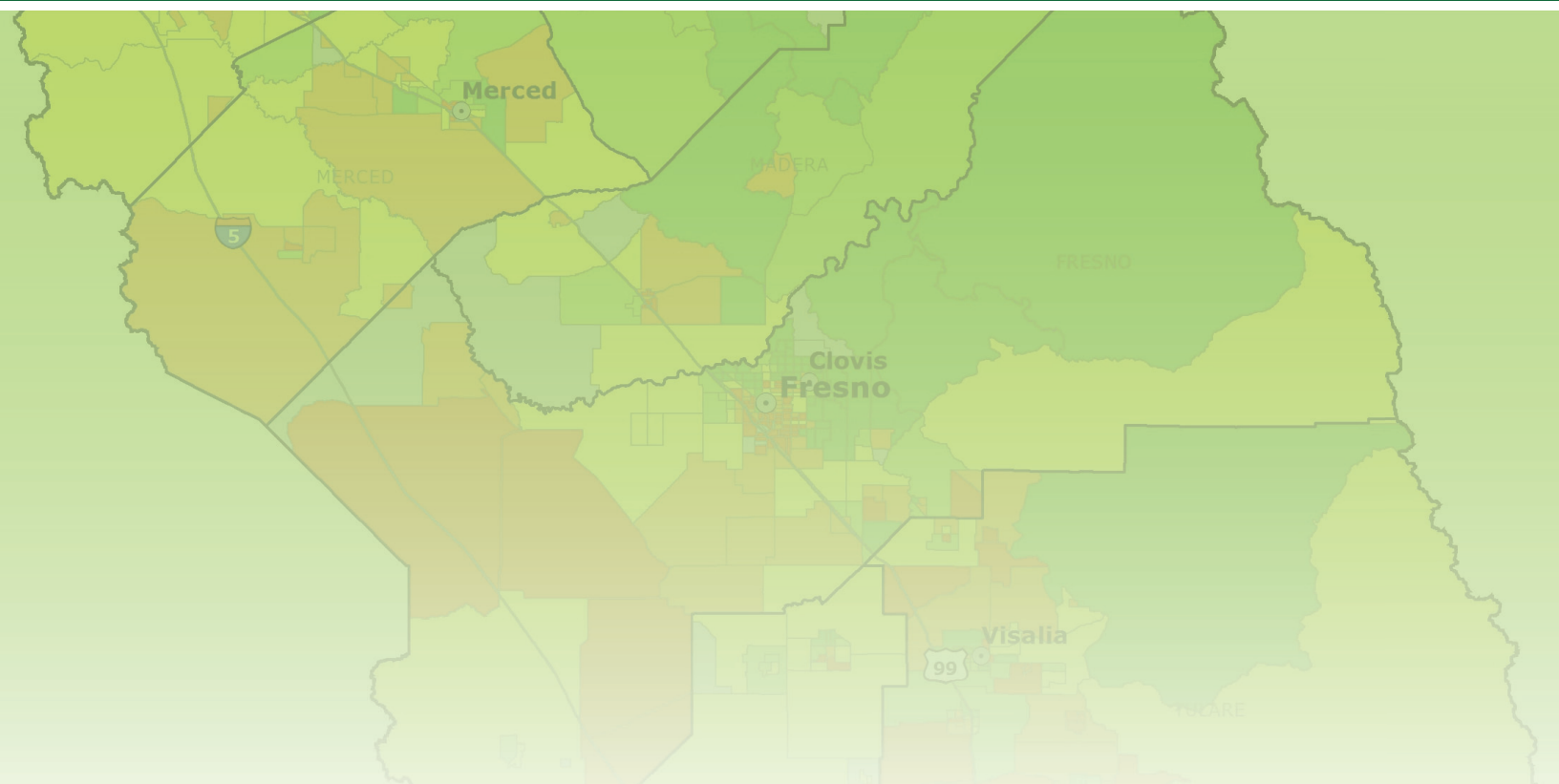


Mapping Opportunity in California's San Joaquin Valley



February 2015



Commissioned by 

**SIERRA HEALTH
FOUNDATION**

Study Conducted by the **UC DAVIS**
CENTER FOR REGIONAL CHANGE

Dear Colleagues,

We are pleased to share with you *Mapping Opportunity in California's San Joaquin Valley*, a review of the current status of inequities faced by valley residents. This study, commissioned by Sierra Health Foundation and conducted by the UC Davis Center for Regional Change, is a valuable resource for all of us committed to addressing the disparities of opportunity in the San Joaquin Valley.

The enclosed findings highlight discrepancies in the availability of economic, educational, health, housing, civic and other opportunities across the San Joaquin Valley's communities. For example, many rural areas have historically experienced exclusion from municipal services such as clean drinking water and sewage. In urban areas, youth drop out of schools at much higher rates than in the region overall. Moreover, in one community highlighted by the study, the predominantly Latino population has only a 12% rate of homeownership, compared to 60% for the region as a whole. These disparities must be addressed for the San Joaquin Valley to thrive.

We offer this report and its recommendations for strategic investment in the San Joaquin Valley to funders, community-based organizations, policymakers and other committed change-agents. In partnership with residents and building on local assets, we can use these results to inform decisions, policies and programs that will promote the health and well-being of all the valley's residents.

Sincerely,



Chet P. Hewitt
President and CEO
Sierra Health Foundation



Jonathan K. London, Ph.D.
Director
UC Davis Center for Regional Change

Executive Summary

California's San Joaquin Valley (SJV) is a place of contradictions. It has remarkable cultural riches and contains some of the most productive and wealth-generating agricultural land on the planet. At the same time, many of its residents live in poverty and face health risks due to myriad challenges. In fact, nearly one-third of the more than three million people in the region face extreme degrees of environmental risk and social vulnerability.¹ The SJV's disparities in risk and vulnerability require responses that are sensitive to local conditions and variations across the region.

To identify the places and populations in the SJV that exhibit the highest need for investment and support, Sierra Health Foundation commissioned a study from the UC Davis Center for Regional Change (CRC). The CRC and affiliated faculty used the Regional Opportunity Index (ROI) to develop an overview of social, economic, political and other disparities across the SJV.² The ROI consists of two dimensions. The first, referred to as People Opportunity, combines data about the relative level of resources possessed by individuals in the region. These include people's educational levels, employment status, income, housing, health, and social and political engagement. The second dimension is called Place Opportunity. It describes the relative level of institutional and physical resources available. These include the quality of local schools, the state of the local economy, housing stock, the transportation and mobility infrastructure, environmental quality, the availability of health care facilities and local social and political capacities.

By analyzing ROI data, CRC identified the kinds of investments that are needed, and the people and places in which they are most needed. The results are a resource for SJV communities and others who want to build a more equitable region. The overall findings of the study can be summarized in four key points:

1. Comprehensive investment strategies are needed in areas with low People and Place Opportunities. These include small rural towns on the western side of the SJV and inner-city neighborhoods in urban areas along State Route 99.
2. Targeted investments can connect people to local resources in areas where Place Opportunity is relatively high but People Opportunity is low. These include newly revitalized areas in places such as midtown Stockton and Fresno.
3. Focused investment strategies are needed to address disparities in youth well-being and to engage youth as leaders. These strategies should acknowledge the high proportion of the population that is less than 18 years old.
4. While research can inform investment decisions, effective investment strategies require bringing together community and regional leaders to address local challenges and utilize local assets. This on-the-ground expertise forms an indispensable complement to the data and maps provided in this report.

Mapping Opportunity in the San Joaquin Valley

California's San Joaquin Valley (SJV) is a place of great cultural riches and contains some of the most productive and wealth-generating agricultural land on the planet. At the same time, nearly one-third of the more than three million people in the region face extreme degrees of environmental risk and social vulnerability.¹ These risks and vulnerabilities are not shared equally across the

communities and populations in the valley, with low-income people and people of color shouldering an inequitable burden. Thus, responses that address these disparities and seek to improve health and well-being of all SJV residents must be sensitive to local conditions and variations across the region.³



How can SJV communities and others who want to invest in meaningful change focus their energy and resources to achieve greater equity in the region?

To answer this question, Sierra Health Foundation commissioned a study conducted by the UC Davis Center for Regional Change (CRC). The CRC and affiliated faculty used cutting-edge data, maps and spatial analysis to provide an overview of the social determinants of health and well-being that underlie the region's disparities. Their analyses relied in large part on the Regional Opportunity Index (ROI) to generate maps that identify areas in the greatest need of investment to build opportunity for the most disadvantaged residents.²

About the Regional Opportunity Index

The ROI has two dimensions. The first, referred to as People Opportunity, combines data about the relative level of resources possessed by individuals in the region. These include people's educational levels, employment status, income, housing, health, and social and political engagement. The second dimension is called Place Opportunity. It describes the relative level of institutional and physical resources available. These include the quality of local schools, the state of the local economy, housing stock, the transportation and mobility infrastructure, environmental quality, the availability of health care facilities, and local social and political capacities. (A list of the indicators and their data sources is provided in Appendix A.)

There are several factors to consider when using these maps:

1. The ROI uses the census tract as the unit of analysis. These are areas of roughly 5,000 residents and appear as small tracts in dense urban areas, and large tracts in areas of lower population density.
2. Opportunity in the SJV is measured relative to the 20-county region covered by the ROI.* This includes the 19 counties of the Central Valley, plus Mariposa County, located to the east of the valley. In other words, data from the census tracts in the 20-county region are used to define the levels of opportunity that are applied to the eight-county SJV.
3. While the areas that show low People and/or Place Opportunity are those with the greatest need in the SJV, areas in the region with higher levels of opportunity might still benefit from investment, as ROI is a relative measure.
4. The ROI uses secondary data collected by other parties such as the U.S. Census Bureau. Consequently, ROI data represent a "30,000-foot-level" view of the region and do not take into account certain marginalized populations (e.g., undocumented immigrants or others who do not fill in census surveys). Additional research is needed to incorporate local knowledge and to register hidden community assets and challenges.

* In 2015, the ROI will expand to cover the entire state of California.

Regional Disparities in People and Place Opportunity

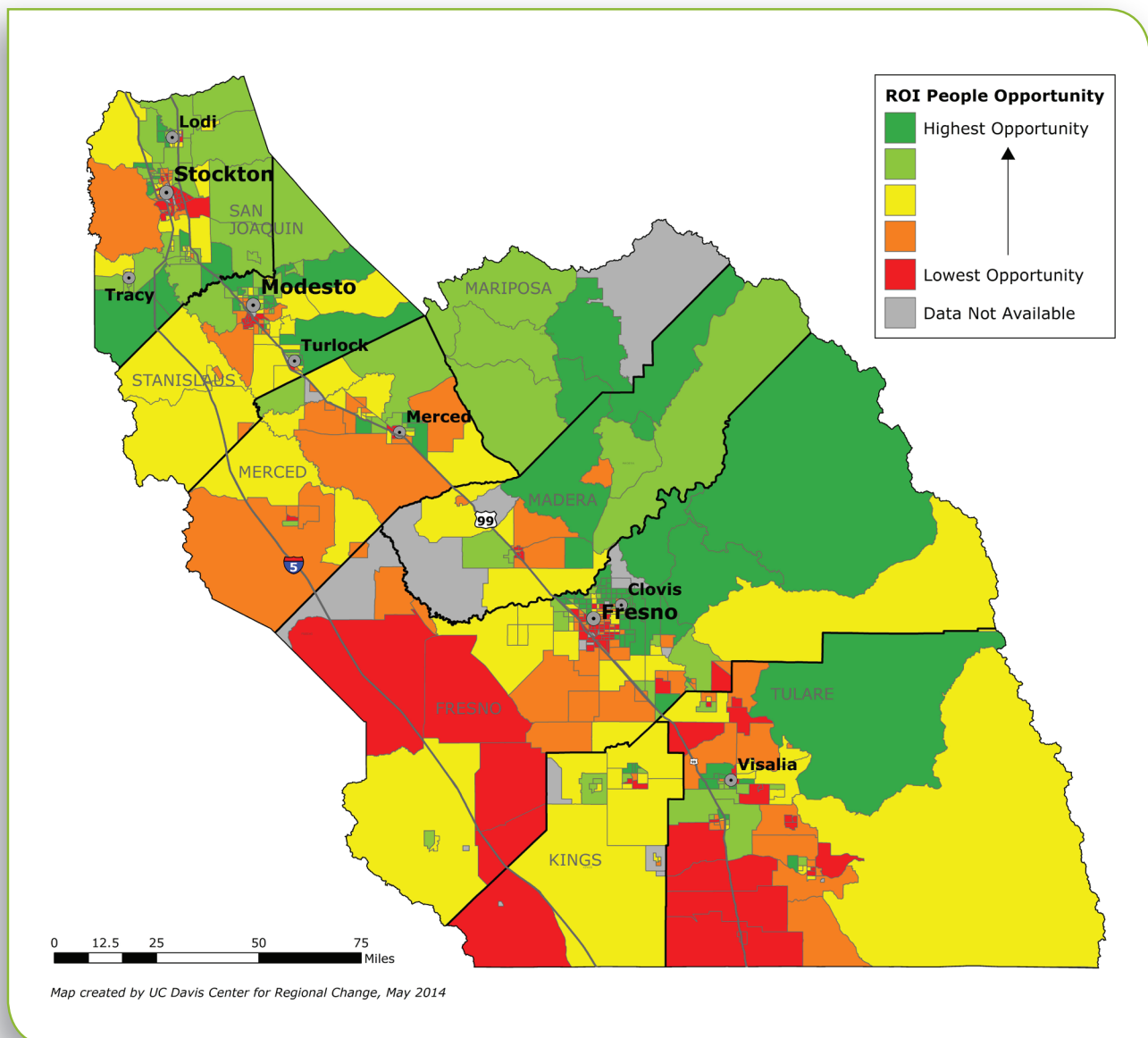
To locate the region's greatest disparities, researchers first looked at People Opportunity and Place Opportunity separately. The maps generated by these analyses show that:

- Rural communities on the west side of the valley and in many of the region's urban centers located along State Route 99 have the lowest levels of People Opportunity. (Map 1)

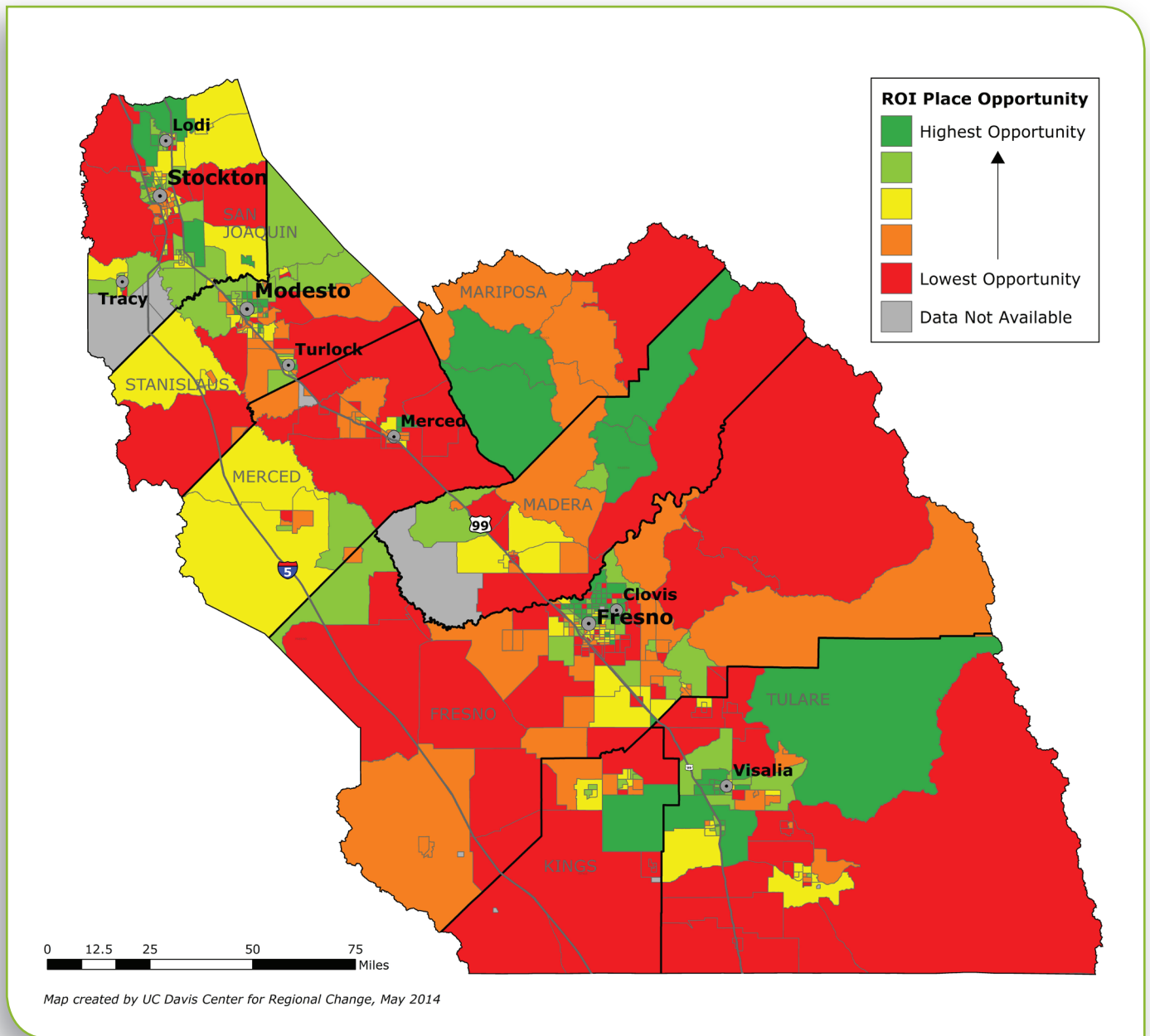
- Rural areas also suffer from a relative paucity of Place Opportunity. The higher levels of Place Opportunity found in some urban centers correlate with the higher concentrations of economic, educational, health, housing, and other infrastructures generally found in cities. (Map 2)

Maps 1 and 2 are coded using five colors, each representing quintiles based on the overall ROI region. For example, **dark green** indicates opportunity equivalent to that of the highest 20% of all census tracts in the 20-county region, and **red** indicates the lowest 20%.

Map 1: People Opportunity Index in the San Joaquin Valley



Map 2: Place Opportunity Index in the San Joaquin Valley



Disparities at the Intersection of People and Place Opportunity

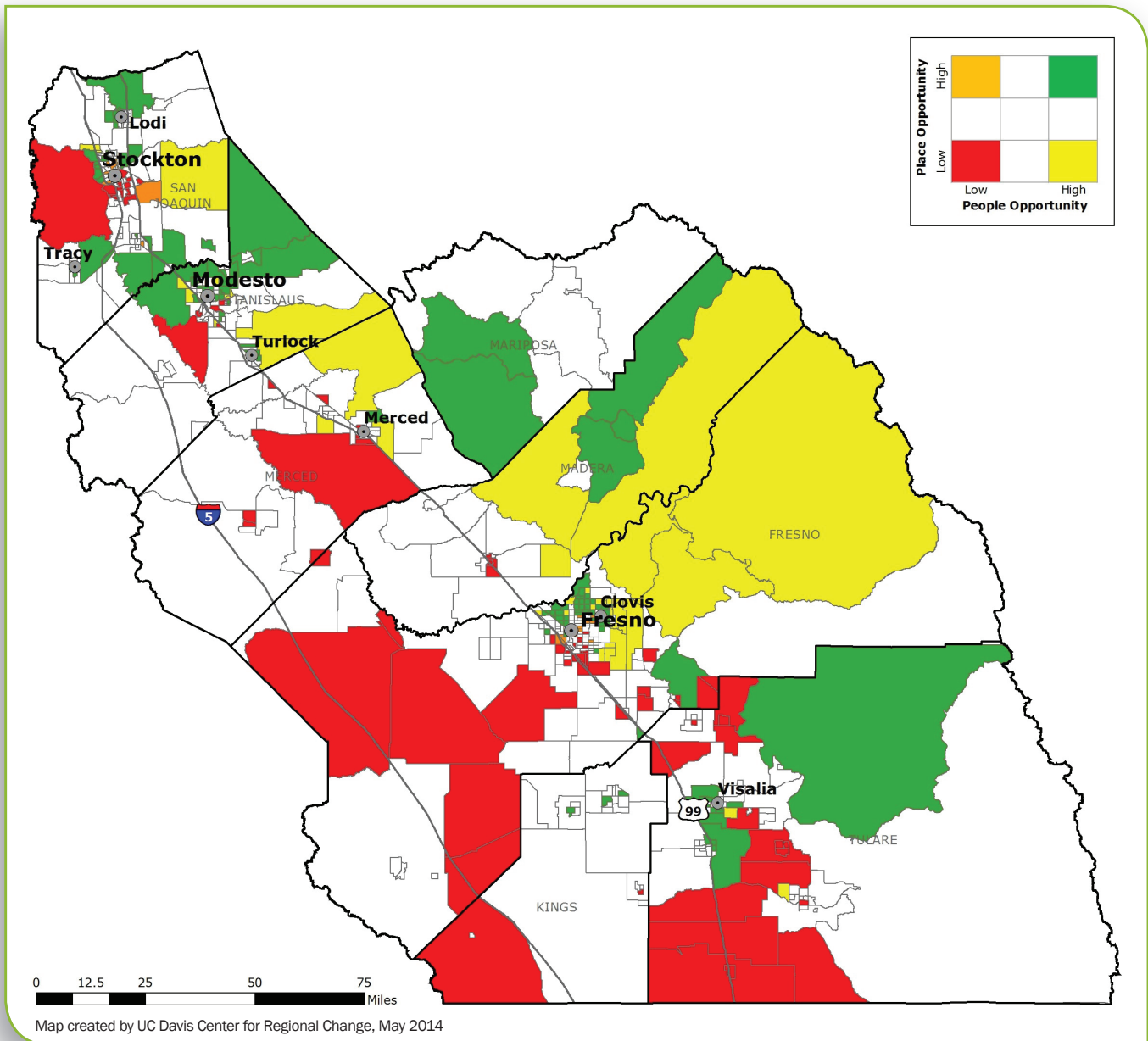
Examining the intersection of Place and People Opportunities not only helps identify areas of concern, but also points to the kinds of investments and interventions that are needed.

Areas with Low People and Low Place Opportunity Need Comprehensive Strategies

The census tracts with the lowest People Opportunity and lowest Place Opportunity (in red in Map 3) are home to residents in the greatest need of economic, educational, housing, health, and civic support at both an individual and community level. They would benefit from comprehensive strategies that can increase both

People Opportunity (such as improving educational outcomes, and building job-readiness and school-to-career pipelines) and Place Opportunity (such as encouraging the location of full-service grocery stores, attracting high-wage job industries, and expanding health care services). They would also benefit from increased access to resources in higher-opportunity localities throughout the region.

Map 3: Intersections of People and Place Opportunity in the San Joaquin Valley



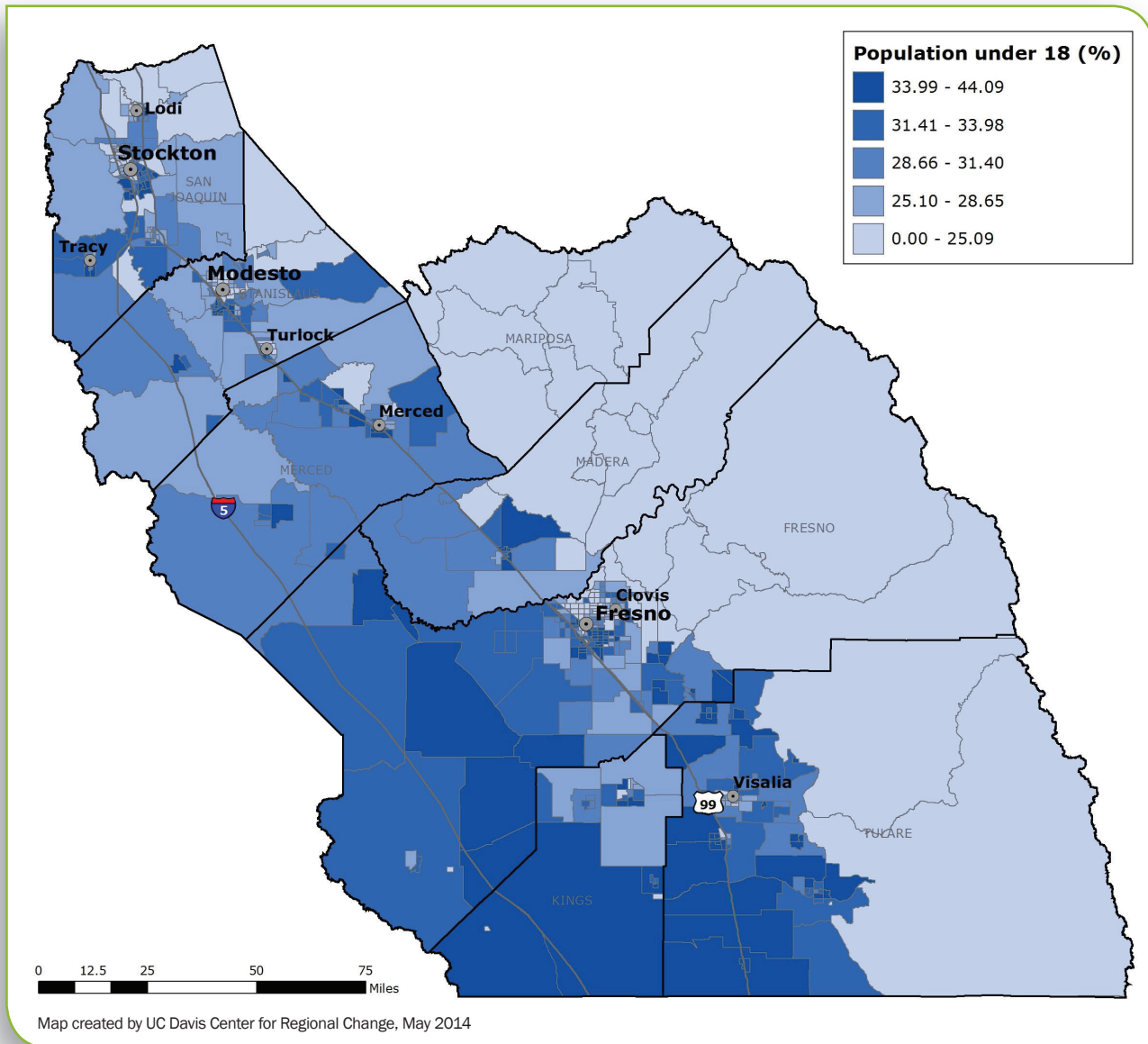
Map 3 and Maps 5 - 8 are coded using five colors:

- **Red:** Census tracts ranked in the lowest third for both People and Place Opportunity.
- **Orange:** Census tracts ranked in the lowest third for People Opportunity and highest third for Place Opportunity.
- **Yellow:** Census tracts ranked in the highest third for People Opportunity and lowest third for Place Opportunity.
- **Green:** Census tracts ranked in the highest third for both People and Place Opportunity.
- **White:** Census tracts that do not fall into these four categories.

Many of these communities have populations with much higher proportions of residents under the age of 18 than in the region as a whole, indicating that youth-oriented investment strategies may be needed to grow opportunity over time. (Map 4)

Many of these communities also have been home to vibrant social movements, from the United Farm Workers in the 1960s and 1970s, to the environmental justice movement of the 1990s, which are still active today.

Map 4: Population under 18 in the San Joaquin Valley



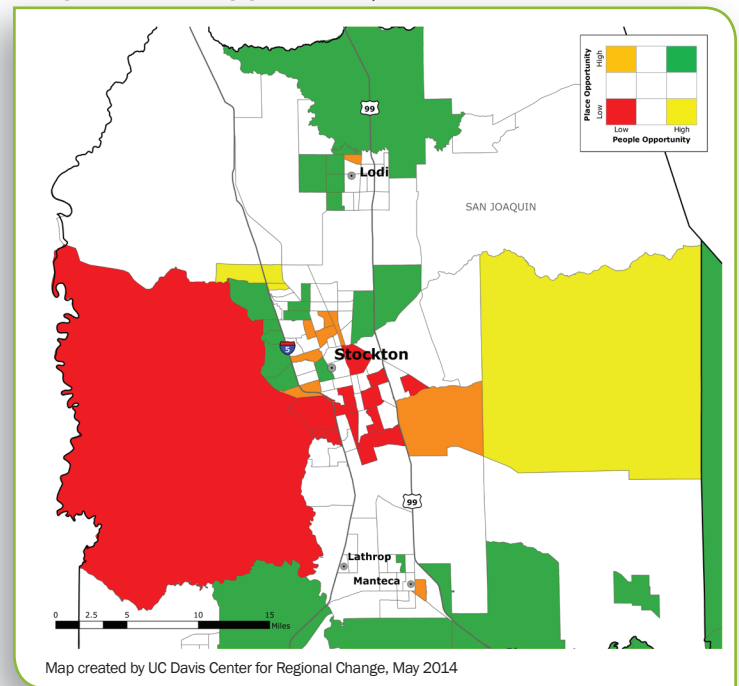
Specific communities that experience the extreme conditions indicated by low rates of both People and Place Opportunity are:

1. **The southern neighborhoods of Stockton.** These older urban areas have weathered decades of disinvestment as development dollars followed higher-income residents to the northern suburbs. They now face People Opportunity challenges such as unemployment and poverty rates as high as double the regional average. They also face Place Opportunity challenges such as limited access to supermarkets and health care facilities. For example, in several red census tracts in south Stockton, civic life indicators (that look at U.S. citizenship, voting rates and English fluency) are far lower than for the region as a whole, reducing people’s access to formal political representation. On the positive side, many of these areas have plentiful affordable housing and are geographically close to areas with relatively high levels of Place Opportunity. (Map 5)

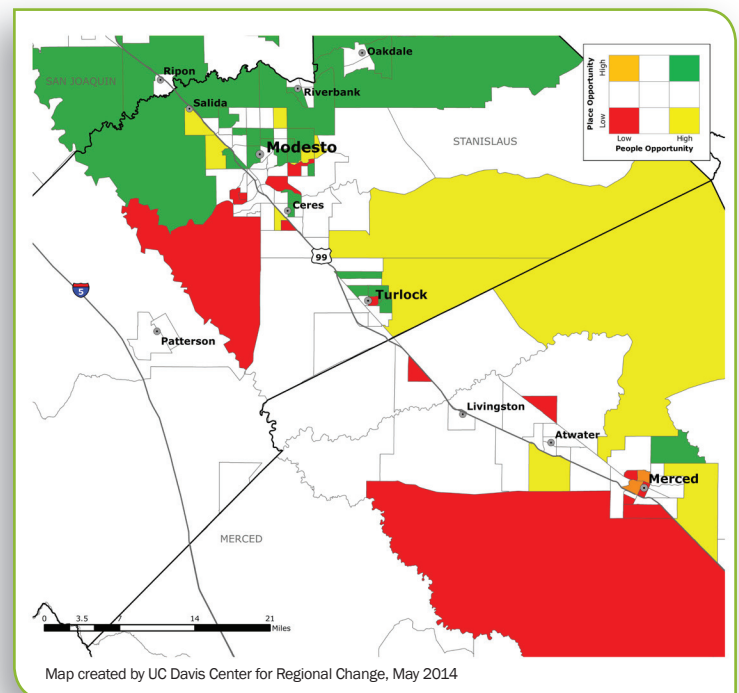
2. **The western neighborhoods of Modesto and the unincorporated areas outside of city limits.** These suburban and rural areas face the combined challenge of low levels of People and Place Opportunity across most, if not all, the domains measured in these indices. For example, in one such area, only 66% of women received prenatal care in their first trimester, compared to 77% for the region as a whole, and more than 14% of births were to teens, compared to 9.5% for the region as a whole. Other hardships include a legacy of exclusion from municipal services such as drinking water and sewage treatment. (Map 6)

3. **The City of Madera.** This small and often overlooked city lacks the municipal resources of its larger urban neighbors and thus faces significant economic and social challenges. Residents’ lives are far shorter than those of people in the region as a whole (calculated as the rate of death prior to age 65). Less than half the residents are U.S. citizens and less than two-thirds speak English fluently, which reduces their level of formal political representation. On the positive side, Madera is home to large numbers of Mixtec and other indigenous Mexican peoples who have cultivated strong regional and transnational networks for mutual support. (Map 7)

➤ Map 5:
People/Place Opportunity in the Stockton area



➤ Map 6:
People/Place Opportunity: Modesto to Merced



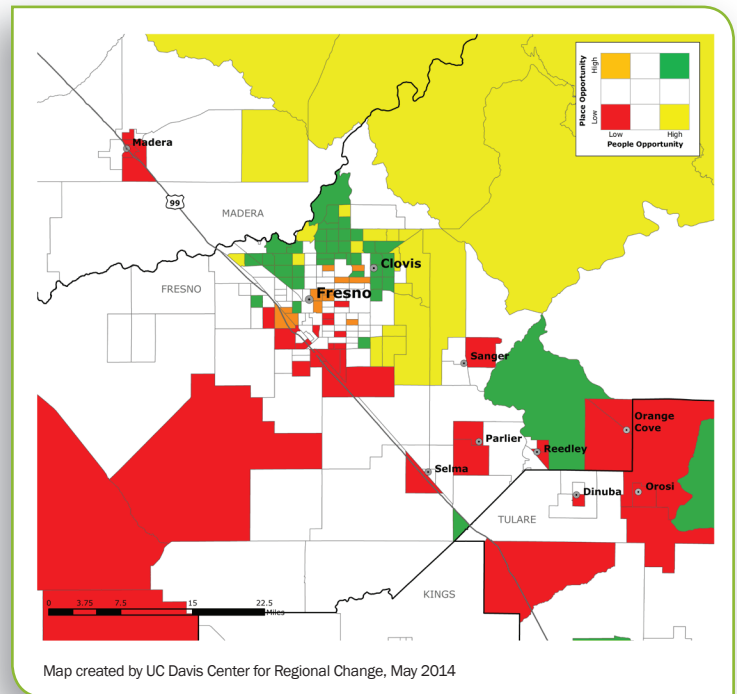
Comprehensive strategies that increase human and social capital are best for the census tracts with low People Opportunity and low Place Opportunity.

4. **Rural communities in Fresno County such as Huron, Parlier, Selma, and Sanger.** In Huron, for example, the predominantly Latino population (more than 96%) contends with high levels of housing insecurity: only 12% of residents own their homes, compared to 60% in the region as a whole; only 42% of residents pay less than the recommended 30% of their income on housing; and only 70% of residents live in homes considered uncrowded (no more than one person per bedroom). (Map 7)
5. **Rural communities in eastern and southern Tulare County such as Cutler, Orosi, Orange Cove, Reedley, Dinuba, Earlimart, Pixley, and Alpaugh.** Here, the very farmworkers who help generate the SJV's spectacular agricultural wealth face high levels of poverty, limited formal political representation (due to lower levels of U.S. citizenship and English-language fluency), exposure to multiple environmental hazards (in particular, agricultural pesticide applications) and reduced access to health and human services. Many of these communities are unincorporated and therefore endure substandard infrastructure for drinking and waste water, and transportation, and do not have streetscapes that encourage biking and walking. (Map 8)

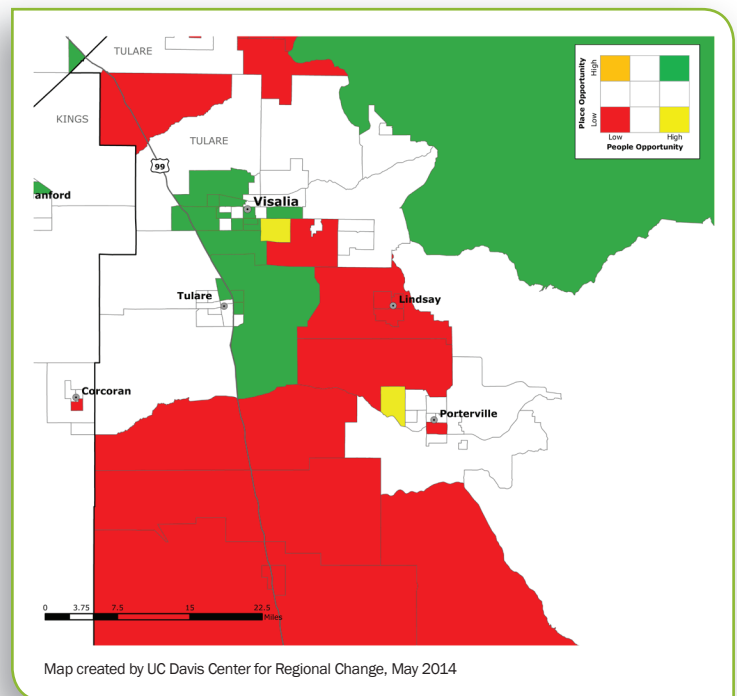
Areas with Low People Opportunity and High Place Opportunity Need Targeted Strategies

The **orange** census tracts in Map 3 are those with the lowest People Opportunity and highest Place Opportunity. In these areas, for a variety of reasons, local resources may not be accessible, relevant, effective, adequate, or welcoming for many residents. For example, excellent health care facilities and full-service supermarkets may end up serving only a select segment of the population. Such areas would benefit from investment that can guarantee more equitable access for underserved residents, for example, enhancing public transit, improving the cultural competence of educational, health, and social services, and ensuring equitable economic development.

➤ **Map 7:**
People/Place Opportunity in the Fresno area



➤ **Map 8:**
People/Place Opportunity in the Visalia area



Communities with low rates of People Opportunity and high rates of Place Opportunity, in which many residents are not accessing resources in the vicinity, include:

1. **Neighborhoods to the north and east of Stockton.**

These are areas of highly concentrated poverty. Residents endure low levels of educational attainment, poor health outcomes and other challenges, despite the presence of high-paying jobs, schools with experienced teachers and the proximity of full-service grocery stores. For example, while some of these neighborhoods have relatively large supplies of affordable housing stock, many of the residents still confront housing prices that outstrip their incomes. In some areas in this neighborhood, only 22% of residents are able to spend less than 30% of their income on housing. (Map 5)

2. **Neighborhoods in downtown Fresno.** Several of these neighborhoods exhibit relatively high levels of job and new-business growth, but have low employment rates and low incomes for many residents. Similarly, areas with relatively abundant health care services and adequate supermarkets are also home to residents who face serious health challenges such as lower life expectancies, higher teen birth rates, and lower infant health outcomes.

Targeted investment strategies that connect residents with local resources are needed in areas with low People Opportunity and High Place Opportunity

In some of these neighborhoods, despite a level of access to health care providers that is nearly double the regional average, the rate of premature death is also nearly double the regional average. These areas have schools where teachers have relatively high levels of training and classroom experience, but have high-school dropout rates much higher than those in the region as a whole. (Map 7)

Areas with High People Opportunity and Low Place Opportunity Need On-the-Ground Research to Identify Hidden Disparities

Census tracts with the highest People Opportunity and lowest Place Opportunity (indicated in Map 3 by **yellow**) are areas with limited economic, educational, health and other resources, but where the local population has

relatively high levels of educational, economic, and health outcomes. This pattern suggests that some residents bring economic, educational and other assets with them, or are accessing resources from outside the area.

This combination of factors may suggest hidden disparities. Thus, while wealthier residents may draw on private or extra-local resources (daycare, schools, health care and transportation), poorer residents rely more heavily on local, underdeveloped public infrastructure. This can pose tough challenges for children and youth, who do not enjoy the same mobility as adults and consequently have fewer local opportunities and resources to draw on. The extended absence of one or more parents from family settings due to long commutes to outside-area jobs also constitutes a burden for families of all income levels. The lack of local high-income employment opportunities may encourage young people to leave these areas as they grow into adulthood, degrading community vitality over time. Finally, since some of these areas are unincorporated (lacking municipal governments), it is important to consider what civic mechanisms are in place to ensure public accountability and democratic decision-making to guide investment and development. In brief, on-the-ground research is important to identify and address less visible areas of poverty in these areas.

Areas with high People and low Place Opportunity are found in the **Sierra Foothills, including the area east of Turlock**, which have extremely limited health care services, but whose residents have relatively high life expectancies, and **suburban Clovis and rural Sanger in eastern Fresno County**. The health of the local economy in these areas, measured in the presence of higher-wage jobs, is poor, but the income of the majority of residents are high (again, likely based on out-of-area employment and in-migration of wealthy residents). For example, in one neighborhood in central Clovis where the population is predominately white, more than 88% of residents have incomes over 200% of the federal Poverty Line (compared to 60% in the region as a whole), while the availability of jobs is 64% lower than that in the region as a whole.

The census tracts with high People and low Place Opportunity include unincorporated areas in which residents with their own resources are thriving, but those with few resources of their own have few local opportunities.

Areas with High People Opportunity and High Place Opportunity Have Less Urgent Needs

In census tracts with the high People and Place Opportunity (in green in Map 3), residents enjoy relatively high levels of individual and community resources across the domains of education, economic resources, health, housing quality, environmental quality, transportation, and civic life. These are the areas where the bounty of the region is most concentrated and additional philanthropic investments may be less urgent. These areas include: **neighborhoods north and west of Stockton** (near the Brookside Country Club); much of **Mariposa County**; neighborhoods to the west of **Lodi**; areas east of **Manteca**; neighborhoods in the small cities of **Escalon, Ceres, Salida, and Turlock in Stanislaus County**; parts of **northern Fresno County along the Madera County line** (sometimes referred to as the “Bluffs” above the Fresno River); and areas **west of Visalia in Tulare County**.

The level of opportunities in these areas often stands in stark contrast with that in nearby communities. One might note the vastly different life expectancy among neighborhoods in Stockton. The premature death rates in the neighborhoods in north and west Stockton are as much as 33% lower than in the neighborhoods in south Stockton.

Disparities of Opportunity Across Population Groups

The spatial analysis in this report encourages investment in places with the fewest resources and the greatest need. Additional details are provided by examining patterns of disparities by race, ethnicity, and age.

People and Place Opportunity by Race and Ethnicity Are Lowest for the African-American and Latino Populations

Opportunity levels across all racial groups are significantly lower in the SJV (both northern and southern) than in the neighboring Sacramento and northern Central Valley regions. See Charts 1 and 2. In all regions, the non-Hispanic White population has higher levels of People and Place Opportunity than any other racial group. African-Americans have the lowest opportunity levels in all sub-regions except the northern SJV, where the Latino population has a slightly lower opportunity score.

Chart 1: People Index by Region and Race/Ethnicity

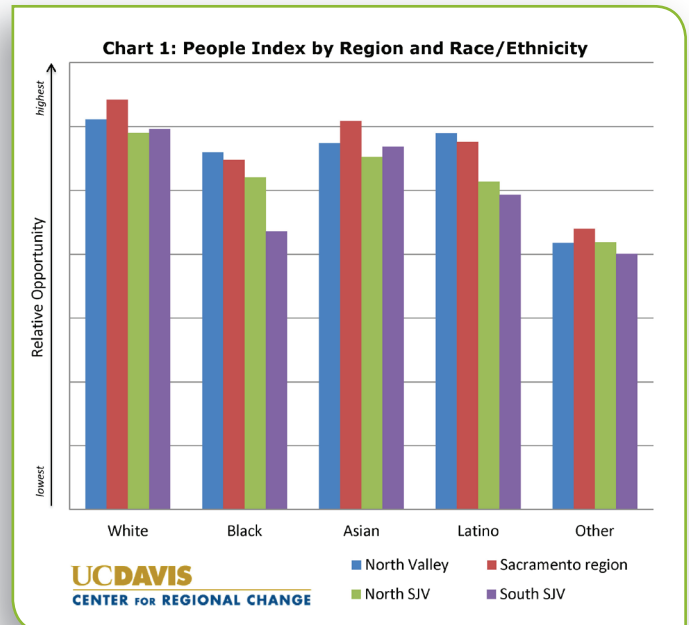
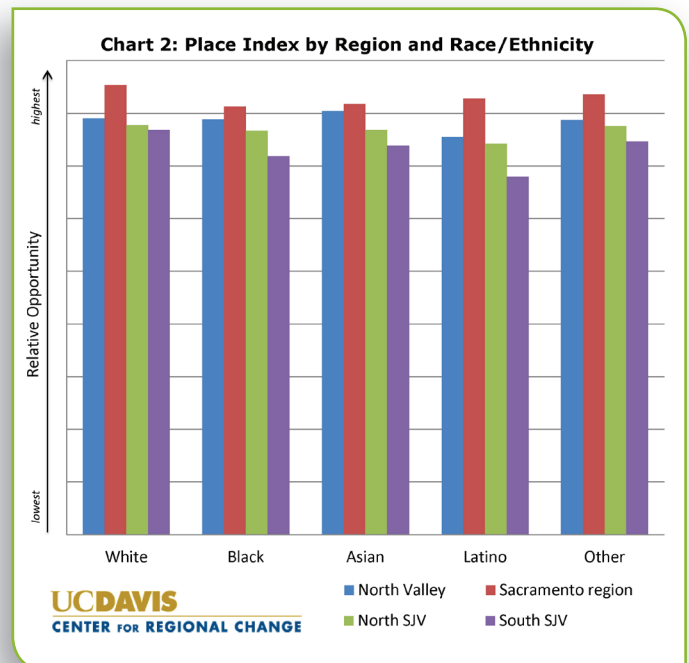
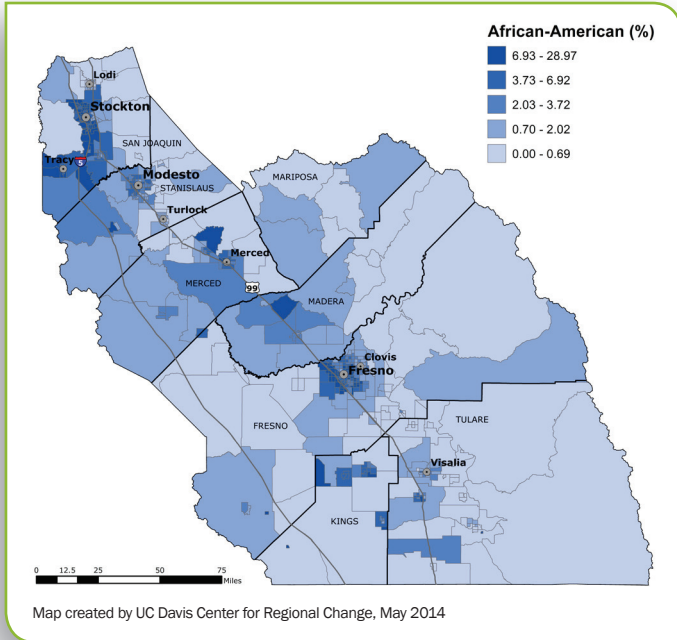


Chart 2: Place Index by Region and Race/Ethnicity

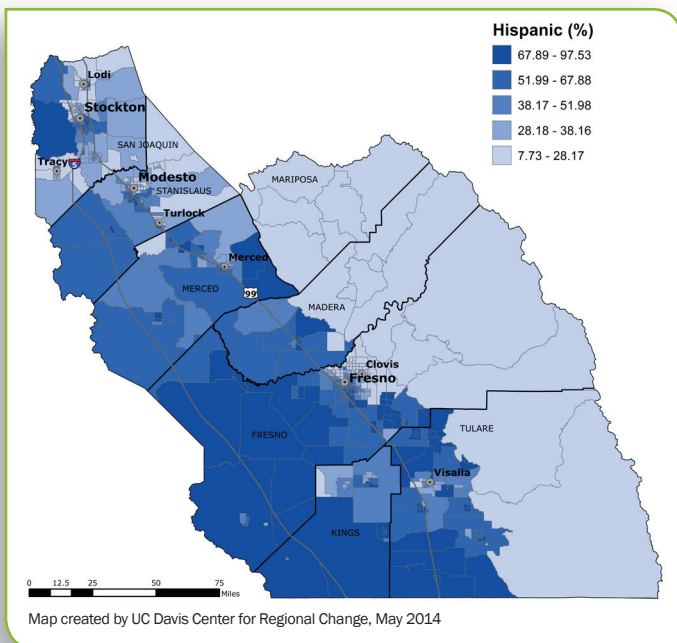


Map 9: Distribution of African-American Population in the San Joaquin Valley



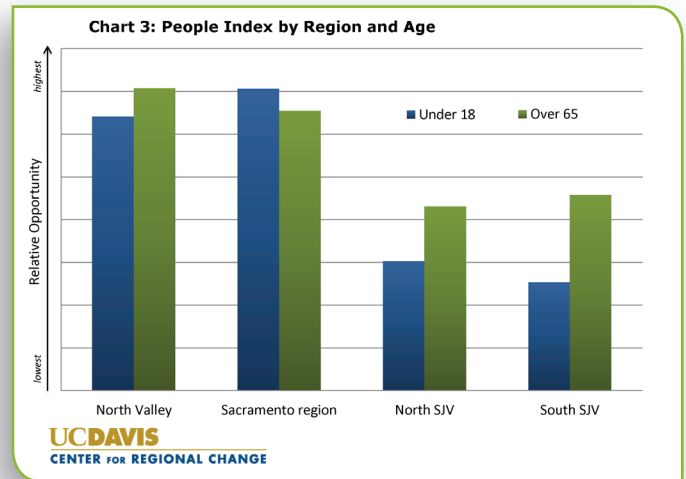
African-Americans have particularly low People and Place Opportunity scores in the southern SJV, suggesting the need for a focused engagement with this population. (See maps 9 and 10 for the distribution of the African-American and Hispanic populations in the SJV.)

Map 10: Distribution of Hispanic Population in the San Joaquin Valley



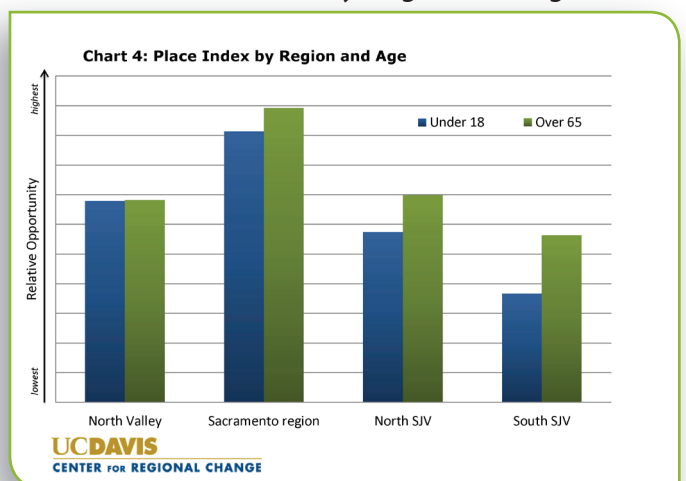
People and Place Opportunity Disparities by Age Are Greatest for Youth

Chart 3: People Index by Region and Age



The levels of People and Place Opportunity for youth in the southern and northern SJV are worryingly low, suggesting an urgent need to invest in programs that increase their economic, educational, health, and civic well-being. As shown in Chart 3, People Opportunity for youth (under 18) is much lower in the SJV than in the neighboring Sacramento and northern Central Valley regions. The levels of People Opportunity for residents in the SJV over the age of 65 are also dramatically lower than they are for their peers in the Sacramento and North Valley regions. A similar pattern is seen in the levels of Place Opportunity. (Chart 4)

Chart 4: Place Index by Region and Age



➤ Opportunities for Leveraging Civic and Community Engagement in the San Joaquin Valley

No portrait of a region is complete without looking at the organizational experience and civic engagement of area residents themselves, as well as the opportunities presented by existing policy initiatives. Both are crucial in leveraging efforts to improve conditions in the region.

The San Joaquin Valley has many social and cultural resources that can be cultivated and strengthened through increased investment. It is host to a network of powerful, yet often under-utilized, assets in the form of multiple and varied community organizations with a tradition of social, economic and civic activism. An illustrative, but not exhaustive, list of such organizations includes:

1. Faith-based networks such as the People's Institute for Community Organizing, the Industrial Areas Foundation, the Gamaliel Foundation, and their affiliates, which are located throughout the SJV.
2. Ethnic associations, often with transnational extensions into Mexico and Central America, Europe (especially Portugal, Sweden, and Armenia), and Asia (especially Japan, Laos, Cambodia, Vietnam, the Philippines, and India).
3. Broad-based environmental justice and health coalitions such as the Central Valley Air Quality Coalition and the Central California Environmental Justice Coalition.
4. Institutions of higher education including the University of California, California State Universities and community colleges, all of which have a range of community outreach, extension and engagement programs.
5. Health professionals and advocates, who support clean air policies and practices across the region, as well as community-based health clinics with strong public-service values.

6. Organized labor, small businesses and ethnic chambers of commerce.
7. Developers dedicated to building affordable, vital, and health-promoting neighborhoods.
8. Banks and credit unions with strong community and regional reinvestment values.
9. Community and regional foundations.

Those seeking ways to improve the quality of life for communities in the SJV can also add value to their efforts by aligning with state policies focused on regional equity and environmental justice. Many of the above organizations and networks are deeply involved in current initiatives. Further funding could increase their efficacy and impact. Some of these initiatives include:

1. The implementation phase of Senate Bill 375, which mandates that regional government agencies develop comprehensive land use, transportation, and housing plans to reduce greenhouse gas emissions and to promote public health.
2. The implementation of Senate Bill 535, which requires that a certain percentage of the state's cap and trade revenues (under Assembly Bill 32; California's Global Warming Solutions Act) be directed to disadvantaged communities.
3. The implementation of the Caltrans Active Transportation Program, which requires that 25% of state active transportation (bike, pedestrian, transit) funds go to benefit disadvantaged communities.
4. The Local Control Funding Formula, which mandates that locally designed investments address the education needs of the most disadvantaged populations.

Finally, while data and maps are important guides to decisions about allocating resources in order to have the greatest impact, a wide range of voices is crucial to understanding the needs of the SJV's most vulnerable populations and communities. Active partnerships must be built with underrepresented groups that include

people of color, children and youth, immigrants (both documented and undocumented), non-English speakers, the homeless, and the incarcerated and their families, to incorporate their knowledge, experiences, and interests.

➤ Dialogue and Investment Are Key to Building Opportunity

Analysis of the ROI data and maps identified the places and populations in the SJV that exhibit the highest need for investment and support. The overall findings of the study can be summarized in four key points:

1. Comprehensive investment strategies are needed in areas with low People and Place Opportunities. These include small rural towns on the western side of the SJV and inner-city neighborhoods in urban areas along State Route 99.
2. Targeted investments that connect residents to local resources are needed in areas with low People Opportunity, but high Place Opportunity. These include newly revitalized areas in places such as midtown Stockton and Fresno.
3. Focused investment strategies to address disparities in youth well-being and to engage youth as leaders are needed. These strategies should acknowledge the high proportion of the population that is less than 18 years old.
4. Effective investment strategies require bringing together community and regional leaders to address local challenges and utilize local assets. This on-the-ground expertise forms an indispensable complement to the data and maps provided in this report.

The data and maps in this report can help inform dialogues between all those committed to a healthy, prosperous, sustainable, and equitable future for this vital region. The needs of the SJV are great, but so are its strengths. The area's unique mix of opportunity and vulnerability underscores the importance of: a) considering social investment from a regional perspective; b) using varied and nuanced types of data and on-the-ground research to reveal hidden disparities; and c) developing coordinated funding strategies that can connect people to opportunity, and take into account local assets and initiatives. Ultimately, what is learned in the process of improving conditions in the SJV will yield important lessons that can be applied to pressing social problems throughout the Golden State and beyond.

Appendix A

Regional Opportunity Index People and Place Components

The following tables show the metrics, description of the data, and the data sources used in the ROI. The first table summarizes the ROI People measure and its components, and the second table summarizes the ROI Place measure and its components. The data are obtained from reputable sources but all have limitations. Certain potentially useful indicators of People and Place Opportunity are not employed due to the lack, or poor quality, of available data.

These charts provide a general overview of the ROI. For more detailed information about the indicators and index methodology used, please see:

http://mappingregionalchange.ucdavis.edu/roi/Download_Data/ROI%20Metadata_3.19.14.pdf

Key to acronyms used:

ACS – American Community Survey (U.S. Census Bureau)

CA EDD – California Employment Development Department

CalEPA – California Environmental Protection Agency

CA Reg. of Voters – California Registrar of Voters

CDE – California Department of Education

CDPH – California Department of Public Health

CREE – California Regional Economies Employment

CSU – California State University

FCC – Federal Communications Commission

FDIC – Federal Deposit Insurance Corporation

NCUA – National Credit Union Association

NETS – National Establishment Time-Series

UC – University of California

USDA – United States Department of Agriculture

I. People	The overall People score for the ROI is the geometric mean of the People domains.	
A. Education Opportunity: People Domain	The Education Opportunity People Domain score is the geometric mean of the following four indicators.	
1. College-educated Adults	Percentage of adults (age 25+) who have completed a post-secondary certificate/degree	ACS 2007-2011
2. Math Proficiency	Percentage of 4th graders who scored proficient or above on the math portion of California's Standardized Testing and Reporting (STAR) test	CDE 2009-2011
3. English Proficiency	Percentage of 4th graders who scored proficient or above on the English Language Arts portion of California's Standardized Testing and Reporting (STAR) test	CDE 2009-2011
4. Elementary Truancy Rate	Percentage of students who have missed more than 30 minutes of instruction without an excuse at least three times during the school year	CDE 2009-2011
B. Economic Opportunity: People Domain	The Economic Opportunity People Domain score is the geometric mean of the following two indicators.	
1. Employment Rate	Percentage of adults age 20-64 employed	ACS 2007-2011
2. Minimum Basic Income	Percentage of individuals with income over 200% of the federal Poverty Level	ACS 2007-2011
C. Housing Opportunity: People Domain	The Housing Opportunity People Domain score is the geometric mean of the following two indicators.	
1. Home Ownership	Percentage of households in which residents own their own home	ACS 2007-2011
2. Housing Cost Burden	Percentage of homeowners and renters for whom housing is less than 30% of household income	ACS 2007-2011
D. Mobility/Transportation Opportunity: People Domain	The Mobility/Transportation Opportunity People Domain score is the geometric mean of the following three indicators.	
1. Vehicle Availability	Percentage of households with at least 1 vehicle, or 1 vehicle per worker	ACS 2007-2011
2. Commute Time	Percentage of workers whose commute time is less than 30 minutes	ACS 2007-2011
3. Internet Access	Number of households per 1000 with high-speed internet	FCC 2013
E. Health/Environment Opportunity: People Domain	The Health/Environment Opportunity People Domain score is the geometric mean of the following three indicators.	
1. Infant Health	Percentage of births at or above healthy weight, or 2500 grams/5.5 pounds	CDPH 2009-2011
2. Births to Teens	Percentage of all births to teens	CDPH 2009-2011
3. Years of Life Lost	Years of potential life lost before age 65	CDPH 2009-2011 ACS 2007-2011
F. Civic Life Opportunity: People Domain	The Civic Life Opportunity People Domain score is the geometric mean of the following two indicators.	
1. Voting Rates	Percentage of Citizen Voting Age Population (CVAP) that voted in 2010	2010 CA Reg. of Voters & ACS 2007-2011
2. English Speakers	Percentage of population age 18-64 who speak only English or speak English "well" or "very well"	ACS 2007-2011

II. Place	The overall Place score for the ROI is the geometric mean of the Place domains.	
A. Education Opportunity: Place Domain	The Education Opportunity Place Domain score is the geometric mean of the following four indicators.	
1. High School Graduation Rate	Percentage of 9th grade cohort that graduated from high school in four years	CDE 2009-2011
2. UC/CSU Eligibility	Percentage of high school graduates who completed UC/CSU A-G course requirements	CDE 2009-2011
3. Teacher Experience	Percentage of teachers at the three closest public elementary schools with more than five years of teaching experience and at least one year of education beyond a BA	CDE 2009-2011
4. High School Discipline Rate	Percentage of high school students in the school district who were suspended or expelled	CDE 2009-2011
B. Economic Opportunity: Place Domain	The Economic Opportunity Place Domain score is the geometric mean of the following five indicators.	
1. Job Availability	Number of jobs per 1000 people, within a 5-mile radius	NETS 2011 & ACS 2007-2011
2. Job Growth	Percentage one-year change (2010-11) in the number of jobs, within a 5-mile radius	NETS 2011
3. Job Quality	Percentage of jobs that are in high-paying industries, within a 5-mile radius	ACS 2007-2011
4. Bank Accessibility	Number of banks and credit unions per 1000 people, within a 5-mile radius	ACS 2007-2011
5. Business Growth	Percentage two-year change (2009-11) in the number of employers, within a 5-mile radius	ACS 2007-2011
C. Housing Opportunity: Place Domain	The Housing Opportunity Place Domain score is the geometric mean of the following two indicators.	
1. Housing Adequacy	Percentage of households with no more than one occupant per room	ACS 2007-2011
2. Housing Affordability	Ratio of median income of census tract to median value of dwellings in census tract	ACS 2007-2011
D. Health/Environment Opportunity: Place Domain	The Health/Environment Opportunity Place Domain score is the geometric mean of the following four indicators.	
1. Prenatal Care	Percentage of births at or above healthy weight, or 2500 grams/5.5 pounds	CDPH 2009-2011
2. Distance to Supermarket	Percentage who live within 1 mile (urban) or 10 miles (rural) of supermarket	USDA Food Access Research Atlas, 2010 Census
3. Health Care Availability	Number of locations providing basic medical services per 1000 population within 5-mile radius	NETS 2011 & ACS 2007-2011
4. Air Quality	Annual mean concentration of PM2.5	CalEPA 2007-09
E. Civic Life Opportunity: Place Domain	The Civic Life Opportunity Place Domain score is the geometric mean of the following two indicators	
1. U.S. Citizenship	Percentage of adults who are U.S. citizens	ACS 2007-2011
2. Neighborhood Stability	Percentage of citizens, over age 1, who live in the same residence as the previous year	ACS 2007-2011



Notes

- ¹ J. London, et al. 2011. *Land of Risk/ Land of Opportunity: Cumulative Environmental Vulnerabilities in California's San Joaquin Valley*. UC Davis Center for Regional Change.
- ² The ROI was developed by Chris Benner, Nancy Erbstein, Jonathan London, Teri Greenfield, Cassie Hartzog, Sara Watterson, and Diane Godard through a generous gift from Rabobank, N.A. For more information: <http://mappingregionalchange.ucdavis.edu/roi>
- ³ For the purposes of this research, the San Joaquin Valley includes Fresno, Kings, Madera, Mariposa, Merced, San Joaquin, Stanislaus and Tulare counties.



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