



**CENTER FOR REGIONAL CHANGE**

## **Delta Regional Opportunity Analysis**

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<http://interact.regionalchange.ucdavis.edu/roi/index.html>

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**Delta Protection  
Commission**



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# DELTA REGIONAL OPPORTUNITY ANALYSIS

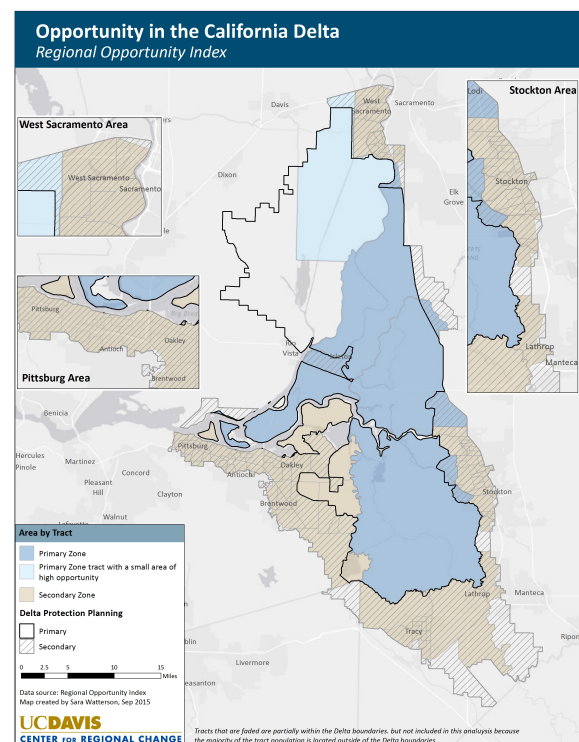
## Executive Summary

Understanding the socio-economic conditions of residents of the Sacramento-San Joaquin Delta and the communities in which they live is important to the Delta Protection Commission (DPC), especially as the commission is in the process of updating the Economic Sustainability Plan (ESP) and Land Use and Resource Management Plan (LURMP) for the Delta. The goal of this report is to provide an overview of these socio-economic conditions. Our focus was on a comparative analysis of 33 key indicators of community opportunity that are part of the Regional Opportunity Index developed by the Center for Regional Change at UC Davis.<sup>1</sup> These indicators measure relative opportunity for both people and the places in which they live, and focus on six broad domains: education, economy, housing, transportation/mobility, health/environment, and civic engagement. The conclusions presented here are based on a comprehensive analysis of these conditions within the geographic boundaries of the Delta Protection Commission, including both the primary and secondary zone, comparing them to state averages.

We distinguish between three key geographic areas that are shown in Map ES-1:

- The Primary Zone, covering the areas in both dark and light blue, which corresponds to the census tracts which most closely align with the Primary Zone of the Delta
- The Core Primary Zone, covering the areas in dark blue, which is a sub-set of the Primary Zone that excludes one census tract in the northern part of the zone which is mostly inside the Delta, but also includes an area of high opportunity outside of the Delta and thus provides somewhat misleading data.

Map ES-1: Zones of Analysis



<sup>1</sup> The ROI is available on line here: <http://interact.regionalchange.ucdavis.edu/roi/>

- The Secondary Zone, covering the area shown in tan, which corresponds to the census tracts which most closely align with the Secondary Zone of the Delta.

For all three zones, we look at both indicators of the places themselves, and the people living in those places.

### Low Overall Opportunity Levels

Overall, within all three of these zones, socio-economic opportunity for our place indicators is substantially below state averages. As shown in Map ES-2, the Core Primary Zone shows a particularly low overall level of socio-economic opportunity—the color red indicates that those census tracts are in the bottom 20% of all census tracts in the state. There are pockets of much higher-levels of socio-economic opportunity in the Secondary Zone, including portions of West Sacramento, northern Stockton, and parts of the Pittsburg area, but overall, even in the Secondary Zone, opportunity levels are substantially below state averages (see Figure ES-1).

Similarly, the opportunity measures for the people living in the Delta are substantially below state averages as well. Here, the low opportunity levels of people living in the Core Primary Zone are also substantially below that of the Secondary Zone, and the rest of the state (see Figure ES-2).

Map ES-2: Overall Place Opportunity

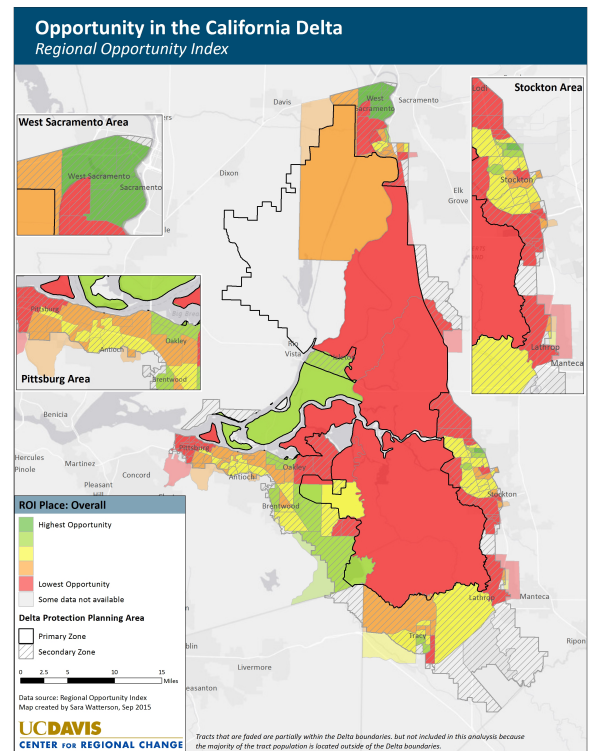


Figure ES-1: Overall Place Opportunity

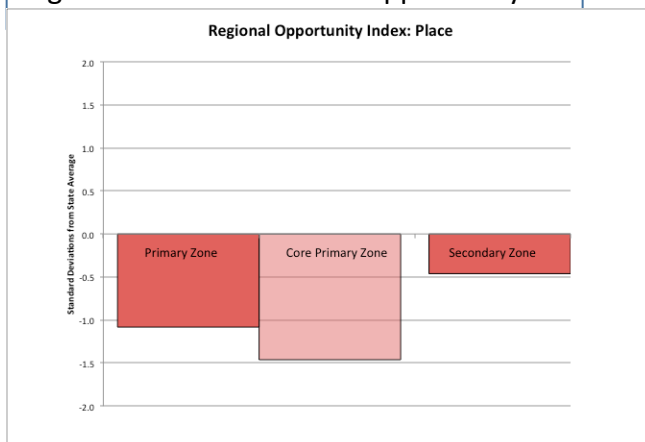
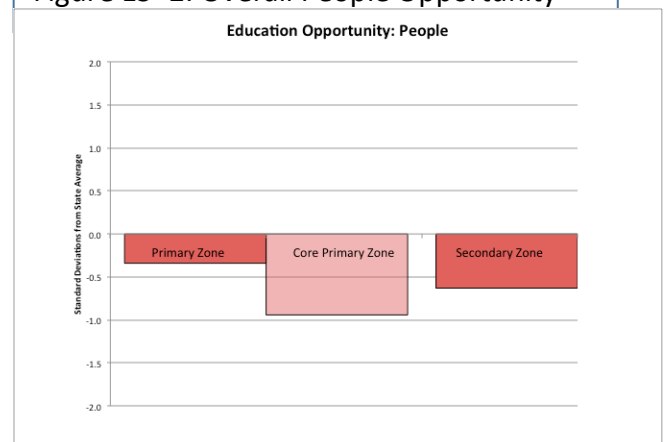


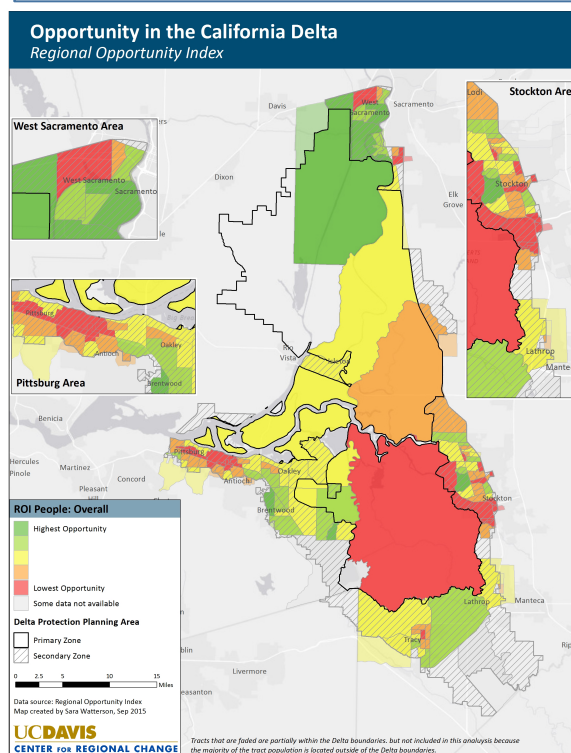
Figure ES- 2: Overall People Opportunity



Since our overall opportunity index combines opportunity scores across six different domains of socio-economic opportunity, it is evidence of quite diverse and multiple forms of deprivation in the region.

Looking at the spatial distribution of these patterns of opportunity show that the lowest levels of opportunity are for people located in the southern portion of the zone, in the area around Holt and Highway 4 (the tract in red in Map ES-3). This is a relatively sparsely populated section of the Delta, but there were still close to 1,800 people living here. This is an area in which, according to the 2013 American Community Survey, nearly 35% of the population are below the official poverty line, including nearly 40% of children living in poverty. The population is 65% Latino, and nearly 52% of the population over 5 years old speak a language other than English at home. More than 40% of the population have less than a high school degree, and the median per capita income was only \$17,427 a year, and the median household income was only \$32,344 a year.

Map ES-3: Overall People Opportunity



## Education, Economy and Health Strongest Drivers of Low Opportunity

For both our place and people analysis, the strongest clear drivers of the low opportunity levels are in the education, economy and health domains. In the education domain, our analysis focuses on indicators of the quality of both elementary schools and high schools. Overall, across all three zones, educational opportunity for places in the Delta are below average, with the Core Primary Zone and Secondary Zone showing particularly low opportunity scores. (see Figure ES-3). These low scores are not driven by low high school graduate rates—in fact overall high school graduation rates in the Core Primary Zone are above average, with 86% of the 9<sup>th</sup>

Figure ES-3: Education Place Opportunity



grade cohort graduating four years later (compared to a state average of 81%). But other indicators of the quality of schools in the area—including teacher experience, disciplinary practices, and percent of graduating students meeting course requirements for entry into the UC/CSU system—are all significantly below average.

The low educational opportunity is reflected not just in the schools in the area, but in the overall educational attainment of people living in the area as well, particularly in the Core Primary Zone, which is substantially below average (see Figure ES-4). Here, the primary factors driving low opportunity scores for the region are both low levels of early childhood education, as well as low levels of adult educational attainment.

Economic indicators for the area are also quite low (see Figure ES-5). The absolute number of jobs, in comparison to the number of people living in the area, is only slightly below state-wide averages in the Core Primary Zone, though it is lower in the Secondary Zone. The more pronounced problem, however, is that the quality of jobs in the area is quite low. Indicators of economic opportunity for people shows that while low levels of employment are a factor, an even stronger factor is the low percentage of income earners who earn a living wage. Overall this suggests an economic development strategy in the area should focus more on improving job quality and attracting high-paying industries to the area, rather than simply increasing jobs. There is also evidence that levels of broadband internet access are quite low in the region, which could be another focus for economic interventions.

Health care and health conditions of the population in the area also emerges as a key concern. For both our people and place measures, the health index shows scores in the region that are substantially below state-wide averages, again particularly in the Core Primary Zone. There is a clear lack of access to health care services in the region, and health indicators of residents in the area are also significantly below average.

Figure ES-4: Education People Opportunity

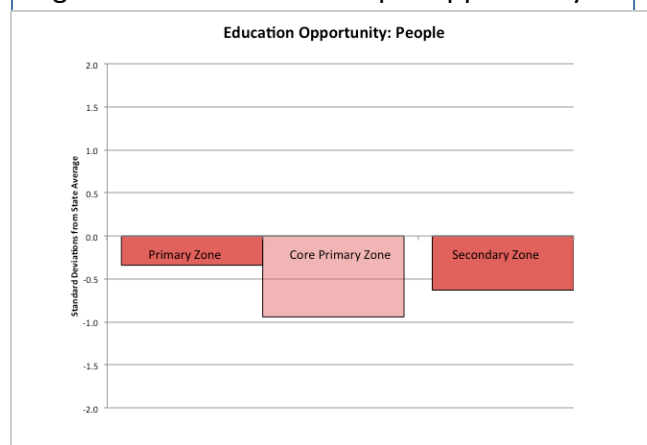
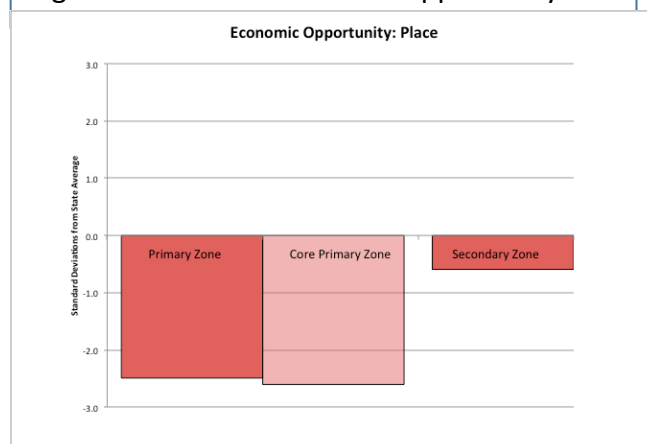


Figure ES-5: Economic Place Opportunity

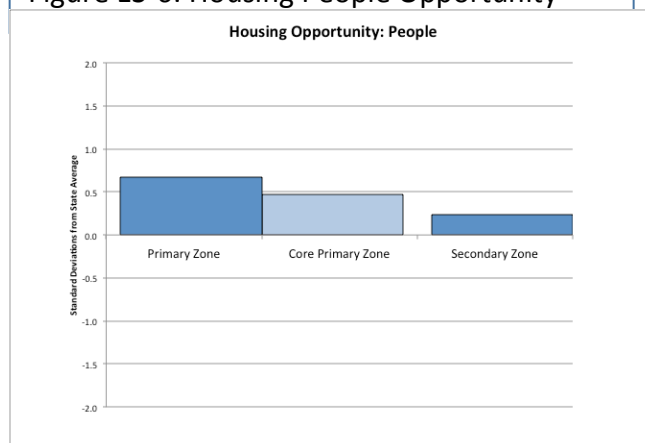


## Positive Signs in Housing Conditions and Civic Life

Fortunately, not all indicators of opportunity in the Delta Region are negative. Housing conditions in particular show quite strong opportunities in the region (see Figure ES-6). There are above average levels of home ownership, and housing cost burdens are relatively low for people in the region.

There are also signs of strong civic life in the region. Voting rates are above average in the Primary Zone (including the Core Primary Zone), and there are also relatively high levels of neighborhood stability, an important basis for active civic life.

Figure ES-6: Housing People Opportunity



## Conclusions and Recommendations

Overall this analysis of socio-economic conditions in the region presents a picture of a region struggling economically, with significant challenges related to health conditions as well. This is also a region that has a stable population, with good housing conditions and strong civic life. These findings suggest priorities for development in the region might include the following:

- Improve school quality, with a focus on improving teacher skills and capacities in elementary schools, improving college preparedness, and pursuing alternatives to suspension and expulsion for disciplinary practices in area high schools;
- Focus economic development efforts on improving job quality in existing industries in the region, while working to diversify economic opportunities to higher-wage industries;
- Expand access to broadband internet, to help overcome digital isolation in the region, while expanding educational and economic opportunities; and
- Improving the provision of health services and primary health care in the region.

These recommendations, however, are based on a “30,000-foot” level of secondary data, and need to be supplemented by more in-depth analysis incorporating local knowledge and perspectives.

# DELTA REGIONAL OPPORTUNITY ANALYSIS

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## Full Report

### Introduction

Understanding the socio-economic conditions of residents of the Sacramento-San Joaquin Delta, and the communities in which they live, is important to the Delta Protection Commission (DPC), especially as the commission is in the process of updating the Economic Sustainability Plan (ESP) and Land Use and Resource Management Plan (LURMP) for the Delta. The Center for Regional Change at UC Davis has developed the Regional Opportunity Index, a sophisticated methodology for understanding and analyzing patterns of socio-economic opportunity in California that recognizes the intersection of the multiple factors that shape opportunity in local communities.<sup>2</sup> This includes the quality of education systems, the strength of the local economy, the adequacy and affordability of housing, adequacy and accessibility of transportation infrastructure, availability and quality of health services, and the strength of civic engagement. Our approach also analyzes the differences in the relative level of resources possessed by individuals, and the relative level of institutional and physical resources. Making this distinction between people and place characteristics is important for identifying promising points of intervention and prioritizing investments.

This report analyzes socio-economic conditions in the Delta, relying in large part on the Regional Opportunity Index to generate data and maps that identify areas in greatest need of investment to build opportunity. Overall we find that the Delta Region, including both the Primary and Secondary Zone, have significantly lower opportunity levels, for both people and the places in which they live, than the state as a whole. The primary factors driving these overall levels of low opportunity include:

- Poor educational characteristics, including signs of poor early childhood learning, low adult educational attainment, and poor quality schools;
- Economic challenges rooted in a dependence on low-wage industries, with large numbers of people in low-income jobs; and
- Low availability of health services and prenatal care, with associated poor health indicators

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<sup>2</sup> The ROI is available on line here: <http://interact.regionalchange.ucdavis.edu/roi/>

The socio-economic conditions in the Delta are not all negative, however. Homeownership rates are above average, a higher than average percent of people have affordable housing costs, and there are signs of a strong civic life in the region.

These findings suggest that priorities for development in the region should include:

- Improve school quality, with a focus on improving teacher skills and capacities in elementary schools, improving college preparedness, and pursuing alternatives to suspension and expulsion for disciplinary practices in area high schools;
- Focus economic development efforts on improving job quality in existing industries in the region, while working to diversify economic opportunities to higher-wage industries;
- Expand access to broadband internet, to help overcome digital isolation in the region, while expanding educational and economic opportunities; and
- Improving the provision of health services and primary health care in the region.

In what follows, we first provide background on the Regional Opportunity Index, and how we have used it to analyze conditions in the Sacramento-San Joaquin Delta. We then turn to an analysis of the overall opportunity conditions in the region, including identifying specific places with particularly challenging conditions. We then investigate in more depth conditions for people and place in each of the sub-domains of the analysis: education, economy, housing, transportation/mobility, health/environment and civic life. We conclude with discussing the implications for development priorities in the region.

### **Regional Opportunity Index and Its Application to the Delta**

The Regional Opportunity Index (ROI) has two broad 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, housing and transportation circumstances, health conditions and civic engagement. The second dimension is called Place Opportunity. This describes the relative level of institutional and physical resources available. This includes the quality of local schools, the state of the local economy, housing stock, environmental quality, availability and quality of health services, and local civic capacities. Overall we provide a comparative analysis of 33 key indicators of community opportunity that cover both people and place in the region (specific indicators and their sources are shown in Appendix A).

There are several features of the ROI that are important to keep in mind in this analysis:

- The ROI uses census tracts as the unit of analysis. Census tracts are designed to be relatively homogenous units with respect to population characteristics, economic status and living conditions, and they average about 4,000 residents in each tract. They thus



are geographically smaller in dense urban areas, and larger in more sparsely populated rural areas.

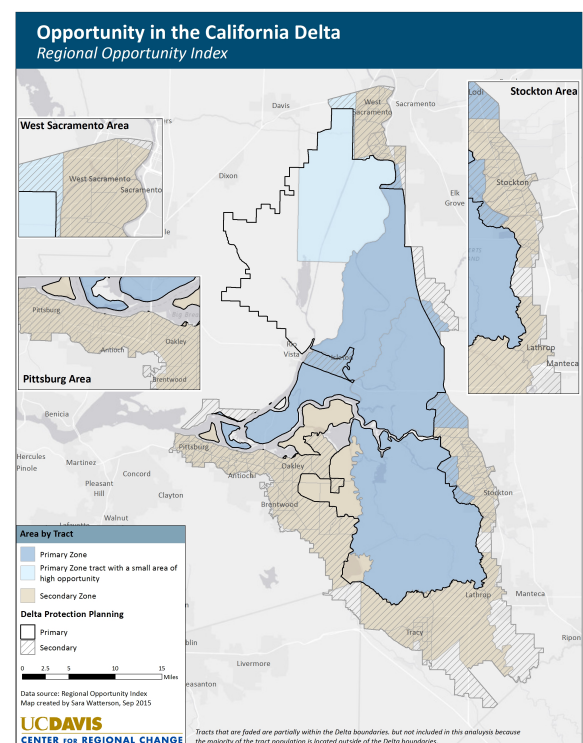
- Opportunity in the Delta region is measured relative to state-wide averages
- The ROI uses the most recent data available, but there is always a time lag. Most data sources are from 2013 in this analysis (Appendix A shows the year of all data sources.)
- The ROI uses secondary data collected by a range of other parties such as the U.S. Census Bureau, and represent a '30,000-foot level' view of the region, and do not take into account more detailed characteristic of local areas. In particular, there are likely to be communities smaller than a census tract with significantly different conditions than tract-wide averages. Additional research to incorporate local knowledge and more detailed community characteristics is necessary to develop a more comprehensive understanding of dynamics in the region.

The specific geography covered by the Delta Protection Commission does not correspond to census tract boundaries, which creates certain challenges for this analysis. Our overall goal was to select census tracts for analysis that most closely correspond to the Primary and Secondary Zones of the Delta. We use the population-weighted centroid of the tract to determine the tract's location, and include the tract in the analysis if this centroid falls within the boundaries of the Primary or Secondary Zone.

Overall we distinguish three key geographic areas that are shown in Map 1:

- The Primary Zone, covering the areas in both dark and light blue, which corresponds to the census tracts which most closely align with the Primary Zone of the Delta
- The Core Primary Zone, covering the areas in dark blue, which is a sub-set of the Primary Zone that excludes one census tract in the northern part of the zone who's centroid falls within the Delta but which also includes an area of high opportunity outside of the Delta (near Davis) and thus provides somewhat misleading data.
- The Secondary Zone, covering the area shown in tan, which corresponds to the census tracts which most closely align with the Secondary Zone of the Delta. Note

Map 1: Zones of Analysis





that there are three tracts in the Stockton/Lathrop area (Tracts 51.27, 51.30, and 7) who's centroid was slightly outside the Secondary zone but that were included because of their functional integration with adjacent tracts that are full within the Secondary Zone).

In what follows, we examine patterns of opportunity for both people and place, based on these geographies.

### Overall Patterns of Opportunity

Overall, opportunity conditions within the Delta are substantially below state-wide averages. For the Place Opportunity Index, conditions are below average throughout the region, with the Core Primary Zone showing particularly low levels of opportunity (See Figure 1)<sup>3</sup>. For the People Opportunity Index, opportunity in the Secondary Zone overall is about the same as the average for the whole state, and for those living within the Core Primary Zone, only somewhat worse than state-wide averages (See Figure 2). The better People Opportunity Indices suggest that people living in the Delta, particularly in the Core Primary Zone, are taking advantage of opportunities outside of the area, or are choosing to live in the Delta for reasons that are not reflected in the low Place Opportunity scores (such as certain quality of life factors).

Figure 1: Overall Place Opportunity Index

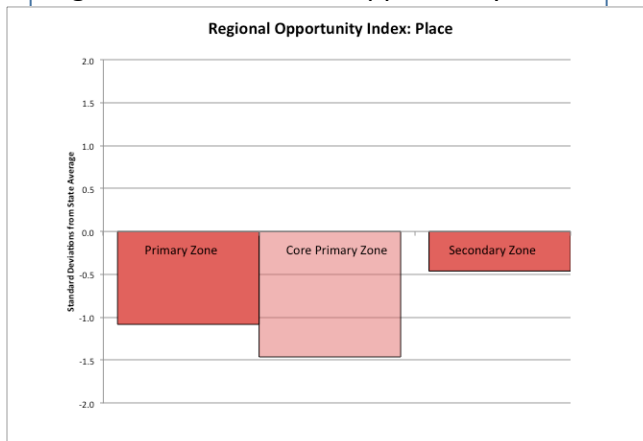
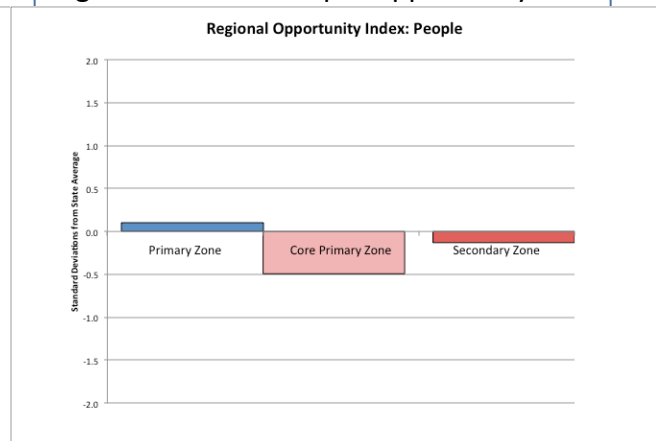
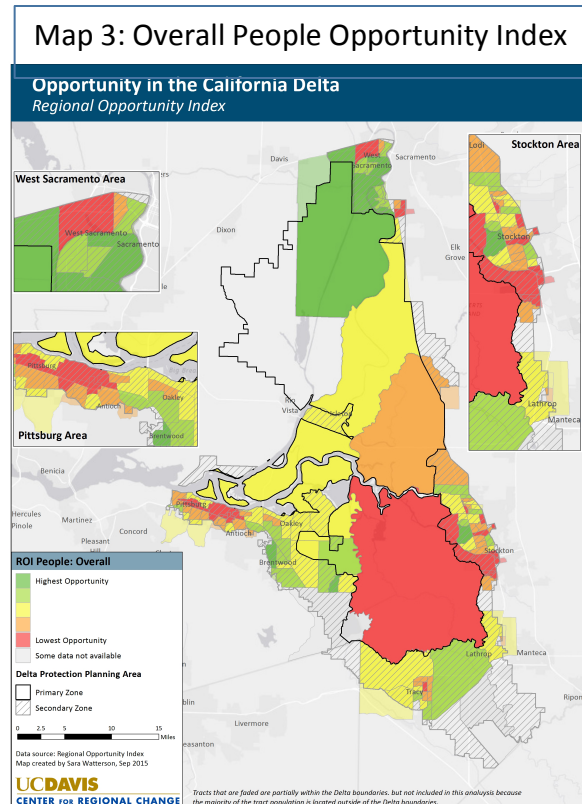
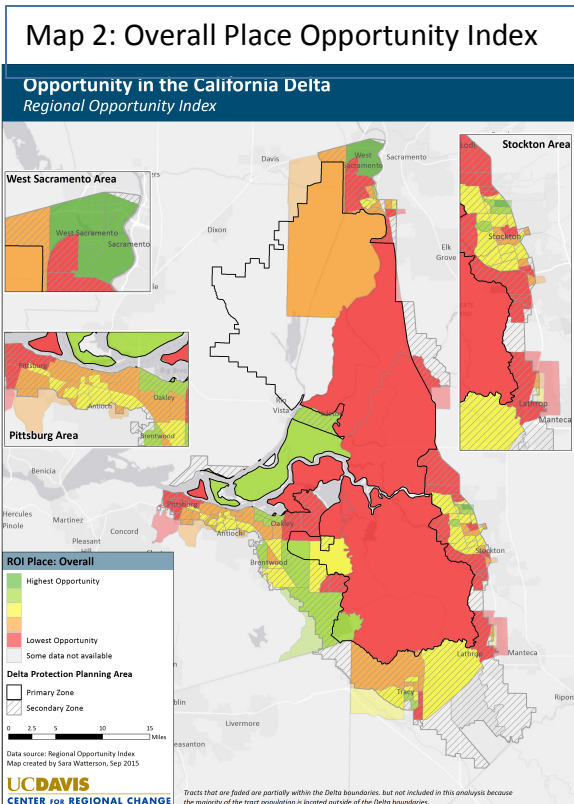


Figure 2: Overall People Opportunity



<sup>3</sup> Note that throughout the report in figures like these, red bars indicate below state averages and blue bars indicate above state averages, with the length of the bar related to the number of standard deviations above or below the state average.

There is significant disparity in opportunity across the Delta. Map 2 shows the Place Opportunity index and Map 3 shows the People Opportunity Index. Each of the color schemes in the map represents 20% of all the census tracts in the state on a spectrum from red through yellow to green, with red indicating the 20% of tracts with the lowest opportunity scores, and



dark green representing those 20% of tracts with the highest opportunity scores. Note that the Core Primary Zone area, in the eastern and southern part of the Primary Zone, has the lowest levels of opportunity for both people and place. The large tract in the very south of the Primary Zone, in the area around Holt and Highway 4, is an area of particular concern because of the combined low levels of both People and Place Opportunity. This is a relatively sparsely populated section of the Delta, but there were still close to 1,800 people living here. This is an area in which, according to the 2013 American Community Survey, nearly 35% of the population are below the official poverty line, including nearly 40% of children living in poverty. The population is 65% Latino, and nearly 52% of the population over 5 years old speak a language other than English at home. More than 40% of the population have less than a high school degree, and the median per capita income was only \$17,427 a year, and the median household income was only \$32,344 a year.

It is also important to note that there are pockets of low opportunity in each of the urban centers around the Delta—in south Stockton, portions of West Sacramento, and in central and west Pittsburg. Particularly in Pittsburg and south/central Stockton are neighborhoods with both low People and Place Opportunity scores, that should be a particular focus for attention and investment.

## **What is Driving Low Opportunity Scores?**

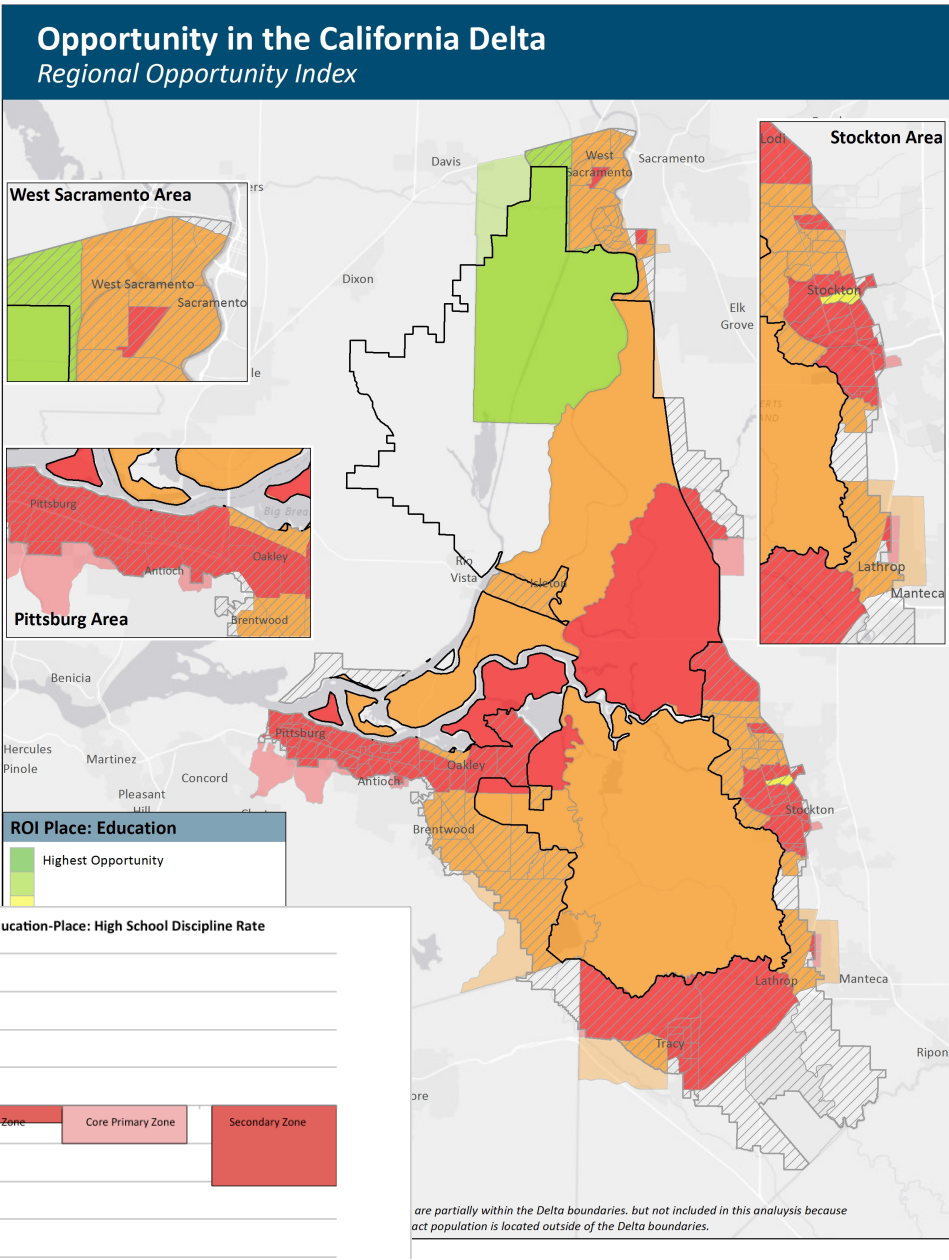
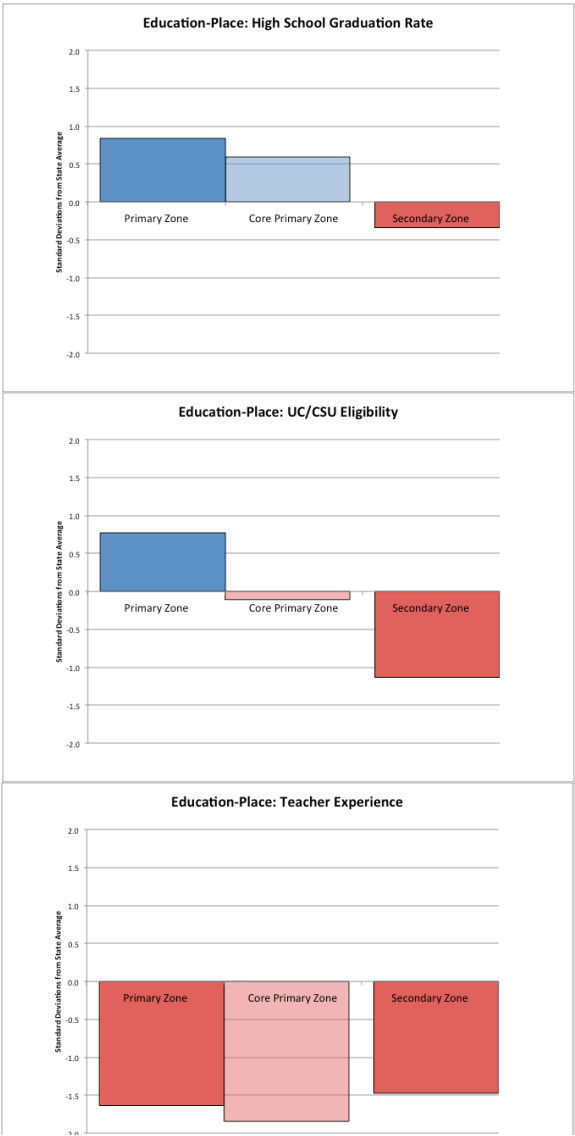
The primary factors driving low opportunity scores in all of these areas are related to poor education, economic and health indicators, as well as signs of a digital divide—lack of access to broadband infrastructure. We'll look in detail at each of these in turn.

### **Low Educational Attainment and Poor School Quality**

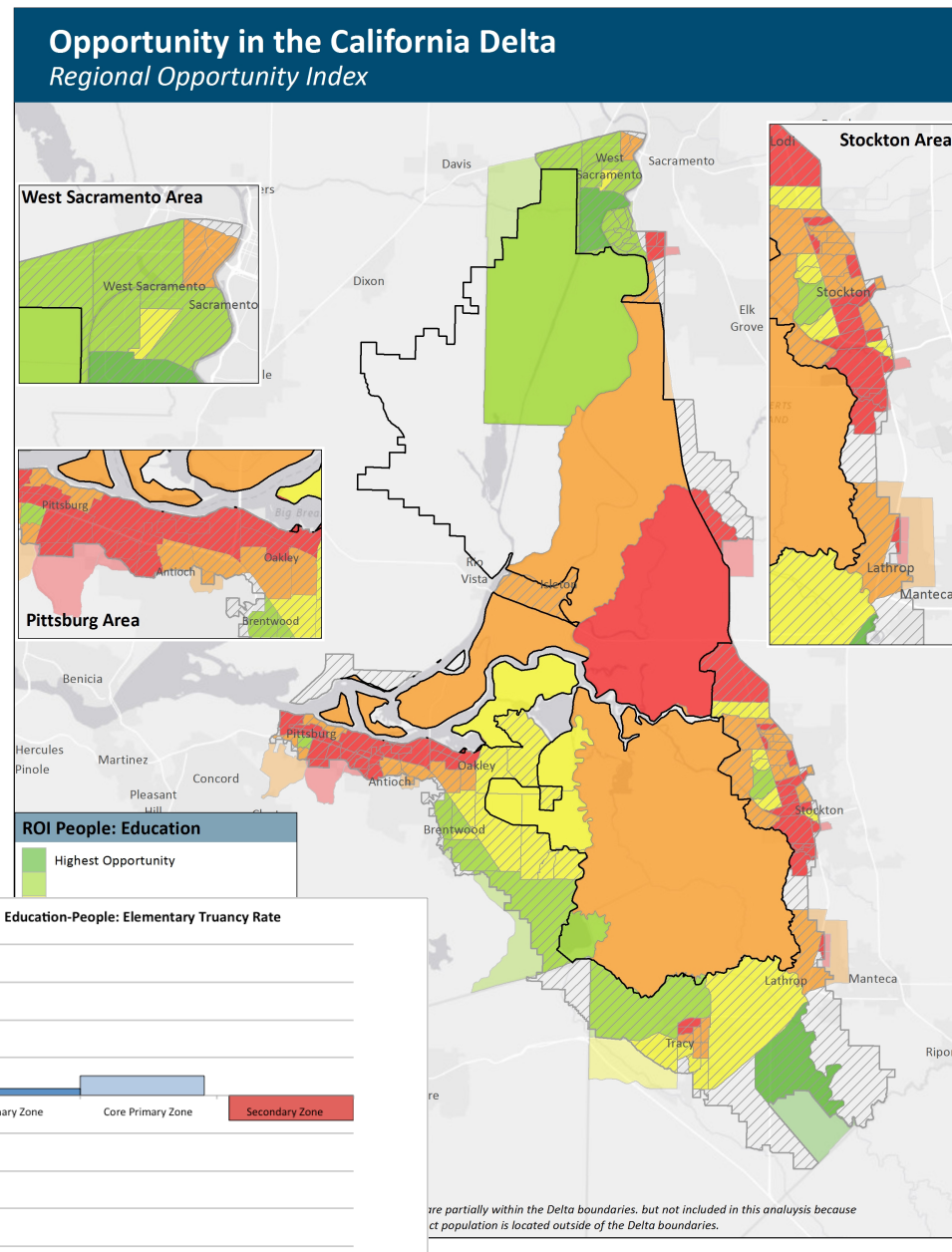
Educational indicators for the quality of schools and instruction in the Delta are below average across nearly the whole region. As the map in Figure 3 shows, it is only the single tract in the northwest of the Primary Zone linked to Davis that has an Education Place Index score that is above average. The reasons for this low overall score are *not* linked to low high school graduation rates, as can be seen by the charts in Figure 3. High schools in the Primary Zone, including the Core Primary Zone actually have above average graduation rates, with an average graduation rate in the Primary zone of 88% of the 9<sup>th</sup> grade cohort graduating four years later, compared to a state-wide average of 81%. The primary factors driving the low Education Place Opportunity scores are a low percentage of elementary school teachers with advanced training and experience (an indirect indicator of quality of instruction in the schools), and a high level of suspensions and expulsions from high school (a sign of a punitive, rather than a more positive, approach to school discipline).

The low Education Place Opportunity scores are mirrored by low Education People Opportunity scores across much of the region, as shown in the map in Figure 4. There are portions of the region, particularly in west Sacramento and in Brentwood and Byron (southwest Delta), where Educational People indicators are above average, but in the Core Primary Zone, educational attainment levels are quite low. There are two main factors that seem to be driving this low score, which can be seen in the charts in Figure 4. The first are indications of poor early childhood education (as indicated by low math and English proficiency scores in elementary school). The second is low levels of adult educational attainment, as indicated by the low levels of College-Educated Adults. In the Core Primary Zone, only 20% of adults have a Bachelor's Degree or higher, compared to 38% state-wide.

Figure 3: Place: Education Measures



**Figure 4: People: Education Measures**



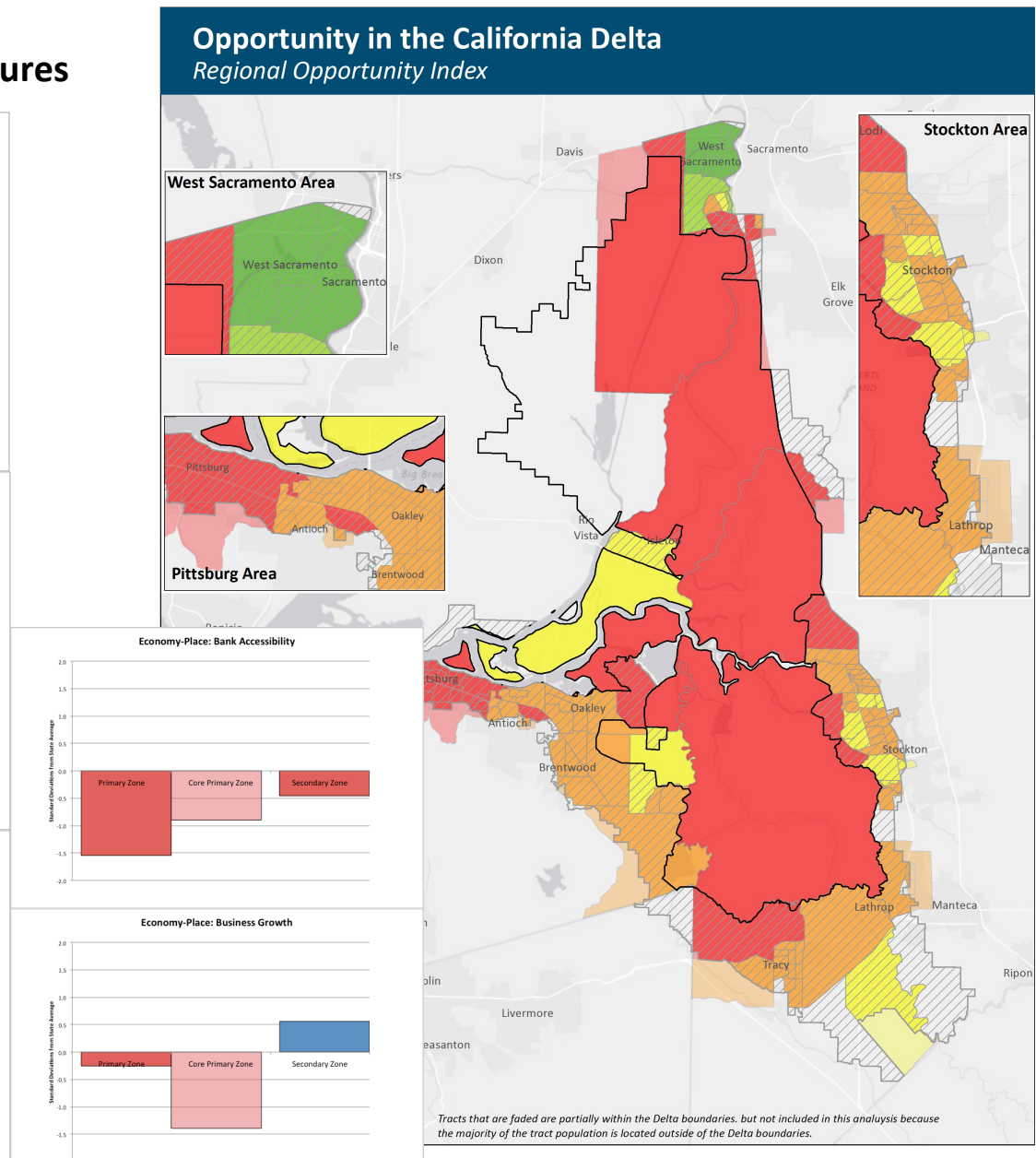
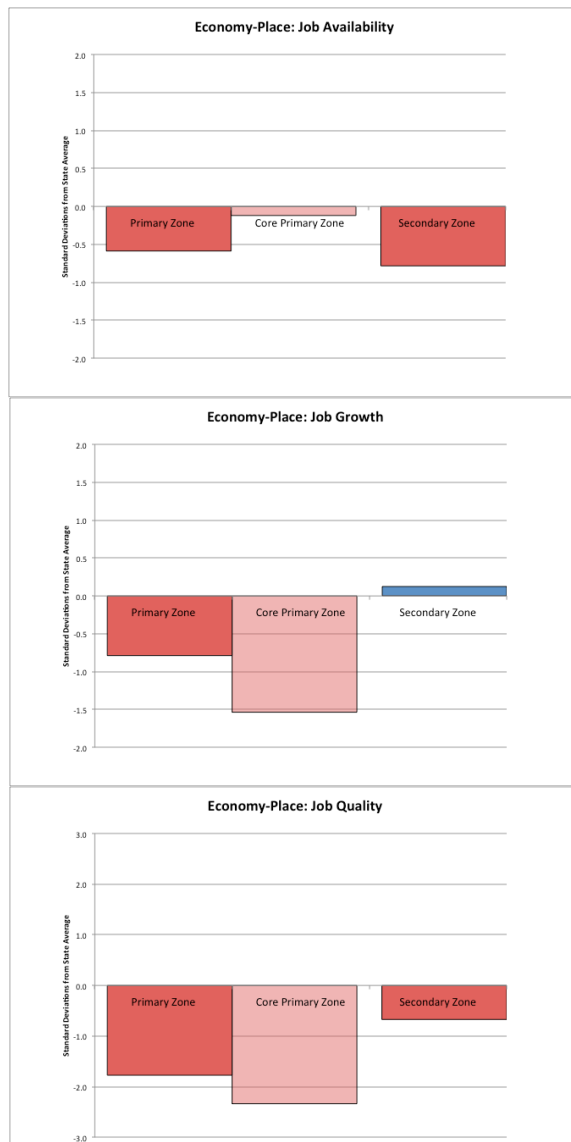
### Low-wage jobs and low-paying industries

The economy of the Delta is another area showing signs of low opportunity. The Core Primary Zone of the Delta is almost entirely in the lowest category of Economy Place Opportunity as measured by our index, with the exception of one tract (in yellow) in the western Delta near Rio Vista (see map in Figure 5). Most of the Secondary Zone is in the lowest 40% of census tracts in Economic Place Opportunity, as indicated by being either in red or orange on the map. The key components of the index point to a pattern not so much of a lack of jobs, but rather a lack of high quality jobs. The total number of jobs available in the Core Primary Zone, for example, is just over 800 jobs per 1000 people, only slightly below the state-wide average of 838 jobs per 1000 people. Only 18% of those jobs, however, are in high-paying industries, compared to 41% state-wide. Patterns are slightly different in the Secondary Zone. Here, there is a shortage of total number of jobs, as well as a lack of good paying jobs. On average, throughout the Secondary Zone, there are only 595 jobs per 1000 people, substantially below state-wide averages. An estimated 34% of jobs in the Secondary Zone are in high-paying industries—still somewhat below state-wide averages, but not as low as the Core Primary Zone.

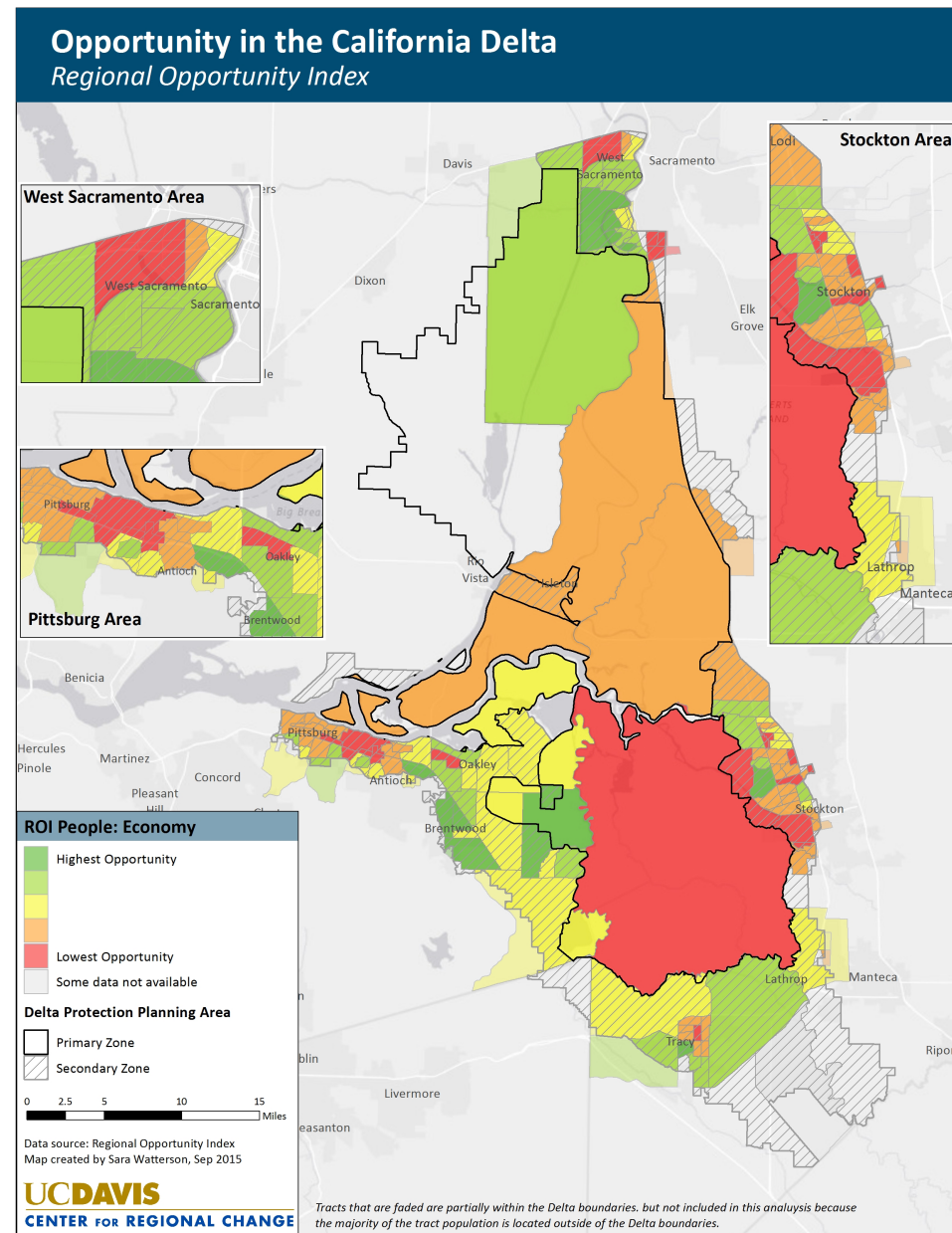
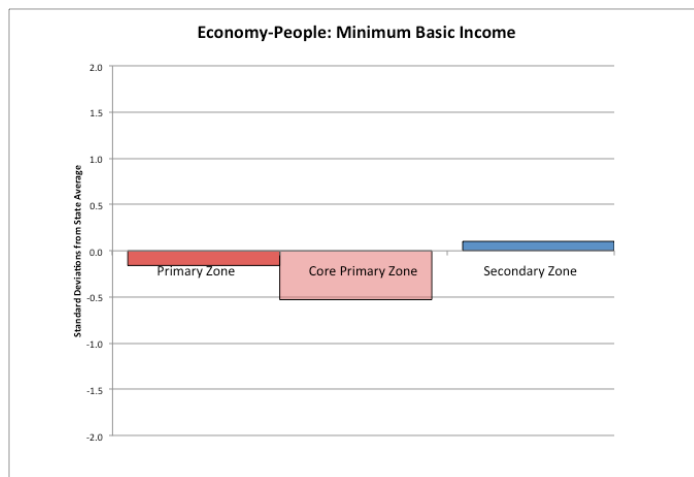
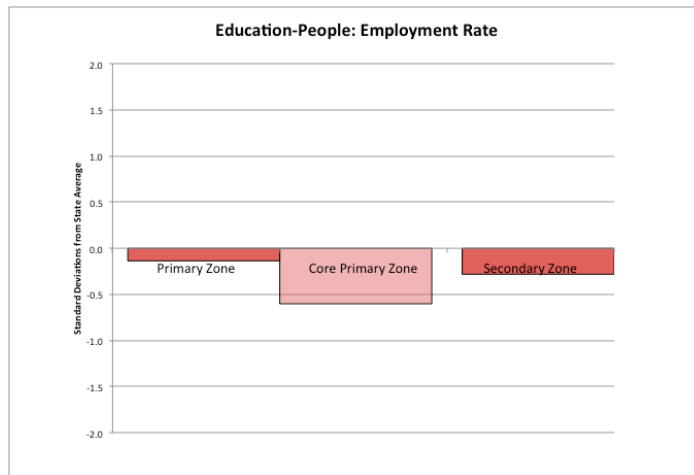
An examination of the Economy People Opportunity Index shows that people living in the Delta are also experiencing poor economic circumstances, but that their opportunity levels are perhaps not quite as bad as would be indicated by the low Place Economy Opportunity measures (see map in Figure 6). Geographically, we see clear patterns of inequality within towns surrounding the Delta, with portions of Stockton, Pittsburg and West Sacramento areas showing quite low opportunity and others in the highest opportunity categories. The patterns of the quality of jobs, rather than total number of jobs, being the primary concern is still clear in the Core Primary Zone. Here, total employment levels are slightly below state-wide averages, with 85% of adults age 20-64 employed, compared to a statewide average of 89%. But only 55% of people earn what we consider a minimum basic income, compared to 64% of people state-wide. In the Secondary Zone, on average, 66% of people are earning a minimum basic income (200% of the Federal Poverty Level), slightly higher than the 64% statewide average.



**Figure 5: Place: Economy Measures**



**Figure 6: People: Economy Measures**



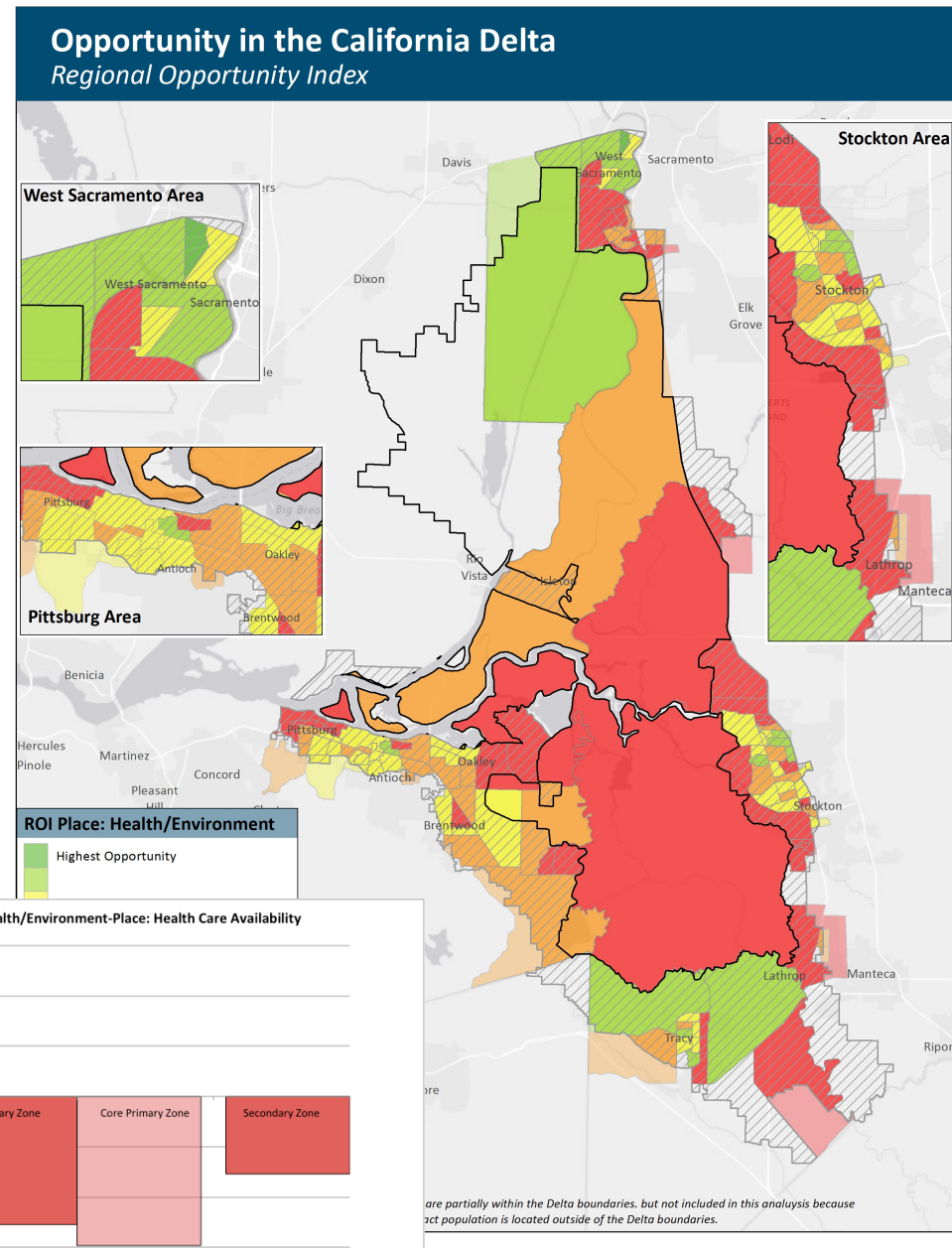
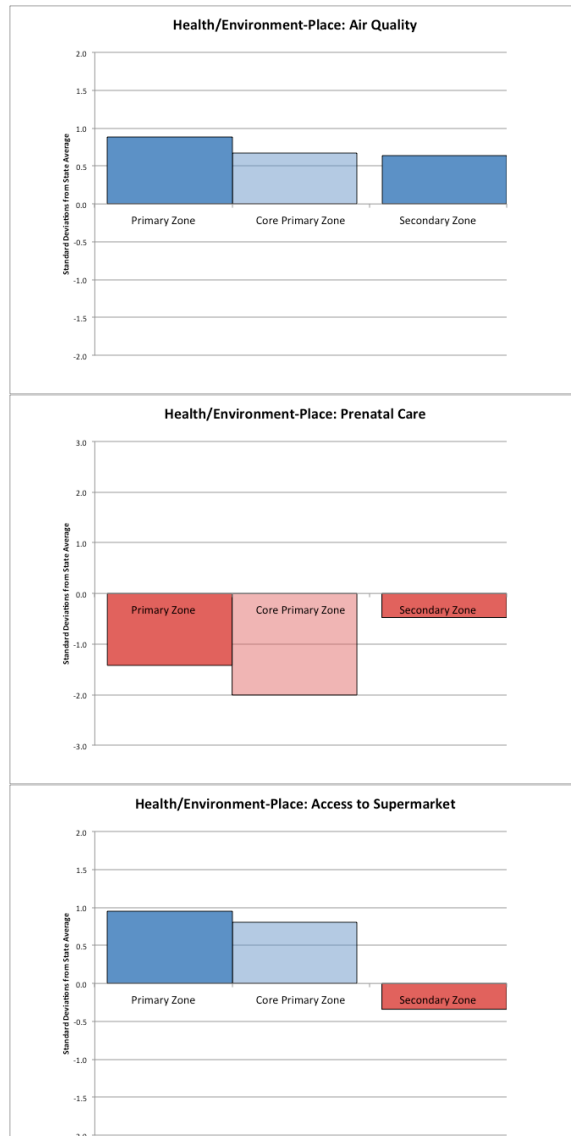


## Poor Health Indicators

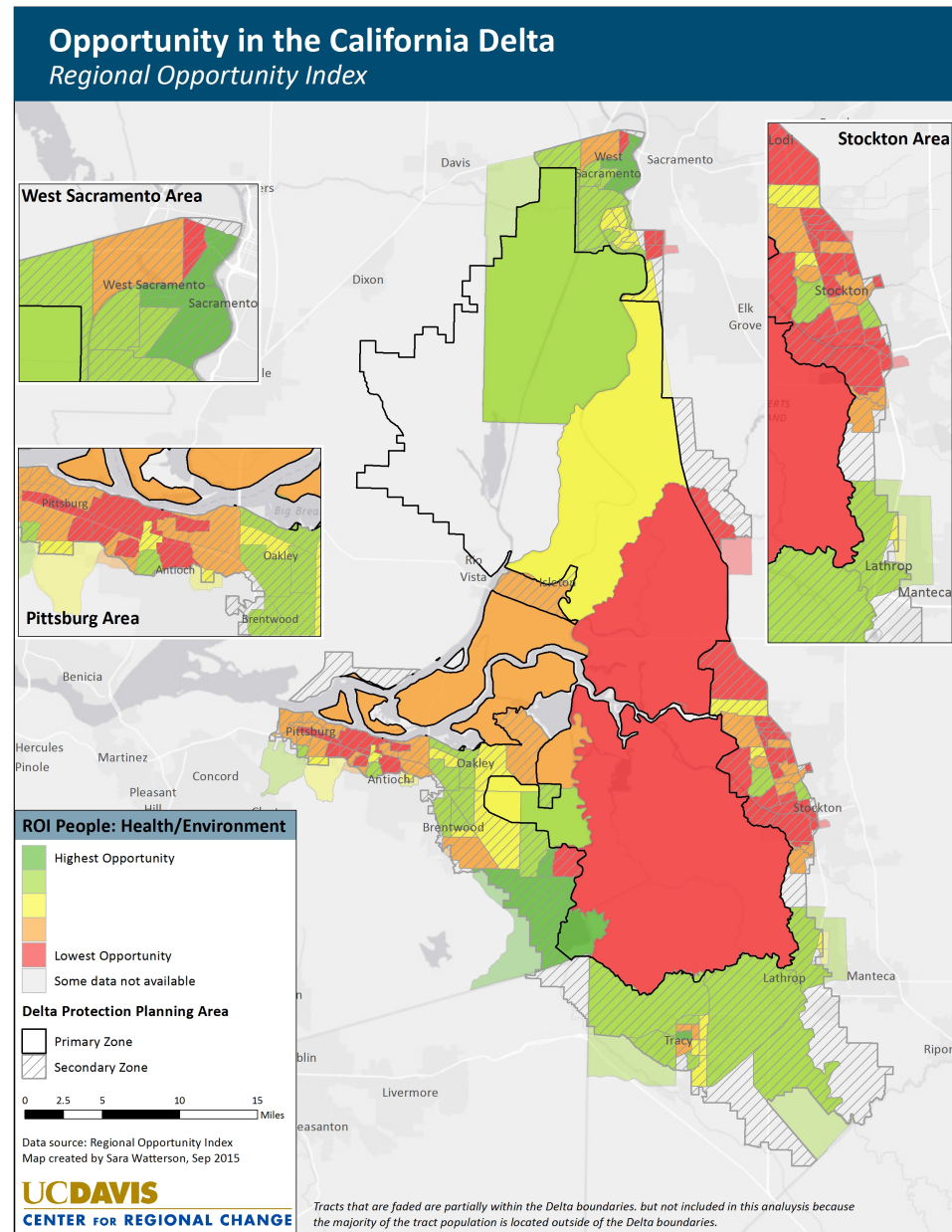
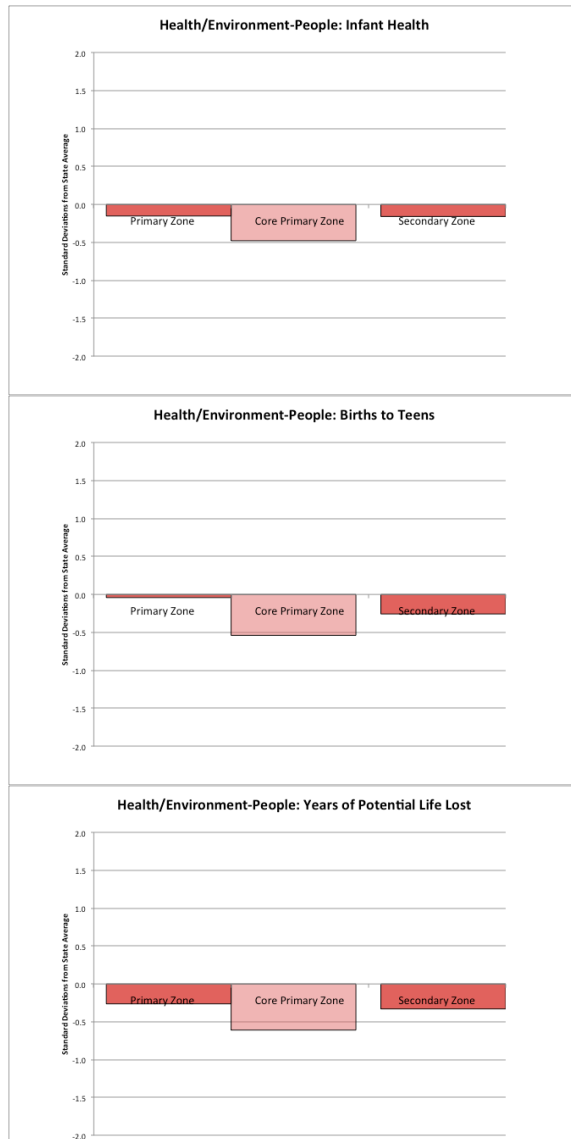
Health and related environmental indicators is another area where the Delta faces substantial challenges. Most of the Core Primary Zone falls into the lowest 20 or 40% of tracts in the state in our Place Health/Environment Opportunity Index (see map in Figure 7). The Secondary Zone has a more mixed pattern, with some areas showing much higher levels of health opportunity, though with many of the poor neighborhoods of Stockton and Pittsburg still showing low health opportunity levels. In looking more deeply at what is driving the Health Opportunity levels, we can see some positive and some negative indicators. Overall, air quality is above state averages, as measured by particulate matter in the air. Similarly, on the US Department of Agriculture's measures of close access to supermarkets, the Primary Zone also scores above average, though there are some challenges of food access in parts of the Secondary Zone. The levels of access to health services, however, are substantially below statewide averages across both Primary and Secondary Zones (see charts in Figure 7). Overall, the number of providers of basic medical services per 1000 population within a 5 mile radius is substantially below state-wide averages (.23 providers per 1000 people, compared to 1.76 state-wide). Access to prenatal care is also quite poor—in the Core Primary Zone, only 68% of mothers received prenatal care in their first trimester of pregnancy (a good indicator of overall maternal health care availability), compared to 83% state-wide.

Looking at the People Health Opportunity Index shows that on average across both the Primary and Secondary Zone, people have below average indicators of health opportunity, with the Core Primary Zone showing disturbingly low levels of healthy birthweight babies, and high levels of teenage births and premature death (as measured by years of potential life lost) (see charts in Figure 8). These indicators show quite a wide disparity across the region, however. The Core Primary Zone had consistent lower than average scores, as does most of Stockton and Pittsburg. But there are portions of the Secondary Zone, particularly in West Sacramento and in the Brentwood and Oakley area, where health conditions appear to be significantly better (see map in figure 8)

**Figure 7: Place: Health & Environment Measures**



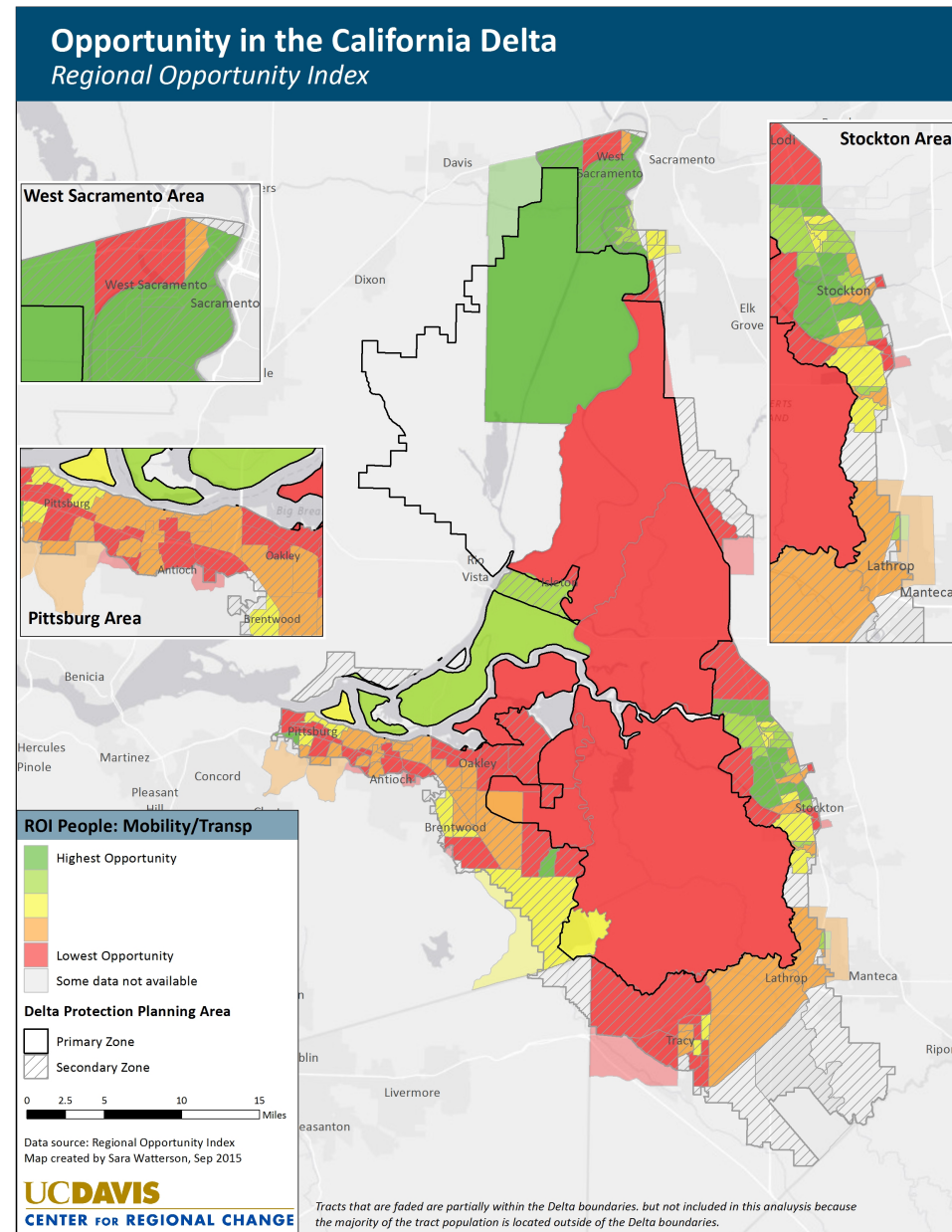
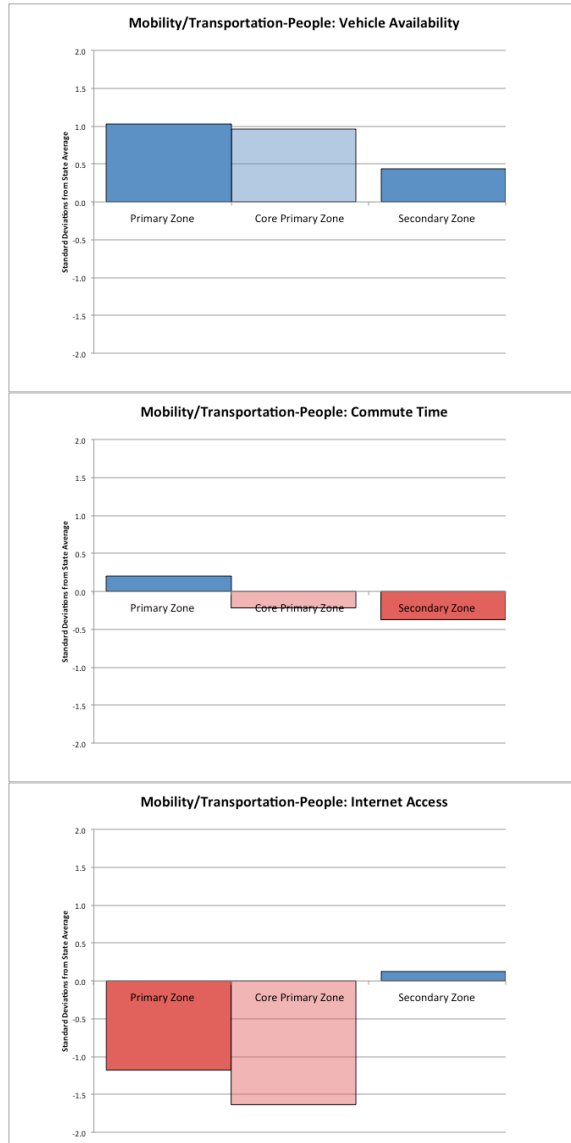
**Figure 8: People: Health Measures**



### **Long Commutes and Low Access to Broadband**

An examination of the transportation, mobility and connectivity characteristics of people living in the Delta overall suggests that transportation issues are not as high a priority as the education, economic and health factors described above. As shown in the charts in Figure 9, the level of vehicle availability throughout the Delta is substantially higher than state-wide averages. The proportion of people with long commute times in the Core Primary Zone and Secondary Zone is somewhat higher than state-wide averages, but not dramatically so in most of the region. What really stands out, however, is the low levels of access to broadband internet access in the Primary Zone. In the Core Primary Zone, on average only roughly 300 out of every 1000 households have high-speed internet, compared to a state-wide average of above 800 per 1000. While many people are accessing the internet through smartphones and other mobile devices, access via a computer at home remains critically important for accessing key benefits of the internet, including access to educational resources, training programs, and other economic resources.

**Figure 9: People: Mobility & Transportation Measures**



## Patterns of High Opportunity

Not all socio-economic conditions in the Delta are below state-wide averages. In particular, housing characteristics emerged as an arena in which there seem to be high opportunities in the Delta. Similarly within civic life they are indicators of significant strengths. We examine each of these in turn.

### Affordable and Adequate Housing Opportunities

With a few exceptions, throughout most of the Delta region, the Housing People Opportunity Index is at or above state averages (see map in Figure 11). This is driven primarily by high levels of affordable housing costs, and by high levels of home ownership. An average of 59% of households in the Primary Zone, and 56% in the Core Primary Zone spend less than 30% of their income on housing costs (considered an affordable amount). This compares to 51% state-wide. An average of 60% of households within the Primary Zone, and 62% in the Secondary Zone, are home-owners, compared to a 55% average state-wide. The few exceptions to the high Housing People Opportunity scores are in poor neighborhoods of West Sacramento, Stockton and Pittsburg, where homeownership is lower and where a higher percentage of households face unaffordable housing costs.

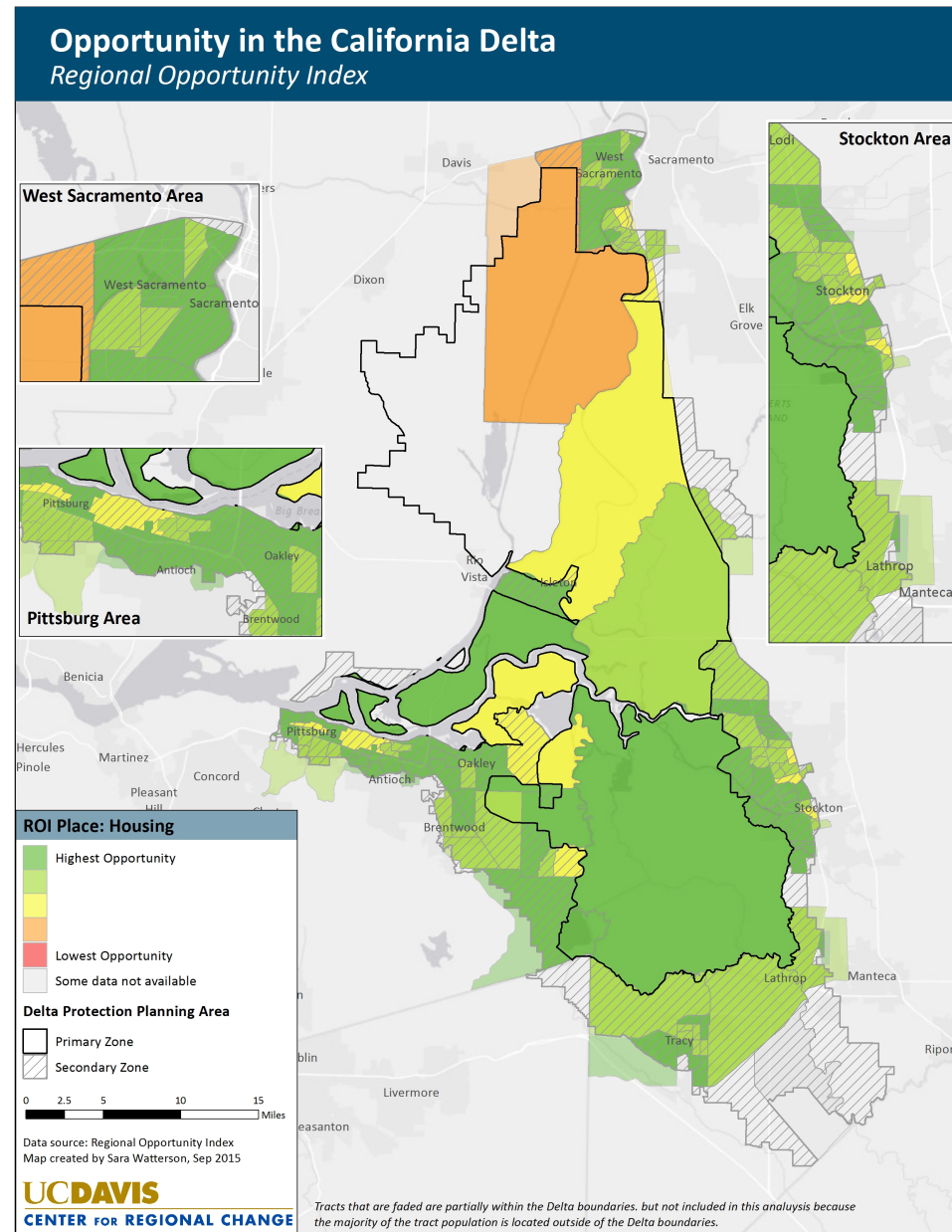
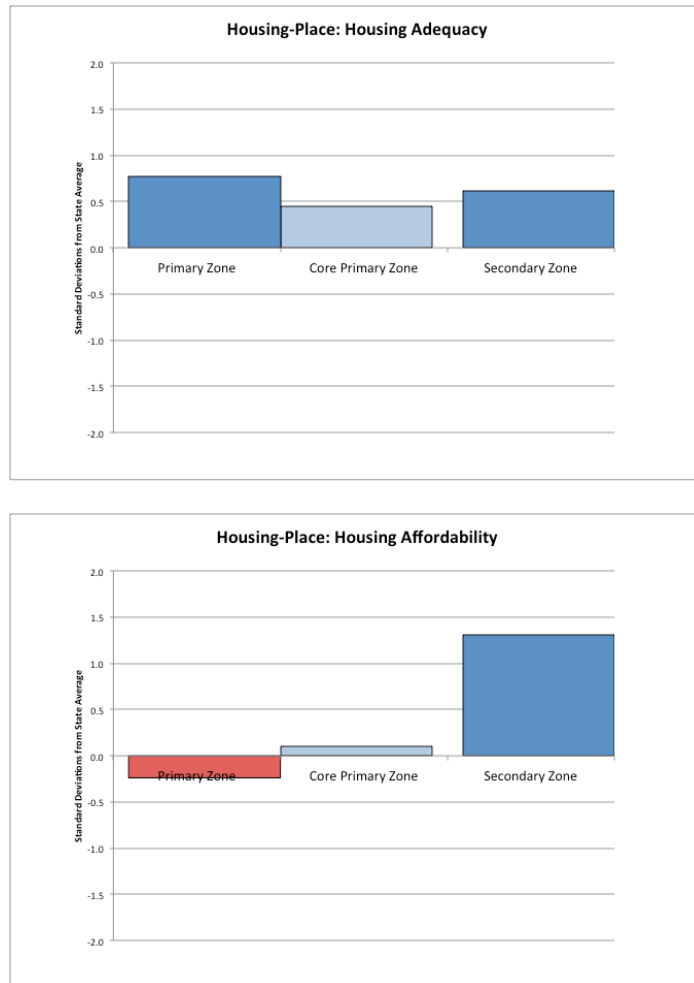
The positive housing circumstances show up even more strongly in our Housing Place Opportunity Index, where almost the entire region is at or above state averages (see Figure 10). The strongest factor here is the lack of overcrowding (as measured by our housing adequacy indicator), but overall housing is also affordable compared to median incomes in the region. In the Secondary Zone, for example, the ratio of median income to median housing prices is 0.29, compared to a state-wide average of 0.19.

### Civic Life Shows Signs of Strength

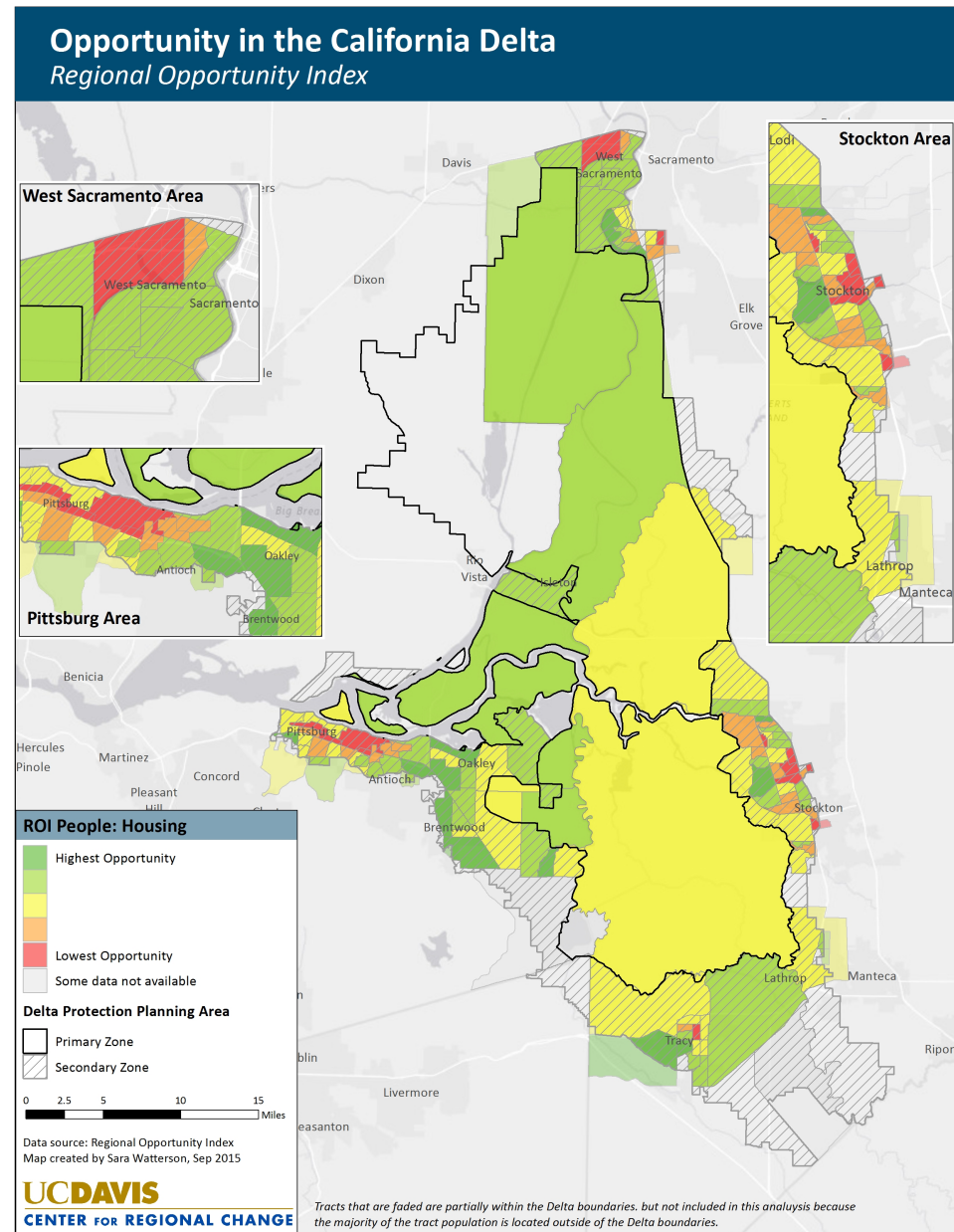
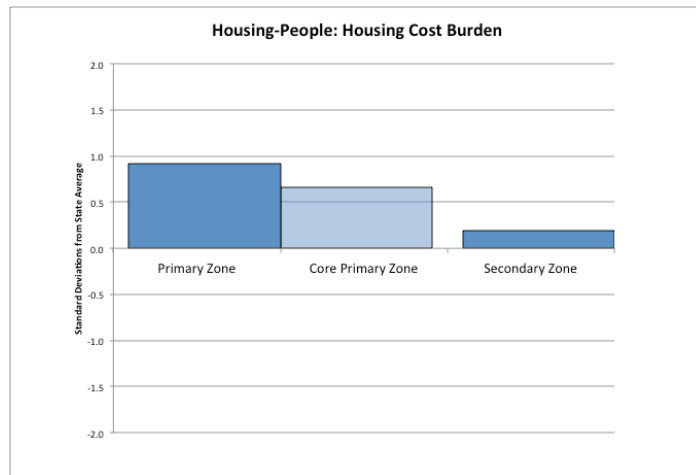
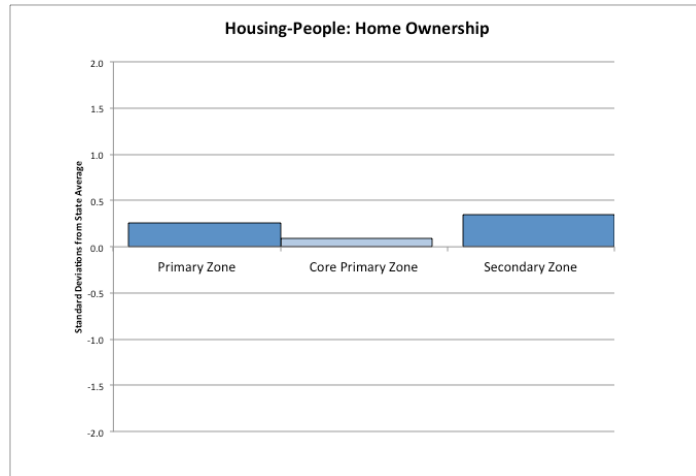
In addition to the strong housing indicators, there are also some indicators that suggest an above average level of civic engagement and involvement in Delta communities. On average, voting rates in the Primary Zone are significantly above average, including in the Core Primary Zone (see Figure 13). In the last election for which we have data, 51% of the citizen voting aged population voted in the Primary Zone, including 46% in the Core Primary Zone, compared to a state-wide average of 44%. There is also a relatively high-level of residential stability in the Primary Zone of the Delta, with an above average percent of the population living in the same residence as a year ago. The Delta does face certain challenges in civic life, including a high proportion of people who are linguistically isolated (18% in the Core Primary Zone) and a high proportion of non-citizens (20% in the Core Primary Zone). But overall these indicators suggest there is a substantial basis of a strong civic life in the Delta that can be built on for future development efforts.



**Figure 10: Place: Housing Measures**

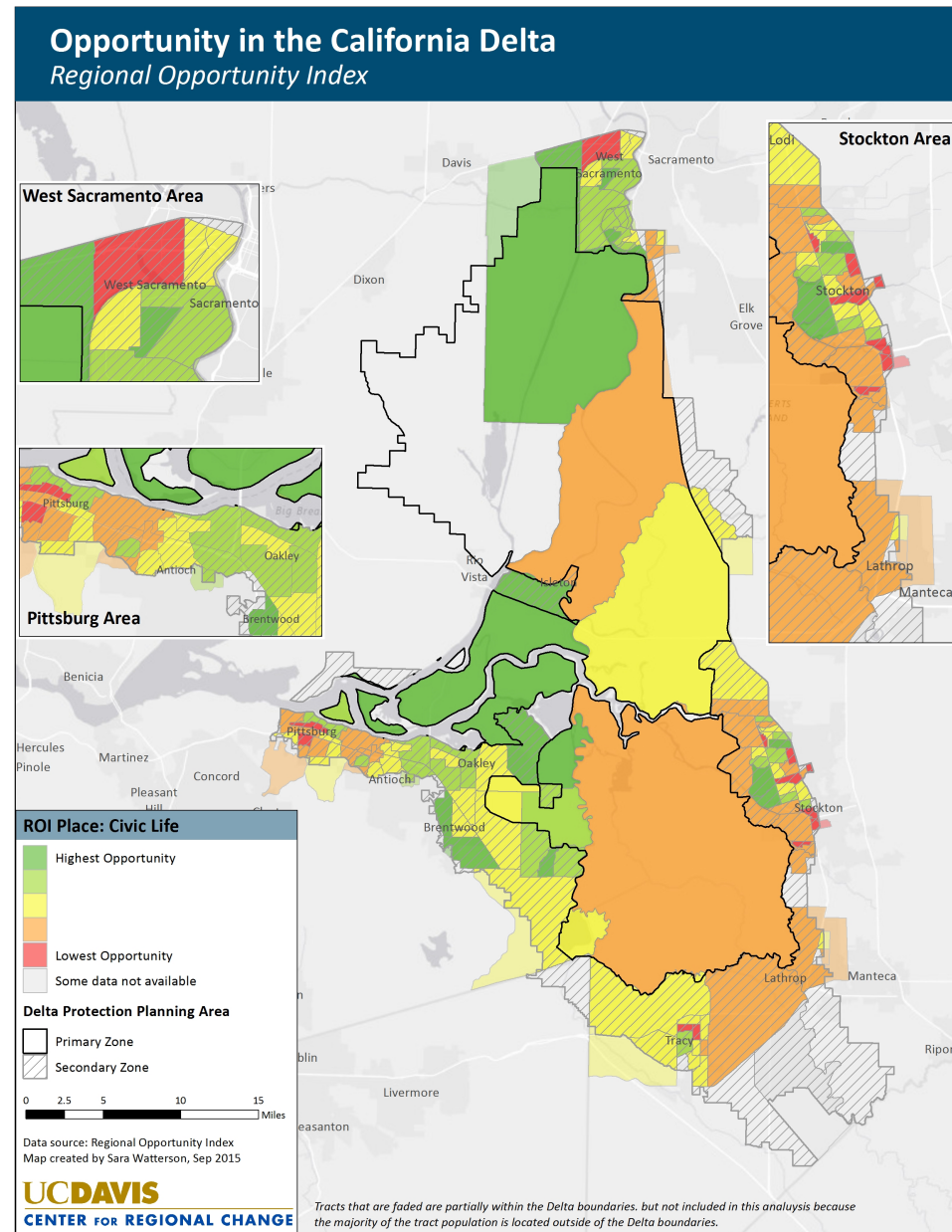
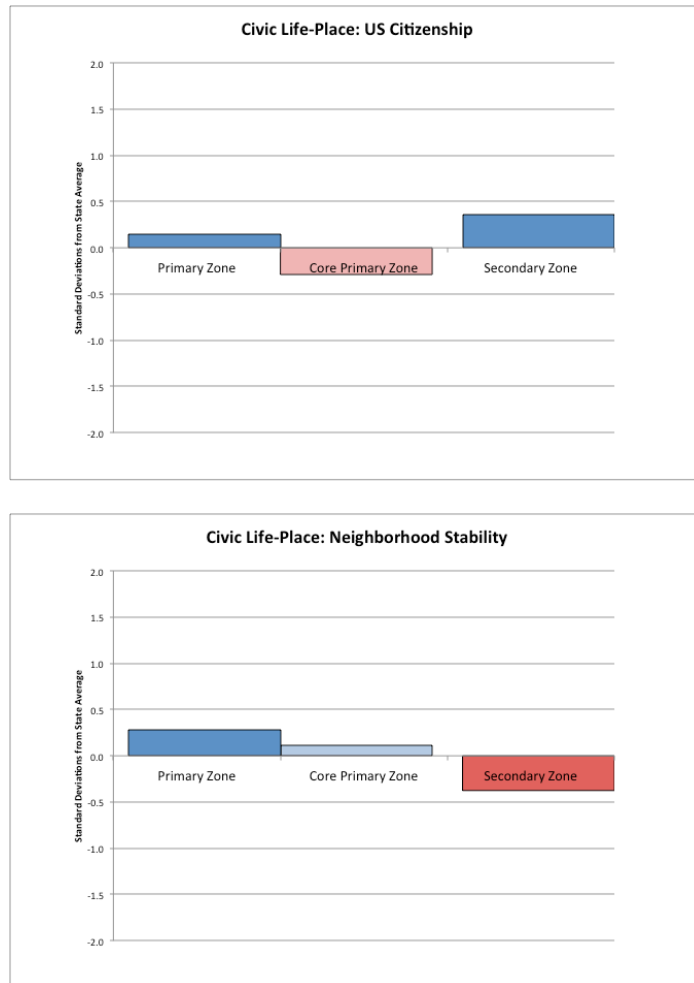


**Figure 11: People: Housing Measures**

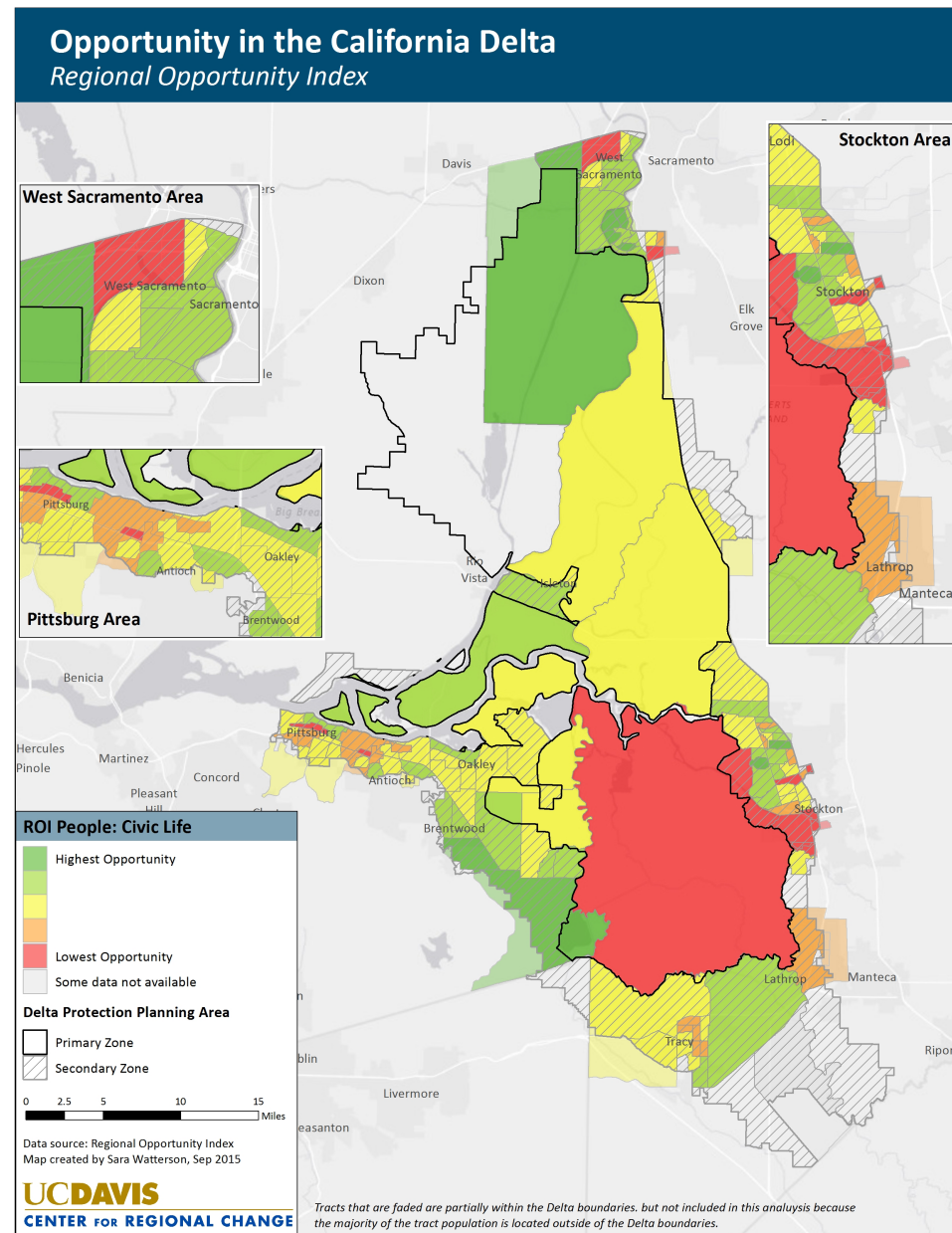
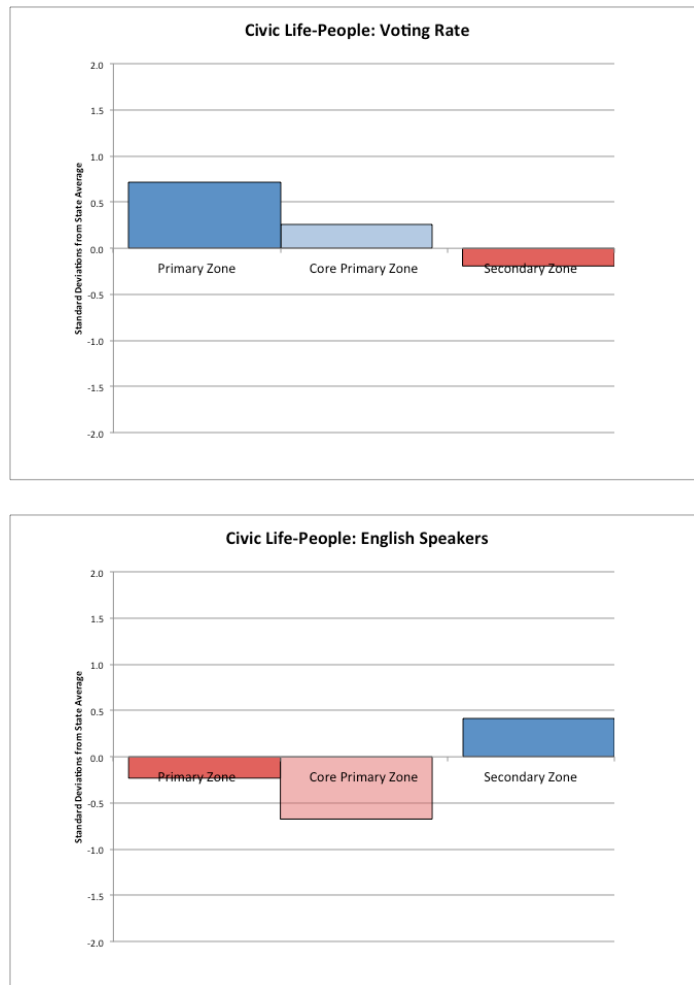




**Figure 12: Place: Civic Life Measures**



**Figure 13: People: Civic Life Measures**



## Conclusions and Recommendations

Overall this analysis of socio-economic conditions in the region presents a picture of a region struggling economically, with significant challenges related to education and health conditions as well. Economically, the primary challenge is not so much the need for job creation, though this would be welcome. Rather the greater challenge seems to be the preponderance of low-paid jobs and industries with below average wages. In the education sphere, an above average percentage of students graduate from local high schools, but a lower than average percentage of those graduating are ready for college. There are also signs that the educational challenges in the region start at a much younger age, with signs of poor early childhood education, and a lower than average percentage of experienced and highly qualified teachers in local elementary schools. Health challenges in the region clearly relate to a lack of health services, which is associated with various indicators of lower than average health conditions in the region.

These patterns of low-opportunity do vary across the region. Areas with the most challenging circumstances are in the southern portion of the Core Primary Zone, as well as in the poor neighborhoods of West Sacramento, south-central Stockton and Pittsburg.

Not all indicators of socio-economic circumstances are negative in the region, however. As we've detailed above, housing prices in the region are affordable, a lower than average percentage of households are paying unaffordable amounts of income on housing, and homeownership rates are above average. Communities in the region seem to be relatively stable, with a higher-than average percentage of people living in the same residence as a year ago, and voting rates amongst the citizen voting age population are high.

These findings suggest priorities for development in the region might include the following:

- Improve school quality, with a focus on improving teacher skills and capacities in elementary schools, improving college preparedness, and pursuing alternatives to suspension and expulsion for disciplinary practices in area high schools;
- Focus economic development efforts on improving job quality in existing industries in the region, while working to diversify economic opportunities to higher-wage industries;
- Expand access to broadband internet, to help overcome digital isolation in the region, while expanding educational and economic opportunities; and
- Improving the provision of health services and primary health care in the region.

These recommendations, however, are based on a “30,000-foot” level of secondary data, and need to be supplemented by more in-depth analysis incorporating local knowledge and perspectives. Hopefully this assessment of conditions in the Delta will provide a useful information base for future research and development efforts.

## Appendix A: ROI Index and Indicator Values

### Regional Opportunity Index and Indicator Values for Various Geographies in the Delta and California

Indicators/Index	PEOPLE					PLACE			
	Delta		California			Delta		California	
	Primary Zone	Core Primary Zone	Secondary Zone			Primary Zone	Core Primary Zone	Secondary Zone	
PEOPLE OVERALL INDEX	0.11	-0.49	-0.13		PLACE OVERALL INDEX	-1.08	-1.46	-0.46	
People: Education Index	-0.34	-0.94	-0.63		Place: Education Index	-0.57	-1.26	-1.79	
% of adults with post-secondary education	34%	20%	31%	38%	High school graduation rate	88%	86%	78%	81%
% 4th graders proficient in ELA	62%	56%	59%	65%	High school grads college ready	48%	41%	31%	42%
% 4th graders proficient in math	66%	63%	64%	70%	% elementary teachers with 5 years experience and more than BA degree	21%	19%	22%	37%
Elementary school truancy rate	22%	20%	27%	23%	High school suspension and expulsion rate	21%	24%	32%	18%
People: Economy Index	-0.20	-0.69	-0.02		Place: Economy Index	-2.49	-2.60	-0.59	
% of adult population employed	88%	85%	87%	89%	Jobs within 5 mile radius per 1000 population	657	801	595	838
% of households above 200% FPL	61%	55%	66%	64%	% jobs that are in high-paying industries within 5 mile radius	23%	18%	34%	41%
People: Housing Index	0.67	0.48	0.24		% job growth in last year within 5 mile radius	0%	-3%	3%	3%
% of households who own home	60%	57%	62%	55%	Banks per 1000 population within 5 mile radius	0.14	0.18	0.21	0.24
% of households paying <30% of income on housing	59%	56%	52%	51%	% change in number of employers within 5 mile radius, 2009-2011	3%	-5%	8%	4%
People: Mobility/Transportation Index	-0.45	-1.14	-0.23		Place: Housing Index	0.46	1.26	1.42	
% who commute 30 min. or less	64%	57%	54%	61%	% homes with <= 1 occupant per room	95%	93%	94%	91%
% households with at least 1 vehicle for worker	95%	95%	90%	86%	Ratio of median income to median home value	0.18	0.20	0.29	0.19
Households with broadband *	2.96	2.51	4.27	4.13	Place: Health/Environment Index	-0.65	-1.21	-0.58	
People: Health Index	-0.11	-0.64	-0.25		% mothers receiving prenatal care in first trimester	72%	68%	80%	83%
% healthy weight babies	95%	94%	95%	95%	% with access to full-service grocery stores	87%	82%	41%	53%
% births to teens	7%	9%	8%	7%	Healthcare provider locations (5 miles) per 1000 population	0.44	0.23	0.95	1.76
% deaths to <75 year olds	35%	42%	37%	31%	PM2.5 score **	10.76	10.97	10.99	11.69
People: Civic Life Index	0.47	-0.01	0.02		Place: Civic Life Index	0.32	-0.08	0.14	
% CVAP that voted in 2010	51%	46%	42%	44%	% who live in same residence as a year ago	87%	85%	82%	85%
% households not linguistically isolated	86%	82%	92%	88%	% U.S. citizens	84%	80%	86%	82%

#### Technical Notes:

All index values are measured as Z-scores in relation to the average for all California census tracts.

All indicator values are population weighted averages of all the tracts within the specified geography

\* This is a categorical variable which takes on the following number of household out of every 1000 households: 1= 0-199; 2=200-399; 3=400-599; 4=600-799; 5=800+

\*\* This is the annual mean concentration of PM2.5

## Appendix B: Regional Opportunity Index People and Place Components

The following tables show the metrics, description of the data, and the data source 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 data have limitations. Certain potentially useful indicators of People and Place Opportunity are not employed due to the lack, or poor quality of, available data.<sup>4</sup>

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

[http://interact.regionalchange.ucdavis.edu/roi/Download\\_Data/ROI%20Metadata.pdf](http://interact.regionalchange.ucdavis.edu/roi/Download_Data/ROI%20Metadata.pdf)

Key to acronyms used:

ACS – American Community Survey (US 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 - CA 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 2009-2013
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

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<sup>4</sup> The ROI does not currently have data on indicators such as transit access, crime, drinking-water contamination, adult education, and housing quality..

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 2009-2013
2. Minimum Basic Income	Percentage of individuals with income over 200% of the federal Poverty Level	ACS 2009-2013
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 2009-2013
2. Housing Cost Burden	Percentage of homeowners and renters for whom housing is less than 30% of household income	ACS 2009-2013
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 2009-2013
2. Commute Time	Percentage of workers whose commute time is less than 30 minutes	ACS 2009-2013
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 2009-2013
F. Civic Life	The Civic Life Opportunity People Domain score is the	

Opportunity: People Domain	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 2009-2013
2. English Speakers	Percentage of population age 18-64 who speak only English or speak English "well" or "very well"	ACS 2009-2013

II. Place	The overall Place score for the ROI is the geometric mean of the Place domains.	
A. Education Opportunity: Place	The Education Opportunity Place Domain score is the geometric mean of the following four indicators.	
1. High School Graduation Rate	Percentage of 9 <sup>th</sup> 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 5 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 2009-2010
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 2009-2013
2. Job Growth	Percentage 1-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	NETS 2011, CREE 2012 & CA EDD
4. Bank Accessibility	Number of banks and credit unions per 1000 people, within a 5-mile radius	FDIC 2013, NCUA 2013 & ACS 2009-2013
5. Business Growth	Percentage 2-year change (2009-11) in the number of employers, within a 5-mile radius	NETS 2011
C. Housing Opportunity: Place	The Housing Opportunity: Place domain score is the geometric mean of the following two indicators.	



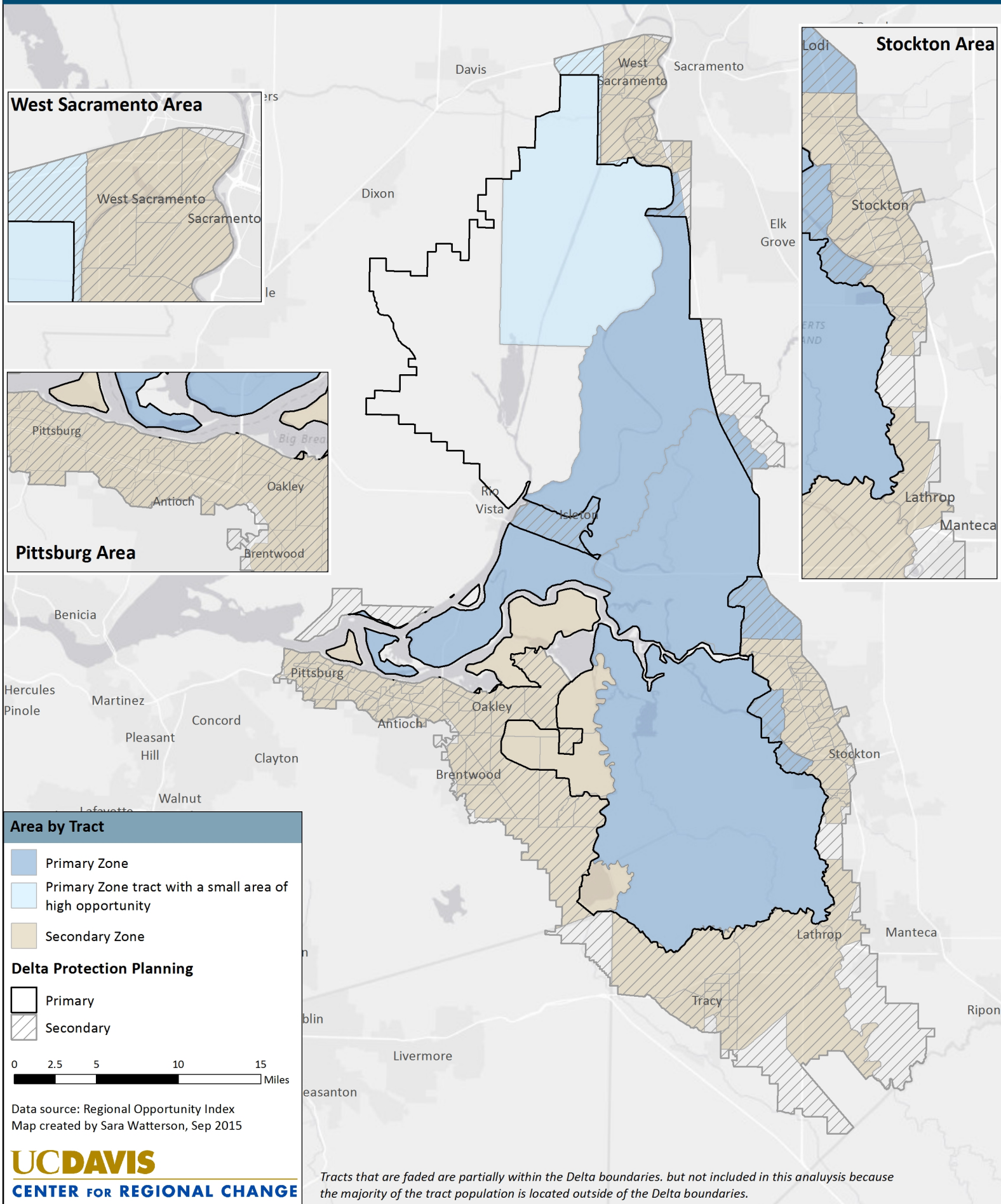
Domain		
1. Housing Adequacy	Percentage of households with no more than 1 occupant per room	ACS 2009-2013
2. Housing Affordability	Ratio of median income of census tract to median value of dwellings in census tract	ACS 2009-2013
D. Health/Environment Opportunity: Place Domain	The Health/Environment Opportunity Place Domain score is the geometric mean of the following four indicators.	
1. Prenatal Care	Percentage of mothers who received prenatal care in first trimester	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 2009-2013
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. US Citizenship	Percentage of adults who are U.S. citizens	ACS 2009-2013
2. Neighborhood Stability	Percentage of citizens, over age 1, who live in the same residence as the previous year	ACS 2009-2013



## **Appendix C: Full Size Maps and Indicator Charts**

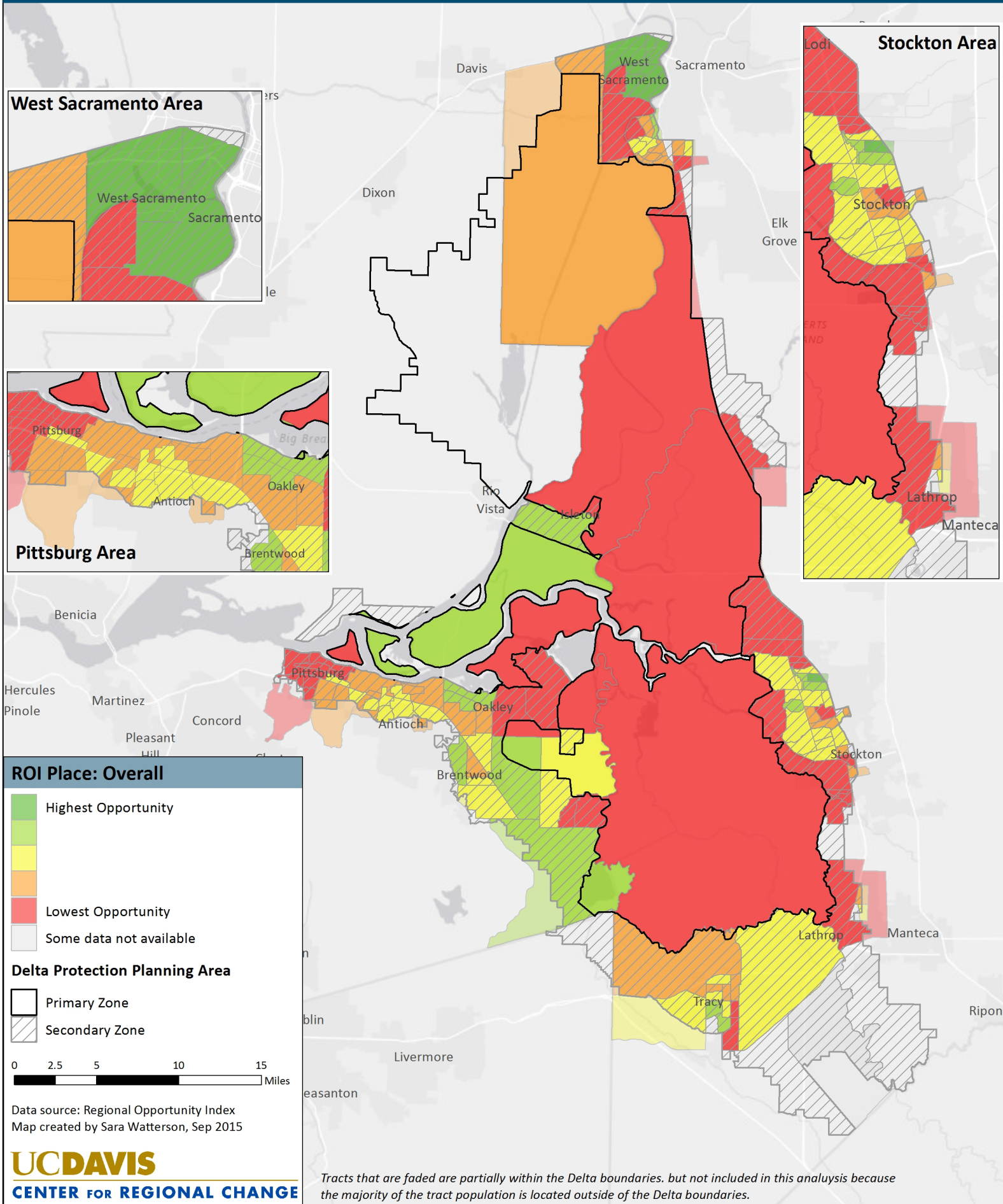
# Opportunity in the California Delta

## Regional Opportunity Index



# Opportunity in the California Delta

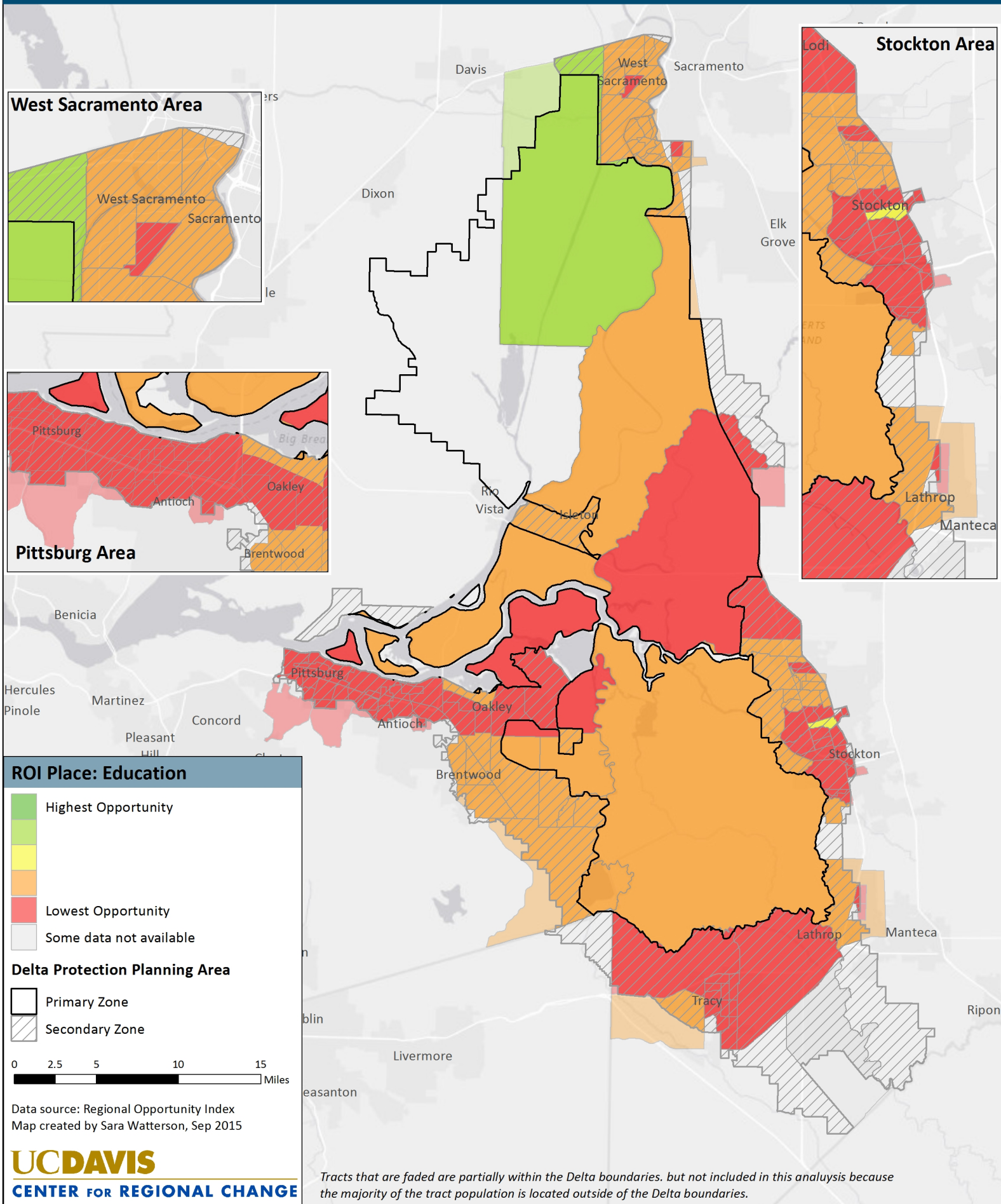
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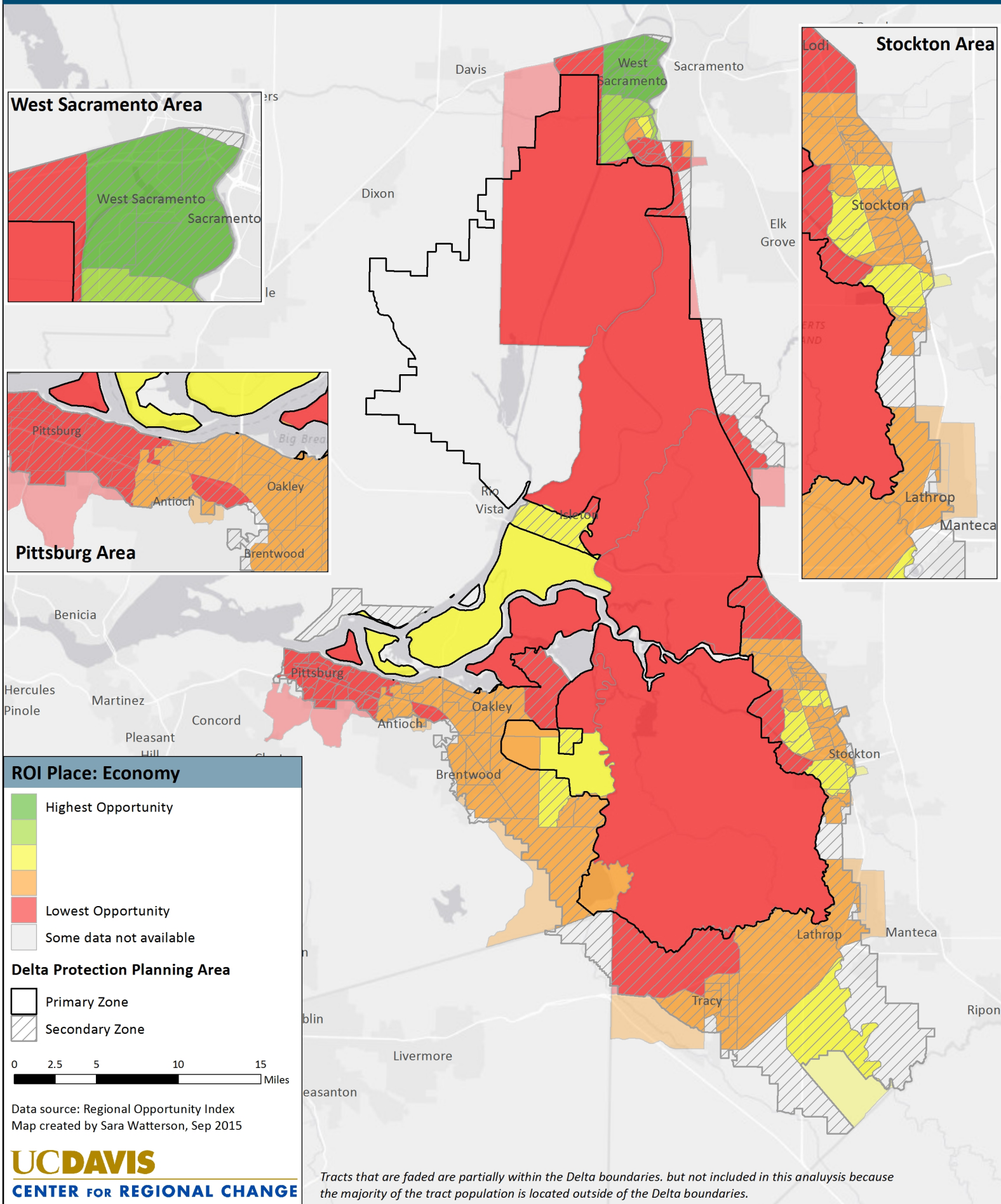
# Opportunity in the California Delta

## Regional Opportunity Index



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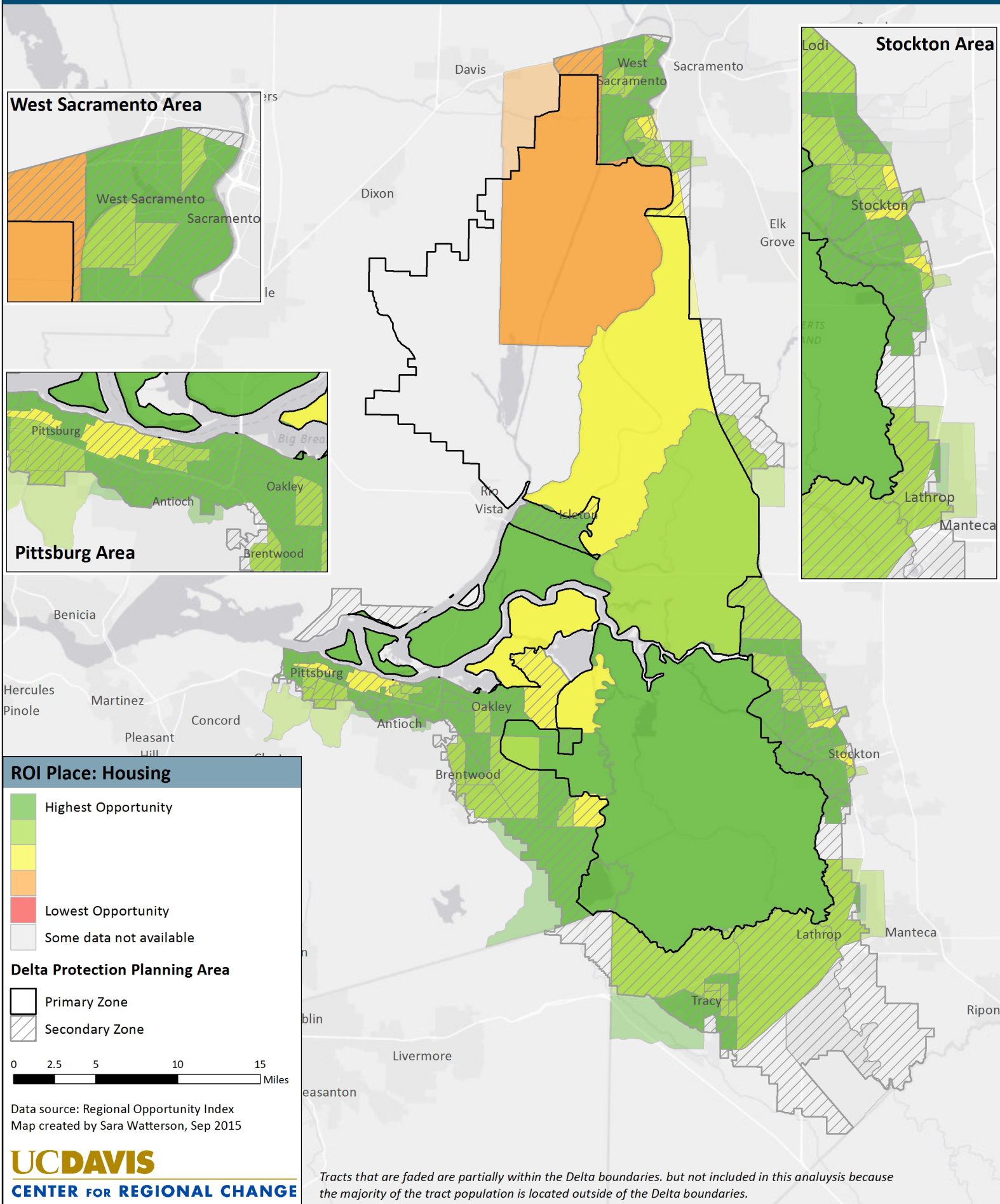
## Regional Opportunity Index





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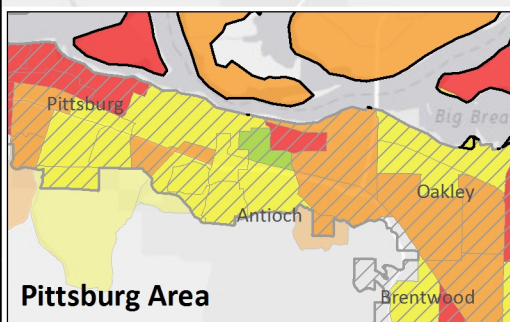
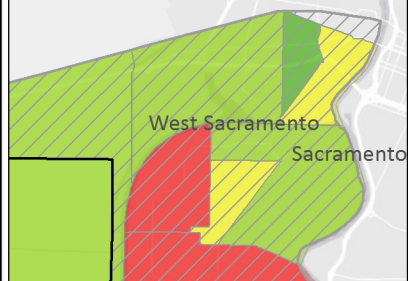
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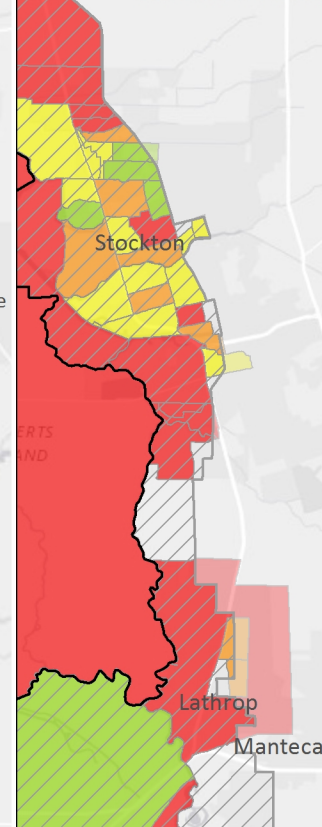
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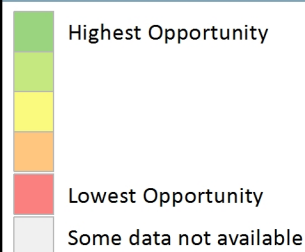
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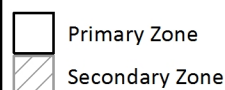
### Stockton Area



### ROI Place: Health/Environment



### Delta Protection Planning Area



Data source: Regional Opportunity Index  
Map created by Sara Watterson, Sep 2015

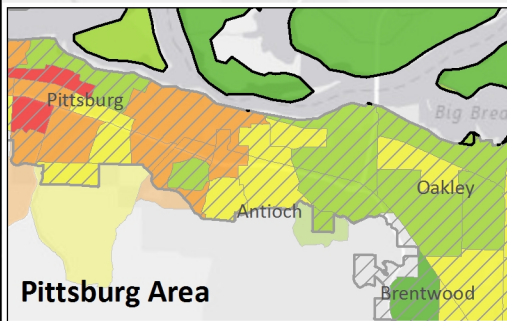
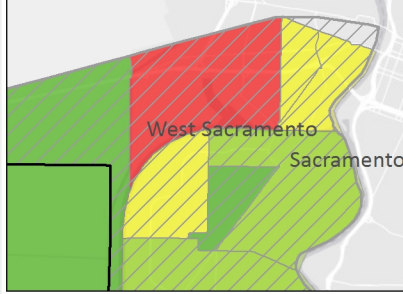
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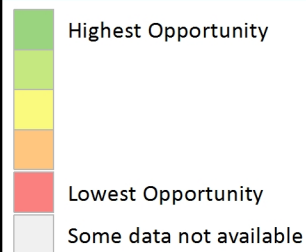
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## Regional Opportunity Index

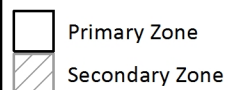
### West Sacramento Area



### ROI Place: Civic Life



### Delta Protection Planning Area

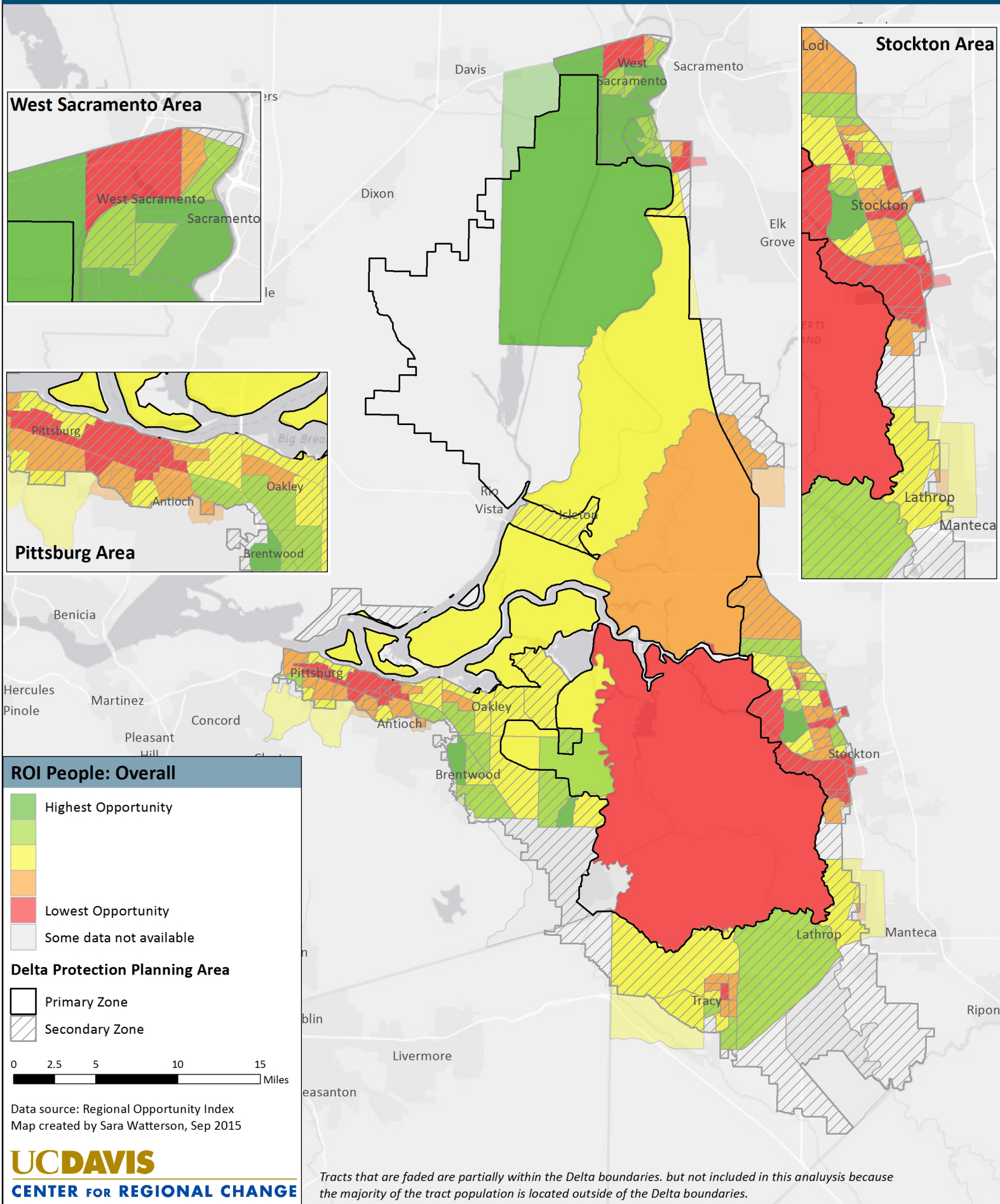


Data source: Regional Opportunity Index  
Map created by Sara Watterson, Sep 2015

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# Opportunity in the California Delta

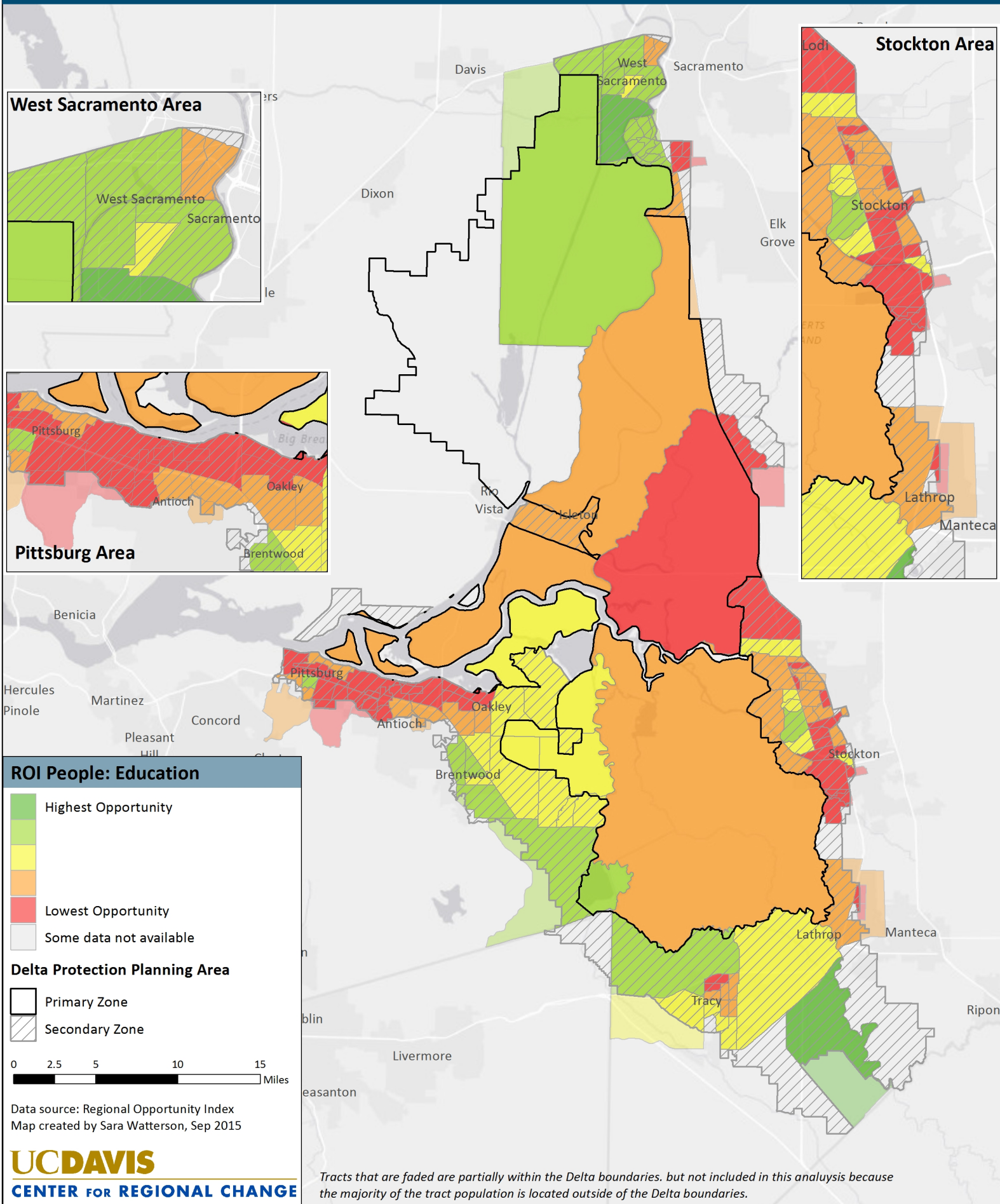
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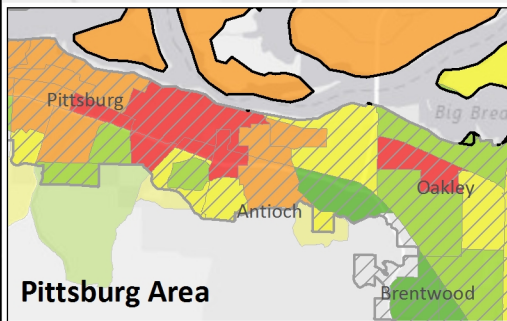
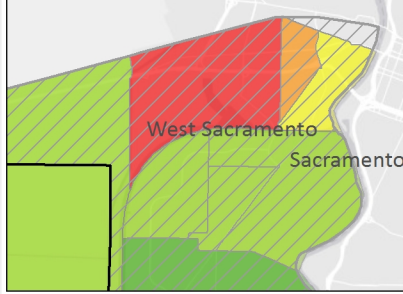
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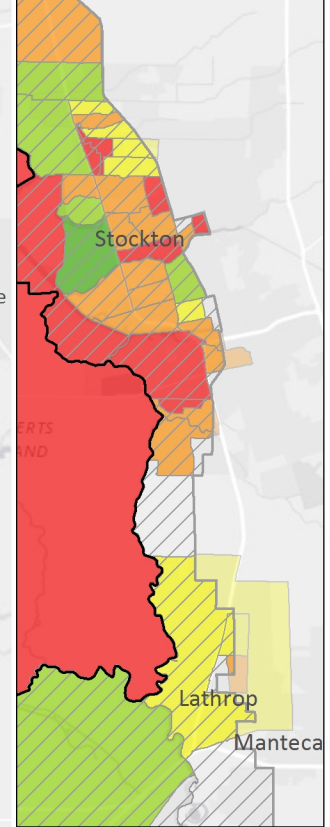
# Opportunity in the California Delta

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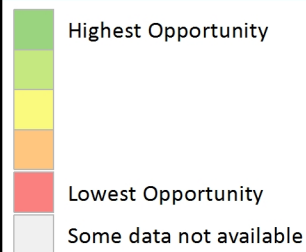
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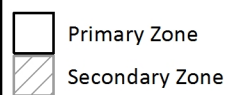
### Stockton Area



### ROI People: Economy



### Delta Protection Planning Area



Data source: Regional Opportunity Index  
Map created by Sara Watterson, Sep 2015

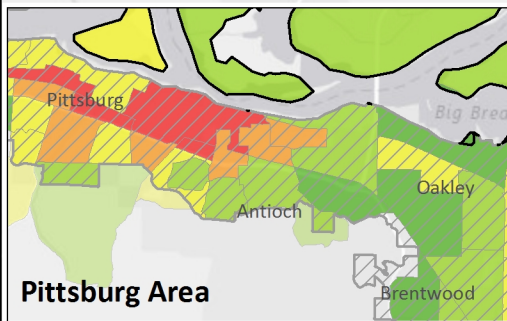
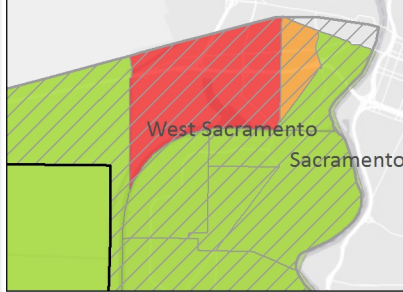
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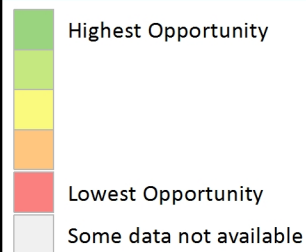
# Opportunity in the California Delta

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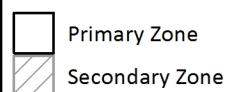
### West Sacramento Area



### ROI People: Housing



### Delta Protection Planning Area

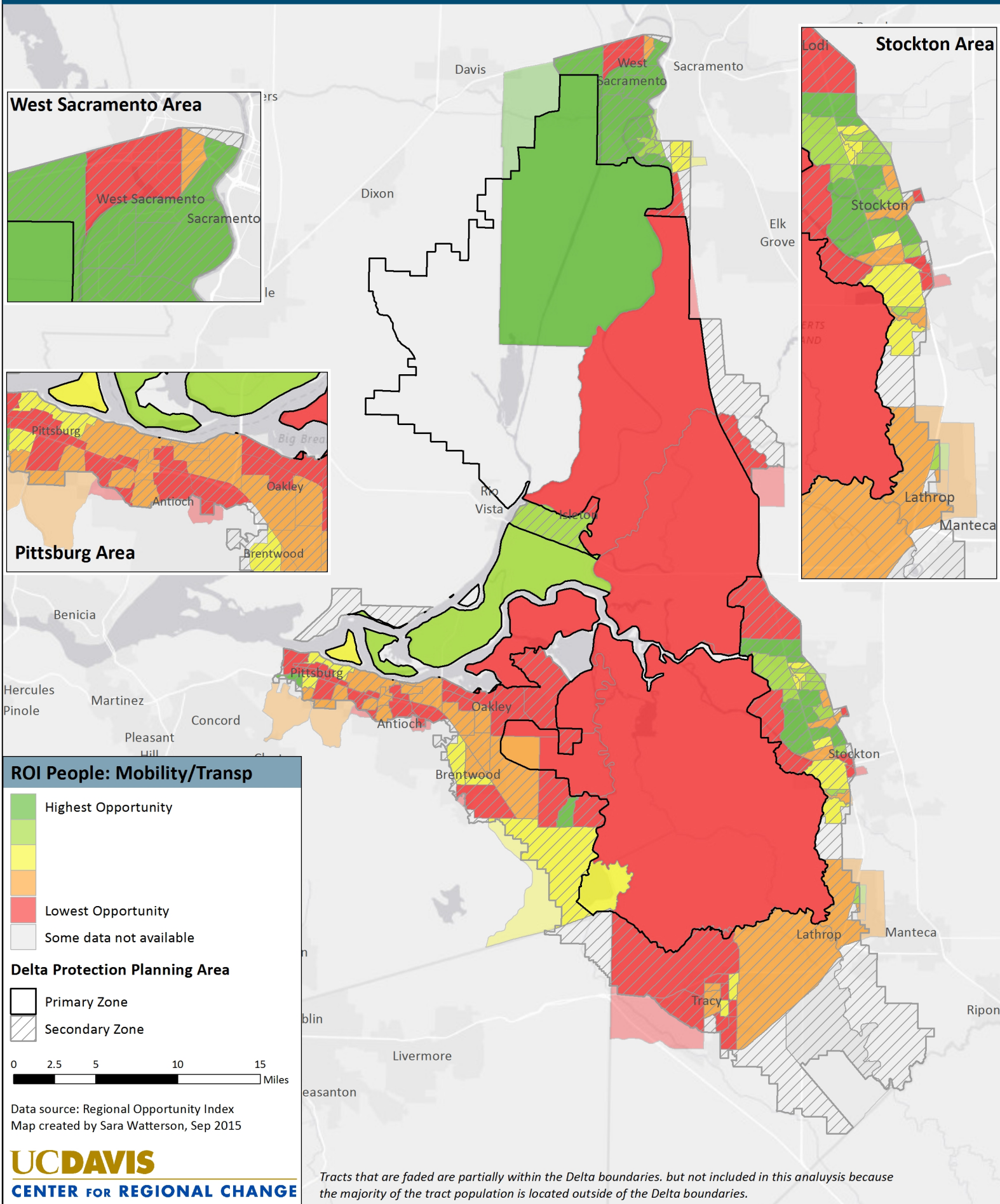


Data source: Regional Opportunity Index  
Map created by Sara Watterson, Sep 2015

Tracts that are faded are partially within the Delta boundaries, but not included in this analysis because the majority of the tract population is located outside of the Delta boundaries.

# Opportunity in the California Delta

## Regional Opportunity Index

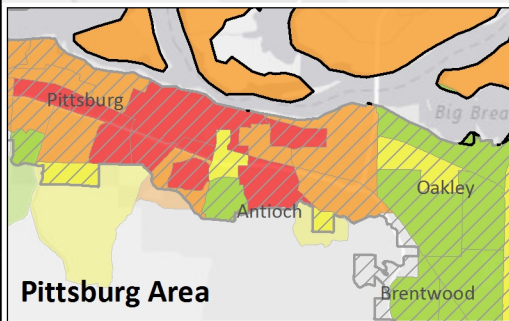
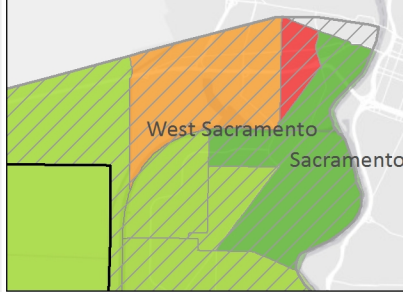




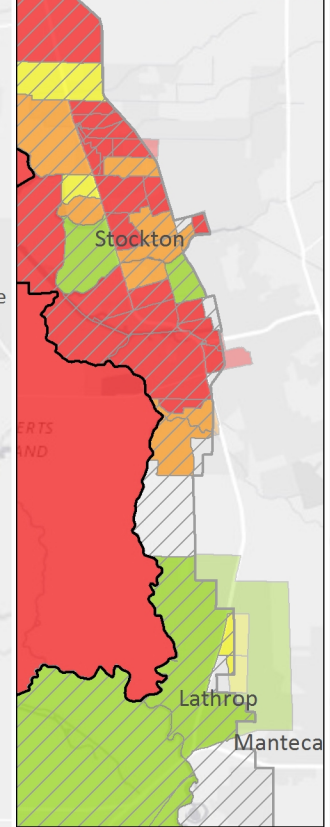
# Opportunity in the California Delta

## Regional Opportunity Index

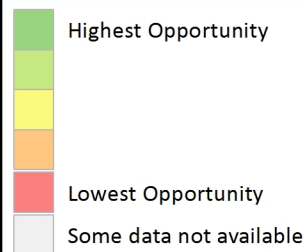
### West Sacramento Area



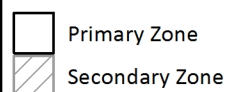
### Stockton Area



### ROI People: Health/Environment



### Delta Protection Planning Area



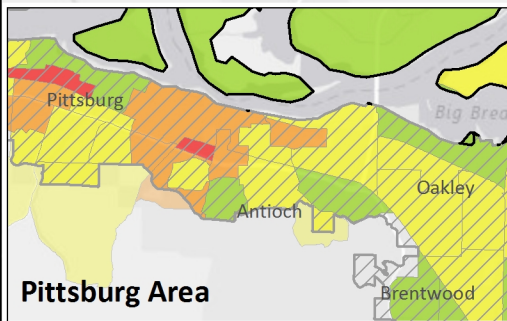
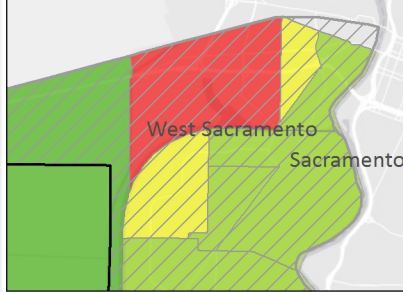
Data source: Regional Opportunity Index  
Map created by Sara Watterson, Sep 2015

Tracts that are faded are partially within the Delta boundaries, but not included in this analysis because the majority of the tract population is located outside of the Delta boundaries.

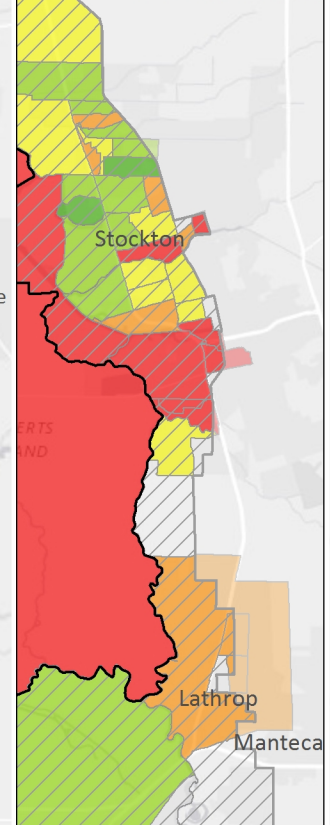
# Opportunity in the California Delta

## Regional Opportunity Index

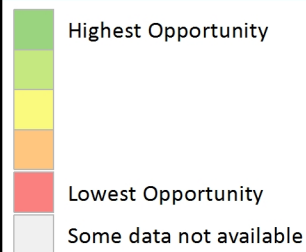
### West Sacramento Area



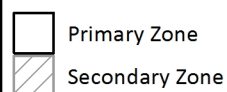
### Stockton Area



### ROI People: Civic Life



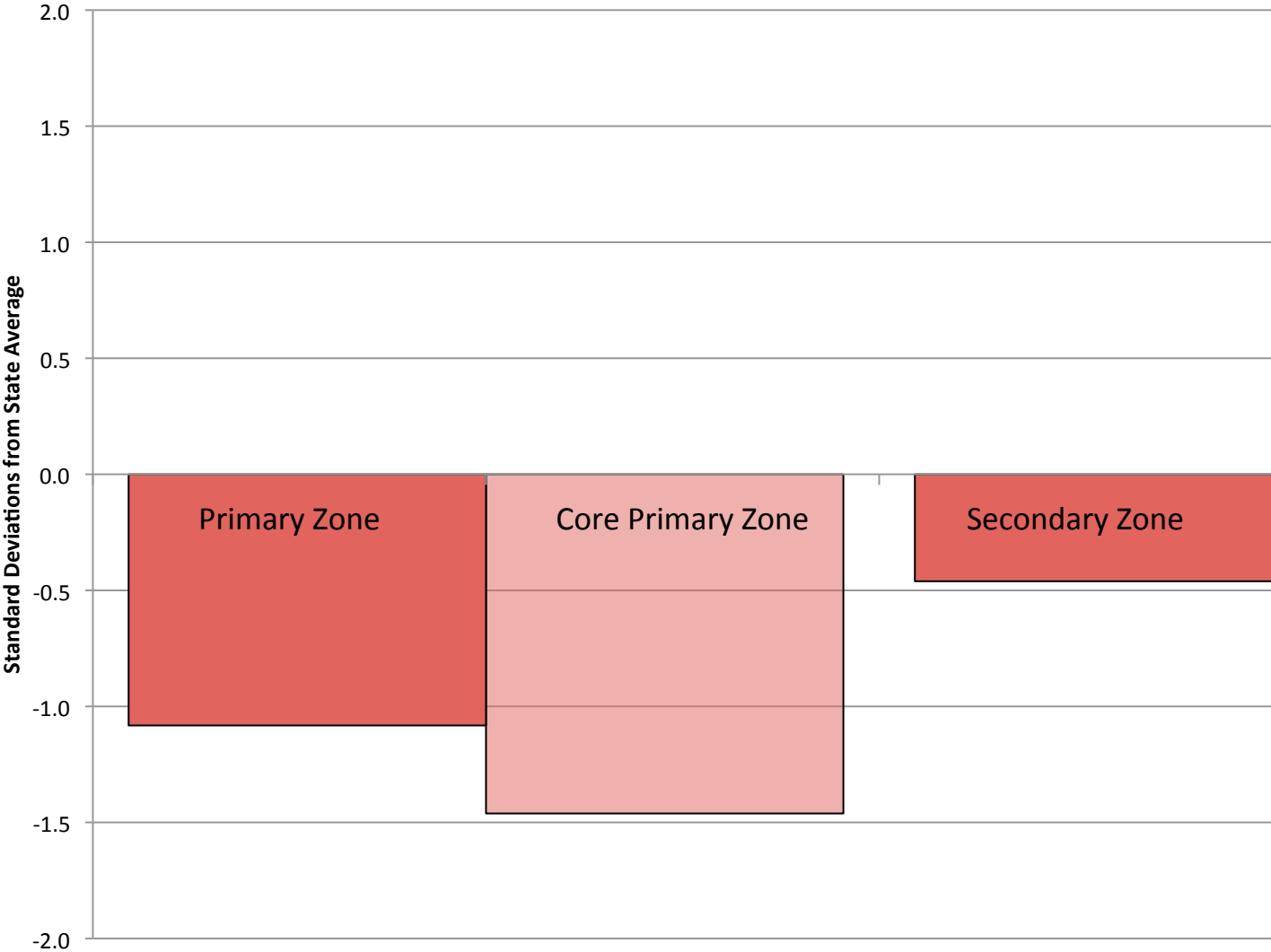
### Delta Protection Planning Area



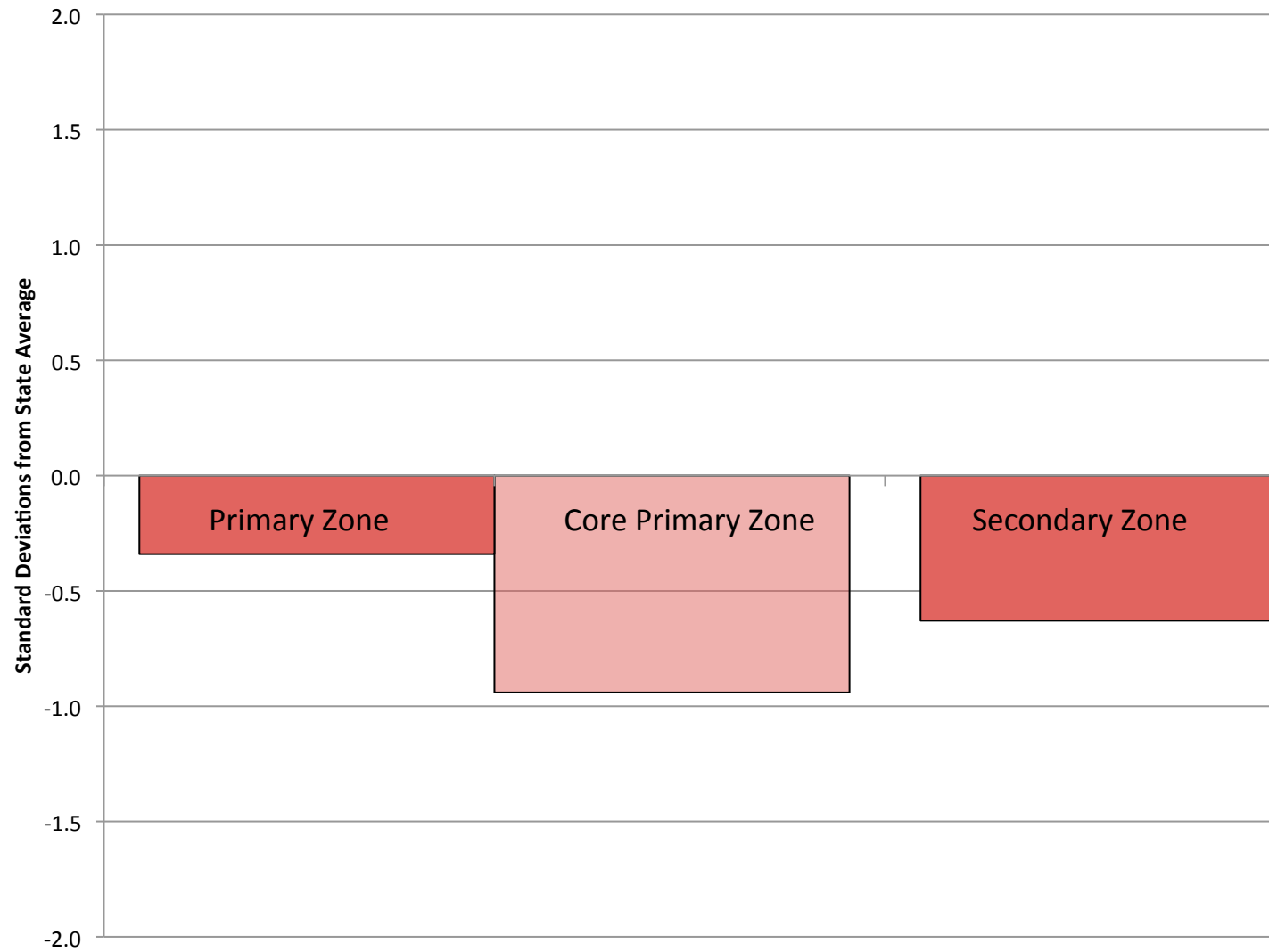
Data source: Regional Opportunity Index  
Map created by Sara Watterson, Sep 2015

Tracts that are faded are partially within the Delta boundaries, but not included in this analysis because the majority of the tract population is located outside of the Delta boundaries.

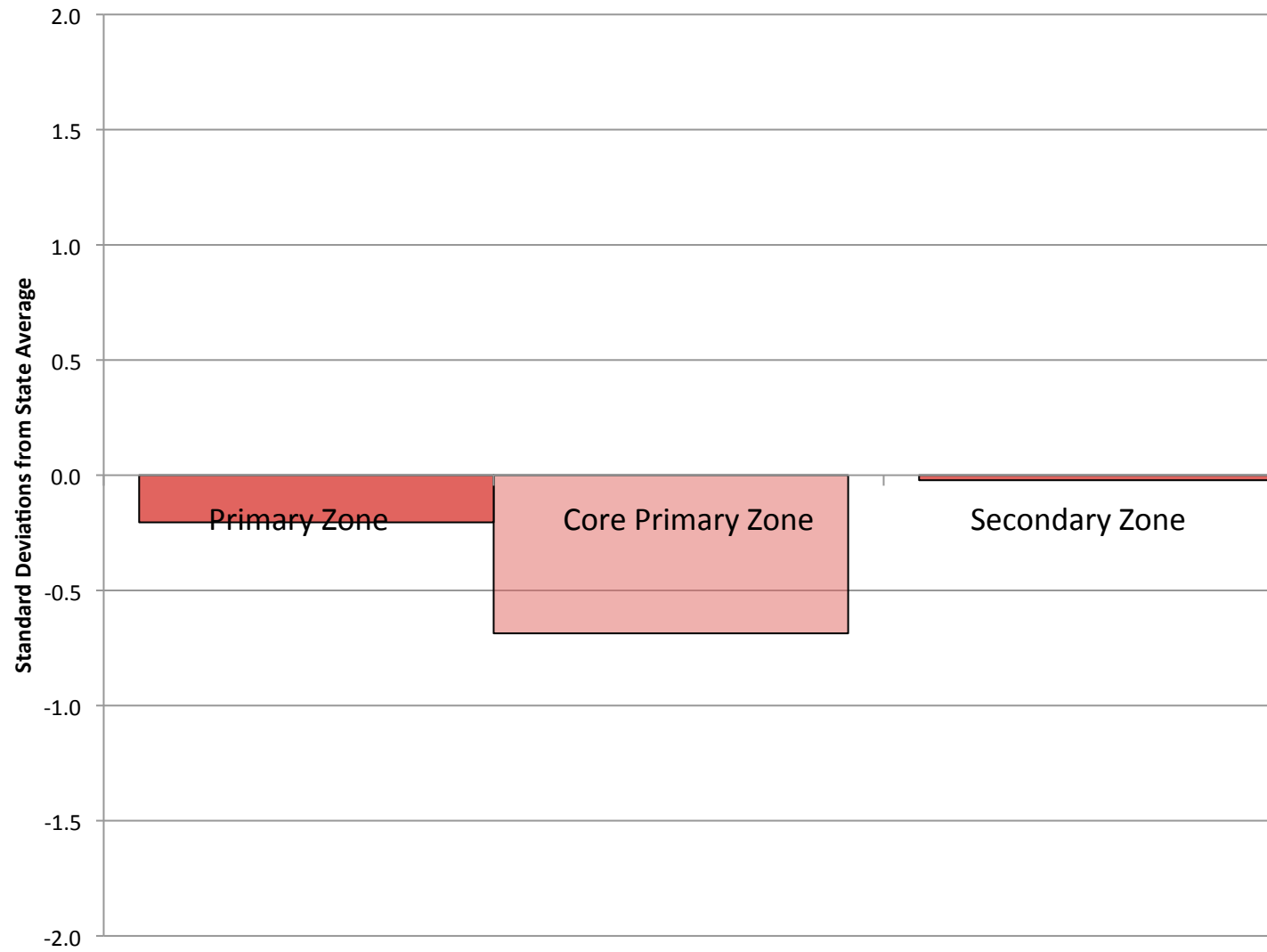
Regional Opportunity Index: Place



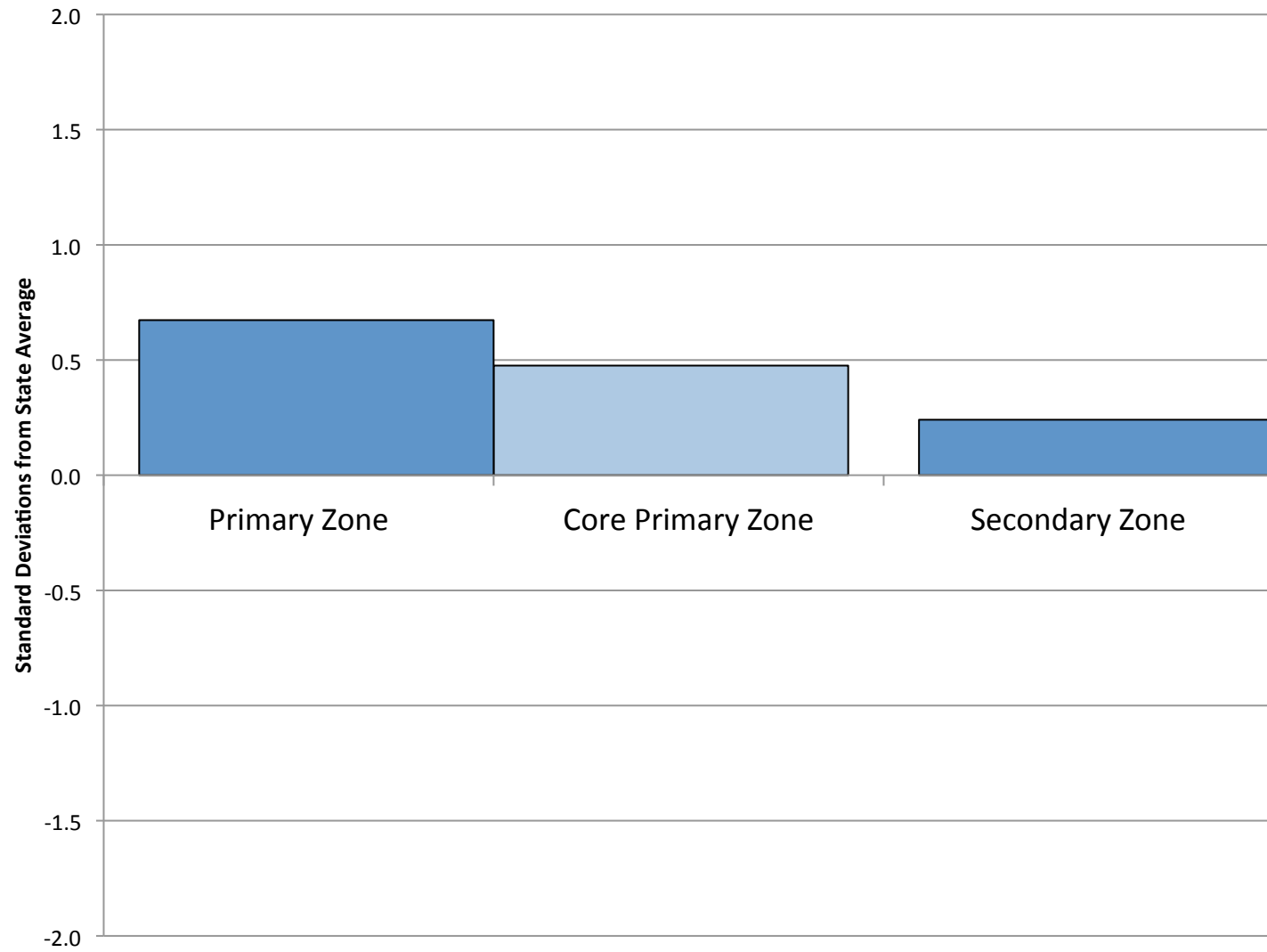
## Education Opportunity: People



## Economic Opportunity: People

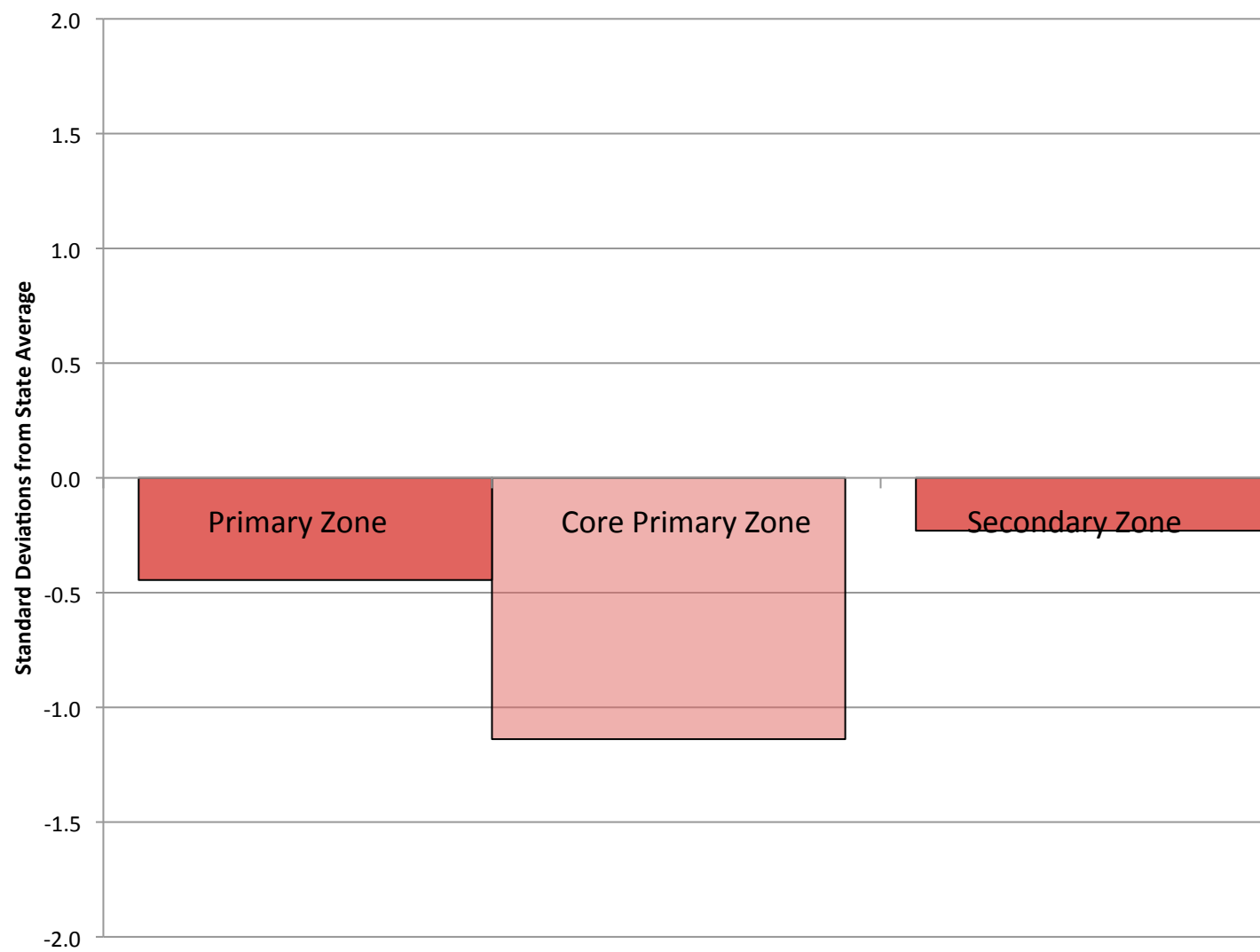


## Housing Opportunity: People

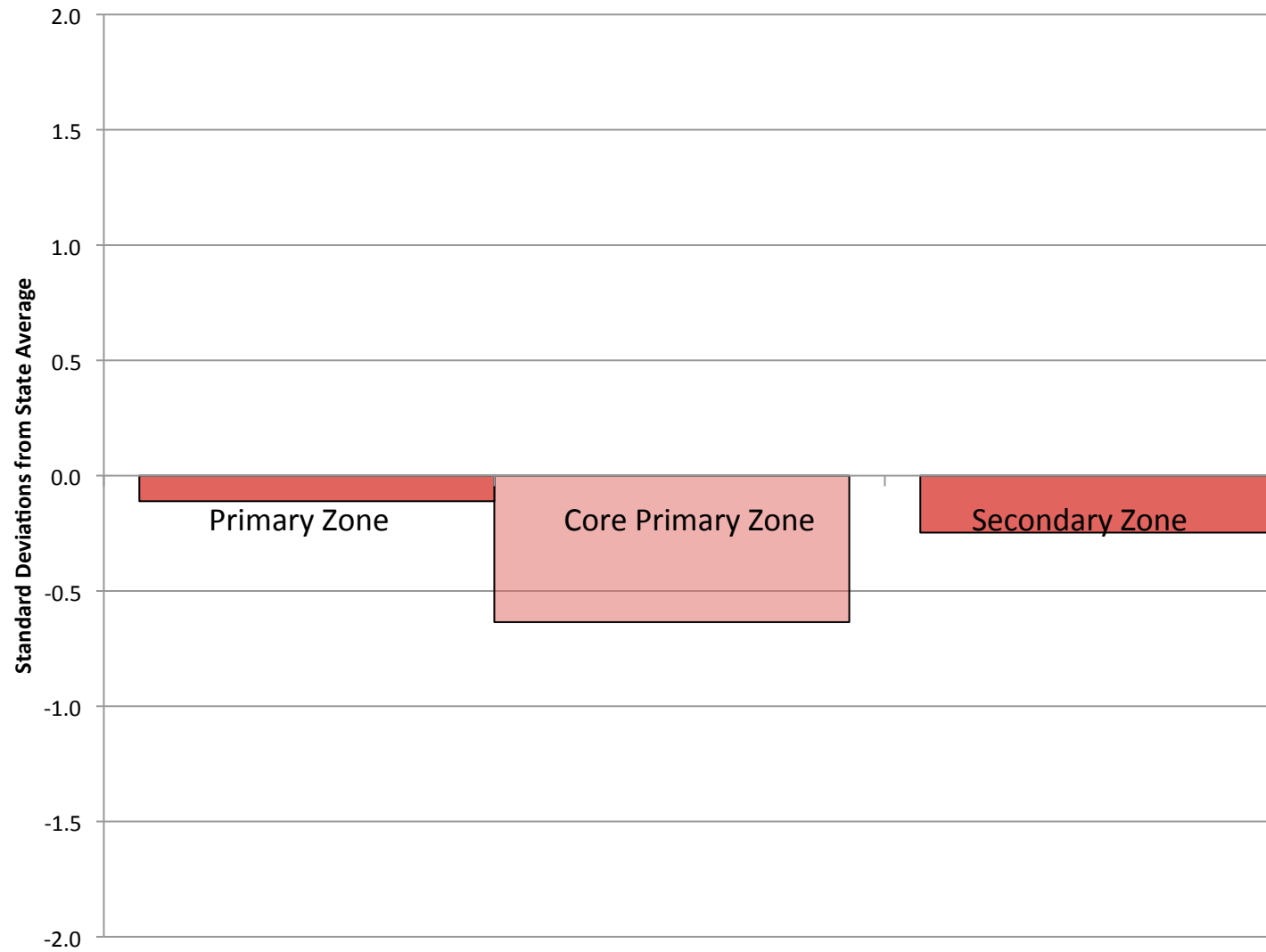




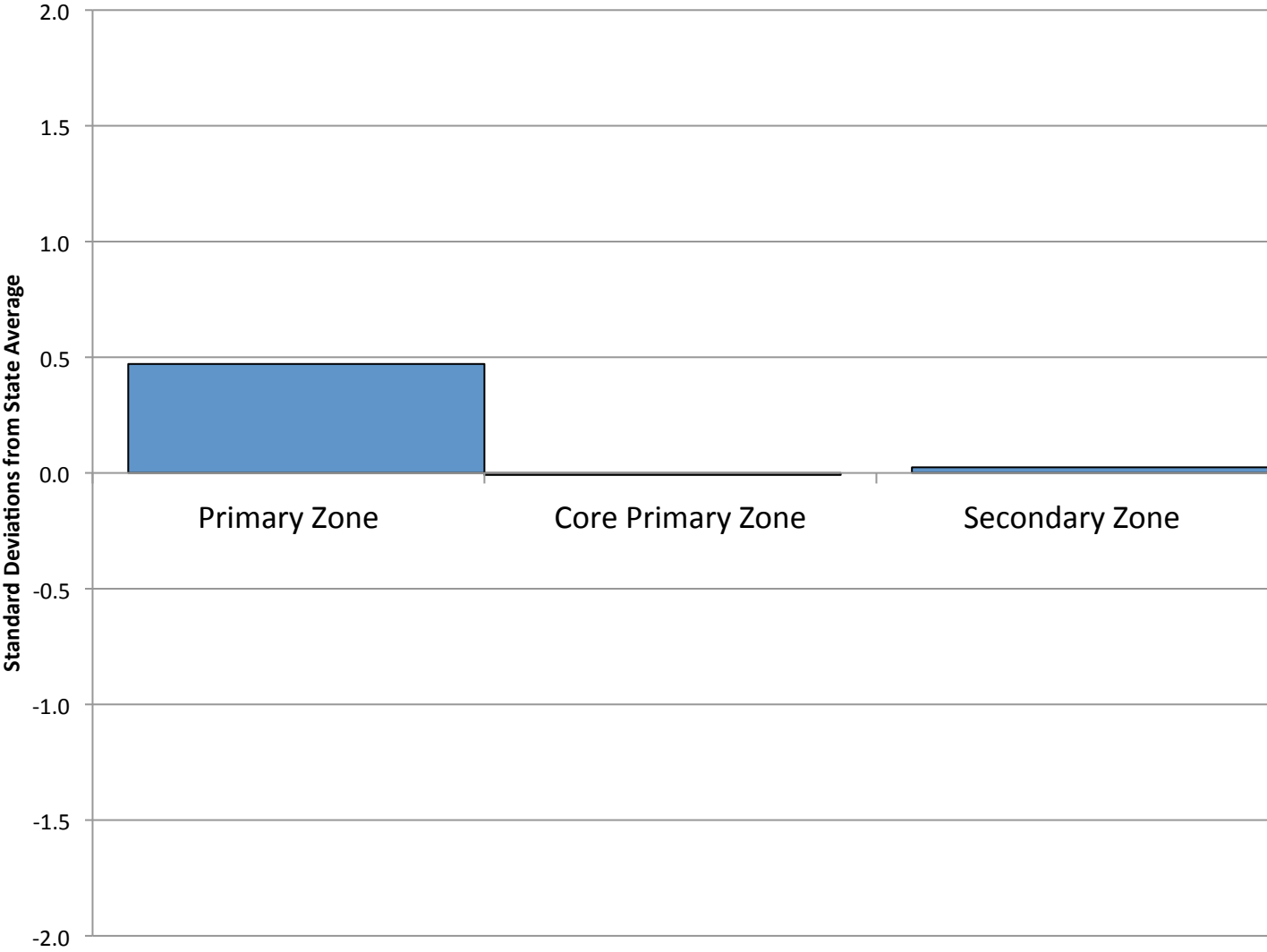
## Mobility/Transportation Opportunity: People



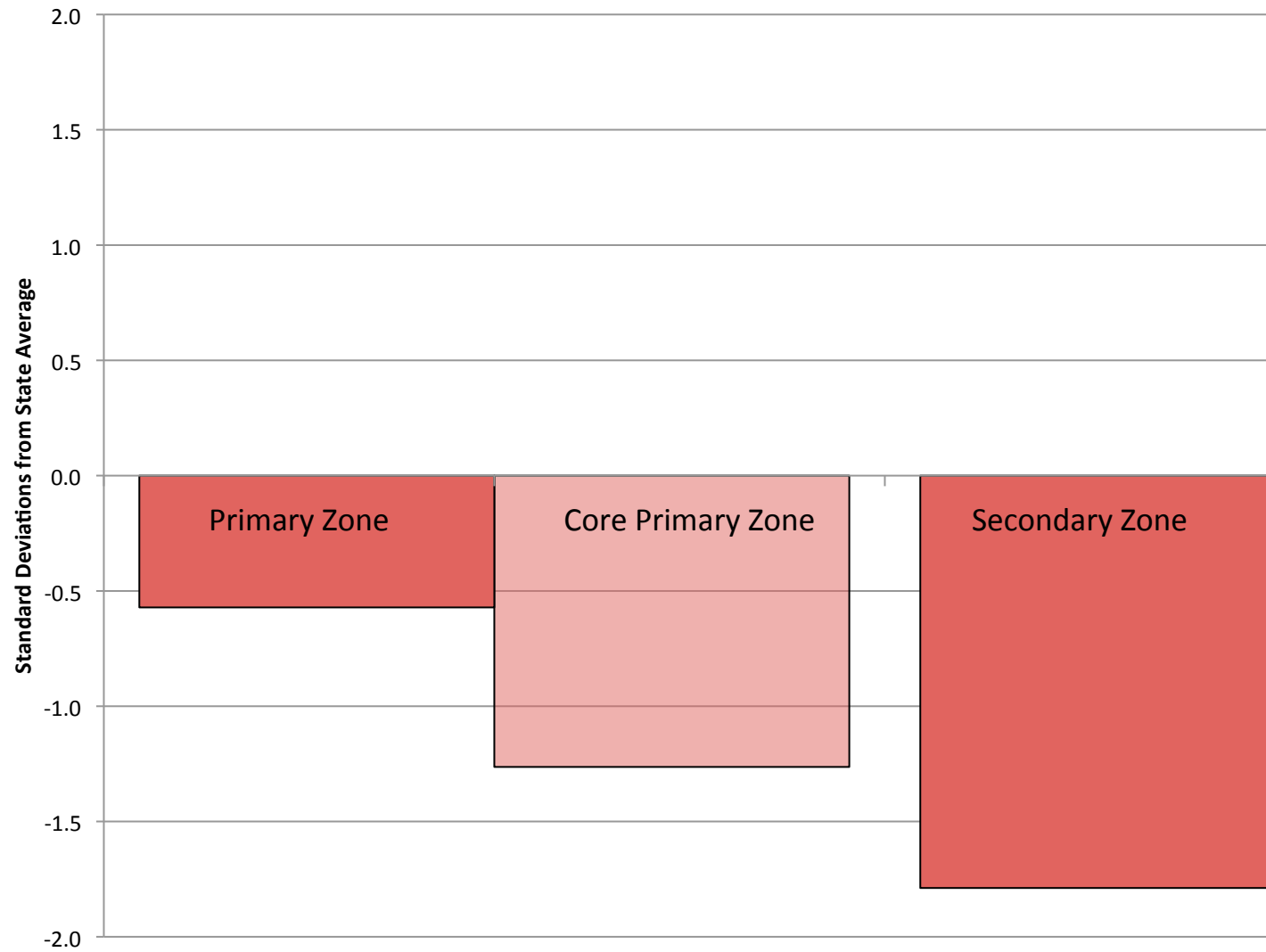
## Health/Environment Opportunity: People



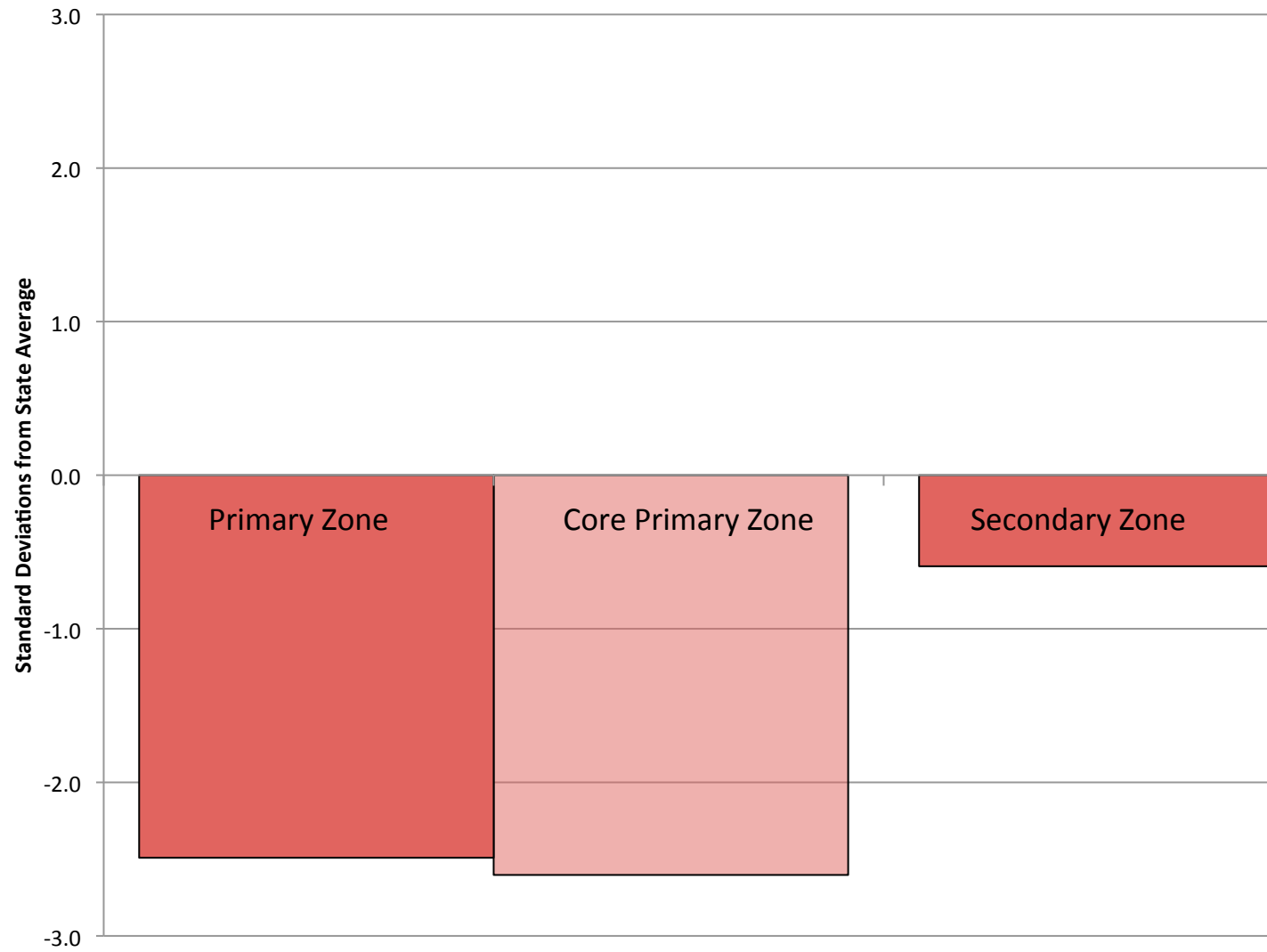
Civic Life Opportunity: People



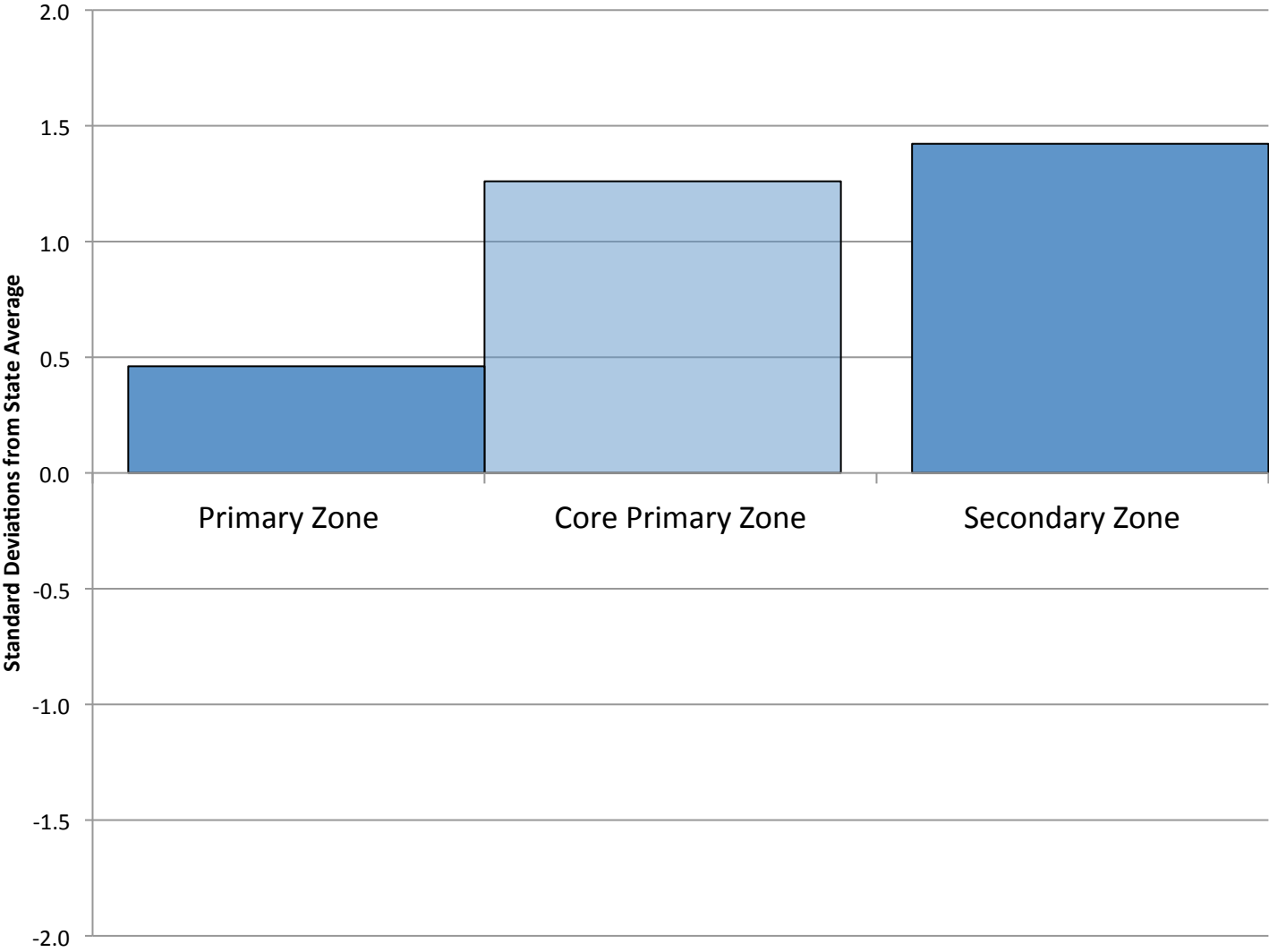
## Education Opportunity: Place



## Economic Opportunity: Place

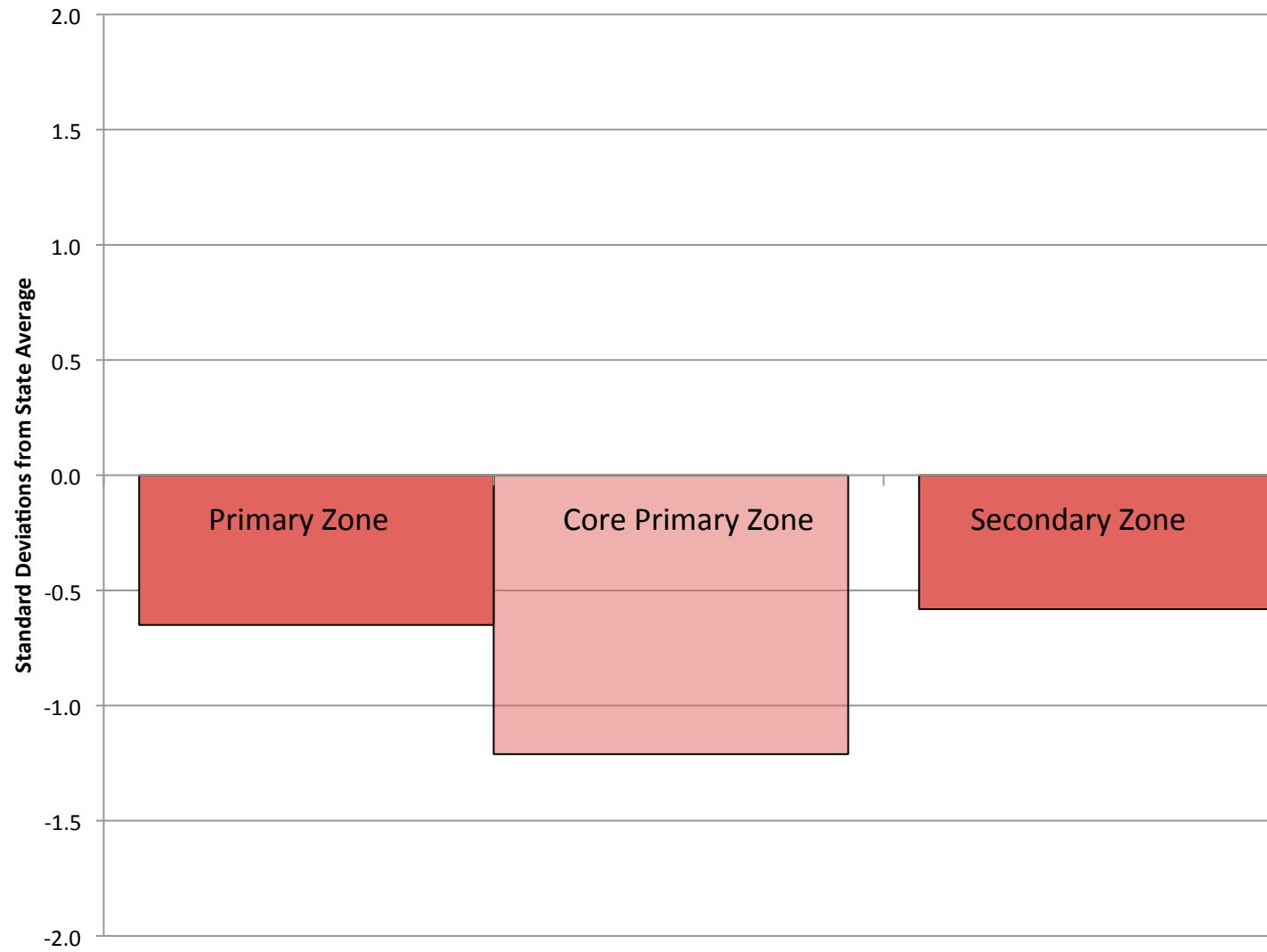


**Housing Opportunity: Place**

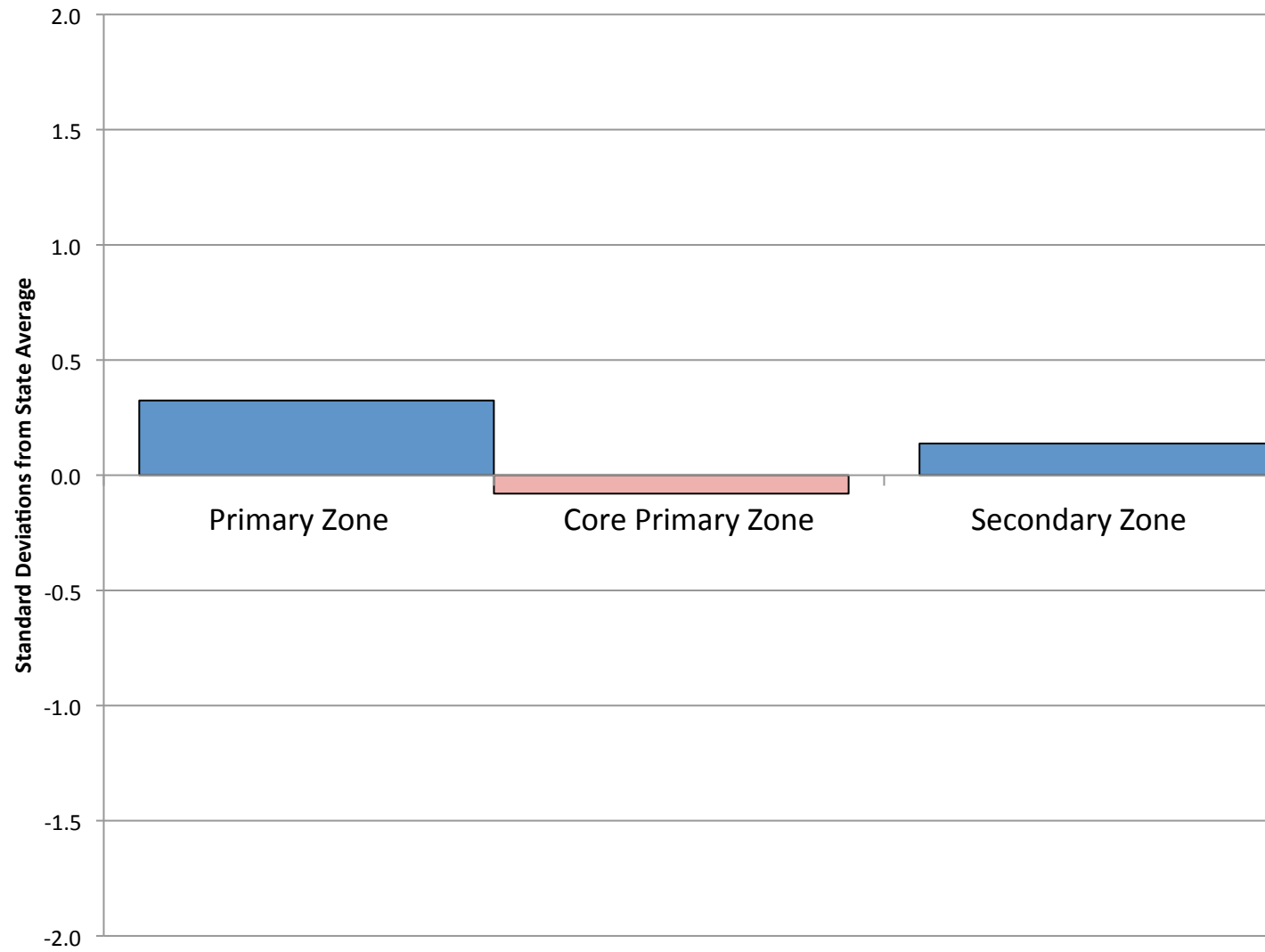




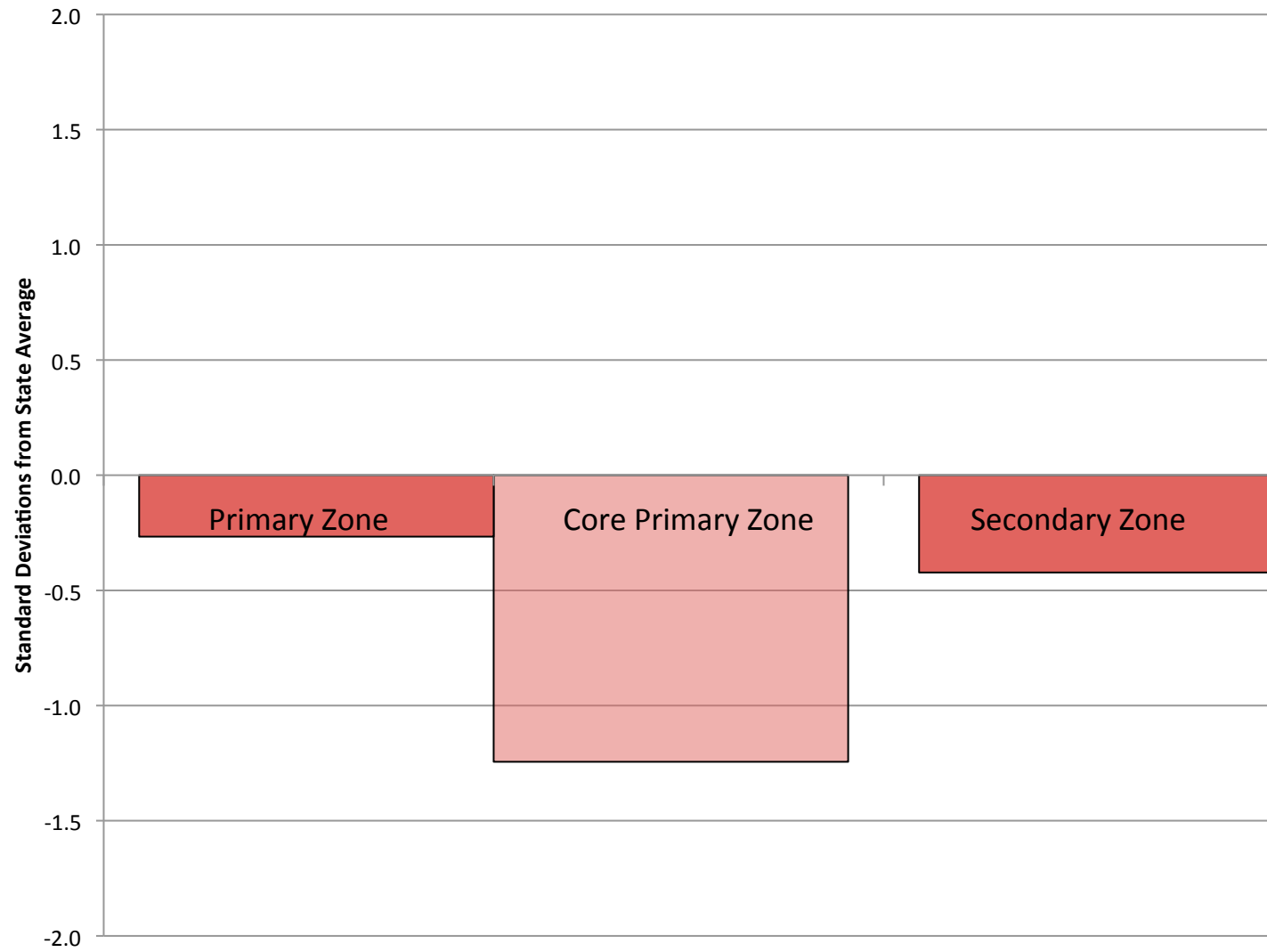
## Health/Environment Opportunity: Place



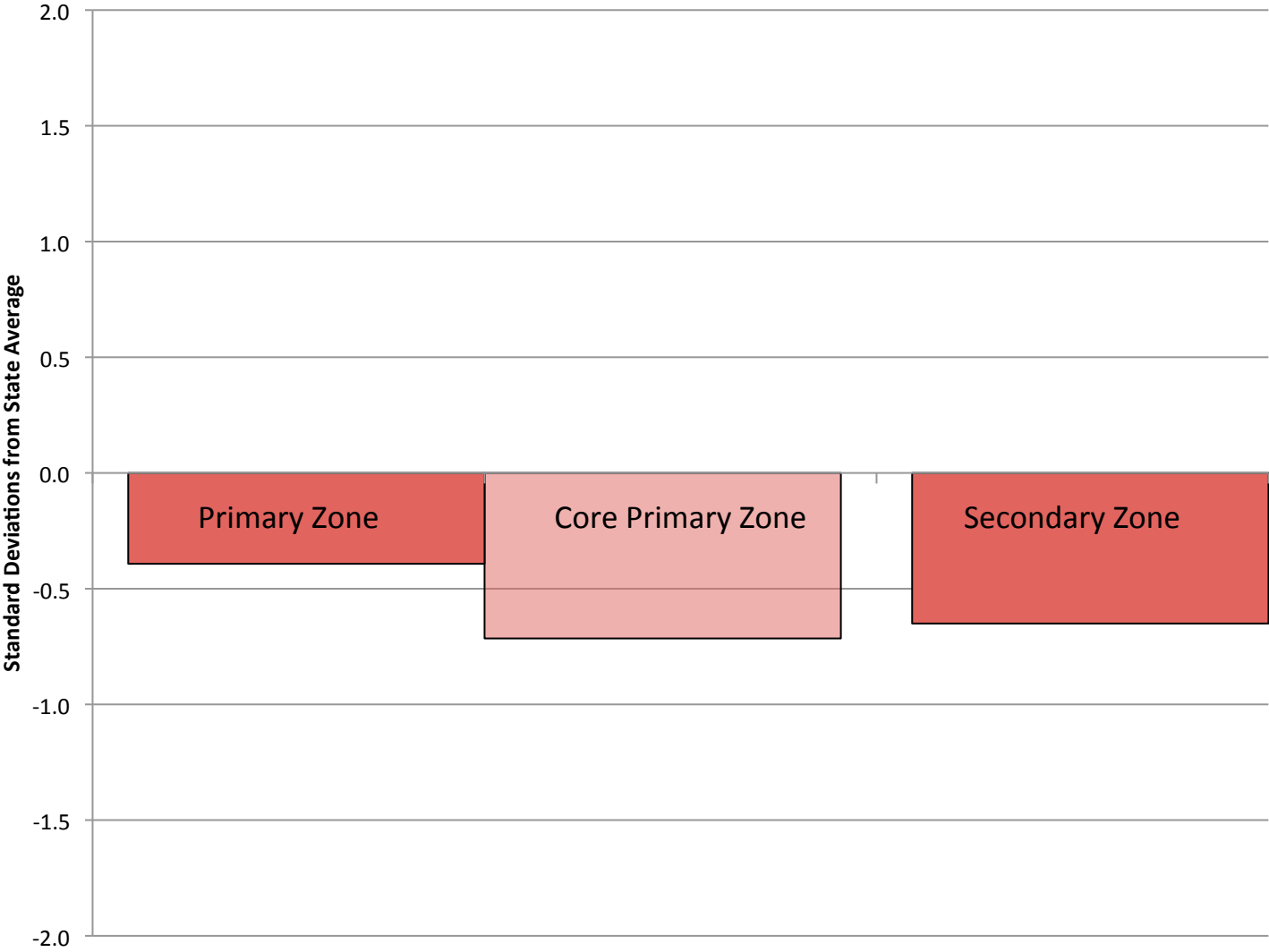
## Civic Life Opportunity: Place



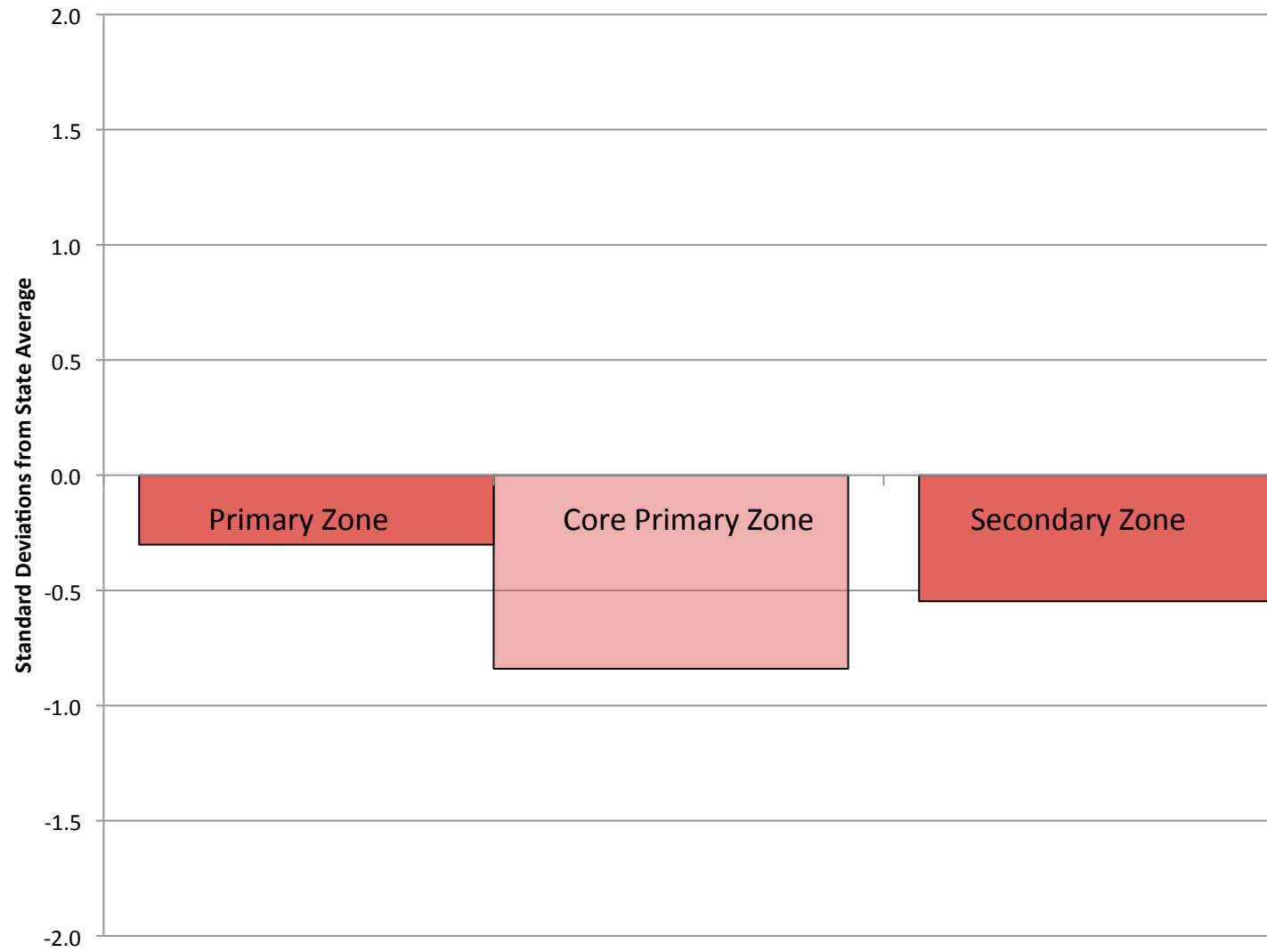
## Education-People: College-Educated Adults



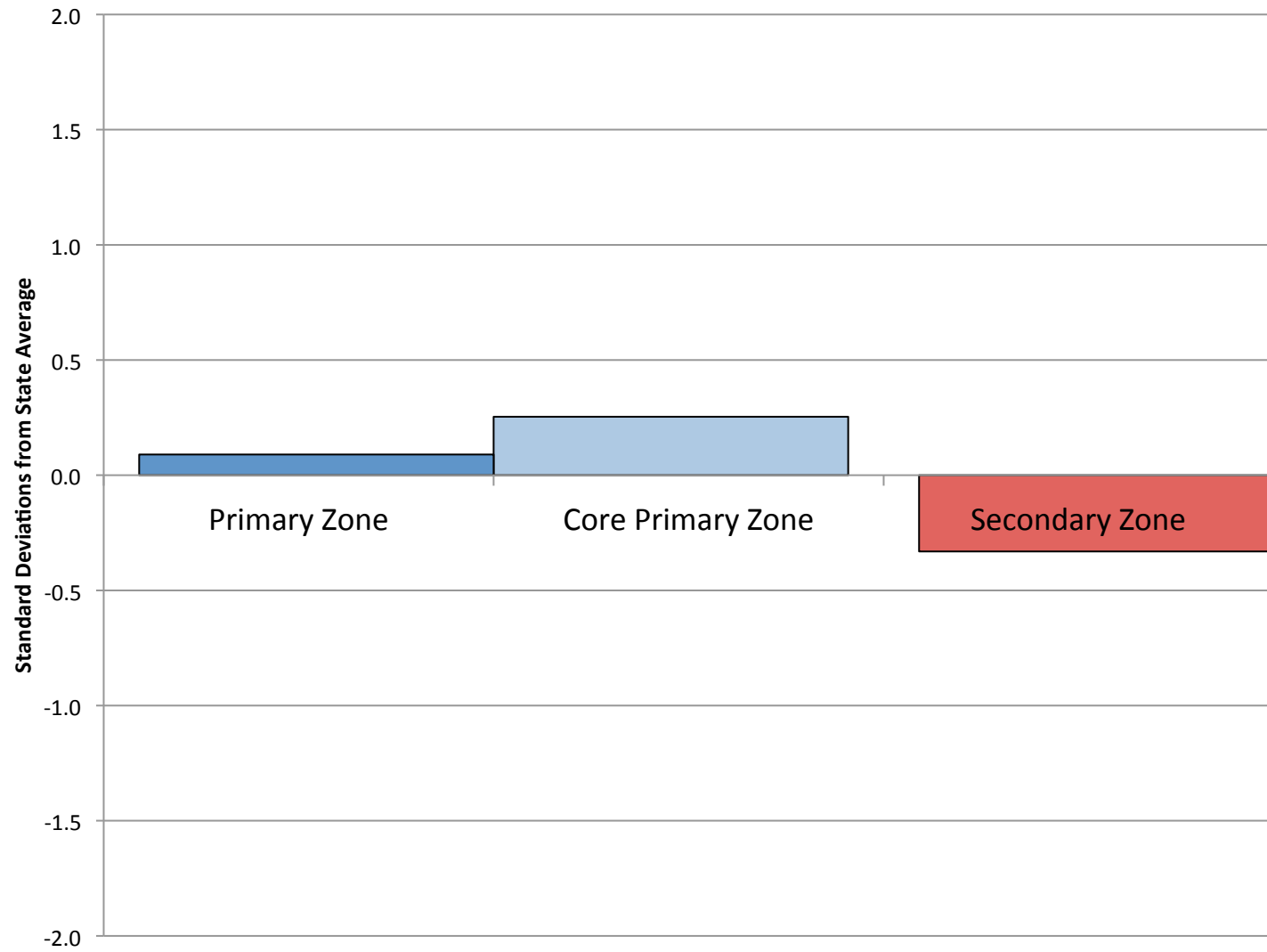
# Education-People: Math Proficiency



## Education-People: English Proficiency

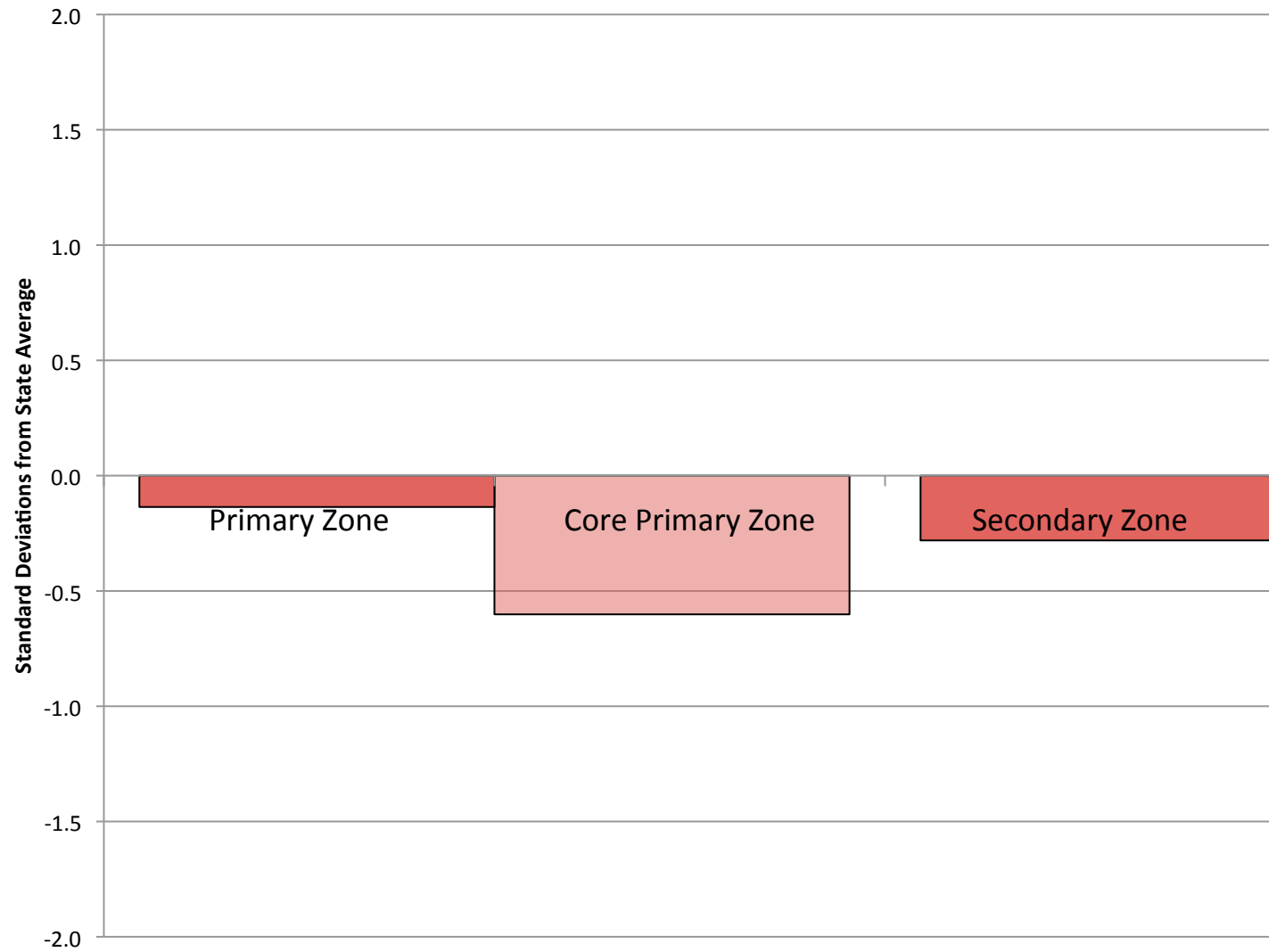


## Education-People: Elementary Truancy Rate

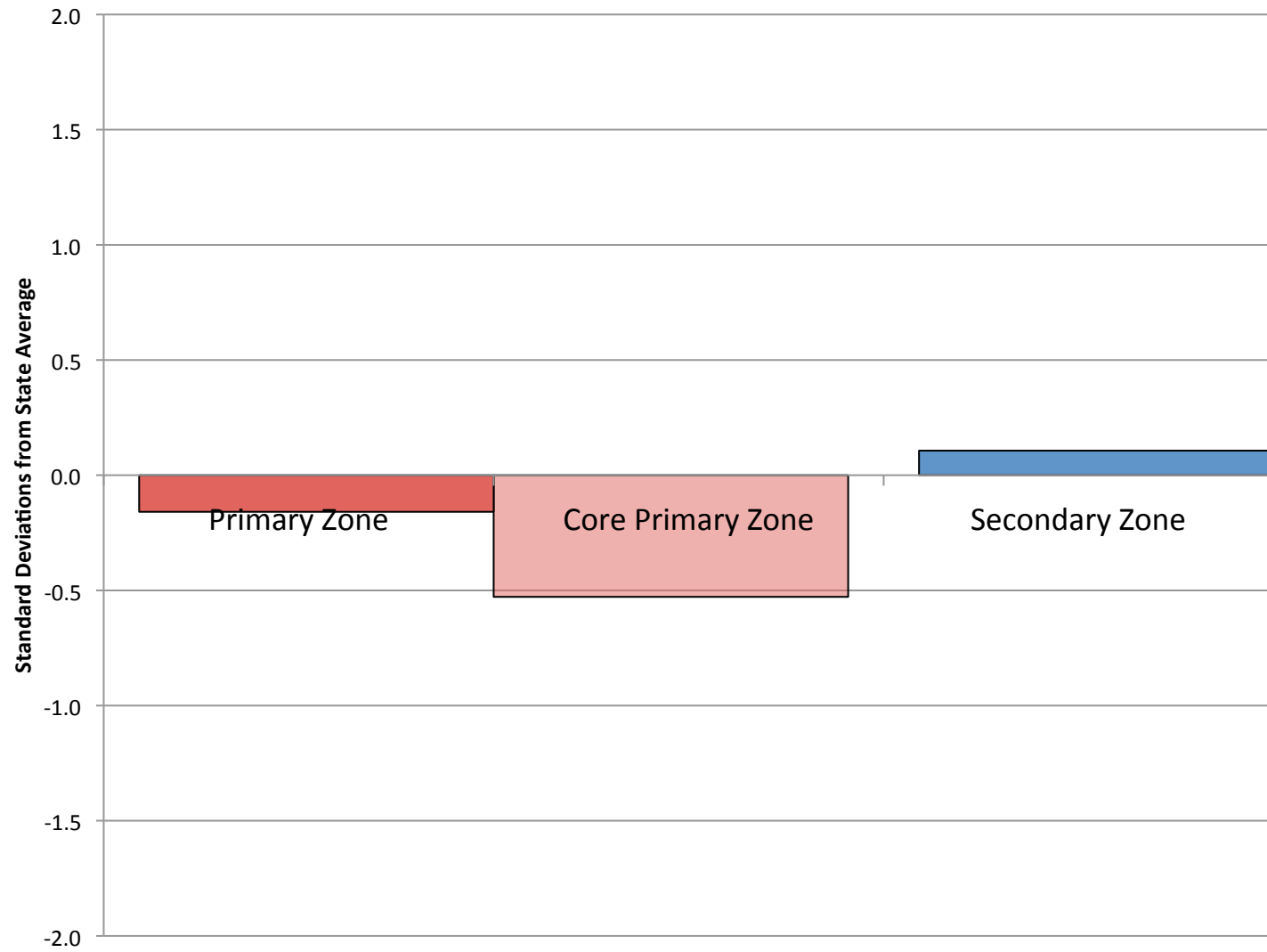




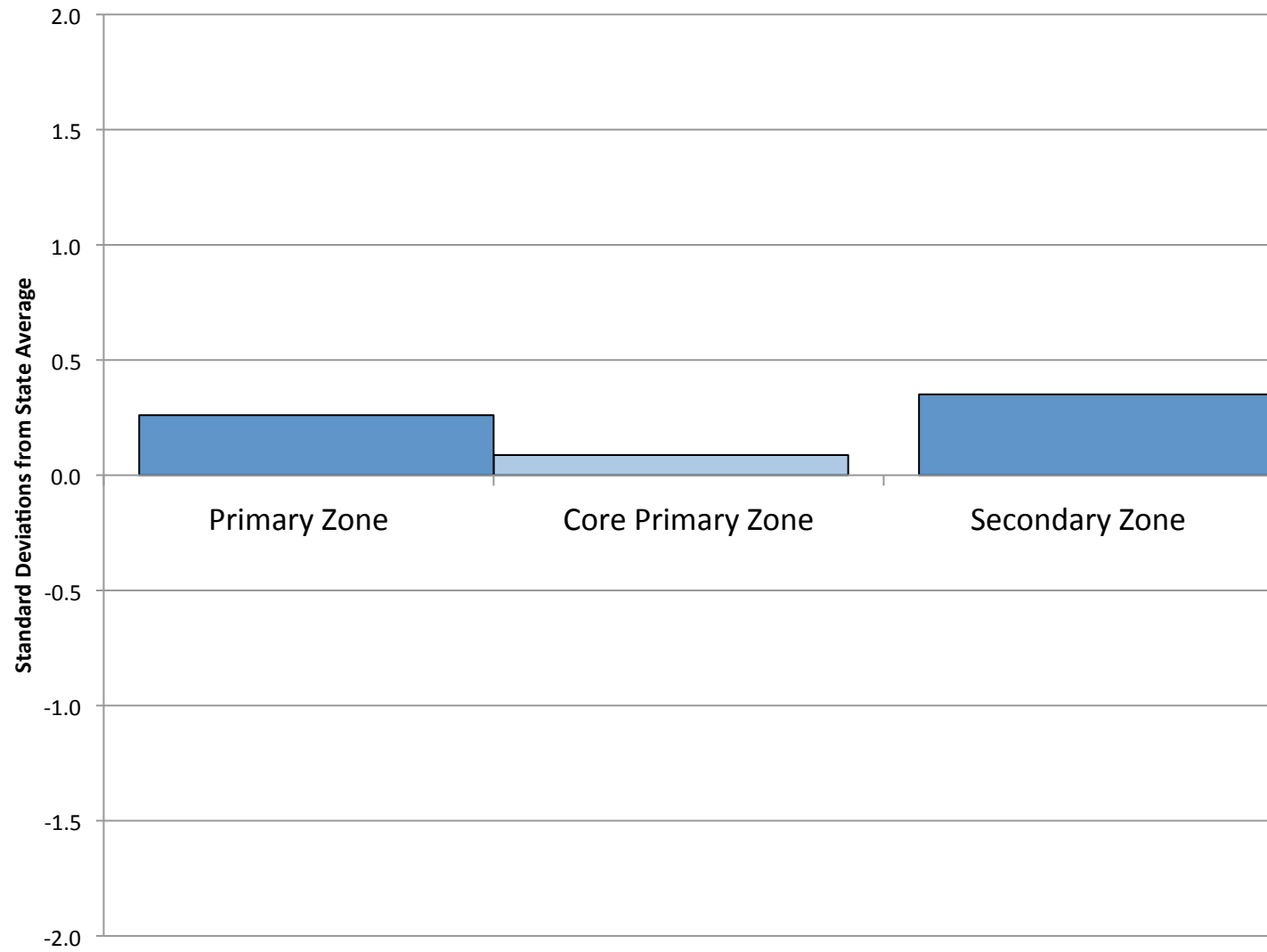
## Education-People: Employment Rate



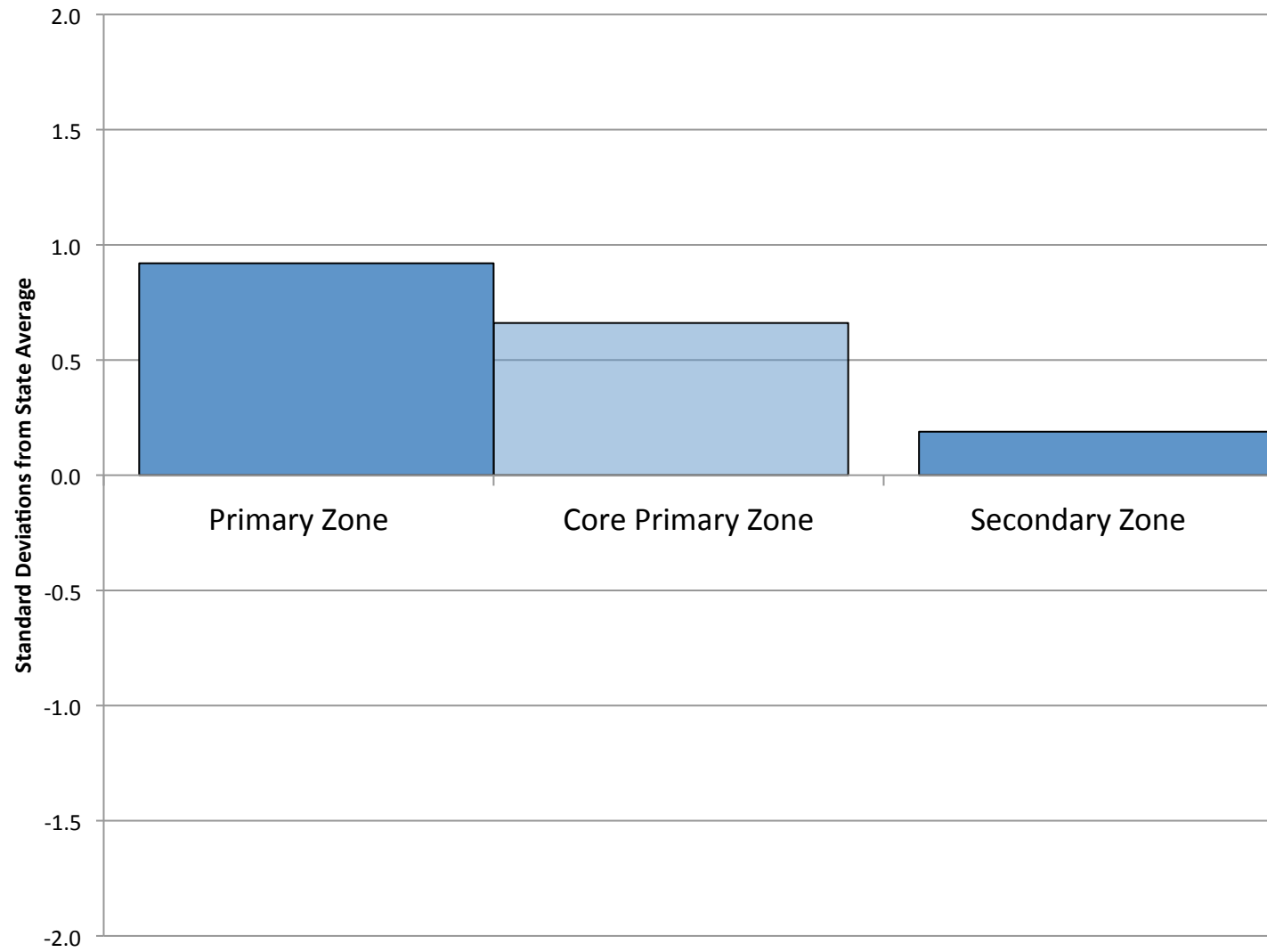
## Economy-People: Minimum Basic Income



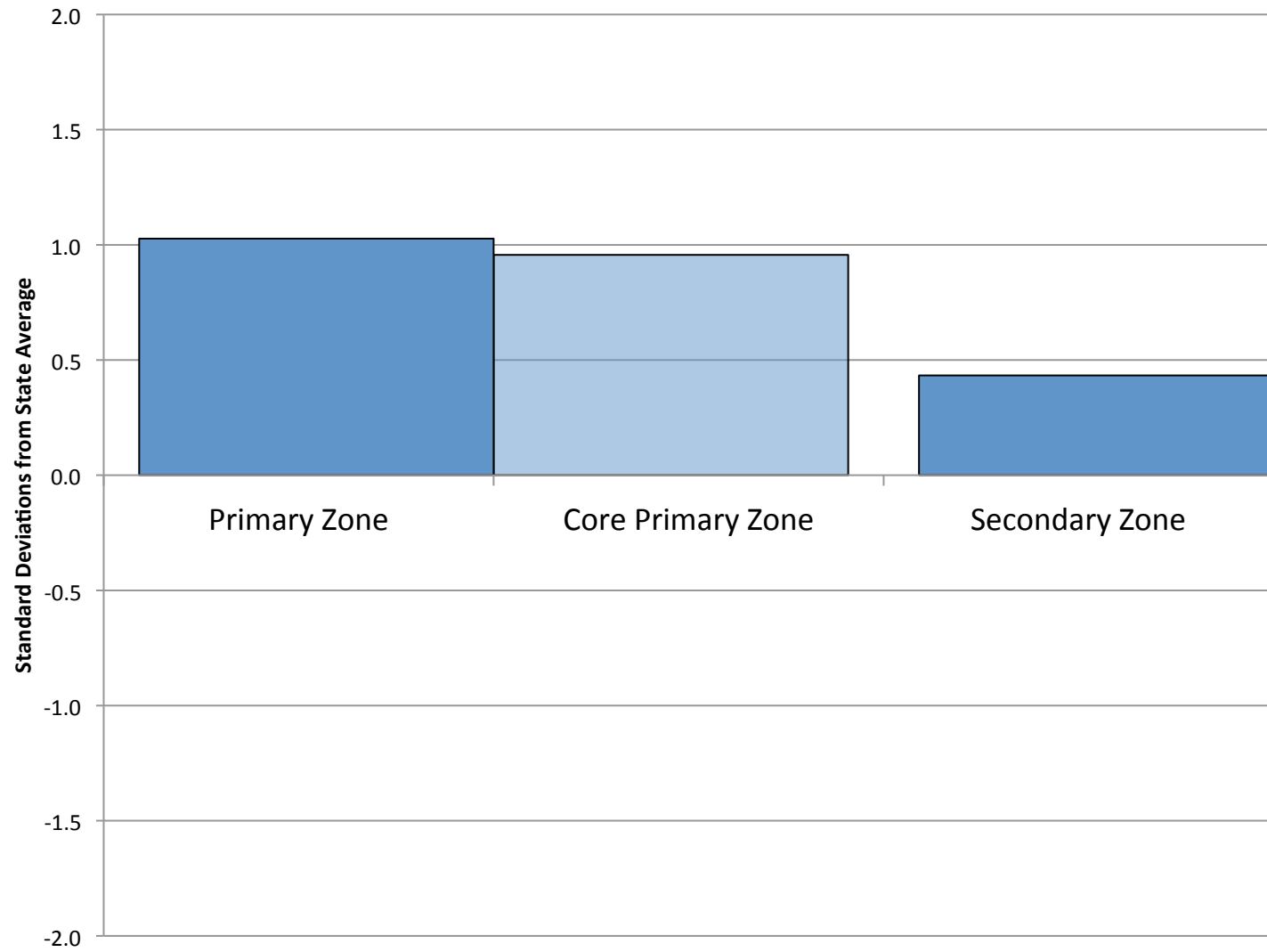
## Housing-People: Home Ownership



## Housing-People: Housing Cost Burden

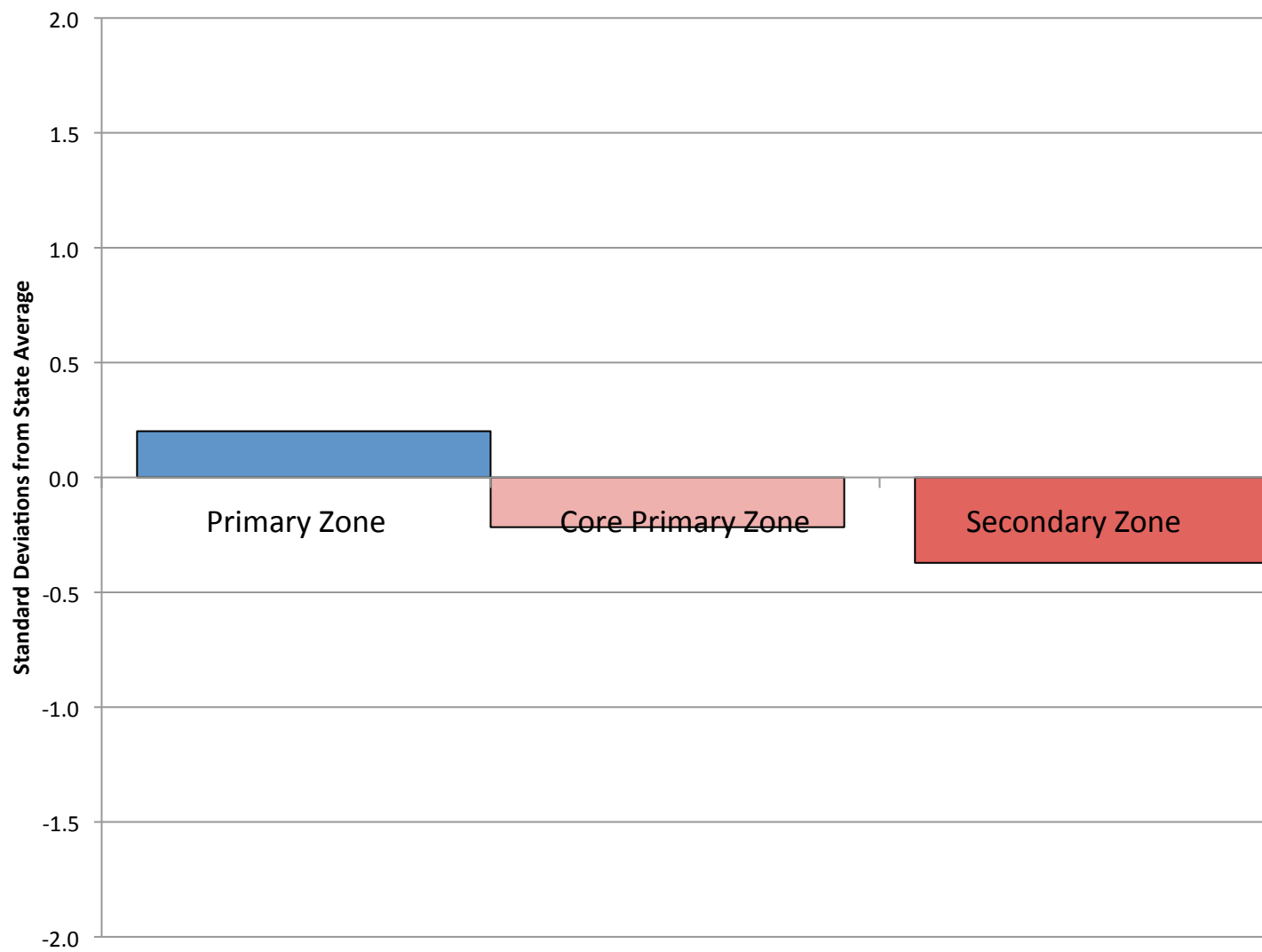


## Mobility/Transportation-People: Vehicle Availability

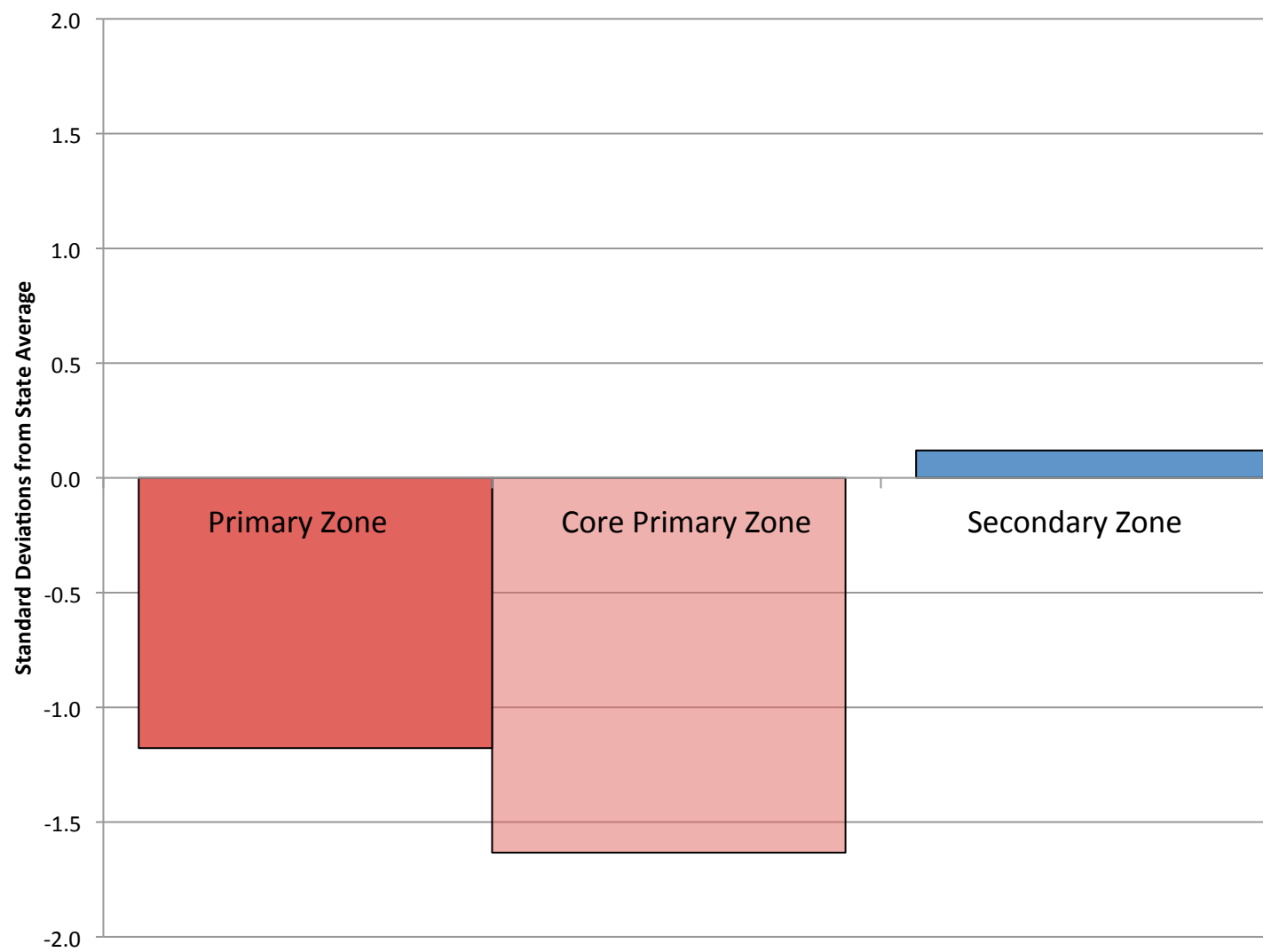




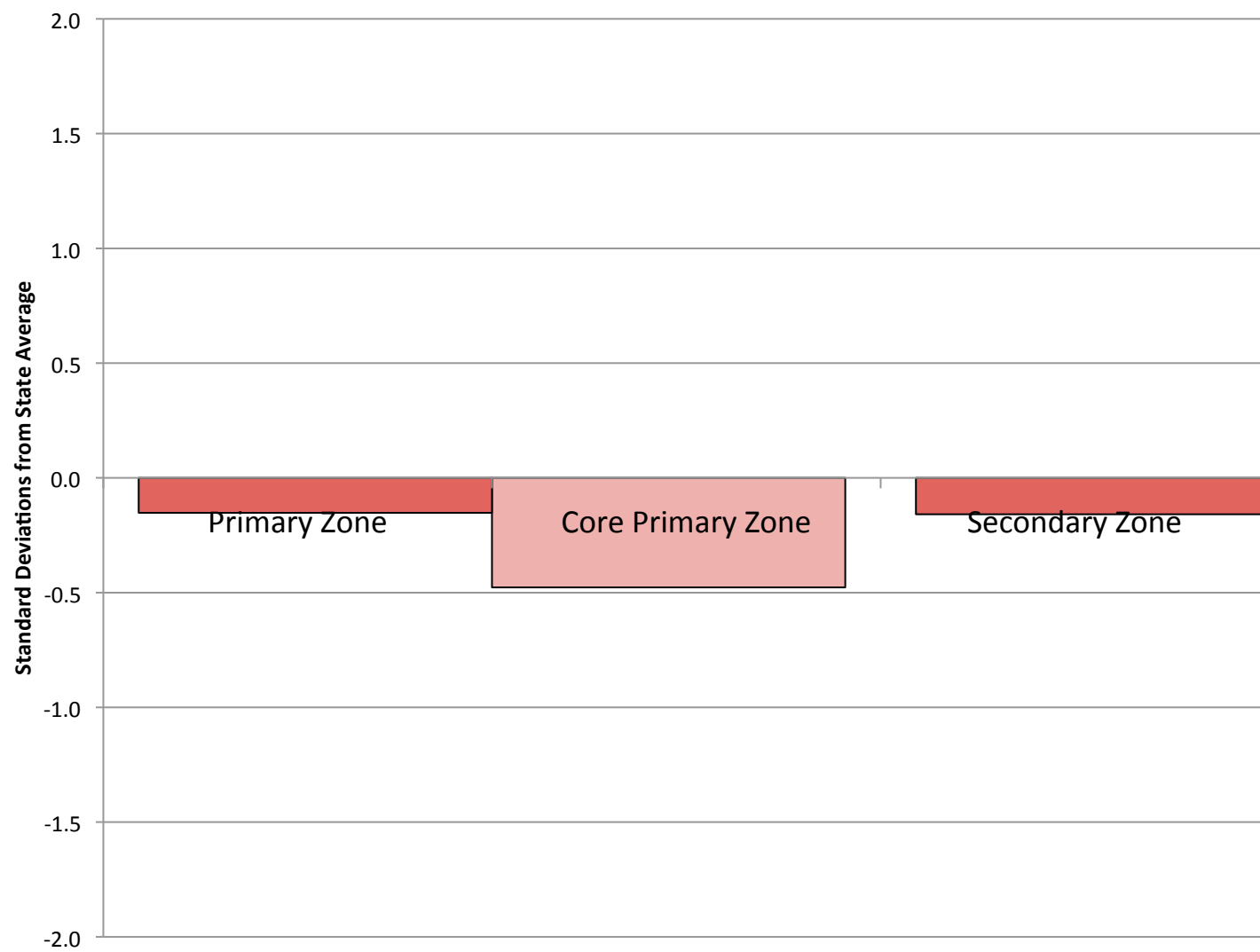
## Mobility/Transportation-People: Commute Time



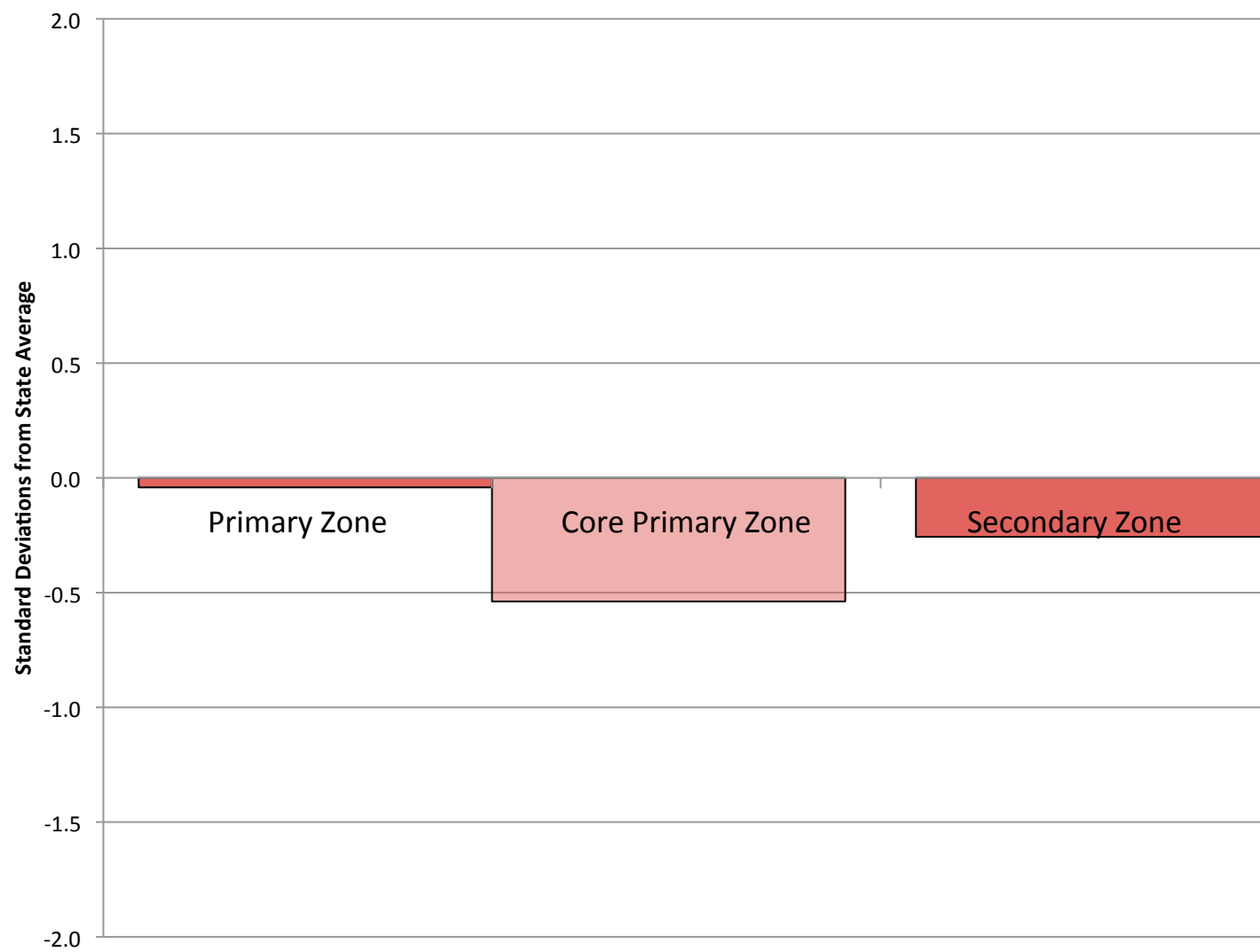
## Mobility/Transportation-People: Internet Access



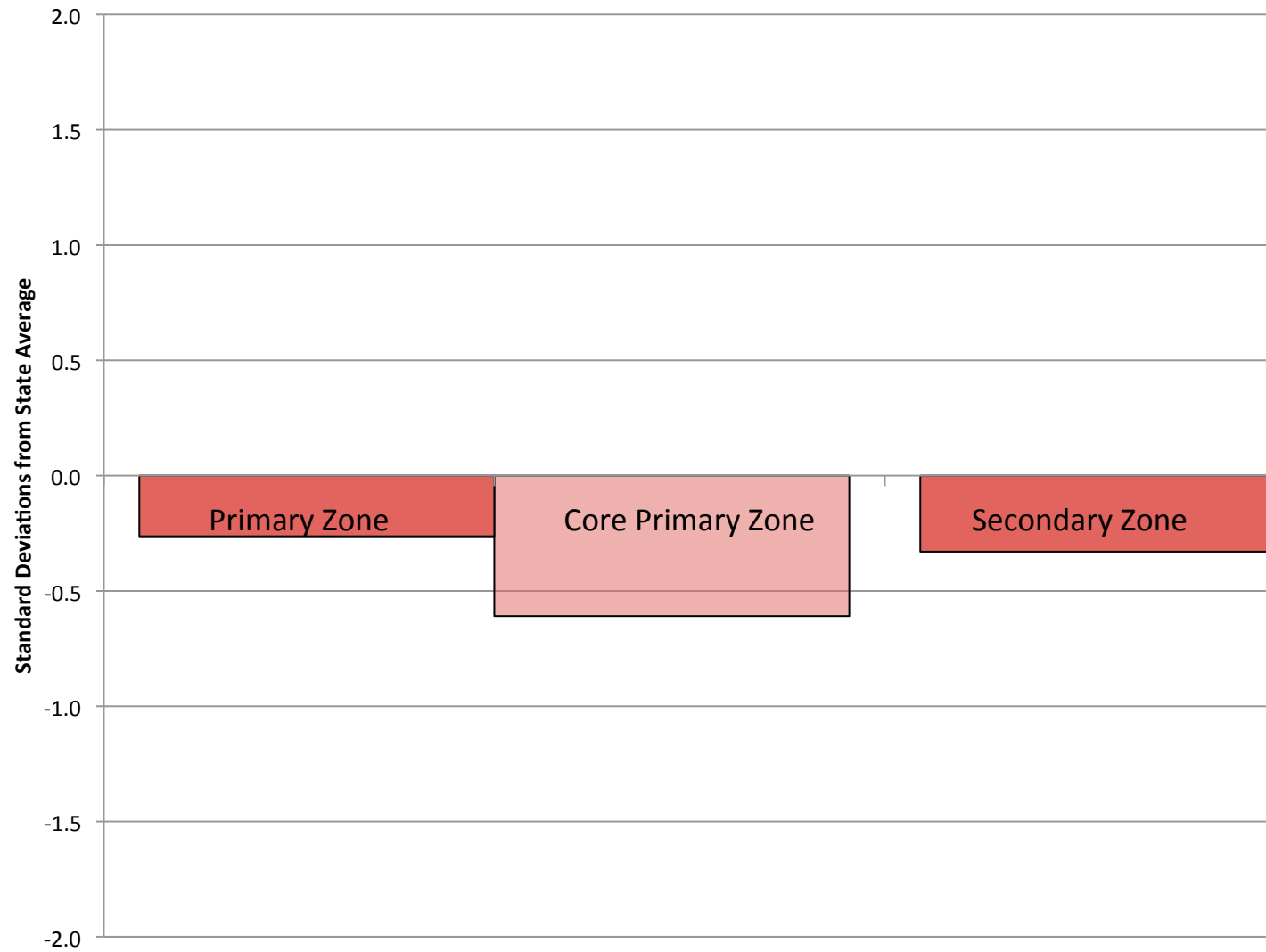
## Health/Environment-People: Infant Health



## Health/Environment-People: Births to Teens

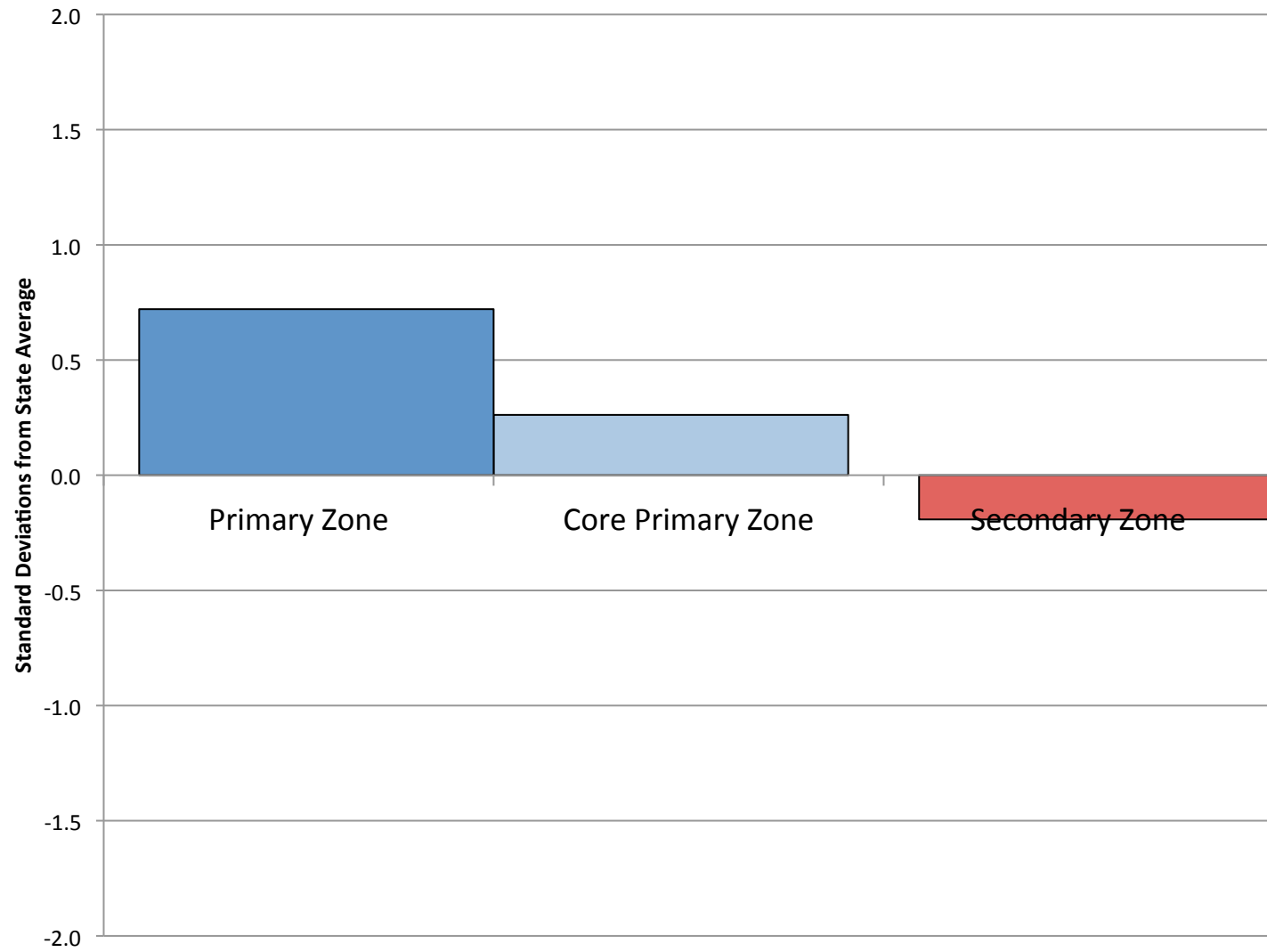


## Health/Environment-People: Years of Potential Life Lost

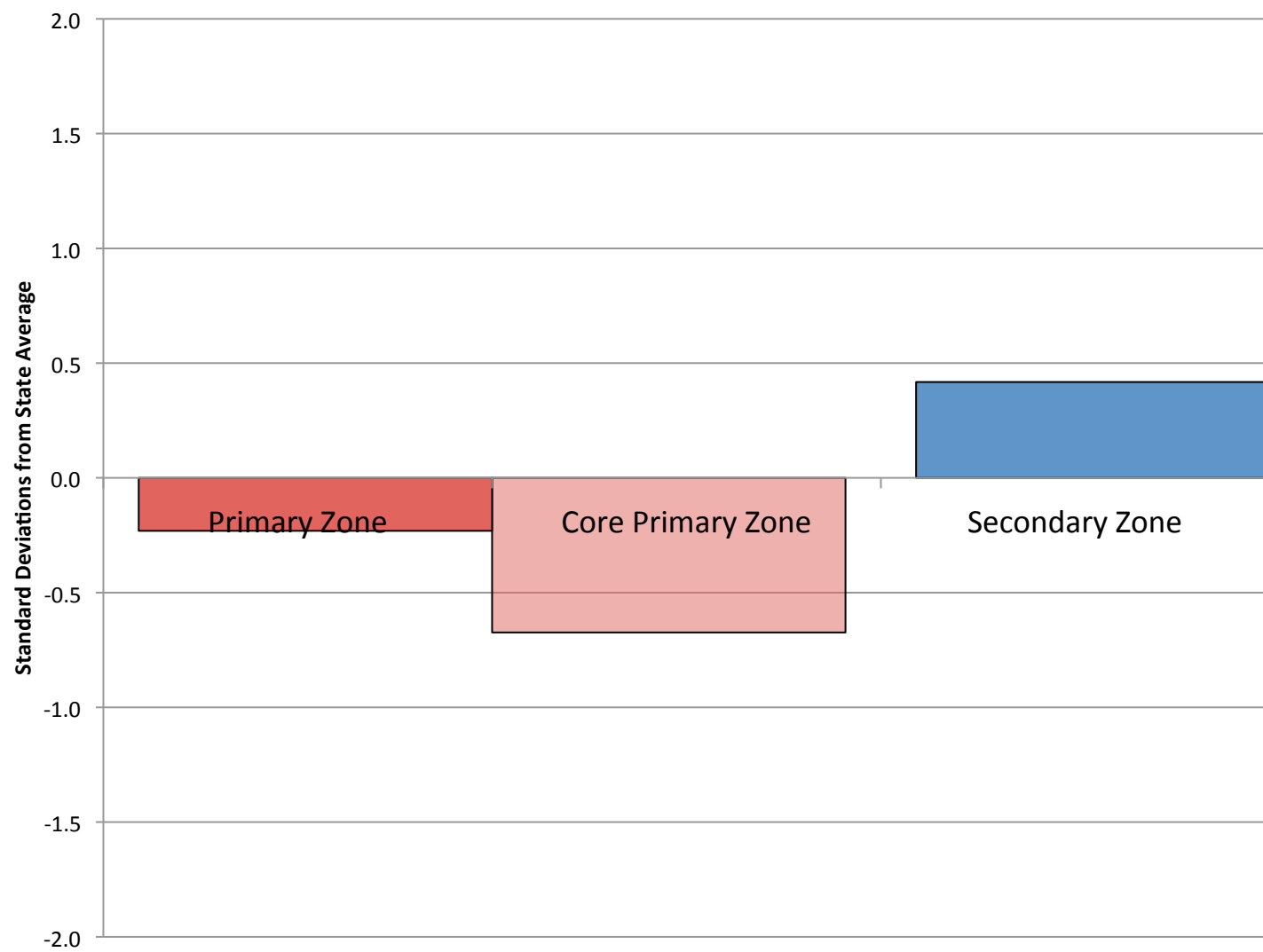




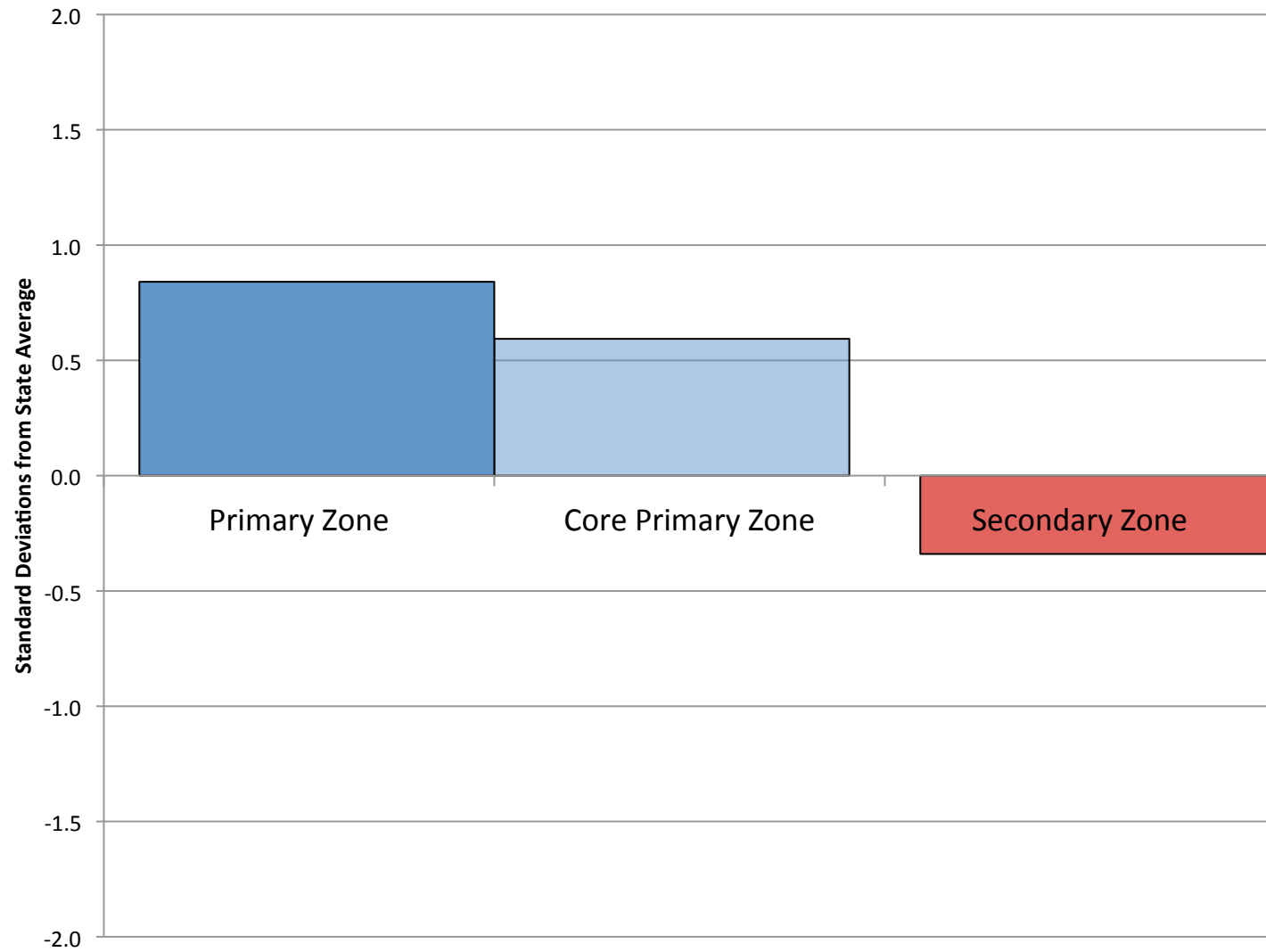
## Civic Life-People: Voting Rate



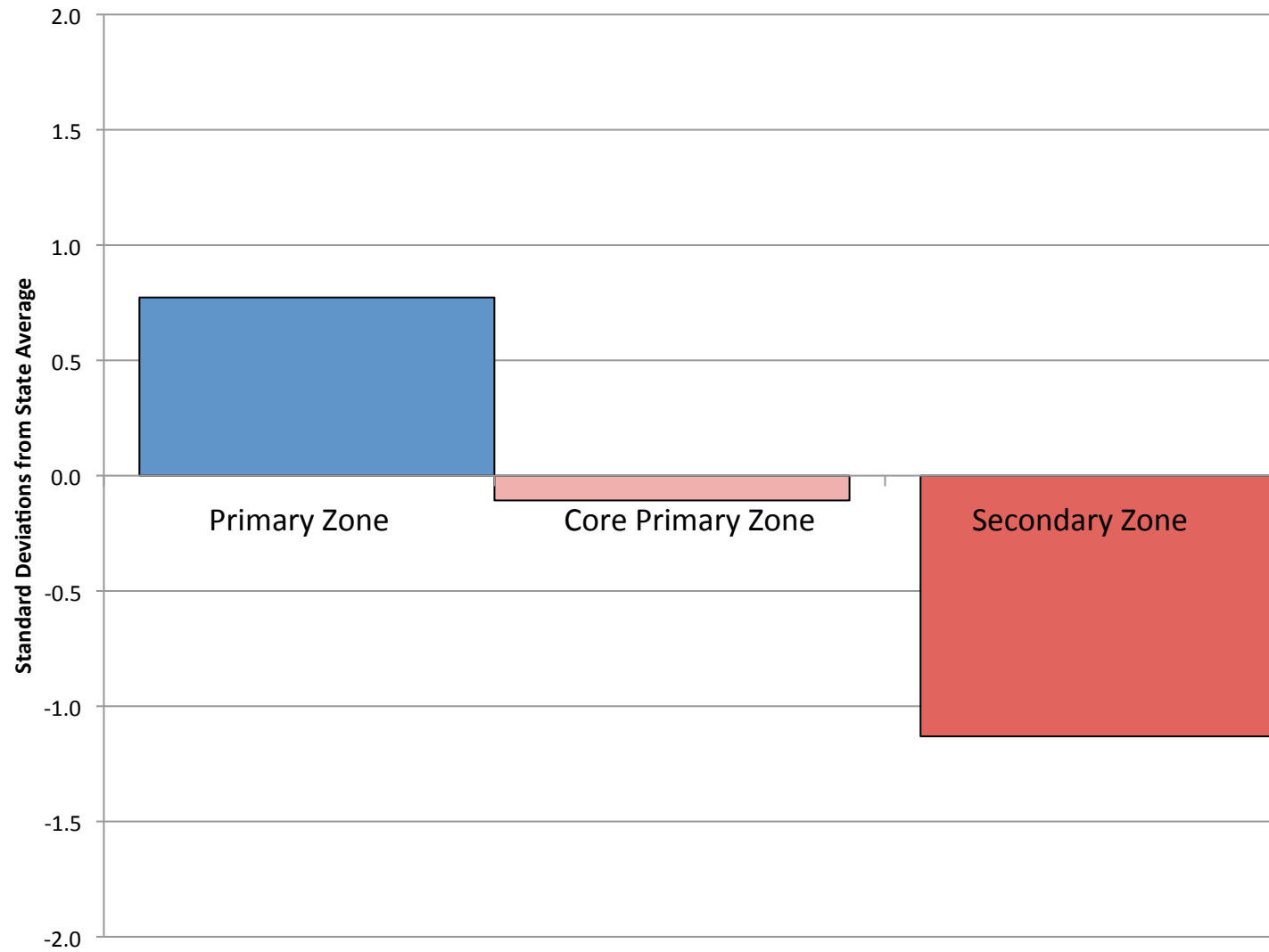
## Civic Life-People: English Speakers



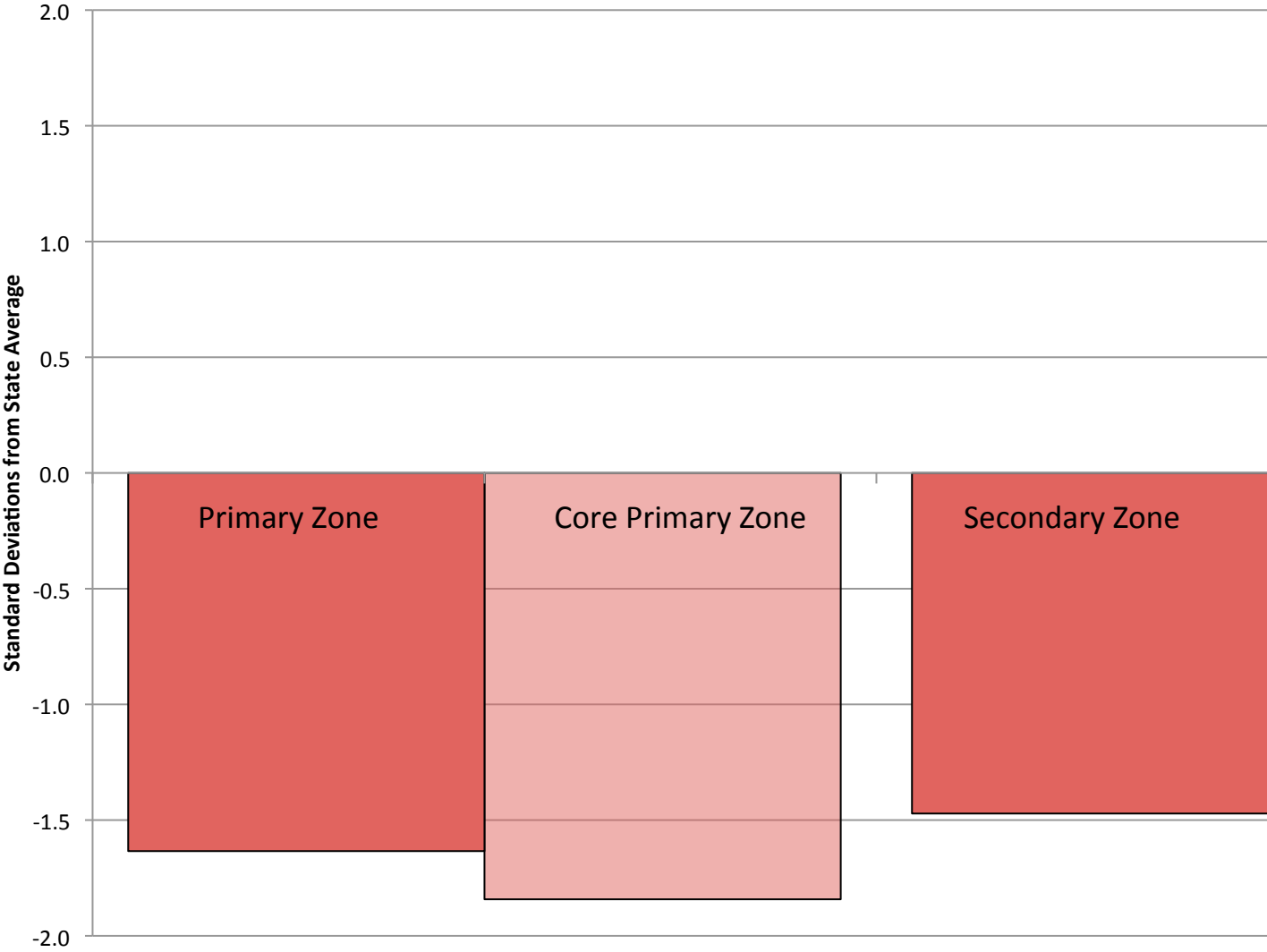
## Education-Place: High School Graduation Rate



## Education-Place: UC/CSU Eligibility

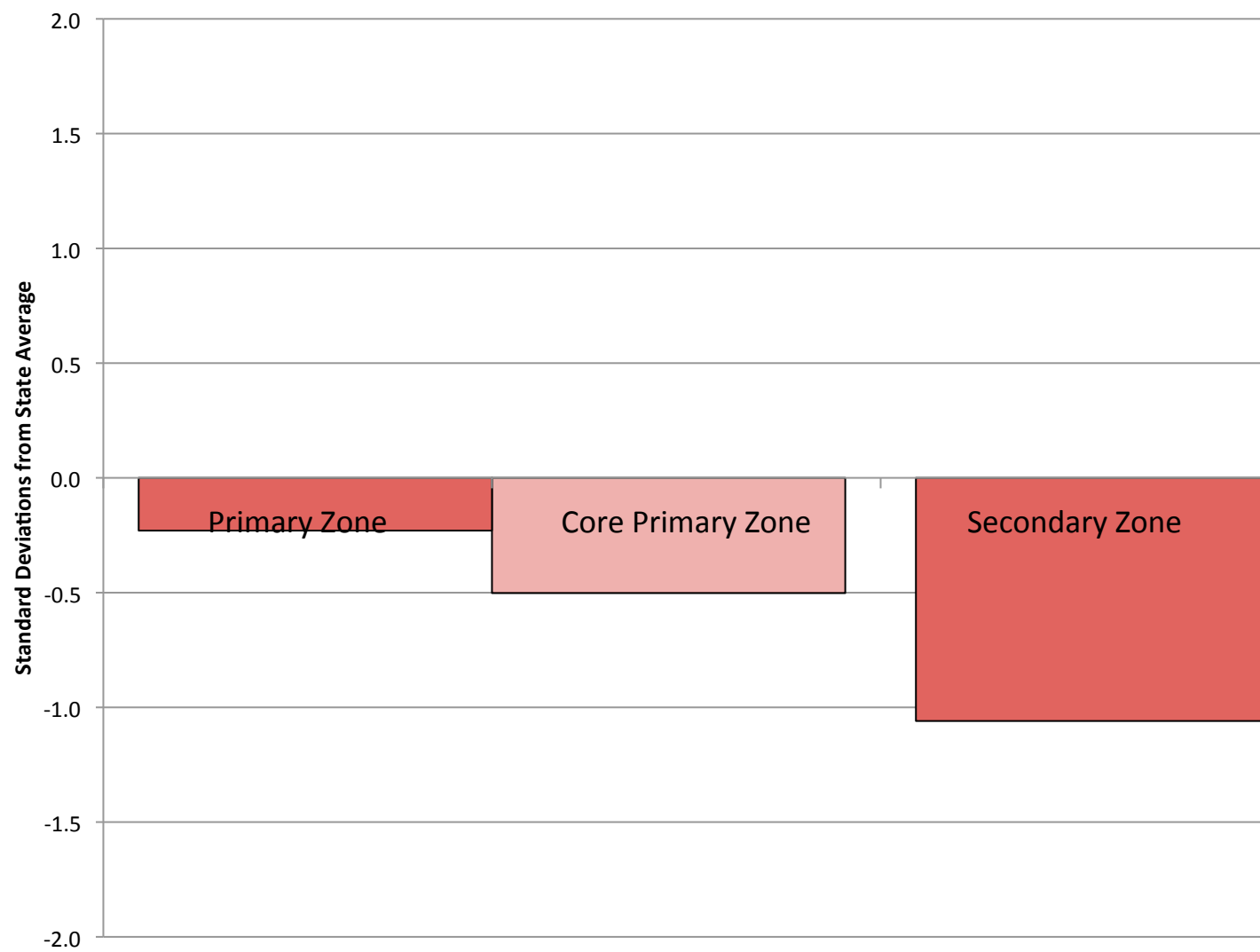


Education-Place: Teacher Experience

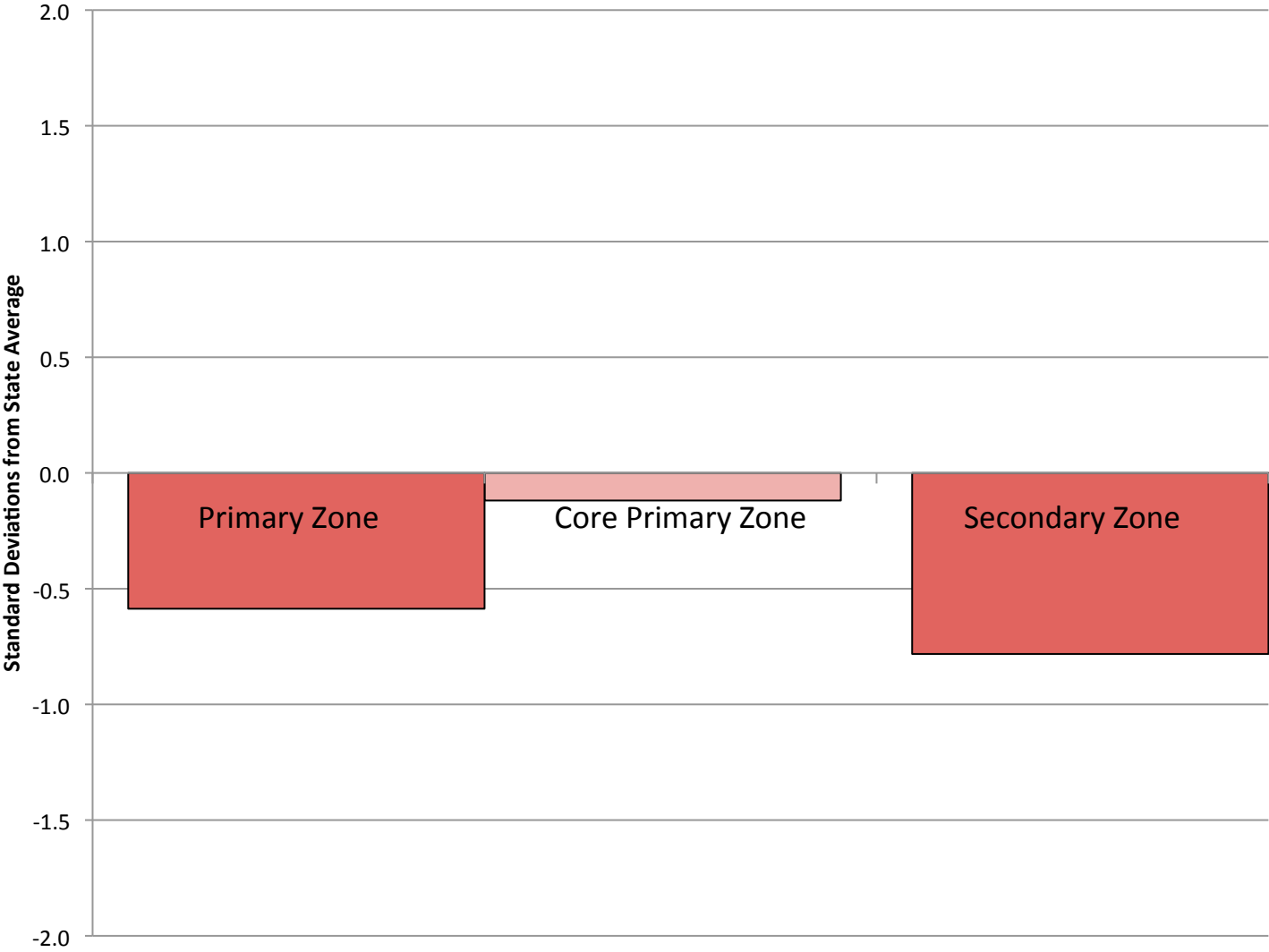




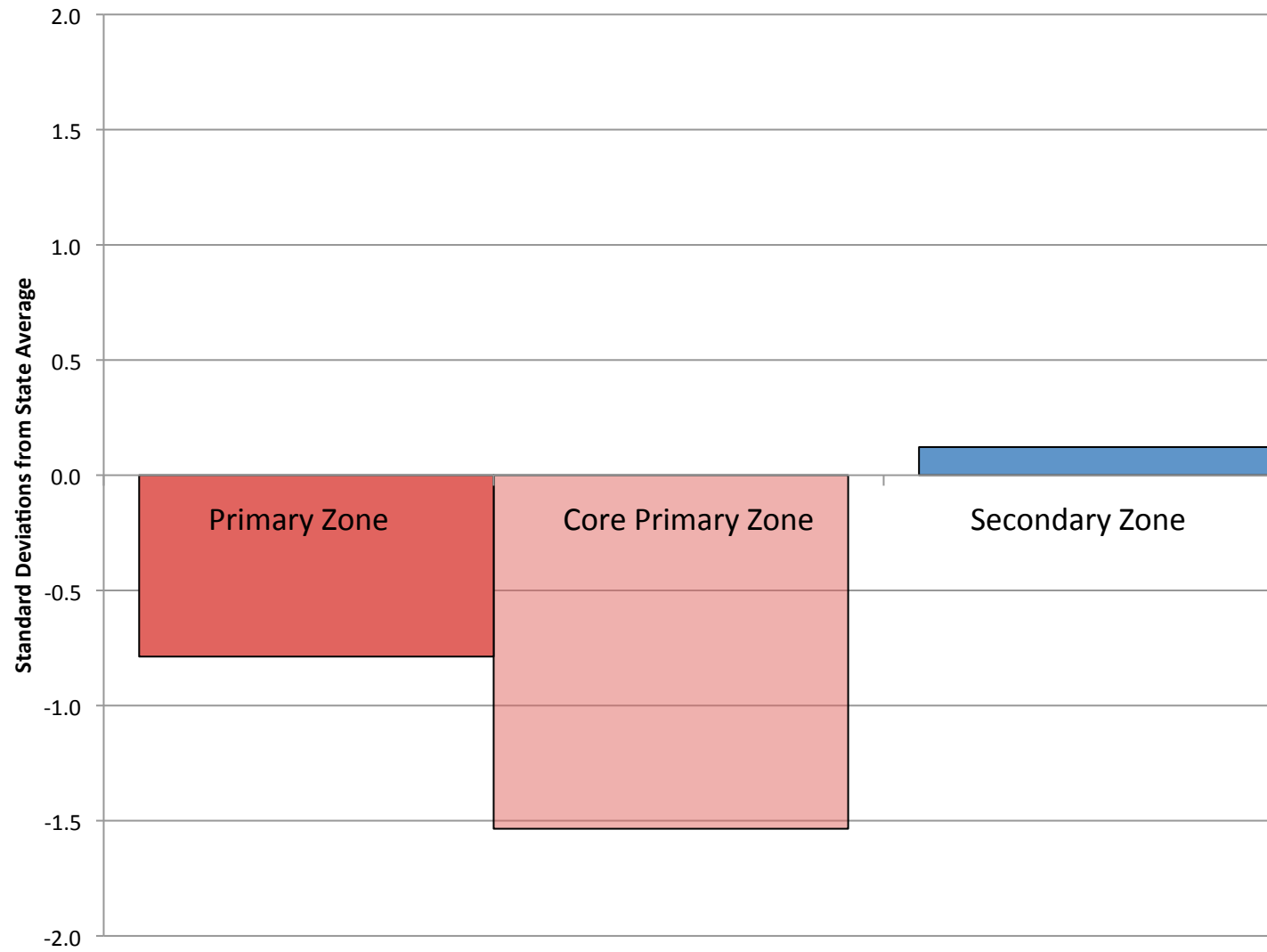
## Education-Place: High School Discipline Rate



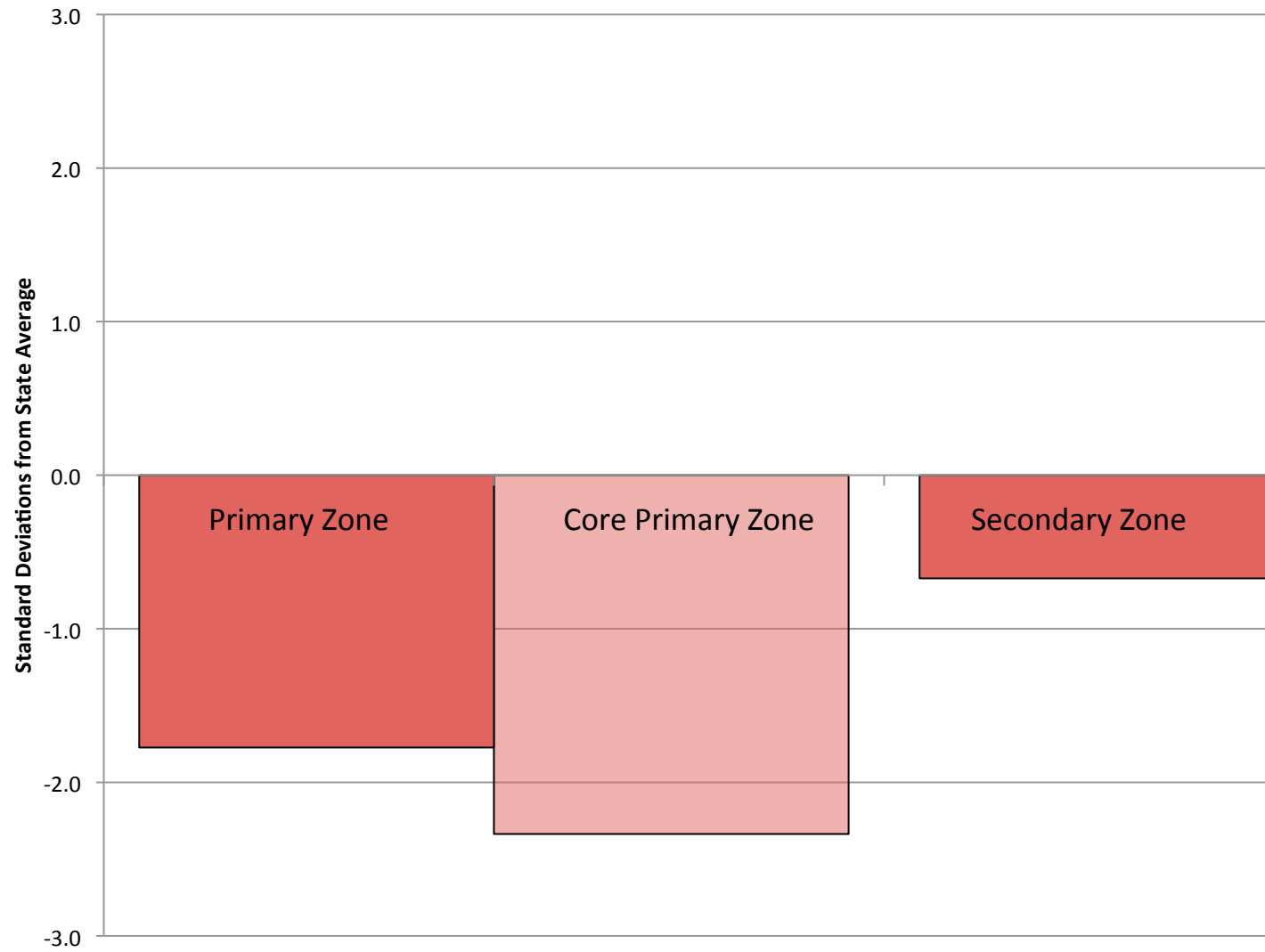
Economy-Place: Job Availability



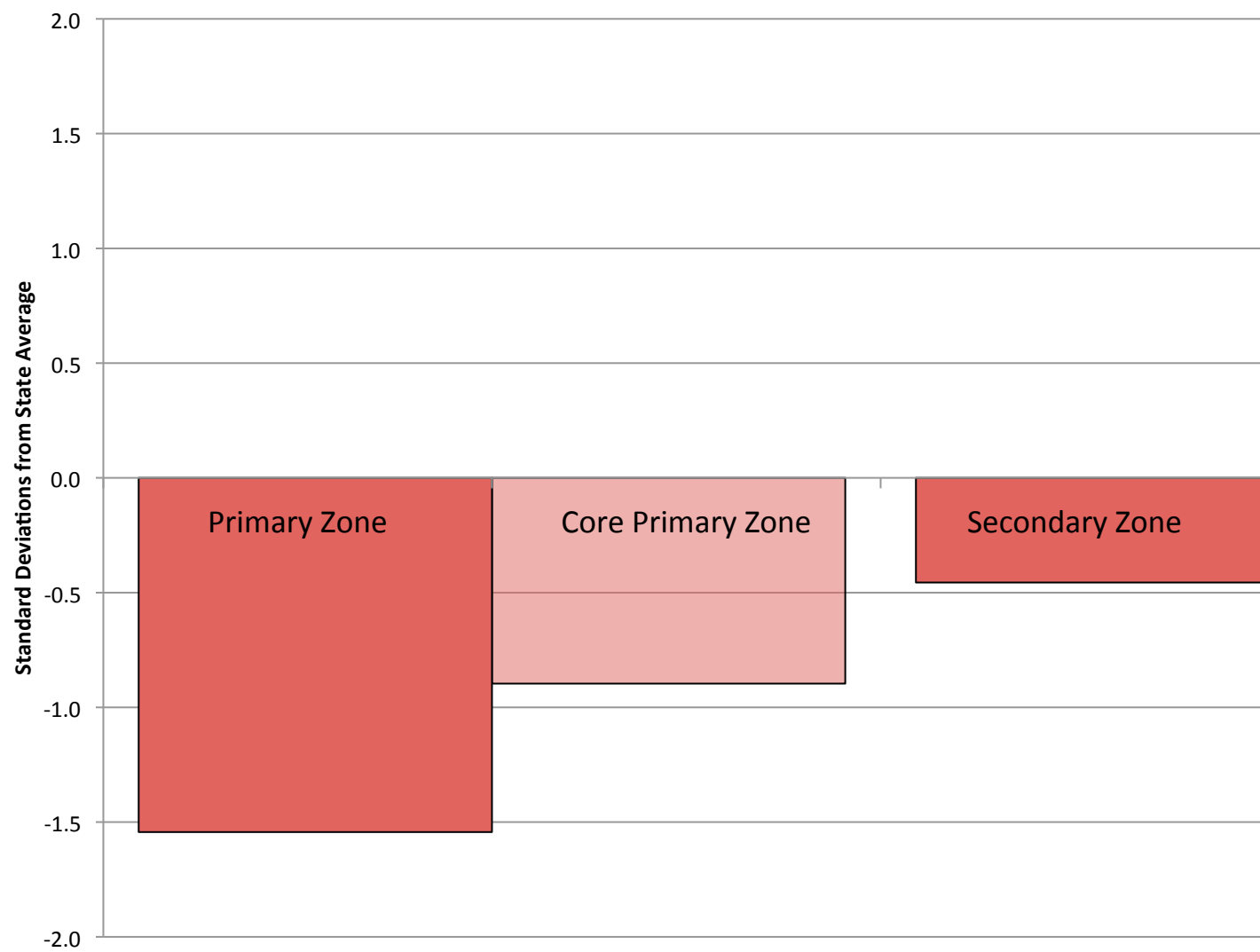
## Economy-Place: Job Growth



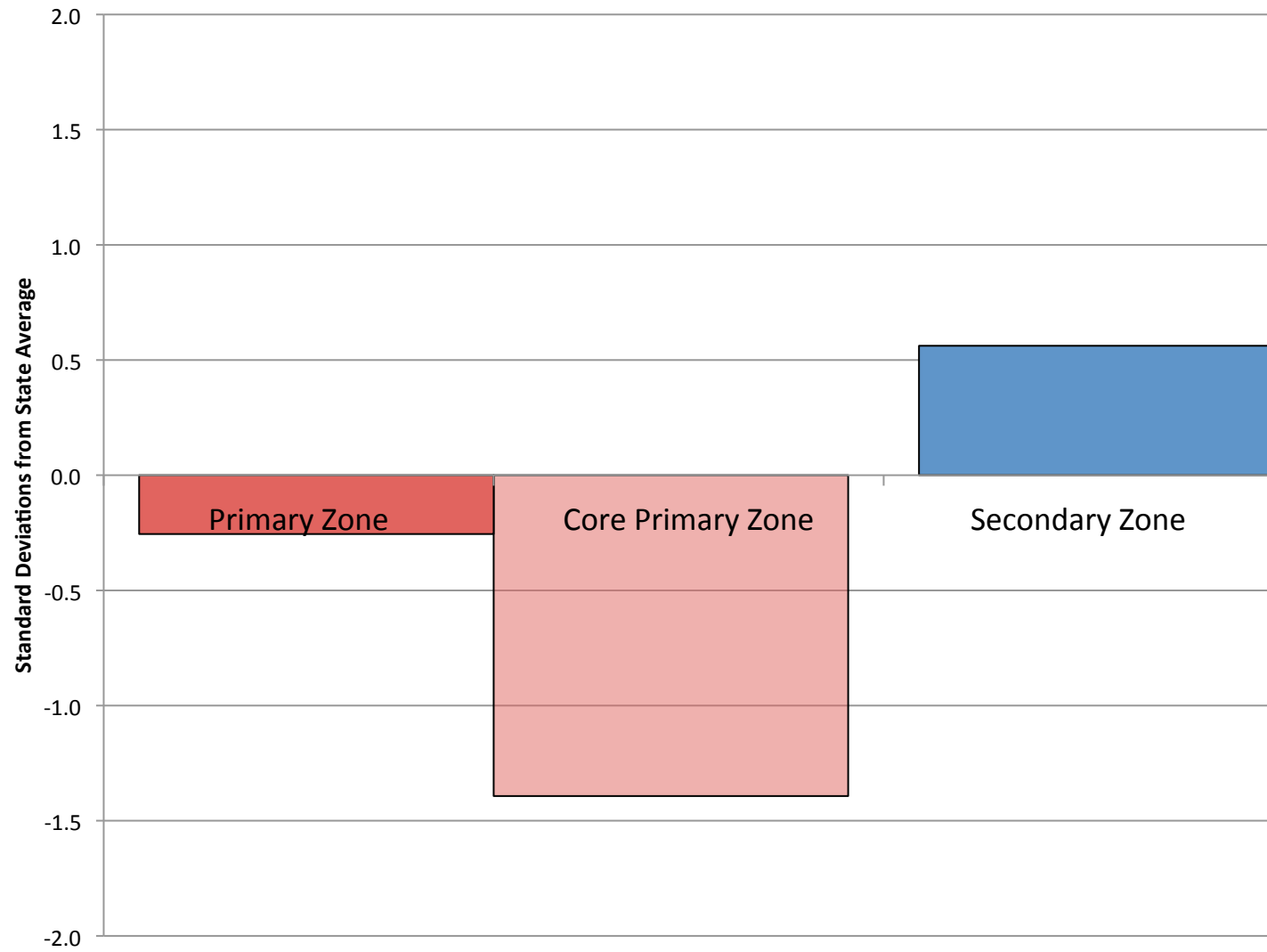
## Economy-Place: Job Quality



## Economy-Place: Bank Accessibility

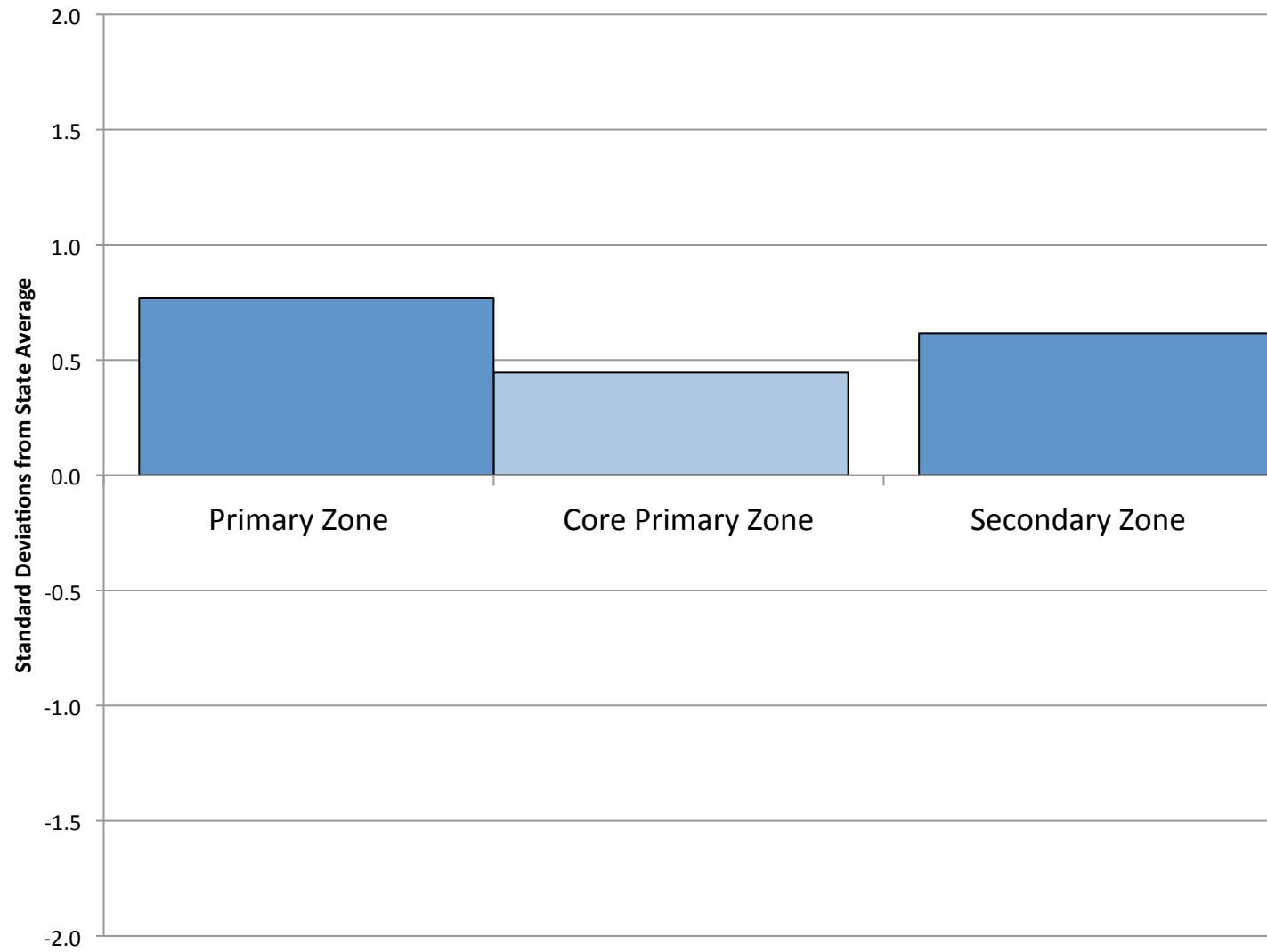


## Economy-Place: Business Growth

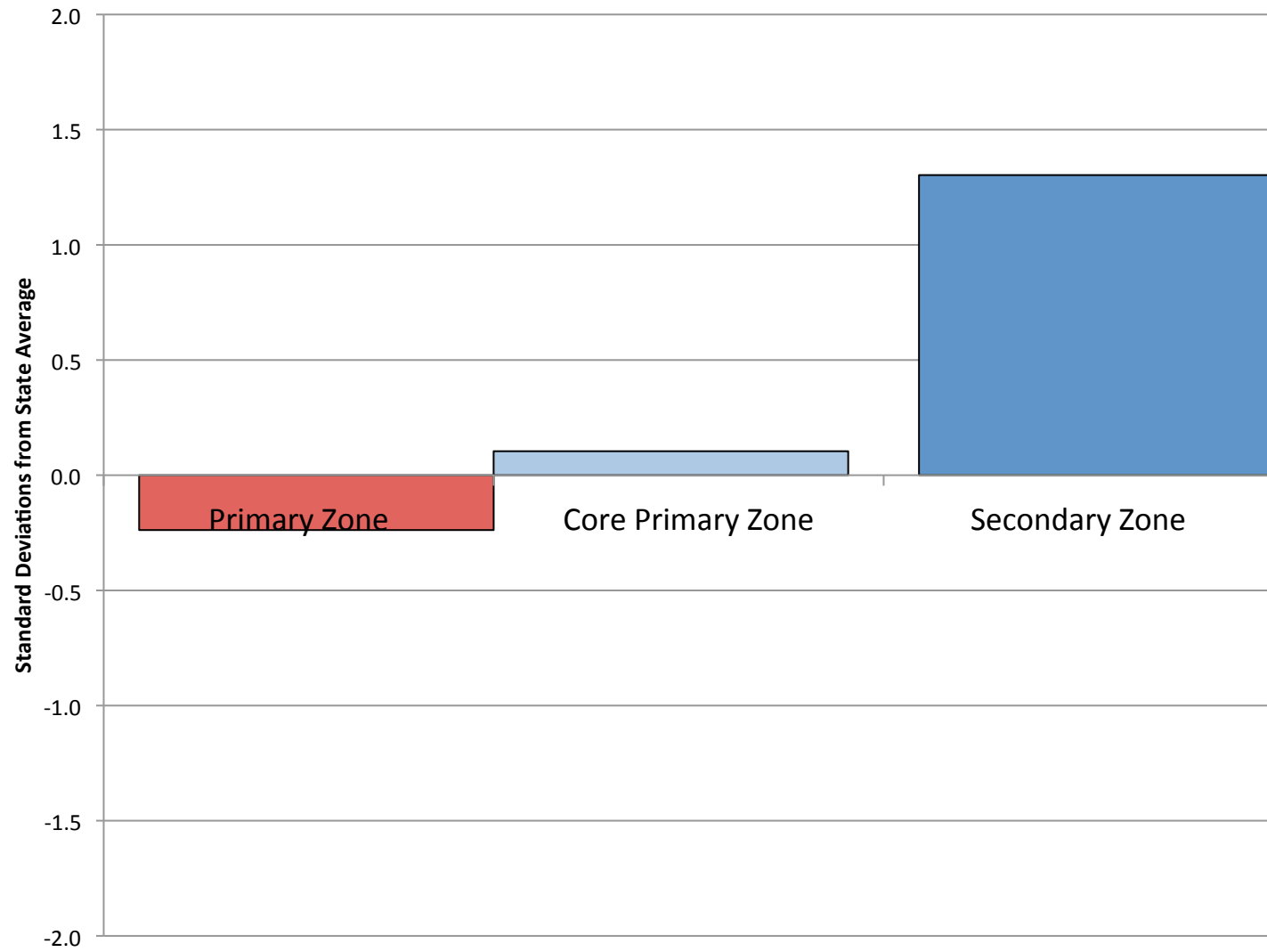




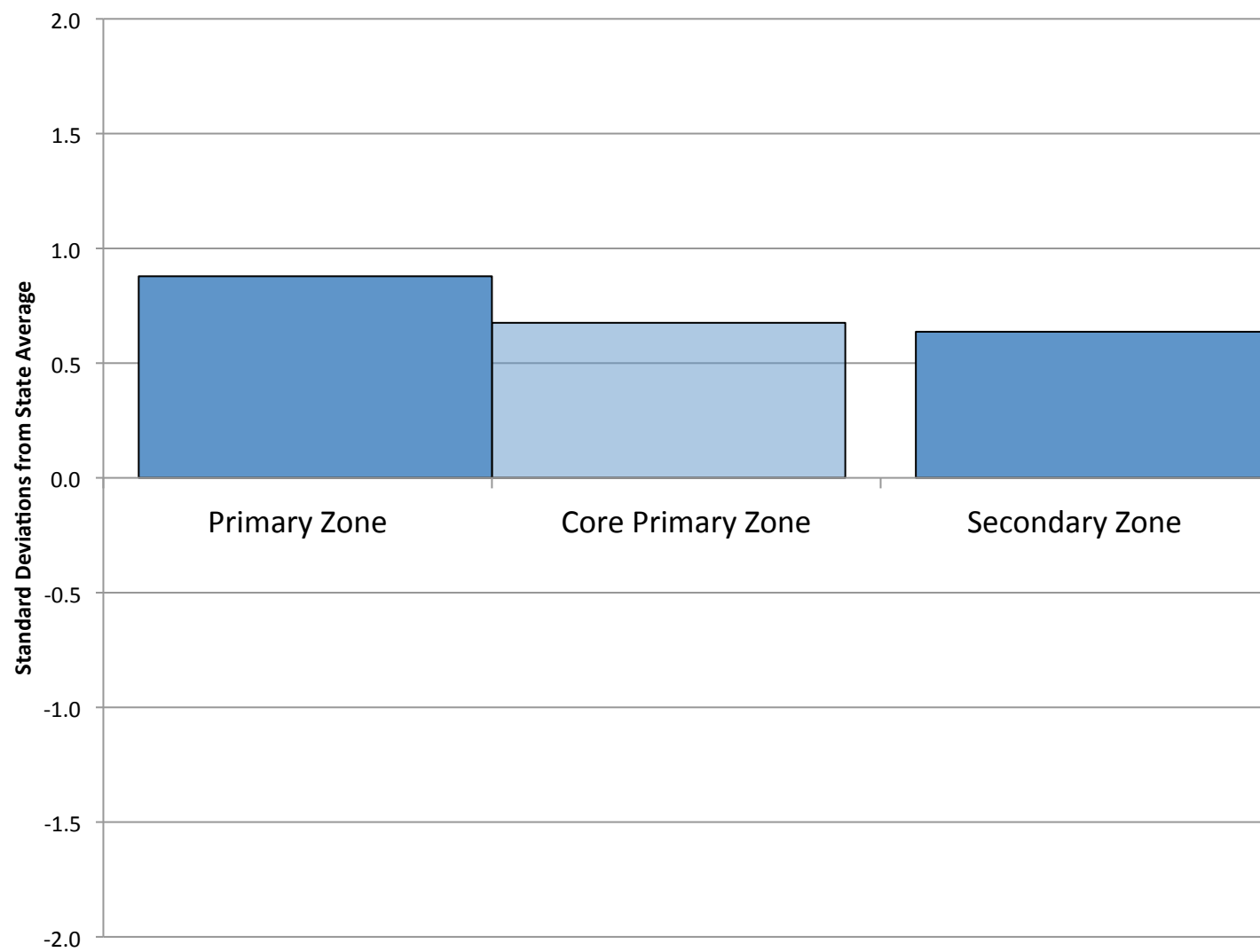
## Housing-Place: Housing Adequacy



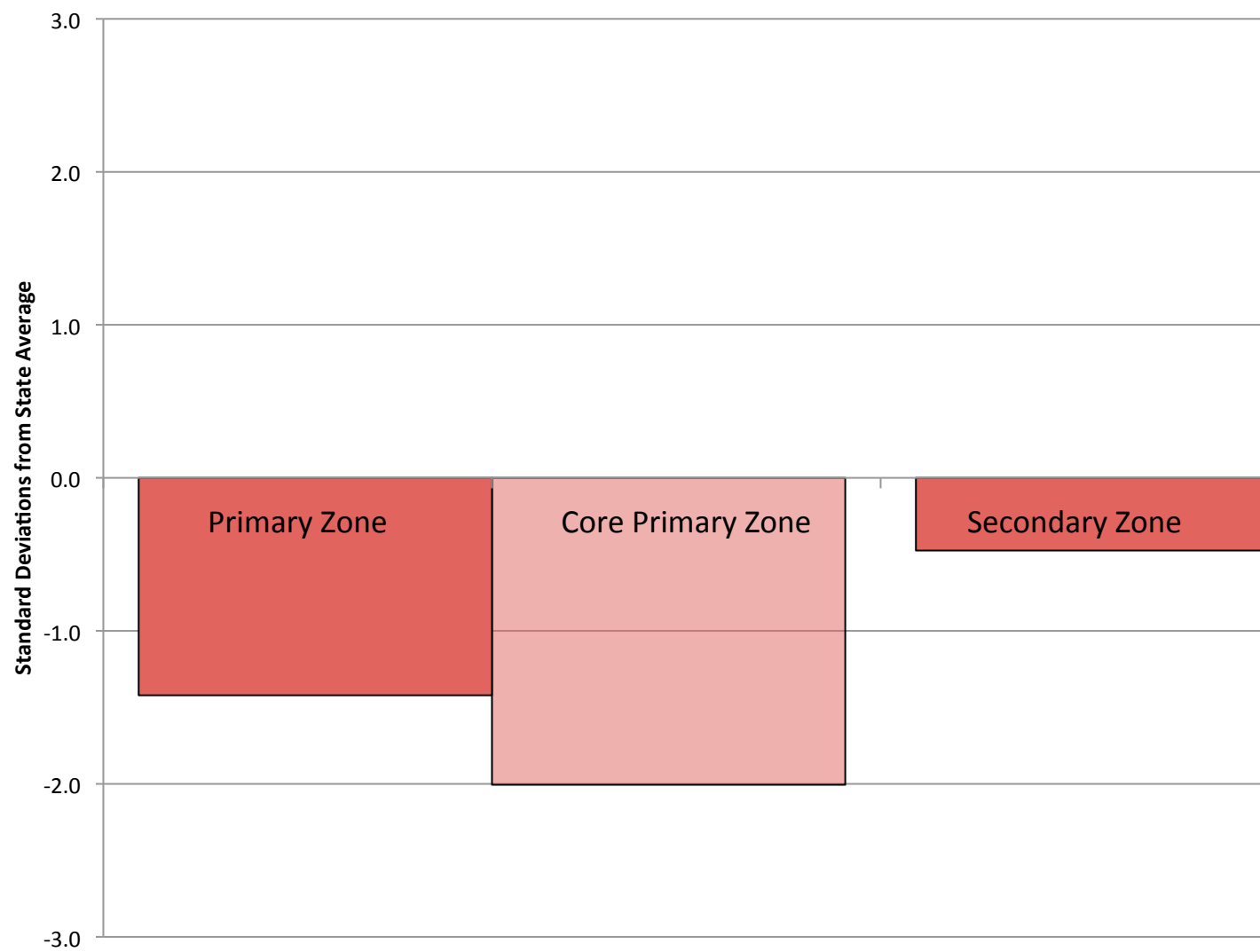
## Housing-Place: Housing Affordability



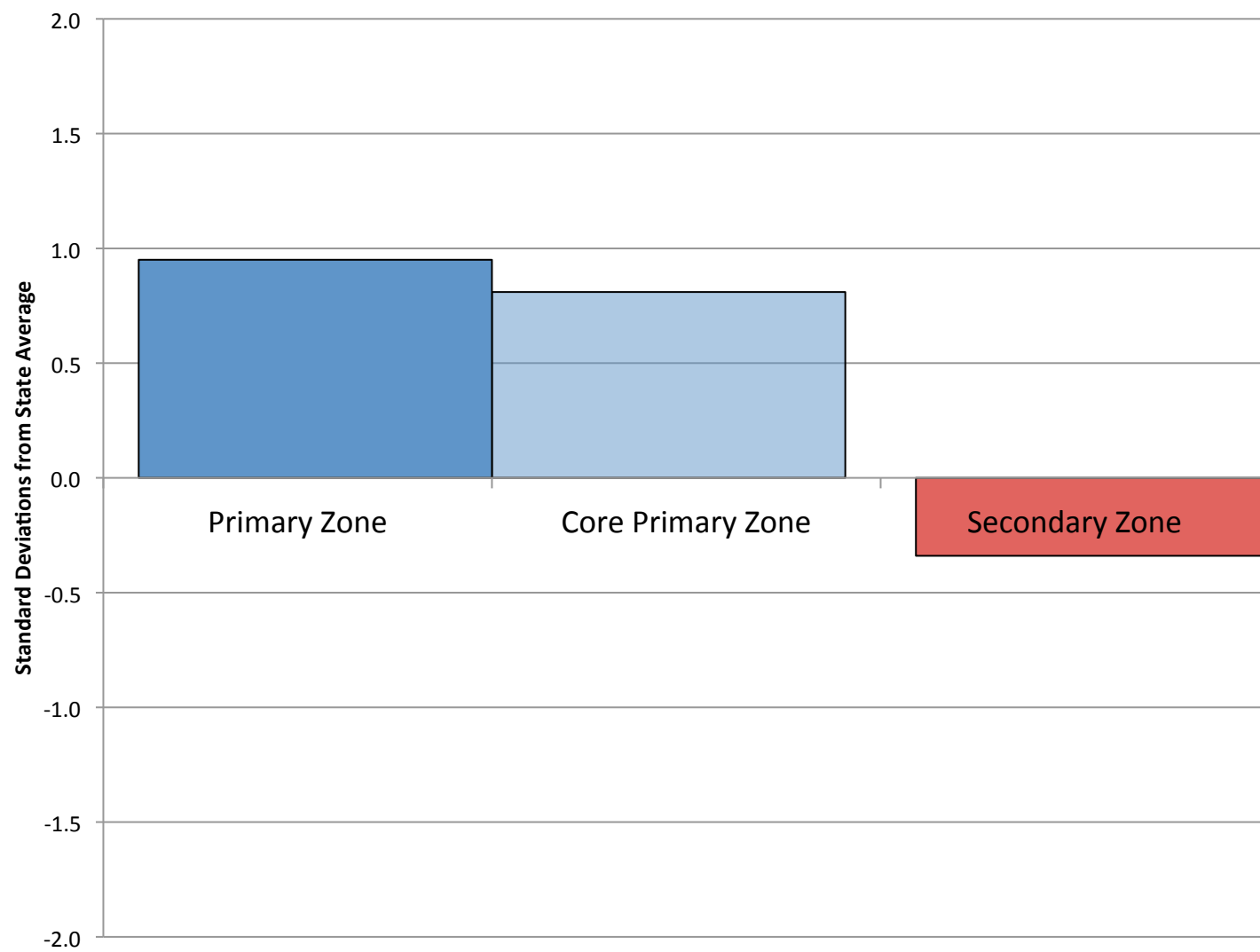
## Health/Environment-Place: Air Quality



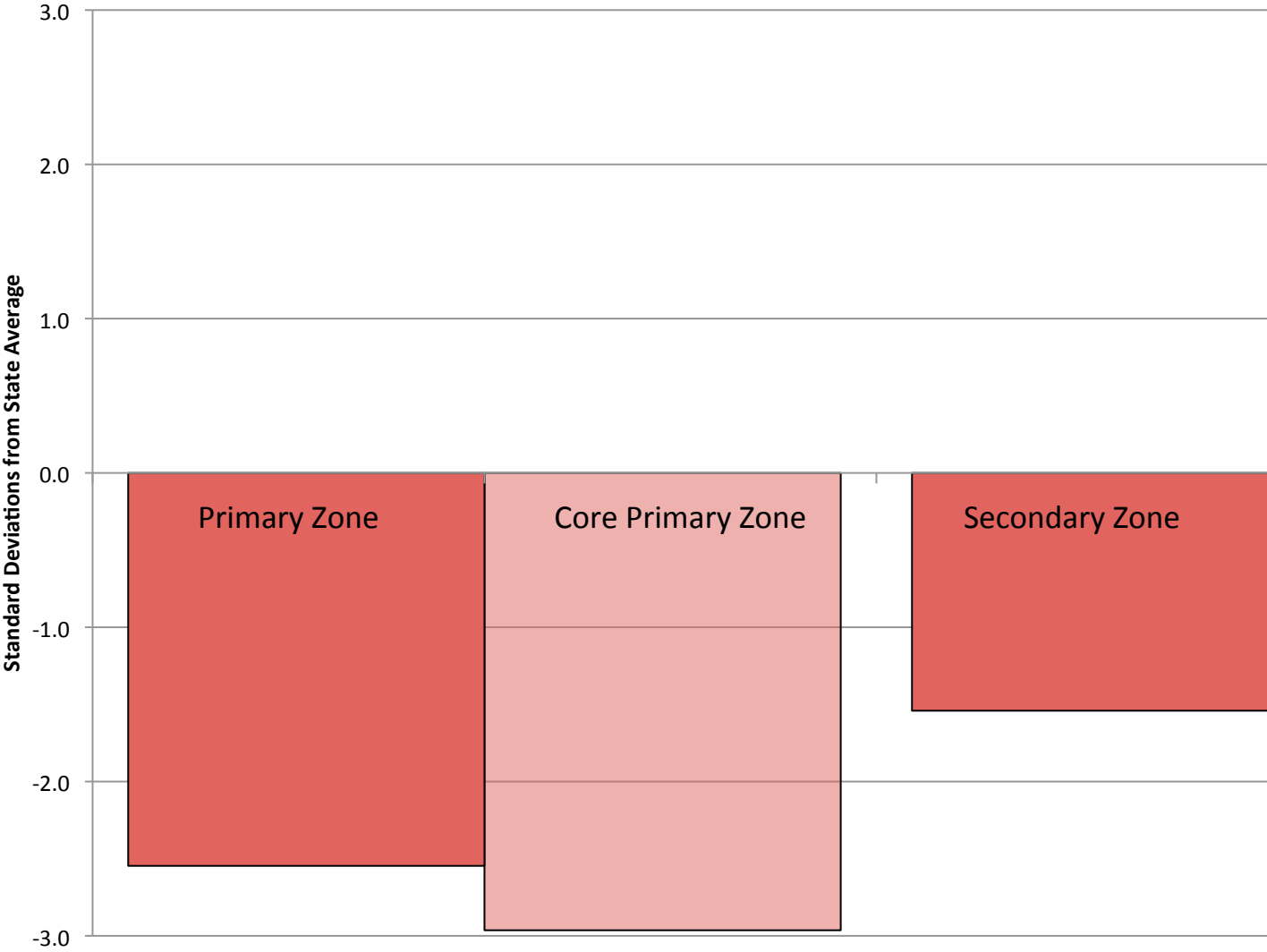
## Health/Environment-Place: Prenatal Care



## Health/Environment-Place: Access to Supermarket

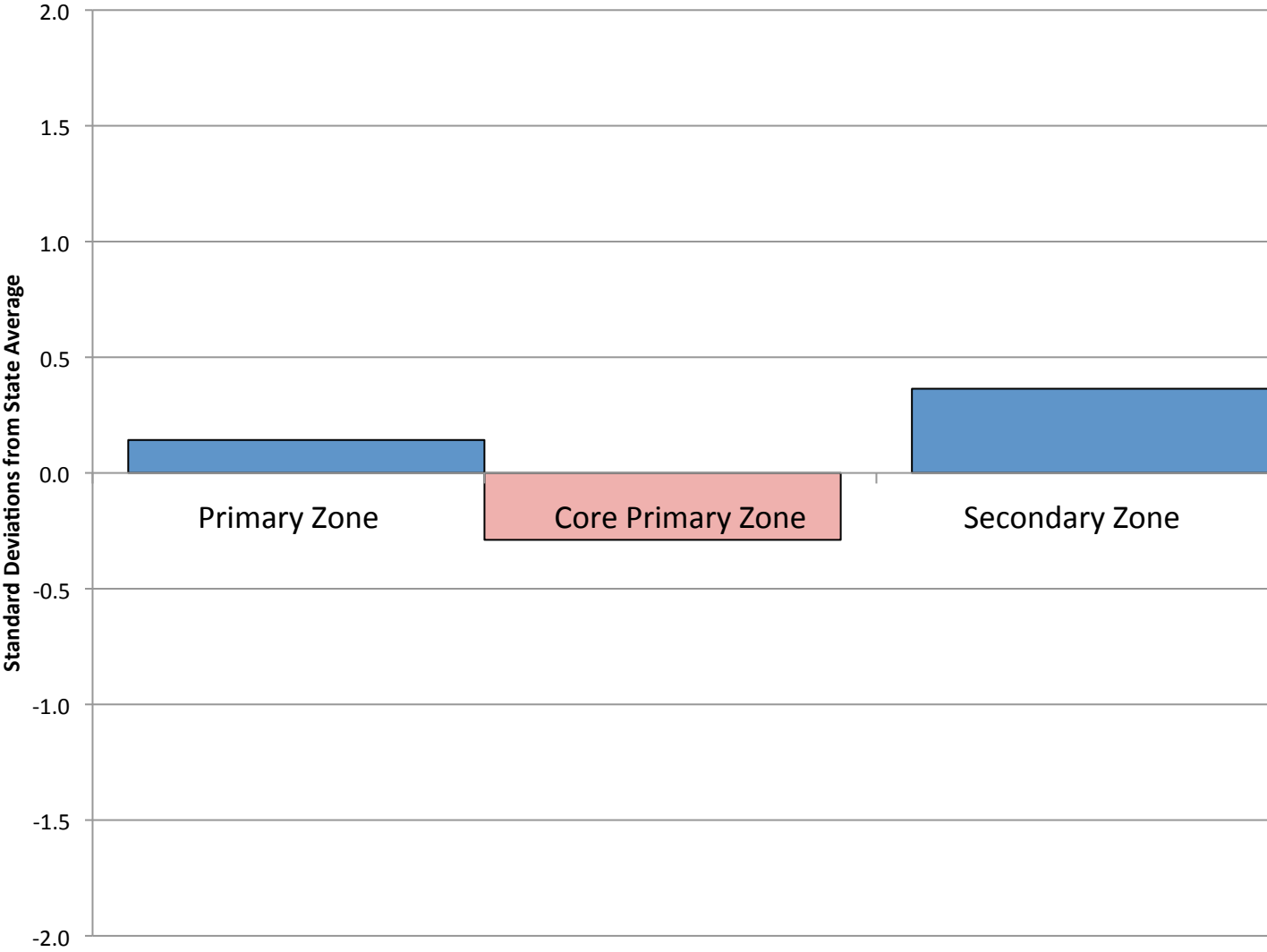


# Health/Environment-Place: Health Care Availability





Civic Life-Place: US Citizenship



## Civic Life-Place: Neighborhood Stability

