

## **Fruitvale, Oakland: A Case Study of Transit and Economic Development**

### **1. Overview: Fruitvale and Transportation Plans**

Fruitvale is a lively low income neighborhood in the middle of East Oakland. Originally settled by German immigrants in the 19<sup>th</sup> century, the area developed with a combination of orchards and canneries. More manufacturing industries flocked to the area during World War II, which also brought an influx of African-American and Hispanic workers to the community. After this early history of economic success, a post-World War II era freeway boom saw many of the area's manufacturing companies leave for the suburbs. This caused severe joblessness and income decline for residents who did not have the resources to leave (FHWA 2015).

Despite this, there are many reasons for optimism in Fruitvale today. The area has a strong sense of community activism, which has kept many affordable housing projects, employment services, and social services in the area. Furthermore, Fruitvale is well positioned geographically to take advantage of the booming East Bay economy (Avalos 2016). Leveraging Fruitvale's unique position along major east-west thoroughfares, community leaders hope to better connect local residents to jobs throughout the East Bay. The neighborhood's main business corridor is centered on International Boulevard, which connects Fruitvale to the east with cities like San Leandro and Hayward and to the west with Downtown Oakland. BART runs an almost parallel course to International Boulevard, and Fruitvale has a BART station at the center of the neighborhood. Figure 1 below illustrates Fruitvale's unique position along these two staple pieces of the region's transportation network.

Given this context, community organizations have focused on expanding public transportation opportunities for both BART and International Boulevard to promote economic development in Fruitvale. First, a community development corporation known as the Unity Council worked with BART to develop the Fruitvale Transit Village. This is a transit-oriented development around the Fruitvale BART station that connected the International Boulevard corridor to BART with walkable connections, potentially making use of BART more attractive for local residents. Furthermore, AC transit is on track to construct a new bus rapid transit line down International Boulevard due to its high potential for ridership increases ("AC Transit 2016).

Implicit in these efforts is the assumption that job accessibility—especially via transit—is a major problem for Fruitvale's economic development. However, this may not be the case. In this case study, I compare Fruitvale with Alameda County as a whole on a host of economic and transportation indicators. The analysis suggests that Fruitvale already has comparatively favorable job accessibility. Instead, educational qualifications are likely the main barrier to economic development. Ultimately, the primary focus of transportation investments should be on expanding access to educational and social services rather than jobs.

**Figure 1. Fruitvale's Position in the Transportation Network**



Notes: Figure 1 above outlines Fruitvale in black.<sup>1</sup>

<sup>1</sup> I define Fruitvale as the following Census tracts: 4061, 4062.01, 4062.02, 4063, 4065, 4071.01, 4071.02, 4072, 4073, 4074, 4075, and 4076.

## 2. The Broader Context: Transit and Economic Development

City planners have commonly focused on transit as a means for economic development. In theory, transportation investments can affect economic growth through multiple channels, such as increasing the accessibility to jobs for the workforce and decreasing transportation costs for firms (Giuliano 2004, 241). Empirical evidence has shown more nuanced results, suggesting that there are certain conditions necessary for transportation investments to spur economic growth. For example, a meta-analysis from Giuliano (2004) shows that highway and rail transit investments only affect growth where there is already-growing population and employment (p. 263, 268). Moreover, these impacts are highly localized, usually shifting growth from other areas to the site of the investment. However, there is more cause for optimism in regards to transit investments in growing central cities. Studies have emphasized transit's ability to increase productivity not through job accessibility per se, but rather through the effects of agglomeration around transit, which accelerates the exchange of knowledge. For example, Chatman and Noland (2014) find significant increases in central city employment density and wages with increases in transit seats per person.

In addition to the economic benefits of transit investments, there are also reasons to promote transit on the grounds of equity. Currently, the U.S. spends substantially more money on highways through urban areas than on public transit within them (Taylor 2004, 307). Of the more than 41,000 miles of interstate highways in the U.S., over a fourth of these are in urban areas (Devajyoti 2004, 347). White, mainly affluent suburbanites are the predominant users of these freeways, which have cut through low income communities of color in central cities. This dichotomy, combined with the increasing suburbanization of jobs, has led some planners to subscribe to the "spatial mismatch hypothesis." This hypothesis posits that the lack of vehicle availability combined with a lack of high-quality transit has had devastating economic consequences for low income urban communities by impacting their ability to access jobs. Historical circumstances have worsened this outcome due to decades of discrimination in the job and housing markets, which have largely confined minorities in metropolitan areas to the central city (Li et al. 2013, 2645).

Inequality of transit funding has a troubled history in the East Bay. There have been civil rights class action lawsuits filed against the regional transportation agency for neglecting to fund bus service in Oakland. In *Darensburg et al. v. Metropolitan Transportation Commission* (MTC), plaintiffs cited that MTC's 2001 funding plan directed 94% of transit expansion funds to rail. This plan benefited affluent, mainly white suburban rail users over intra-urban bus riders, who are disproportionately minorities (Golub et al. 2013, 718). Some planners have attributed this oversight to the overly technical nature of transportation planning, which prioritizes congestion relief over addressing unequal access to transit services (Devajyoti 2004, 335).

## 3. Fruitvale Versus Alameda County on Economic Indicators

In order to assess how well Fruitvale fits the spatial mismatch hypothesis, I start by comparing Fruitvale with Alameda County as a whole on a number of economic indicators. Alameda County is a useful comparison for a number of reasons. First, it is the county in which Fruitvale lies and so provides context of the larger area economy. Second, it includes both wealthy suburbs

and low income urban communities, exemplifying the conditions necessary to test the spatial mismatch hypothesis.

Table 1 below compares the proportion of people in poverty between Fruitvale and Alameda County. The table shows that nearly three out of ten Fruitvale residents live below the poverty line. This is almost three times the poverty rate of Alameda County as a whole, where only approximately one in ten live in poverty.

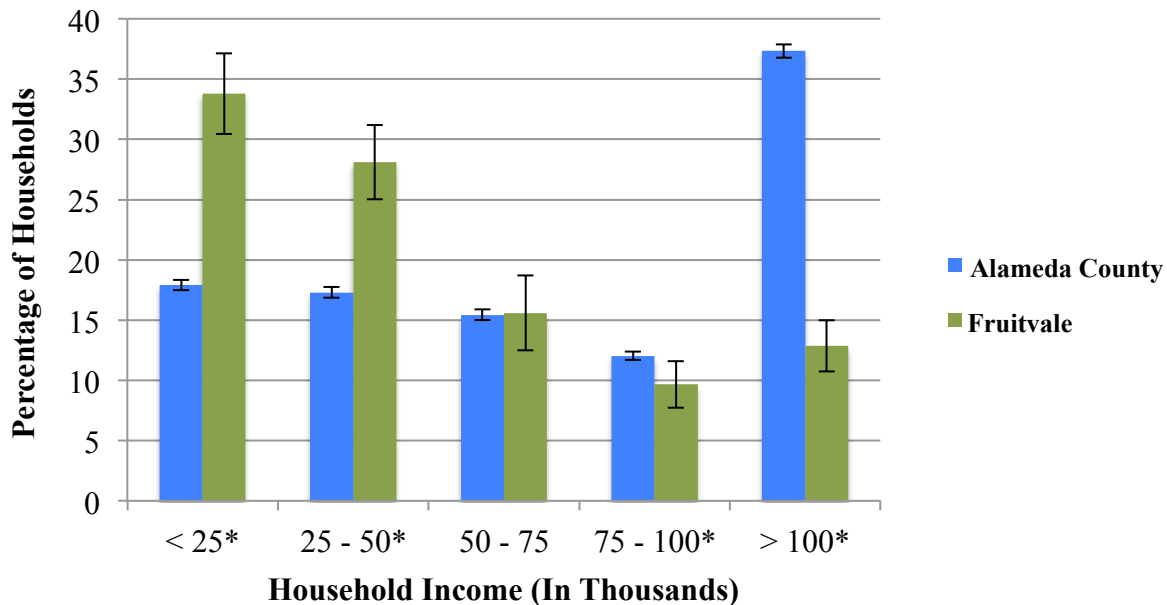
**Table 1. Poverty in Fruitvale**

	Fruitvale		Alameda County	
	Population	Percentage In Poverty	Population	Percentage in Poverty
<b>Estimate</b>	54,505	28.58	1,531,346	12.88
<b>MOE</b>	2,419	3.02	8,635	0.40

Notes: Data comes from the 5-year 2009-2014 ACS Table B17001. Population includes those for whom poverty status is determined. Margins of error are at the 95% confidence level. Differences in the percentage in poverty between Alameda County and Fruitvale are significant at the 99% confidence level.

Figure 2 explores the full range of income differences between Fruitvale and Alameda County. The figure shows that over half of Fruitvale households make less than 50 thousand dollars annually. Moreover, Fruitvale severely lacks wealthy households making more than 100 thousand dollars annually. By contrast, about 37% of households in Alameda County make this much. This suggests that Fruitvale is missing out on the largest economic gains in the region.

**Figure 2. Income Distribution of Fruitvale**



\*Differences significant at the 95% confidence level.

Notes: Dollar amounts are in terms of 2014 dollars. Margins of error are at the 95% confidence level. Data comes from the ACS 2010-2014 5-year estimates table B19001.

Next, Table 2 compares Fruitvale and Alameda County in terms of number of people employed.

This table shows that Fruitvale has a both a higher unemployment rate and proportion of people who are not in the labor force. Moreover, the national unemployment rate is approximately half of Fruitvale’s while the national percentage of people not in the labor force is approximately 29% (BLS 2016).<sup>2</sup> These numbers show that Fruitvale—as well as Alameda County as a whole—has a substantial unemployment problem. However, the differences between Fruitvale and Alameda County are not stark. Furthermore, Figure 2 shows that those who are employed in Fruitvale make much less than those in Alameda County. This suggests that accessibility to jobs may not be the primary explanation for these income differences. Instead, it is useful to explore other data, such as educational qualifications, which affect the ability to access high-paying jobs.

**Table 2. Fruitvale Employment Profile**

	Fruitvale		Alameda County	
	Number	Percentage	Number	Percentage
<b>In Labor Force</b>	27,296	63.81	830,982	66.17
<b>Employed*</b>	23,253	54.36	751,479	59.84
<b>Unemployed*</b>	4,043	9.45	79,503	6.33
<b>Not in Labor Force*</b>	15,477	36.18	424,746	33.82

\*Differences significant at the 95% confidence level.

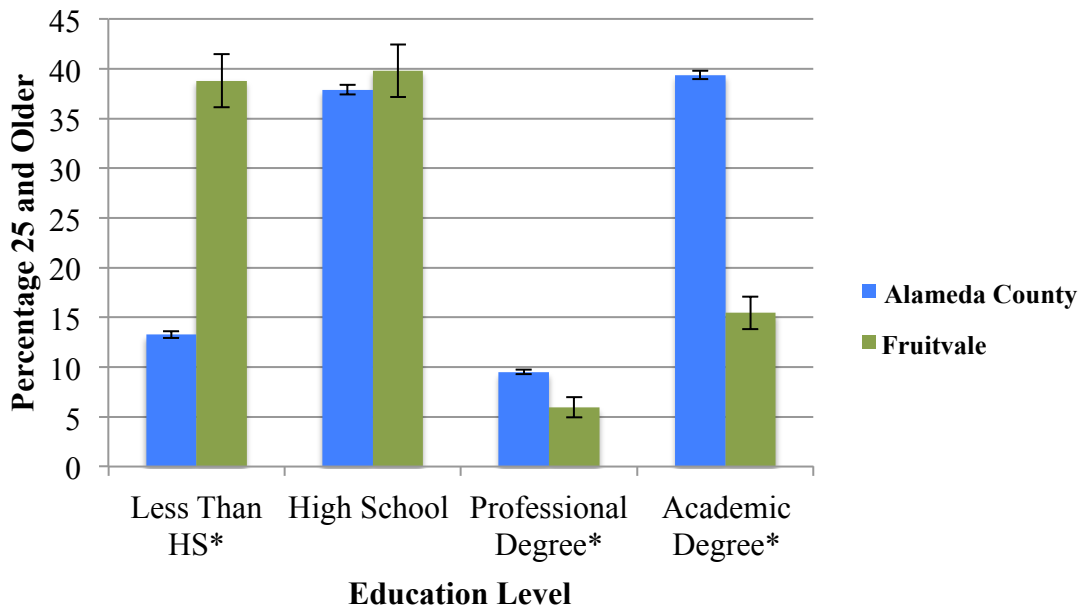
Notes: Population includes those 16 and older. Employed category includes those in the armed forces. Data comes from the ACS 2010-2014 5-year estimates table B23025.

With this in mind, Figure 3 explores the highest education level attained by adults in both Fruitvale and Alameda County. The figure shows that nearly 40% of Fruitvale adults 25 and older do not finish high school, compared to only 13% of adults in Alameda County. Moreover, nearly 40% of adults in Alameda County attain a bachelor’s, masters, or doctorate degree, compared to only 15% of Fruitvale adults. This disparity in educational qualifications likely largely explains not only the small unemployment gap but also the large income gaps between Fruitvale and the rest of Alameda County.

The tables and figures in this section point to stark inequalities between Fruitvale and Alameda County as a whole. This inequality has nothing to do with accessibility to jobs, but rather educational attainment and employment in high-paying jobs. This suggests that Fruitvale’s economic development strategy should prioritize increasing access to educational and social services, which can help keep students stay in school. Transit investments can indeed be useful for this goal. However, justifying these investments on the grounds of increasing access to jobs may be misplaced.

<sup>2</sup> The latter percentage comes from dividing the total number of people not in the labor force (approximately 94,184,000) by the national population (approximately 320 million).

**Figure 3. Highest Education Level Attained**



\*Differences significant at the 95% confidence level.

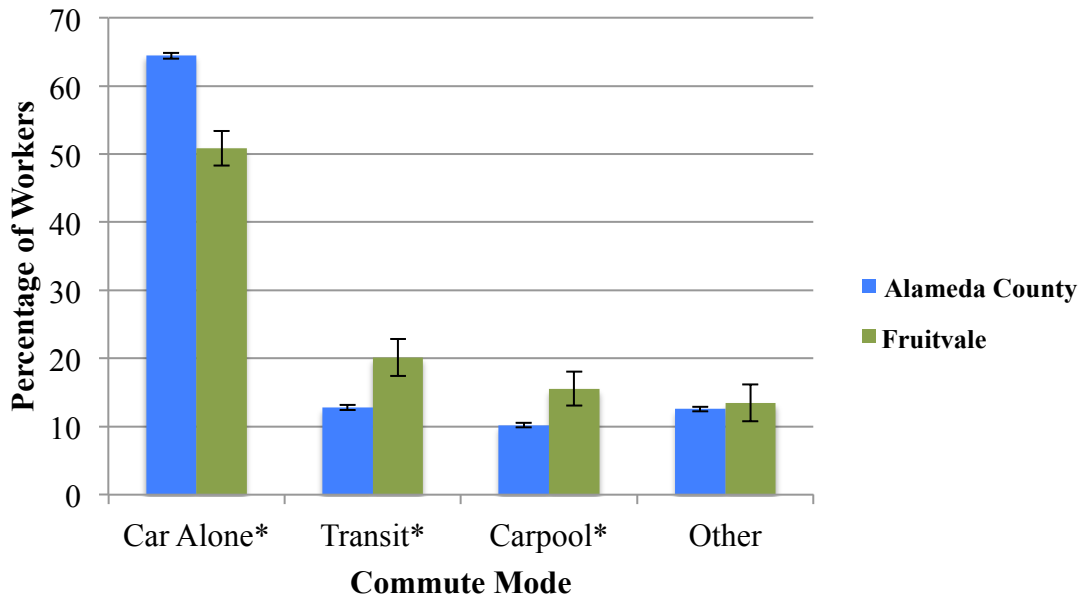
Notes: High school category includes those with GED equivalent and some college but no completion. Professional degree category includes those with a professional or associates degree. Finally, the academic degree category includes those with a bachelors, master’s, or doctorate degree. Margins of error are at the 95% confidence level. Data comes from the ACS 2010-2014 5-year estimates table B15003.

**4. Transit Usage in Fruitvale and Alameda County**

After reviewing the differences in economic indicators, Figures 4 and 5 below explore differences in transportation indicators between Fruitvale and Alameda County. First, Figure 4 illustrates differences in commute mode for the employed population. Approximately 20% of Fruitvale workers use transit to get to work while only about 12% of Alameda County workers use transit. Furthermore, a substantially lower number of Fruitvale residents drive alone to work: 51% compared to Alameda County’s 64%.

In addition to having a higher proportion of transit users, Figure 5 shows that Fruitvale workers using transit are substantially poorer than those in Alameda County as a whole. In particular, approximately 67% of transit workers make less than \$25,000 per year, compared to just 32% of transit workers in Alameda County. The spatial mismatch hypothesis could explain some of these income differences. For example, Alameda County transit users probably have a higher share of BART riders than those in Fruitvale, who rely more heavily on the AC Transit bus system. BART receives substantially more public funding than AC Transit, which the plaintiffs in the *Darensburg et al. v. MTC* case claimed is disproportionate. Ultimately, this funding could impact the quality of service, and this service could in turn impact the number of high-paying jobs accessible to Fruitvale residents. In the next section, I explore differences in accessibility to jobs via transit.

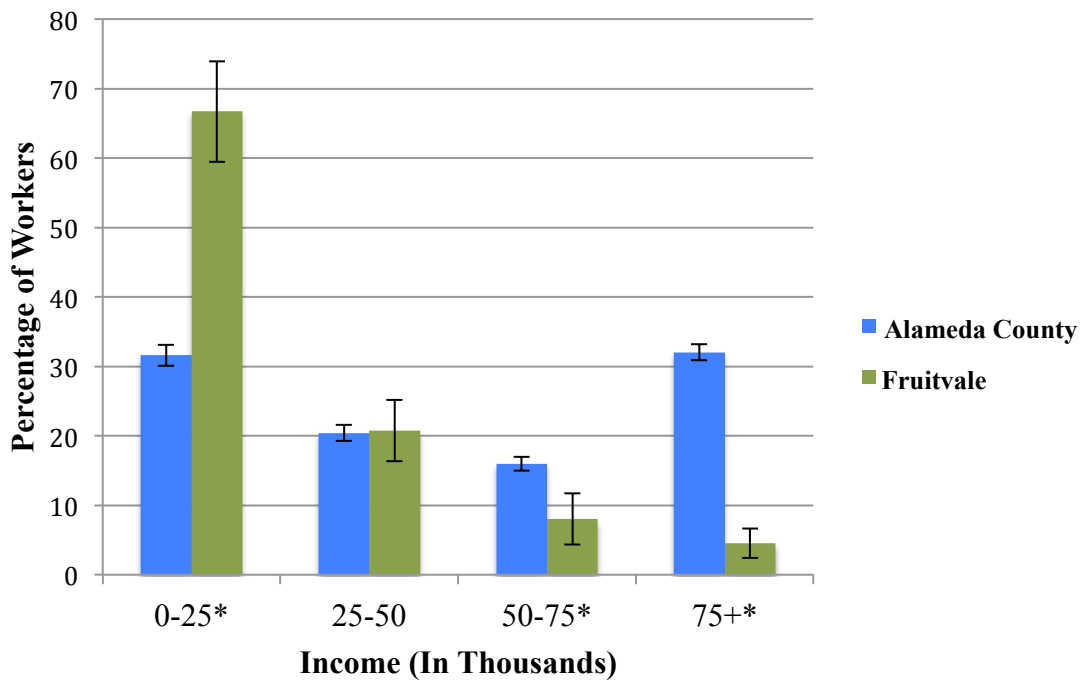
**Figure 4. Commute Mode in Fruitvale**



\*Differences significant at the 95% confidence level.

Notes: Other category includes taxicabs, bicycling, walking, working at home, and other modes of commuting. Margins of error are at the 95% confidence level. Data comes from the ACS 2010-2014 5-year estimates table B08101.

**Figure 5. Income Distribution of Transit Users**



\*Differences significant at the 95% confidence level.

Notes: Population includes workers 16 years or older. Margins of error are at the 95% confidence level. Data comes from the ACS 2010-2014 5-year estimates table B08119.

## 5. Transit Usage in Fruitvale and Alameda County

In order to examine accessibility to jobs via transit, I conduct a network analysis. This is an analytical tool that determines the quickest routes available on a street network from home to work. Data from the Census's Longitudinal Employed-Household Dynamics (LEHD) survey shows the total number of jobs in each census block, and with this I determine how many jobs at other census blocks can be reached within a given time window.<sup>3</sup>

Figures 6 and 7 below show the results of such an analysis for jobs in Alameda County. Each dot represents a census block while the shading of the dots represents how many jobs from other census blocks are accessible from that point. In order to examine differences in accessibility to jobs via transit, the maps represent jobs accessible during the morning peak schedules of AC Transit and BART from 7 AM to 10 AM. I restrict the analysis to jobs accessible within 26-minutes, the average commute time in the U.S. (Ingraham 2016). The analysis factors in both walking time from census blocks to the nearest transit stop and transit travel time.<sup>4</sup> Figure 6 shows accessibility to low income jobs, defined as those making less than \$1,250/month in 2014 dollars. Figure 7 shows accessibility to high income jobs, defined as those making more than \$3,333/month in 2014 dollars.

Together the maps suggest that access to jobs is much higher in Fruitvale than in Alameda County as a whole. First, the light green shading in Fruitvale in Figure 6 indicates that it has a moderate-to-high accessibility to low income jobs relative to the rest of the county. Although there are some higher-accessibility areas in downtown Oakland, Fruitvale outperforms suburban areas on the outskirts of Oakland, the alleged winners of the spatial mismatch hypothesis. Furthermore, the blue shading in Figure 7 shows that Fruitvale is similar to downtown Oakland in terms of access to high income jobs. However, the most striking results come from comparing Figure 6 to Figure 7. Across these two maps, Fruitvale transitions from light green to dark blue shading, which indicates that the neighborhood has access to about three times the amount of high income jobs as it does low income jobs. Furthermore, wealthy areas on the outskirts of Oakland have low access to both job categories.

Finally, Table 3 shows these differences in a table format. In particular, it shows the differences in the number of jobs accessible from the average census block in Fruitvale compared to the average census block in Alameda County. The table shows that Fruitvale has higher access to jobs of all income levels. This difference is largest for high income jobs, which suggests that access to high-paying jobs is not the primary explanation for economic differences between Fruitvale and Alameda County. Instead, as Figure 3 above illustrates, Fruitvale workers likely lack the educational qualifications necessary to attain these jobs. By contrast, nearly a third of Alameda County workers as a whole have post-secondary degrees. Transit or no transit, the average Alameda County worker almost certainly qualifies for high income jobs over the average Fruitvale worker.

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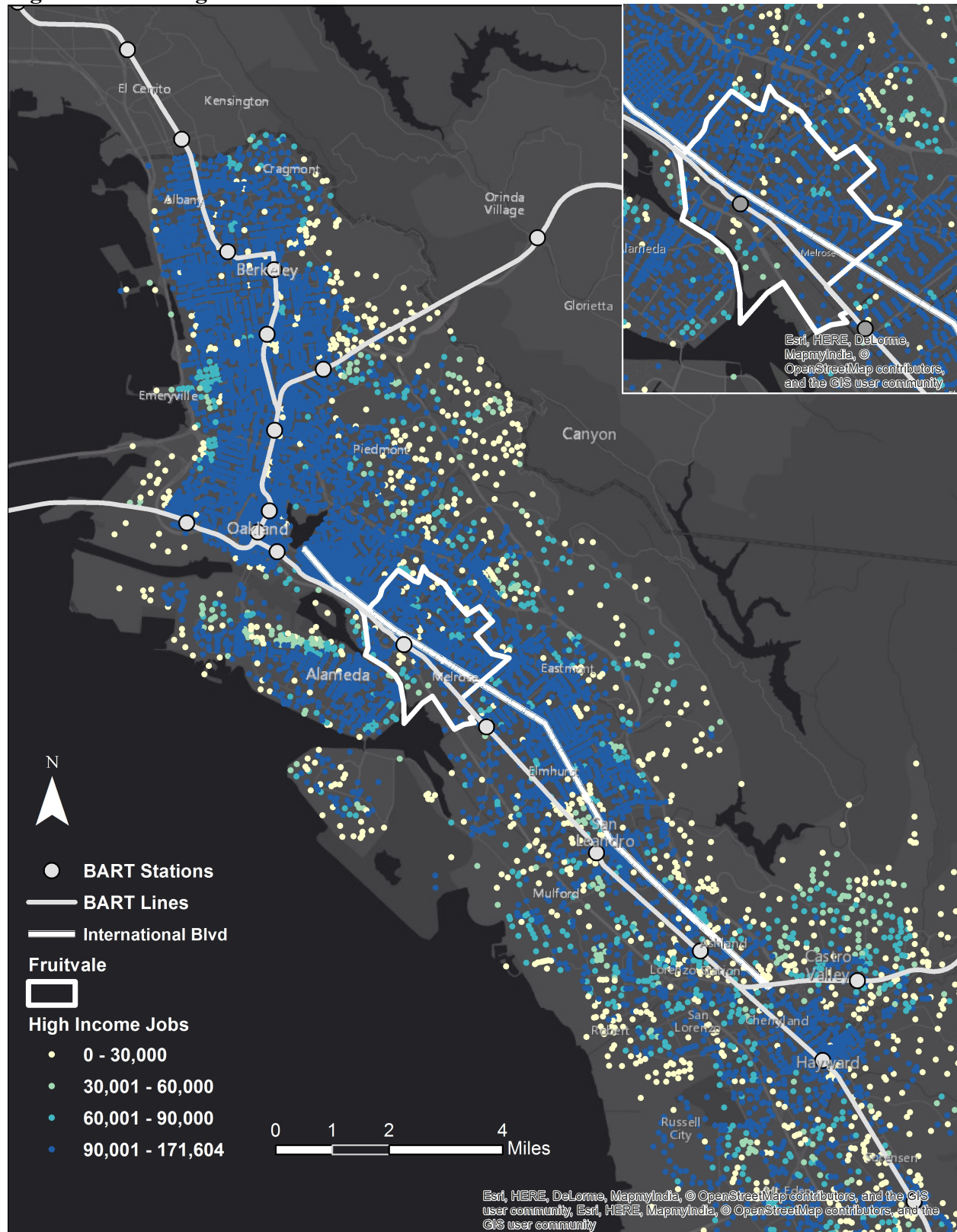
<sup>3</sup> In order to do this, I use an open source python package called Pandana. For more information on the methodology, see (Foti et al. 2012).

<sup>4</sup> I use a pedestrian + transit network produced by Sam Blanchard. See (Blanchard and Waddell, forthcoming) for more information.





**Figure 7. Total High Income Jobs Accessible Within 26 Minutes via Transit**



Notes: Each dot represents one census block. High-income jobs are defined as those making greater than \$3333/month in 2014 dollars. Job numbers come from the LEHD origin-destination employment statistics (LODES) data.

**Table 3. Average Number of Jobs Accessible via Transit**

	<b>Fruitvale</b>	<b>Alameda County</b>	<b>Difference</b>
<b>Total Jobs</b>	129,768	76,166	53,602
<b>High Income Jobs</b>	64,792	38,174	26,618
<b>Middle Income Jobs</b>	35,257	20,692	14,565
<b>Low Income Jobs</b>	29,719	17,300	12,419

Notes: The table above shows average jobs of the census blocks within each location. Job numbers come from the LEHD origin-destination employment statistics (LODES) data. Income definitions are as follows: high, >\$3333/month; middle, <\$333/month and >\$1250/month; low: <\$1250/month.

## 6. Conclusions and Recommendations

The above analysis suggests that Fruitvale’s economic development problem is primarily one of skills mismatch, not spatial mismatch. In fact, Fruitvale is one of the most accessible places in the region to jobs—especially high income jobs—via transit. Despite this high accessibility to high-paying jobs, many adults in Fruitvale lack the educational qualifications to take advantage of these jobs. This suggests that the primary efforts of economic development efforts should be increasing high school graduation rates and accessibility to post-secondary education rather than jobs.

Investments in transit can provide increased access to social and educational services to achieve this goal, but transit investments with the primary aim to increase job access may be misguided. For example, AC transit might consider designing the new BRT line stops around schools, adult learning centers, or other social services rather than job centers. Community leaders in Fruitvale have already recognized these priorities, as the Fruitvale Transit Village around the BART station replaced former parking lots with a new health clinic, a public library, and a senior center (The Unity Council 2016). These community assets increase the livability of Fruitvale, which makes staying school easier.

Although the short-term gains of prioritizing access to social services over jobs may not be clear, educational achievement must improve in the long run to sustain economic development efforts. Any transit investments with the motivation to increase economic development must recognize this point.

## 7. Limitations and Future Steps

Although the accessibility analysis above shows that Fruitvale has quite a high accessibility to jobs, there are a number of important limitations to this analysis. First, I do not consider waiting times at transit stops. This could affect accessibility to jobs if Fruitvale has much longer wait times at transit stops than other areas of Alameda County. Furthermore, I do not consider the availability of private vehicles. This could support the spatial mismatch hypothesis if wealthy suburban households, which are more likely to own private vehicles, also have much higher accessibility to jobs via vehicles than Fruitvale households. However, I find this unlikely because if accessibility to jobs via transit—a slower mode of transportation than private vehicles—is higher for Fruitvale, then accessibility to jobs via private vehicles is likely higher as well.

Furthermore, the analysis above does not consider off-peak accessibility to jobs via transit or accessibility to services other than jobs. A shift in focus on increasing access to social services must consider off-peak accessibility, particularly because this is the time during which most households conduct non-work-related business. Moreover, low income workers are also more likely to commute to work during off peak times (Devajyoti 2004, 40). Perhaps Fruitvale has much lower accessibility to jobs during these time periods. In summary, future research should consider station wait times, private vehicle availability, and off-peak accessibility to jobs and services. I hope that this case study has provided some initial evidence that the motivations for transit projects should extend beyond merely expanding job accessibility.

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