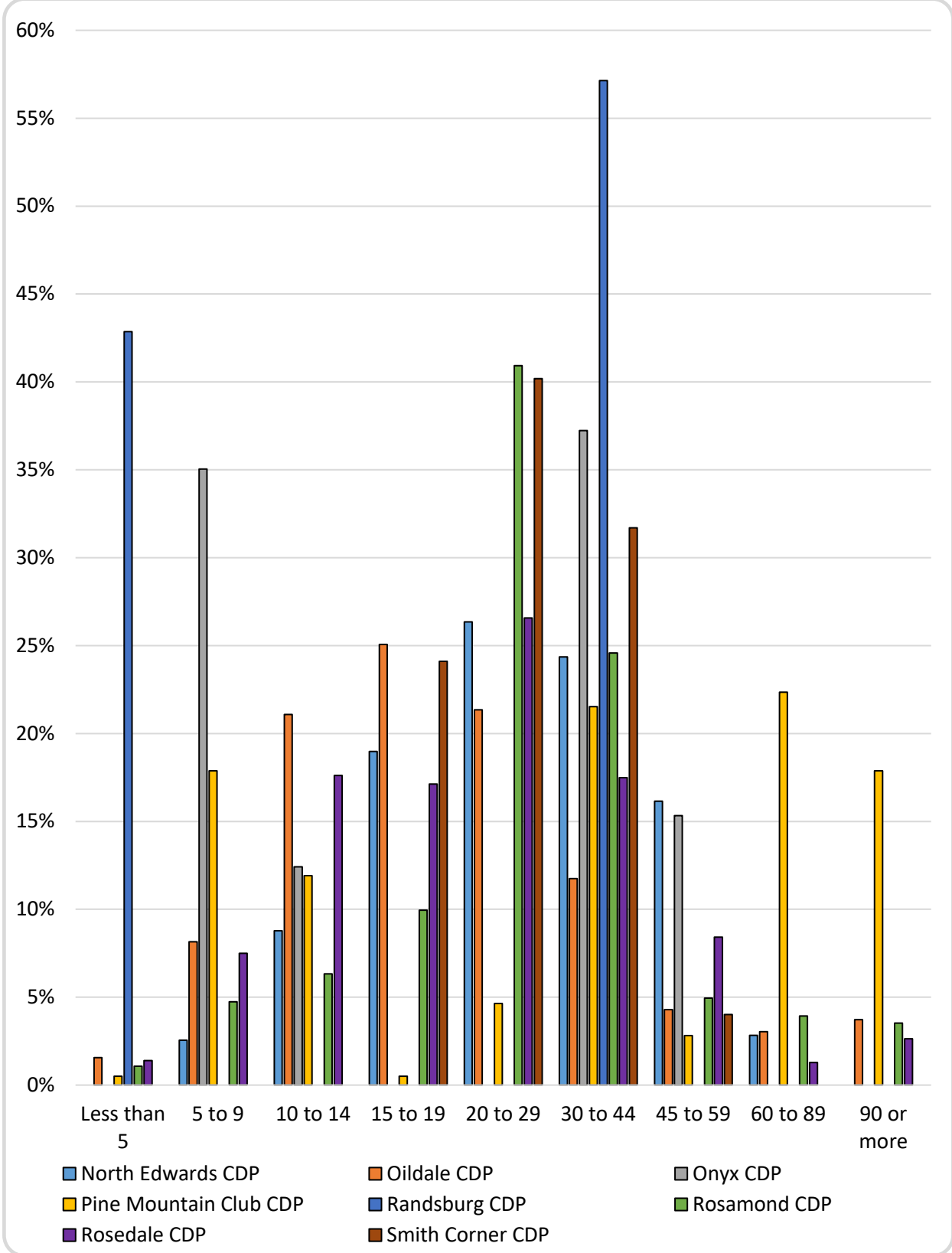
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

TRAVEL TIME TO WORK, 2018 (MINUTES): KERN COUNTY CENSUS DESIGNATED PLACES, PART 4



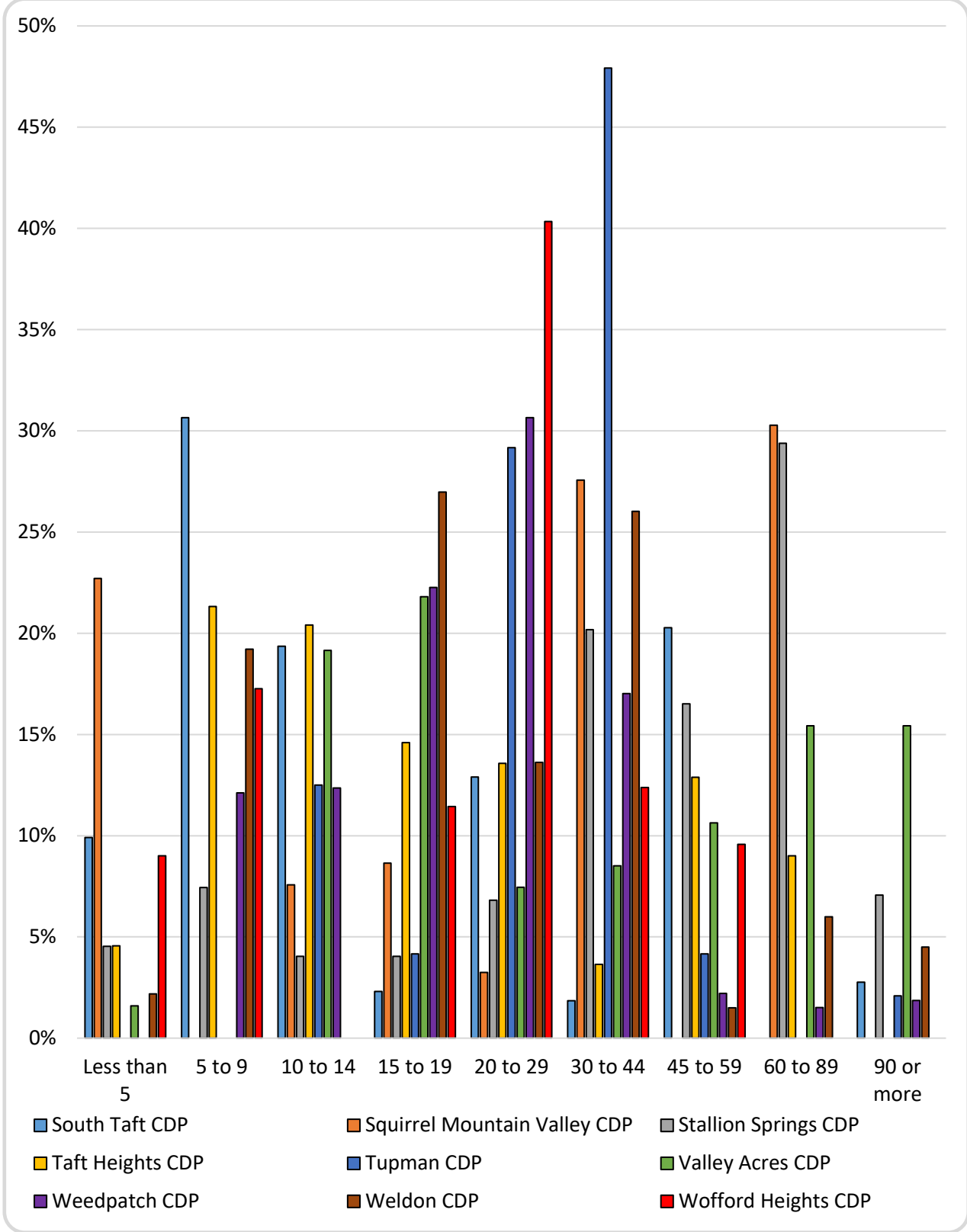
Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

TRAVEL TIME TO WORK, 2018 (MINUTES): KERN COUNTY CENSUS DESIGNATED PLACES, PART 5



Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.

TRAVEL TIME TO WORK, 2018 (MINUTES): KERN COUNTY CENSUS DESIGNATED PLACES, PART 6



Source: U.S. Census Bureau, 2018 American Community Survey 5-Year Estimates; TNDG.