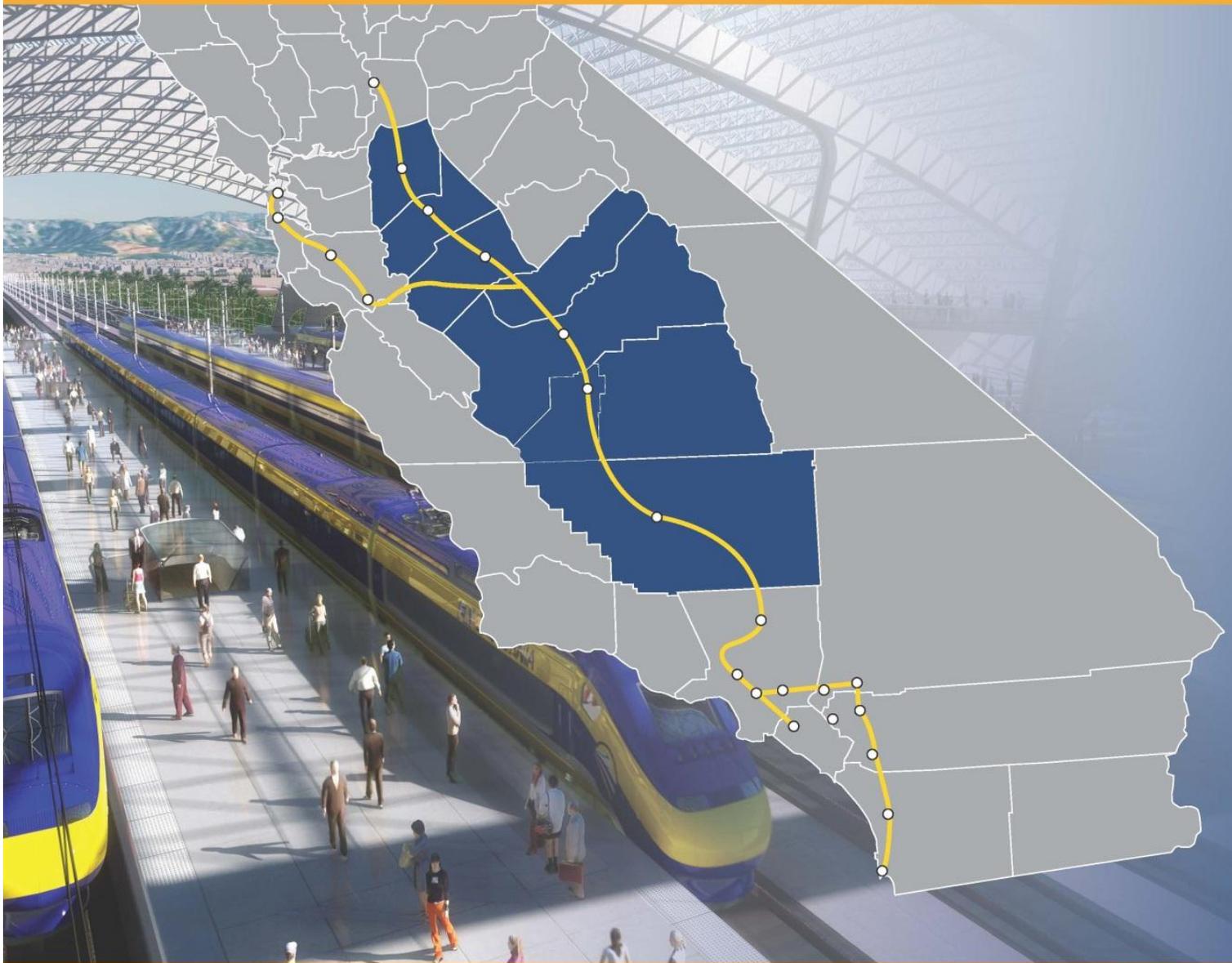




Summary Report

California High-Speed Rail and the Central Valley Economy

January 2015



**PARSONS
BRINCKERHOFF**

in association with Oliveira Advisory Services

THIS PAGE INTENTIONALLY LEFT BLANK

Summary Report

California High-Speed Rail and the Central Valley Economy

TABLE OF CONTENTS

	Page
Introduction	1
Purpose of the Study.....	1
Study Approach.....	2
Economic Challenges and Opportunities	3
Industry Clusters	5
Regional Demographic and Economic Indicators	6
Key Findings	10
Conclusion.....	19

TABLE OF FIGURES

	Page
Figure 1–Study Approach.....	2
Figure 2–Central Valley Historical Population Growth Trends and Projection, 1990-2060	7
Figure 3–Unemployment Rates in the Central Valley vs. California, 2006-2014.....	8
Figure 4–Annual Income Levels in the Central Valley vs. California, 2012	9
Figure 5–Educational Attainment in the Central Valley vs. California, 2012.....	9
Figure 6–Six Major Initiatives of the California Partnership for the San Joaquin Valley	18

Summary Report

California High-Speed Rail and the Central Valley Economy

THIS PAGE INTENTIONALLY LEFT BLANK

Summary Report

California High-Speed Rail and the Central Valley Economy

January 2015

Dear Jeff Morales, Chief Executive of the High-Speed Rail Authority, and Members of the Board:

We are pleased to present you with this Summary Report of *California High-Speed Rail and the Central Valley Economy*—our study of the economic conditions, trends, issues and opportunities in the Central Valley, where work on the California high-speed rail system is underway.



We found that the Authority has demonstrated its commitment to fostering greater economic opportunities in the Central Valley through its policies and actions to ensure that there are hiring opportunities for disadvantaged workers and its small and disadvantaged business program. In order to further this commitment and gain a deeper understanding of the economic issues in the Central Valley, the Authority commissioned this independent study so that it could further align its efforts with those of others who are collaborating to bring more prosperity to the Valley.

Previous economic studies that were prepared for the Authority's business plans provided a higher and broader statewide level of analysis. Our work builds on those studies but offers a more in-depth analysis of economic conditions and opportunities in the Central Valley. This study is grounded in economic and demographic data and informed by the knowledge and insights of 86 stakeholders representing a range of organizations and institutions that are engaged in workforce training and economic development in the Valley. We synthesized what we *learned* with what we *heard* to develop the findings presented in this report. Our goal was to provide the Authority with a basis for identifying additional *actions* that it can take to support economic development in the Central Valley.

We would like to clarify how we used the term "Central Valley" for purposes of the study. While it typically refers to the broad valley stretching from Redding to Bakersfield, we used the term more narrowly to be consistent with how the Authority uses it. Specifically, our outreach to stakeholders focused on the six counties where construction on the system is starting: Fresno, Kern, Kings, Madera, Merced, and Tulare. Our economic and demographic data review is drawn from those six counties plus two others—San Joaquin and Stanislaus—to be consistent with the approach used for prior analyses.

As the high-speed rail system is built and expanded to the San Francisco Bay Area and the Los Angeles basin, journey times will shrink and the people who live, work and do business in the Central Valley will be better connected to each other—and to the state's major metropolitan economies—in a way that they have never been connected before. These new linkages and other direct impacts of the project, such as job creation and station area development, will undoubtedly be important components of a

Summary Report

California High-Speed Rail and the Central Valley Economy

larger strategy to improve the regional economy, which was hit hard by the recent recession and which continues to lag the rest of the state.

The Central Valley is California's agricultural heartland, and its economy has evolved differently than the rest of the state. Its economy will continue to be centered on agriculture; however, as the region's population continues to grow, and as high-speed rail provides greater access between it and California's economic centers, new opportunities will emerge that can bring more balance to the Valley's economy. This is a vision that the Authority can support through greater collaboration with those organizations that are engaged in achieving it.

We want to thank the many individuals and organizations who so generously shared their time, their perspectives and, in some cases, their meeting space with us. If there is one thing we took away from all of our conversations, it is that although the Valley faces numerous hurdles, they are being tackled by many tenacious individuals and organizations that are positive about and committed to economic advancement. These include, for example, the California Partnership for the San Joaquin Valley, which provides a collaborative framework for creating a prosperous economy, quality environment, and social equity throughout the Valley, and the Central Regional Consortium, a partnership between workforce agencies, economic development agencies and community colleges.

While our study focused on the Central Valley, the issues and opportunities discussed in this Summary Report have a broader application for identifying ways that high-speed rail will help better integrate the state's economy. Indeed, a key finding from our study was the perception by a number of stakeholders that the Central Valley is an island that is isolated from the rest of the state by geographic, transportation and economic barriers. By creating new economic development opportunities through better connecting the region to the rest of the state's economy and, the high-speed rail system can be a key factor in helping break down some of those barriers. We believe that this will not only help move the Valley, but the state as a whole, toward a stronger and more thriving economy.

Sincerely,



Tony Oliveira

Summary Report

California High-Speed Rail and the Central Valley Economy

Acronyms

Authority	California High-Speed Rail Authority
CETF	California Emerging Technology Fund
DBE	Disadvantaged Business Enterprise
DVBE	Disabled Veteran Business Enterprise
EDC	Economic Development Corporation
FSU	Fresno State University
GGRF	Greenhouse Gas Reduction Fund
MB	Microbusiness
SB	Small Business
SJVBC	San Joaquin Valley Regional Broadband Consortium
UC	University of California
WIB	Workforce Investment Board

Summary Report

California High-Speed Rail and the Central Valley Economy

THIS PAGE INTENTIONALLY LEFT BLANK

Introduction

The California High-Speed Rail Authority (Authority) is responsible for planning, designing, building and operating the first high-speed rail system in the nation. Work is underway in the Central Valley and the Authority's intent is to develop an initial operating section by 2022. When it is fully implemented, the high-speed rail system will provide fast, direct rail connections between California's two economic mega-regions—the San Francisco Bay Area (which includes Silicon Valley) and the Los Angeles basin—allowing travel between both regions in under three hours at speeds capable of exceeding 200 miles per hour—through the rapidly growing communities in the Central Valley. The system will significantly improve mobility and connectivity throughout the state and will serve as a tool for furthering state and local economic development goals.

Purpose of the Study

The Authority has shown its commitment to fostering greater economic opportunity in the region including helping small businesses play a major role in building the system and disadvantaged workers find training and job opportunities to work on it.

In commissioning this study, the Authority sought to deepen its understanding of the economic issues and opportunities in the Central Valley. Prior economic analyses prepared for the Authority's business plans provided a relatively broad and high-level understanding of the economic conditions and potential benefits of high-speed rail across the state. Through the *California High-Speed Rail and the Central Valley Economy* study, the Authority sought a more in-depth, on-the ground analysis so that it could identify additional steps to ensure that its investments and actions support regional and local economic goals and objectives.

The three objectives that guided the study were to help the Authority to:

1. **Develop a deeper understanding** of the economic issues, conditions, plans and objectives in the Central Valley
2. **Establish a dialogue** with a range of organizations working to advance economic development in the Central Valley and explore how the high-speed rail program could support those objectives
3. **Identify ways to engage and collaborate** with those and other California organizations and stakeholders

Study Approach

The study, conducted by a research team retained by the Authority, combines both *quantitative* and *qualitative* analyses of current economic trends and issues in the Central Valley. It was specifically designed to gain a deeper understanding informed both by data and by the perspectives of stakeholders who are engaged in workforce preparation and economic development in the region. Figure 1 below illustrates the steps taken to complete the study.

Figure 1—Study Approach



The research team began by gathering and analyzing data on economic and demographic trends and conditions in the Valley as compared to the rest of the state. In addition, the team surveyed approved or pending regional and county economic development plans for the six Central Valley counties where work on the high-speed rail system has begun and where the first stations are to be located. The research team also drew upon economic research

previously conducted for the Authority’s 2012 Business Plan, specifically a literature review focusing on how improved access and connectivity from high-speed rail can increase employment and boost economic productivity, particularly among key economic clusters.

Defining the Central Valley for the study

For purposes of the study, the term “Central Valley” generally refers to the six counties through which the high-speed rail system will travel and where the initial stations are planned—in Fresno, Kern, Kings, Madera, Merced and Tulare Counties.

For purposes of aggregating data to portray a comprehensive narrative of the region, the economic and demographic data analysis also includes Stanislaus and San Joaquin Counties.

Summary Report

California High-Speed Rail and the Central Valley Economy

The team’s research provided a foundation for the next step, which involved a series of 8 half-day roundtables with 86 stakeholders representing local and regional organizations that focus on workforce preparation and economic development in the Valley. These included workforce investment boards (WIBs), economic development corporations (EDCs), community colleges, state colleges and universities, councils of government, labor councils, city and county planning departments, housing authorities, convention and visitors bureaus and other consortiums. Information gathered from the research and these roundtables served as the basis for a series of more focused one-on-one interviews designed to delve further into specific topics and how their organizations are working to address opportunities and challenges. Draft summaries of each roundtable and interview were sent to participants to ensure that all of the information captured was accurately reflected.

Lastly, the study team synthesized the economic and demographic data with the information and perspectives offered by the stakeholders into a set of key findings that are presented in the *Study Report* and this *Summary Report*. These findings are meant to inform how high-speed rail may facilitate greater economic activity and to serve as a basis for the Authority to identify additional actions and initiatives it may want to undertake to further support regional economic development plans and objectives.

This *Summary Report* is organized in the following three sections:

- **Economic challenges and opportunities**—Describes the unique challenges that the Central Valley faces in achieving economic prosperity and opportunities that lie ahead with the start of construction of the high-speed rail system, including leveraging industry clusters as a key economic development strategy.
- **Regional demographic and economic indicators**—Highlights the research conducted on the region’s demographic, employment and other economic indicators and discusses the potential for high-speed rail to facilitate greater economic activity.
- **Key findings**—Combines the findings from the demographic and economic data with the themes that emerged from the roundtables and interviews.

Economic Challenges and Opportunities

California is an economic powerhouse. It is home to 54 Fortune 500 companies such as Chevron, Wells Fargo and Disney, 20 of which are in the communications and information technology sector, including Apple, Hewlett-Packard, Google, Intel and Cisco.¹ It is a focal point for innovative and cutting edge startups as well as many small- and medium-sized businesses, all of which are bedrock to the state’s economy. Its agricultural

If California were a country, and measured solely by Gross Domestic Product (GDP), it would have the 8th largest economy in the world—larger than the Russian Federation and just behind Brazil.

Summary Report

California High-Speed Rail and the Central Valley Economy

industry—much of it centered in the Central Valley—leads the nation in producing over 400 different commodities.

Much of California’s success is attributable to its past and current public investments in infrastructure—such as the Golden Gate Bridge, the State Water Project and 50,000 miles of freeways and highways—



and its three-tier University of California (UC) higher education system. These businesses, institutions and public infrastructure investments are the foundation of California’s economic prosperity and are what keeps its economy diverse and growing.

Despite the fact that, for the most part, California’s economy is thriving and is recovering from the recent recession, the Central Valley is still struggling economically. The region’s demographic realities and economic challenges include high

poverty rates, high unemployment, lower-than-average educational levels, and a slower and more sporadic recovery from the 2008—2009 recession than the rest of the state. More recently, the Valley has experienced an exceptionally severe drought that has created its own set of economic impacts and challenges due to its reliance on agriculture.

The Central Valley represents California’s agricultural heartland and is a major supplier of fruits, nuts, vegetables and other agricultural products to the United States as well as to foreign markets. In 2013, it represented approximately 10 percent of the Valley’s gross domestic product compared to 2 percent statewide.² While there are pockets of success and growers have enjoyed reasonable margins on their output, the region is characterized by persistent high unemployment and relatively low wages for large segments of the population. The Central Valley has generally experienced a weaker and more volatile economic trajectory compared to the rest of the state. By almost every common economic measure—income, poverty and unemployment—the Central Valley lags far behind the broader state economy.

California’s robust higher education system is an integral part of what keeps its economy diverse and growing

- World-renowned research universities, such as UC Berkeley, UC Davis, UC Merced and UCLA, are not only institutions of higher learning but also hubs for research and innovation that spark economic growth.
- The California State University (CSU) system is the largest state university system in the nation; CSU Bakersfield and CSU Fresno are both located in the Central Valley and have approximately 8,000 and 23,000 enrollments, respectively.
- Over 100 community colleges provide workforce training, offer certificate and degree programs and prepare students for transfer to four-year institutions.

Summary Report

California High-Speed Rail and the Central Valley Economy

An *Economic Impact Analysis Report* was prepared for the Authority's 2012 Business Plan.³ The Report included a literature review that surveyed the range of economic impacts of high-speed rail that had been studied and observed around the world, including impacts on productivity, business competition, market extension and economies of specialization and business interaction. The research showed that there is a strong consensus among academic researchers—across fields such as economics, geography, business and management—that high-speed rail fosters increased economic productivity and contributes strongly to a region's competitive advantage.

As discussed in the 2012 Report, experience from high-speed rail systems around the world has demonstrated that cities brought within two hours of a major economic center accrue the most economic benefit from rail.⁴ This has important implications for Bakersfield, Fresno and other Central Valley cities, all of which will be within two hours by rail to both San Francisco and Los Angeles. In France, for example, a two-hour trip time has been critical to generating a significant amount of new trips that reflect increased economic activity between Paris and Lyon, the two largest metropolitan areas in France. Smaller cities that lie along a high-speed rail route *between* two major metropolitan regions can also benefit from new connections to larger economic centers. For example, Kakegawa, Japan is a medium-sized city of 72,000 people that is located midway between Tokyo and Osaka. When Japan's high-speed rail system, the Shinkansen, was originally developed, the service did not stop in Kakegawa and, thus, there were few, if any, local benefits from it. However, following the construction of a station in 1988, the city experienced an increase in employment, tourism and conference activity.

By helping the Central Valley become more fully integrated with the state's major metropolitan economies, the California high-speed rail system has the potential to help hasten diversification of the regional economy. As seen in other international examples, under the right conditions, high-speed rail investments can generate substantial increases in employment and economic productivity by improving overall accessibility and creating much greater connections to the larger economy among key economic clusters.

Industry Clusters

Regional economists have increasingly focused on specific groups of related industries that, together, comprise what are called "industry clusters." Typically, economists and policy makers seek to foster industry clusters that have dynamic growth potential and pay high wages. Transportation linkages have been identified as one of the contributors to cluster growth and to competitive advantage.⁵ High-speed rail facilitates increased face to face interactions among high-value activities such

Industry clusters can be broadly defined as groupings of specialized industry sectors which are typically characterized by inter-industry relationships and interdependencies, such as shared workforce skills, support service and supply relationships, financial and knowledge flows, and similar or complementary end user markets.

Summary Report

California High-Speed Rail and the Central Valley Economy

as scientific and technical research and universities, corporate headquarters, global finance and business services, and media and cultural centers. High-speed rail is uniquely suited to link areas into mega-regions and to strengthen the major economic clusters. Mega-regions provide the basis for competing at a global scale—the Los Angeles and San Francisco mega-regions compete with existing and emerging global cities in Asia, Latin America and elsewhere.

The importance of focusing on economic clusters as the centerpiece of an economic development strategy is recognized by the California Partnership for the San Joaquin Valley, which commissioned a report, the *Regional Industry Cluster Analysis and Action Plan* that was published in 2012 as part of its Regional Industry Clusters Initiative.⁶ The study provides an important perspective on the Central Valley economy as well as insight into how public policy might be targeted to build on the dynamic potential clusters in the regional economy. The study identified seven key clusters—Agriculture, Health and Wellness, Energy, Logistics, Manufacturing, Water Technology and Public Sector Infrastructure—and offers insights into the types of economic growth that could be accomplished with supportive public policies to improve education and training and to fill infrastructure gaps.

Regional Demographic and Economic Indicators

The following section highlights the key demographic and employment trends in the Central Valley, as compared to the state of California.

The region's economy has historically relied heavily on low-wage, low-education industry sectors which is reflected in the educational and income attainment levels within the region. Basic agricultural production is characterized by low wages, skill levels, and educational attainment on the part of the workforce, as well as by seasonal fluctuations and an unequal distribution of income, with a large share of the population earning subsistence wages. Meanwhile, the rest of the state economy is propelling toward a knowledge economy, which the Central Valley has been unable to fully tap into thus far.⁷ At the same time, the Central Valley presents conditions, such as an expanding, young population base, that can present opportunities for economic growth if they are successfully leveraged with investments in infrastructure and workforce training.

Summary Report

California High-Speed Rail and the Central Valley Economy

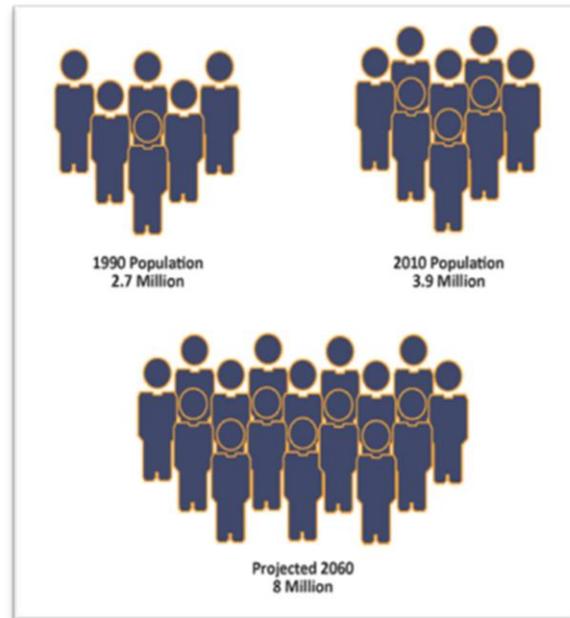
Key findings from the analysis include:

Population⁸

In 2010, the Central Valley region had a population of almost 4 million people; the majority is concentrated in Fresno, Bakersfield and Stockton, which are the area's primary urban centers.

- Over the past 30 years, the region's population has nearly doubled, driven primarily by a migrant boom, and is growing at a faster rate than California.
- Despite recent economic challenges, this rapid population growth is expected to continue, with the region's population expected to more than double again—to over 8 million by 2060.
- Strong regional population growth is generally seen as a promising demographic trend as it leads to increased aggregate demand for goods and services, provides a larger labor talent pool and provides a more diversified tax base.

Figure 2—Central Valley Historical Population Growth Trends and Projection, 1990-2060



Age⁹

- The Central Valley has a high proportion of young residents, with 40 percent of the region's population under the age of 24.
- More than 25 percent of the population is within the prime working ages of 25 to 44.
- The region's median age of 32 is noticeably less than the median age of 36 for California overall.
- A high proportion of young residents are typically considered to be an asset in the context of shifting to a stronger and more diversified economy; a younger population is more easily able to adapt to the specific skill sets and flexibility required in many high-value industry sectors.

Employment¹⁰

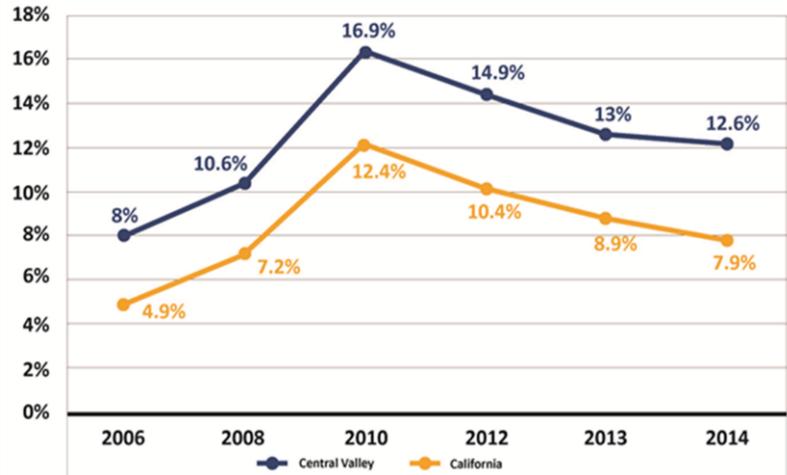
- The region had 1.32 million jobs as of 2013, compared to 15.6 million jobs statewide.

Summary Report

California High-Speed Rail and the Central Valley Economy

- Historically, job creation has not kept pace with population growth; while the region currently represents 11 percent of statewide population, it only represents 9 percent of the state’s workforce.

Figure 3—Unemployment Rates in the Central Valley vs. California, 2006-2014



- The region lost 93,000 jobs between 2007 and 2010; the annual increases in employment since the depth of the recession have been promising, but this growth is far below the level required to keep up with projected population growth.
- The region suffered from one of the highest unemployment rates in the nation during the recent recession, reaching a high of nearly 17 percent in 2010.
- The 2014 mid-year average unemployment rate decreased to 12.6 percent, still a stubbornly high figure, and still more than 4 percentage points higher than the state’s.
- The region is dominated by agricultural and public sector jobs. Nearly half of all employment within the region is comprised of three predominant industry sectors: Government, Farm-Based Activities, and Educational & Health Services.
- By way of comparison, “knowledge economy” employment, a term typically defined as industry sectors that make intensive use of technology and human capital rather than physical inputs or natural resources, lags significantly in the region; core knowledge sector employment makes up only about 12 percent of the Central Valley employment market, while it makes up nearly 25 percent of the state’s employment.

Why does the knowledge economy matter?

The knowledge economy is now recognized as the driver of productivity and economic growth in an increasingly competitive modern global economy. Average wages per employees working in these sectors in California range from \$78,000 to \$115,000—considerably higher than the economy-wide average of \$58,000.

Summary Report

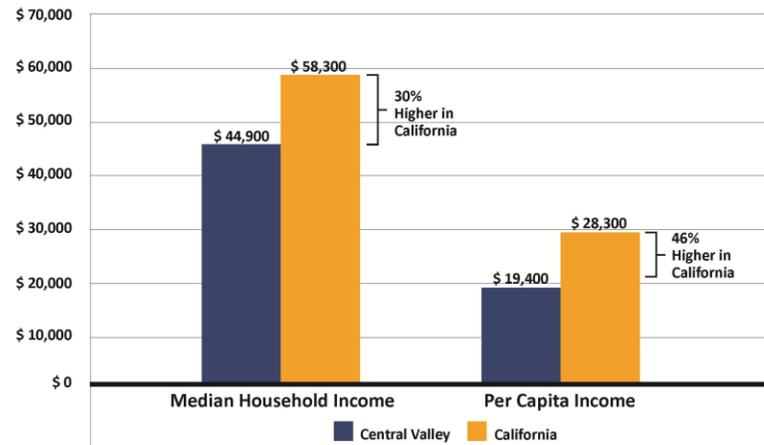
California High-Speed Rail and the Central Valley Economy

- About 46 percent of California’s \$2.1 trillion economy is driven by the knowledge sector; only 21 percent of the Central Valley’s \$130 billion economy is based in the knowledge sector.
- The fact that the regional unemployment rate has consistently been higher than the statewide unemployment rate points to a significant and persistent segment of the Central Valley workforce that is unable to fully engage in the economy, even in prosperous times.

Income¹¹

- Median household incomes in the region averaged approximately \$44,900 annually, while at the state level this figure was 30 percent higher, at \$58,300 annually.
- When accounting for the fact that the Central Valley has a larger average household size (3.31) than the state overall (2.97), the income disparities become even more pronounced: the regional per capita income is \$19,400, while in California, it is 46 percent higher, at \$28,300.
- Twenty percent of the region’s families and nearly 25 percent of its residents live below the poverty line as compared to 13 percent and 17 percent in the state, respectively.

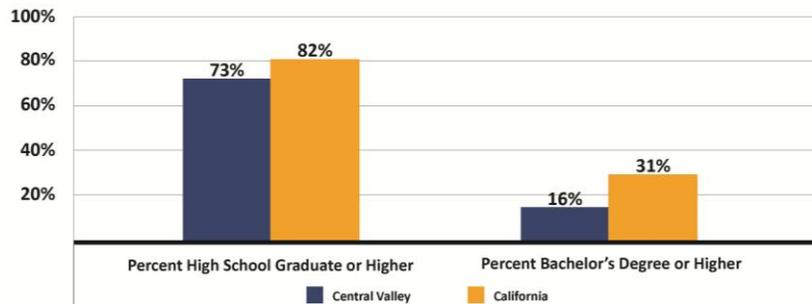
Figure 4—Annual Income Levels in the Central Valley vs. California, 2012



Education¹²

- More than a quarter of the regional population does not hold a high school diploma, and the proportion of the regional population with a bachelor’s degree or higher is only 16 percent, nearly half of the level seen in California overall.

Figure 5—Educational Attainment in the Central Valley vs. California, 2012



Summary Report

California High-Speed Rail and the Central Valley Economy

To some extent, these economic and demographic indicators point to a chicken-and-egg scenario in the Central Valley—an industry base that is focused primarily on farming and the public sector requires relatively lower levels of education. This is one factor that discourages residents from pursuing higher levels of education and, subsequently, deters key knowledge industry employers from locating in the region due to a lack of qualified workers.

Key Findings

The findings below are a synthesis of what the research team learned from the economic and demographic data that was reviewed and the information and perspectives offered by the stakeholders who participated in the roundtables and interviews.

The Central Valley economy is lagging behind the rest of the state and is in the midst of a dynamic change with external forces, shifts, challenges and opportunities that state and regional leaders have sought to address. High-speed rail is an important piece of a broader strategy that recognizes the need for infrastructure investment to better integrate the Central Valley's economy with the Los Angeles basin and the San Francisco Bay Area economies and to evolve to a more balanced, diversified and resilient economy that offers more opportunity to those who live and work there.

Farming and related services have been and still are a major contributor to the Valley's economy. They have been a source of prosperity for some, although that wealth has not permeated equally throughout the economy; a relatively large proportion of residents are unemployed or living on subsistence wages. Structural factors of the economy, such as a heavy reliance on low-wage, low-education industry sectors, and demographic realities, such as low educational attainment levels, collectively hinder residents' opportunities to advance economically and the region's ability to attract new businesses that could offer higher wage jobs and generate new sources of income for the Valley. Without fundamental structural changes to its economy, including more balance and diversification, the Central Valley risks falling further behind as incomes lag and as the wider state, national and global economies continue to shift to a knowledge-based, service-driven economy.

The face of the Central Valley economy is changing in response to a number of natural forces and economic imperatives, including the long-term physical and geographical threats to the agricultural economy such as the persistent drought and the region's sprawling development patterns. In response to these forces, economic and policy leaders are seeking to attract value-added manufacturing companies to the Central Valley. A number of these relate to, and are extensions of, the agricultural sector, such as juice, general fresh food processors and cheese producers—including one of the world's largest mozzarella cheese plants. The region has also seen growth in the energy sector, including renewable energy production—biofuels, solar and wind—as well as hydraulic fracturing. These and other industries are helping to bring higher wage jobs to the Valley than it has historically experienced.

Central Valley stakeholders, leaders and consortiums are responding to these shifts by working to chart a new path forward—one that protects agriculture but also brings more balance to the economy.

Summary Report

California High-Speed Rail and the Central Valley Economy

Diversifying its economy by attracting more value-added and higher paying knowledge-based jobs would enable the Central Valley to better integrate with the more prosperous parts of the California economy and potentially offer new sources of economic development. Otherwise, the gap between the Central Valley and the more globally competitive Los Angeles basin and San Francisco Bay Area economies could continue to widen, with the risk that the Valley could fall further behind.

Diversifying the Central Valley economy does not mean moving away from agriculture but capturing more of the higher value-added, knowledge intense components that *support* it as well as attracting *new* economic sectors that would bring greater balance. High-speed rail is an important factor in that broader strategy not only because of the near-term jobs being created but, more importantly, because of the critical access and connections it will provide. Connecting the Valley to the rest of the state is integral to the region's ability to foster greater business-to-business interaction and enhance its attractiveness to businesses and employers.

The Central Valley's population is growing, but regional employment, income and educational attainment levels continue to lag the rest of the state—including the critically important knowledge economy.

Over the past two decades, as the Central Valley's population has grown at a faster rate than the rest of the state, regional unemployment has been consistently higher. The 2014 mid-year average unemployment rate in the Central Valley is 12.6 percent, almost 5 percentage points higher than California's unemployment rate of 7.9 percent. Income disparities between the region and the state are also reflected in the proportion of people living below the poverty line.

Underlying these employment and income dynamics are a number of demographic realities, including relatively low educational attainment levels and the fact that the economically significant knowledge-based employment sectors are considerably under-represented in the region.

The Central Valley is repeatedly characterized as an "island" that is isolated from the rest of the state by transportation, geographic and economic barriers and the high-speed rail system is seen as a means to help break down those barriers.

Although the Central Valley lies in the center of the state, a number of stakeholders commented that living and working in the region is akin to living on an island disconnected from the rest of California. Bounded by the Tehachapi Pass to the south and the Coast Ranges to the west, the Valley faces unique and complex hurdles including a lack of vital linkages to the state's more prosperous metropolitan centers. Lack of connectivity—both within the Valley and to the Los Angeles and San Francisco economic mega-regions—was frequently cited as a critical obstacle that has impeded the region's ability to attract or grow businesses, create more jobs and grow its economy.

Summary Report

California High-Speed Rail and the Central Valley Economy

At the same time, a number of stakeholders raised concerns that increased connectivity might lead to a “bedroom community effect” where people live in the Central Valley and commute to the Los Angeles basin or the San Francisco Bay Area—when the goal is to generate more job opportunities in the Valley.

Stakeholders were generally positive about the steps the Authority has taken to improve communications and its policies and initiatives to create opportunities for small and disadvantaged Central Valley businesses and workers.

The Authority has taken several steps to ensure that small businesses and residents benefit from construction of the high-speed rail program. These include:

- Establishing a Small Business (SB) Program with a 30-percent goal for SB participation, including Disadvantaged Business Enterprises (DBE), Disabled Veteran Business Enterprises (DVBE) and Micro-Businesses (MB)¹³
- Partnering with the U.S. Minority Business Development Agency to support minority-owned business participation in initial system construction
- Adopting a policy that requires design-build construction and consultant teams to develop and implement a small business performance plan to achieve the Authority’s SB and DBE goals
- Requiring construction contractors to adhere to the National Targeted Hiring Initiative and ensuring that a minimum of 30 percent of all project work be performed by National Targeted Workers who reside in Disadvantaged Areas and those designated as Disadvantaged Workers¹⁴
- Providing a range of outreach and support activities, including a quarterly small business newsletter, preparing step-by-step instructions for certification, and establishing a Business Advisory Council to provide input and advice to the Authority in implementing practices that affect and/or impact the small business community

They acknowledged that the Authority had made sustained efforts in the last two years to improve communication with Central Valley communities, including more frequent outreach by Authority Board members and senior management. Several expressed appreciation for the opening of an Authority office in Fresno and the appointment of a Regional Director, noting that the Authority staff has become a much more visible presence in the community. The Authority’s policies that support small, disadvantaged, veteran and women-owned businesses—and encourage hiring of disadvantaged workers—were positively received, as was the requirement that design-build construction contractors appoint jobs coordinators to ensure that the Authority’s policies are met.

As uncertainty about the program diminishes, stakeholders will feel more able to plan and make training, hiring and business decisions.

The roundtables and interviews were conducted through the first half of 2014. During this period, uncertainty about the future of the program was a prevailing question. Specifically, a number of

Summary Report

California High-Speed Rail and the Central Valley Economy

stakeholders noted the uncertainty surrounding when work in the Central Valley would be fully underway and whether the Authority would have sufficient funding to connect the Valley to the Los Angeles basin and the San Francisco Bay Area. They commented that this uncertainty was affecting decisions ranging from what types of training programs should be created to what types of new businesses opportunities might be developed or attracted to the region.

Representatives from universities and community colleges noted that uncertainty has created hesitation about whether to expend resources on training and they expressed a reluctance to do so in the event that opportunities do not materialize as anticipated. Some Economic Development Corporation (EDC) stakeholders noted that, although they want to use high-speed rail as part of their “marketing pitch” to lure new businesses to the region, it is challenging to make that pitch until there is more confidence that the system will be built as planned.

Because of this uncertainty, many stakeholders are focused on more immediate near-term needs, issues and decisions rather than on longer-term changes and opportunities that will occur when faster connections to the Los Angeles basin and the San Francisco Bay Area are available. It is important to note that these discussions took place before the Authority’s funding picture improved through the ongoing commitment of the Greenhouse Gas Reduction Fund (GGRF); these concerns should diminish as the Authority is able to show progress and communicate more clearly how it plans to advance the system with those new funds. As that occurs, organizations and individuals will likely have greater confidence in moving forward with plans and decisions.

High-speed rail is one element of a broader set of planned infrastructure investments in the Central Valley—with about \$30 billion in planned regional investments through 2020.

According to a public infrastructure analysis prepared for the Office of Community and Economic Development at Fresno State University (FSU) on behalf of the California Partnership for the San Joaquin Valley, there is approximately \$30 billion in planned expenditures for public infrastructure in the broader Central Valley through 2020, not including the \$5.8 billion that the Authority is spending on its first construction section.¹⁵

Major investments are planned in the Central Valley for water and wastewater systems, flood control, broadband infrastructure, energy facilities and hospitals and education and correctional facilities. Together with high-speed rail, these projects will provide a significant infusion of capital into the region and create a number of local hiring and small business opportunities; many of these projects can be expected to require similar skills and experience as the high-speed rail program. The challenge for the Central Valley is to ensure the local workforce is prepared to take full advantage of these opportunities so that the region can maximize the economic benefits of these investments.

Summary Report

California High-Speed Rail and the Central Valley Economy

Workforce preparation was a common concern as was a desire to keep jobs local and a need for greater clarity about what types of jobs will be needed and when.

Workforce Investment Boards (WIBs), community colleges and universities are working to ensure that more of the local workforce is trained so that they can effectively compete for higher paying jobs. Because there is a lead time associated with developing curriculum and training programs, they need to identify what jobs will be available and what workforce skills will be needed as early as possible. This will enable them to prepare programs that respond to those needs. A common refrain in many of the discussions was the need for more timely information regarding what *types* will be needed, how *many* will be needed and *when* they will be needed.

Further, this concern also focused on needing more systematic and effective lines of communication between and among the trade unions, community colleges, state universities and the WIBs involved in workforce development. Regular engagement with these workforce organizations will help reduce these uncertainties and enable them to plan ahead on how they can maximize the use of their limited resources to prepare workers.

Stakeholders expressed optimism that the region's economy will ultimately benefit from improved connectivity to the rest of the state—but also want to ensure access and seamless multimodal connections at the high-speed rail stations.

For the most part, the stakeholders conveyed a general sense of hope and optimism that the Central Valley economy will benefit from increased connectivity to the state's other economic centers. This included greater opportunities to access certain higher education degrees or job opportunities, as well as to more frequently conduct business in other cities connected by the high-speed rail corridor. The potential for more high-tech companies to locate some of their functions in the Central Valley where the cost of living is lower was also noted.

There are concerns however, that "last-mile" planning needs to happen in order to create multimodal connections between the high-speed rail stations and regional transit systems to maximize the system's multimodal benefits. Connectivity was cited as being particularly important for the smaller cities in the Central Valley, including Dinuba, Reedley and Kingsburg, since they are located farther from planned stations but want to also share in the economic opportunities afforded by high-speed rail. While these multimodal linkages were presented as a challenge, it was in the context of maximizing opportunities and benefits to the broader region, not just the cities with stations.

Summary Report

California High-Speed Rail and the Central Valley Economy

Several stakeholders expressed interest in exploring the use of the high-speed rail corridor for fiber optic and broadband expansion—regarding broadband access as an important component to advancing education and training opportunities and ensuring businesses remain economically competitive.

The need to bridge the digital divide by expediting and implementing broadband and information technology access to the region’s underserved and unserved communities is a high priority for the Central Valley and is regarded as critical to its ability to catch up to other parts of the state.¹⁷ Closing the digital divide is a mechanism to improve literacy, social mobility, economic equality and ultimately promote overall economic growth.

The Authority has already begun to explore issues and options for using the corridor for broadband and telecommunications in concert with other state agencies, and it could also engage with organizations in the Central Valley that are working to advance broadband access. The California Emerging Technology Fund (CETF) is involved in a broad range of activities and investments to advance its mission including research, advocacy and providing grants; it also works in partnership with other organizations including the San Joaquin Valley Regional Broadband Consortium (SJVBC). High-speed rail is a potential opportunity that could complement CETF’s efforts and other strategies that are being used to bridge the digital divide in the Valley.

Low broadband use tracks with other demographic factors identified as being barriers to economic growth.

According to a poll conducted by the Field Poll in partnership with the CETF, a non-profit organization whose mission is to “close the digital divide in California by breaking down barriers to high-speed Internet access at home,” these demographic factors include lower use among adults who have not graduated from high school and those with annual household incomes of less than \$20,000.¹⁶

Central Valley organizations engaged in business attraction and retention see an opportunity to use high-speed rail as part of their “marketing pitch.”

Some stakeholders observed that in Merced County, which is in close proximity to the high-tech regions of northern California, a number of local workers have left to work for companies in the San Francisco Bay Area. Others noted, however, there has been some recent activity where high-tech companies are exploring the possibility of moving some of their functions into the region, which could be a step toward retaining workers and growing the local job base. Merced County is determining how to place itself in a competitive position to respond to leads; high-speed rail could be used as part of the marketing pitch to highlight the many things that Merced has to offer, including UC Merced, which is the largest research university in the region.

Fresno County is recovering faster than most other places in the region, and the Fresno County EDC advised that it had also seen an increase in business activity and interest from other companies looking to possibly relocate there. Some businesses are starting to hire again, including sectors that were

Summary Report

California High-Speed Rail and the Central Valley Economy

previously struggling, such as manufacturing. Stakeholders engaged in business development and retention are taking steps to be more business friendly but noted that it is still a challenge to attract new businesses. Some see an opportunity to use high-speed rail as part of their marketing program but said that this will be more effective once there is greater certainty about when high-speed rail service will begin. This uncertainty should diminish as the Authority communicates how the GGRF will be used to implement the system.

Tourism and recreation emerged as potential opportunities to stimulate more economic development—with high-speed rail seen as a mechanism for bringing more state, national and international travelers to the region.

A number of stakeholders view high-speed rail as a potential catalyst to bring more national and international travelers to the region and to create more tourism business opportunities for outdoor recreation, agri-tourism, cultural attractions and conferences. Since high-speed rail will increase access to national parks and other destinations throughout the region, it has the potential to draw visitors already traveling to attractions in the Los Angeles and San Francisco areas who might want to add another California destination to their itinerary.

In 2013, there were 227 million person-trips to and through California, generating over \$109 billion in spending.¹⁸ According to the information provided by stakeholders, the National Park Service estimates that Yosemite National Park, Sequoia National Park and Kings Canyon National Park contribute \$1.5 billion annually to the Central Valley, and once high-speed rail is operational, there is potential for this to increase. Some stakeholders urged that the high-speed rail stations be developed so that they can also function as visitor hubs.



Summary Report

California High-Speed Rail and the Central Valley Economy

The Authority's current ridership forecasts include travel by state residents *within* California but do not yet project how many travelers or tourists from *outside* the state may use the system, although this is planned for a future update. Tourism could be an important part of the high-speed rail market, particularly with easy access and connections to prime destinations. Incorporating visitation numbers for Yosemite, other national parks and destinations in the Central Valley could be useful in helping determine how the regional tourism industry might be enhanced or expanded with high-speed rail.

Travel and tourism is important to California's economy. In 2013:

- Travel spending directly supported 965,800 jobs
- Over 6 million overseas travelers visited California and spent \$12.8 billion¹⁹

Some stakeholders saw potential for stations and station area development plans to provide a catalyst for economic revitalization and development—although this was tempered somewhat by uncertainty about program timing and funding.

The Authority is working with Central Valley cities to initiate or advance their station area planning processes; the Authority supports these efforts financially through station area planning grants. These planning processes focus on meeting the needs of the residents of each city by ensuring that citizens and stakeholders are involved in planning and that development plans align with desired development to enhance economic revitalization. An overarching goal is for stations to serve as important regional transportation hubs and act as an incentive for people to live nearby or for businesses to locate in or near them as well. As noted previously, some stakeholders expressed concern about the uncertainty regarding when the system will be built and whether high-speed rail connections will materialize. Further discussions with these and other stakeholders would be helpful in addressing these concerns and for exploring what type of economic development around stations is both feasible and desirable.

There is significant interest in seeing the Authority collaborate with the region's higher education institutions on a range of issues and initiatives—from job training to research and advancing applied sciences, which are the foundation of new business and employment opportunities.

The community colleges and state universities located in the Central Valley have the potential to contribute valuable skills, ideas and knowledge to the program. As a major base of advanced research in the region, UC Merced is well-positioned to conduct research for the Authority or its private partners and to offer advanced degrees in fields that would prepare students for high-speed rail employment opportunities. UC Merced could leverage opportunities in research and technology on a range of topics, such as renewable energy and environmental mitigation techniques, or by sponsoring robotics or computer modeling simulation programs, some of which could generate patents or commercial applications that might also foster new economic activity in the Central Valley.

Summary Report

California High-Speed Rail and the Central Valley Economy

FSU already offers comprehensive Civil Engineering and Construction Management degree programs that have large-scale infrastructure design and management curriculum built into the programs. Over the last three years, FSU has also offered semester-long seminar courses and workshops related to high-speed rail.

The various community colleges in the Central Valley offer students the opportunity to gain skills for job entry, obtain an Associate’s degree or vocational certificates and prepare for four-year academic programs. Some colleges partner with WIBs and/or building trades to develop curriculums tailored for workforce preparation or work directly with businesses to prepare workers for specific jobs for new or expanding businesses.

The higher education stakeholders who participated in the roundtables or were interviewed expressed interest in exploring ways they can best use their resources to provide relevant training for their students or otherwise advance research for the high-speed rail program. Collaborating with these higher education institutions could enable the Authority to leverage knowledge for the program and simultaneously help these institutions better prepare their students to work on it.

State, regional and local leaders have formed a range of partnerships and are taking concerted action to address the Central Valley’s longstanding economic challenges and to change its trajectory to one of greater opportunity, growth and revitalization.

A number of partnerships and consortiums have formed around a variety of issues, such as the Central California Community Colleges Committed to Change which, among other things, is developing accelerated workforce training programs, and the SJVBC.

The San Joaquin Valley Partnership (Partnership) provides a broad regional framework focused on creating a prosperous economy, a quality environment and social equity throughout the Valley. Its Board, which is appointed by the Governor, is comprised of elected and appointed officials from the region and from state government, including six state cabinet secretaries. Educational, economic development, labor, workforce development and health organizations are also on the Board, as are business leaders. The Partnership has formed work groups focused around a range of initiatives including building a 21st

Figure 6—Six Major Initiatives of the California Partnership for the San Joaquin Valley



Summary Report

California High-Speed Rail and the Central Valley Economy

century transportation system, sustainable planning practices, attaining clean air standards and growing a diversified, globally competitive economy supported by a highly skilled workforce.

These and other consortiums provide opportunities for the Authority to continue to work in partnership with stakeholders and leaders in the Valley to ensure that the high-speed rail system is an integral component of economic recovery and advancement.

Conclusion

Building and operating high-speed rail will directly employ thousands of Californians. Work on the first segment between Madera and Fresno is underway; jobs are being created, and thousands of both direct and indirect jobs will continue to be generated as construction ramps up and hits full gear. After it is fully operational, the high-speed rail system is projected to directly employ about 1,500 people full-time in maintaining and operating the system, with many of those jobs likely to be in the Central Valley.

When the system extends from the San Francisco Bay Area to the Los Angeles basin, the Central Valley will be linked to the state's major metropolitan economies in a way that it has never been connected before. Not only will new connections become possible, but journey times will also shrink. Over time, enhanced connectivity and improved access to those two more prosperous economic mega-regions will change the economic dynamics of the Central Valley and could hasten the diversification of its economy. In the long run, the Valley will be positioned to be more fully integrated into the larger state, national and global economies.

The goal of this study was to obtain a better understanding how the high-speed rail system could support the economic transformation of the Central Valley. In addition to identifying the Valley's economic hurdles, the research team sought to learn more about what types of concerted actions are underway and how state, regional and local leaders are collaborating to surmount those hurdles. It is clear that a number of dedicated individuals and organizations are working on multiple fronts to create more economic opportunity for the people who live, work and do business in the Central Valley.

The Authority has clearly signaled its commitment to foster greater economic prosperity in the Central Valley through the policies it has adopted and the actions it has taken to date. The information presented in the study—particularly the key findings—are designed to provide a basis for the Authority to identify additional steps and actions it could take that could be highly productive and beneficial to the region.

¹ http://www.ceo.com/entrepreneurial_ceo/two-charts-showing-states-with-the-most-fortune-500-companies/

² <http://www.bea.gov/regional/>

³ http://www.hsr.ca.gov/docs/about/business_plans/BPlan_2012EIR.pdf

⁴ Chen, Chia-Lin; Hall, Peter (2009), "The Impacts of High speed Trains on British Economic Geography: A Study of the UK's IC125/225 and its Effects" University College London, London, UK

Summary Report

California High-Speed Rail and the Central Valley Economy

⁵ Saskia Sassen, *The Global City: New York, London, Tokyo*. 2000. Princeton; Sassen, *Cities in a World Economy*. 2000. Thousand Oaks California.

⁶ Applied Development Economics, with Araken Arisian, Virginia Hamilton, *San Joaquin Valley Regional Industry Cluster Analysis and Action Plan*, prepared for Office of Community and Economic Development, California State University, Fresno, on behalf of the California Partnership for the San Joaquin Valley, September 2012.

⁷ For the purposes of this economic overview and analysis, the 'knowledge economy' is categorized as a combination of the NAICS sectors "Professional & Business Services," "Financial Activities," and "Information" (NAICS codes are used by business and government to classify business establishments according to type of economic activity). This analysis relies on the aggregate of these three industry categories as a proxy for the knowledge economy, with the understanding that there is a correlation between the number of jobs in these industries and the number of knowledge-based jobs within a region.

⁸ American Community Survey, 2012

⁹ American Community Survey, 2012

¹⁰ California Employment Development Department, 2013

¹¹ American Community Survey, 2012

¹² American Community Survey, 2012

¹³ The overall 30 percent SB goal includes a 10 percent DBE participation goal and a 3 percent DVBE goal

¹⁴ www.hsr.ca.gov/docs/programs/construction/National_Targeted_Hiring_Initiative_Plan.pdf

¹⁵ www.hsr.ca.gov/docs/programs/construction/National_Targeted_Hiring_Initiative_Plan.pdf

¹⁶ www.cetfund.org/files/Field%20Poll-CETF%20Survey%20Results%20and%20Press%20Releases_0.pdf

¹⁷ Digital divide is a term which refers to the gap between those demographics and regions that have access to information and communication technology and those who don't or that have limited access

¹⁸ <http://industry.visitcalifornia.com/Find-Research/Latest-Tourism-Research/>

¹⁹ <http://industry.visitcalifornia.com/Find-Research/Latest-Tourism-Research/>