

Understanding the Bay Area's Food Movements through Maps

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ABSTRACT

Food movements in the San Francisco Bay Area advocate for sustainable food and food justice. The sustainable food movement focuses on local and organic high-quality food options, while the food justice movement addresses the systemic problems of reduced access to healthy affordable food associated with economic and geographic barriers. My study areas, San Francisco and Oakland, both began as hubs of industrialization where racially discriminatory housing policies created the conditions of limited food access in areas of both cities. However, the approaches surrounding the issue of limited food access, as well as the food systems in general, contrasts sharply between these cities. I examined maps of foodscapes in San Francisco and Oakland using the tools of critical cartography and discourse analysis. I analyzed 34 maps, focusing on representation of alternative food access systems. I found that these maps embody these two contrasting narratives of the food movement in each city: San Francisco for sustainable food and Oakland for food justice. Beyond these city-specific trends I found that farmer's markets and urban gardens were key tools represented in maps for both movements. Although the institutionalized racism of the food system is an often-discussed area of concern, most maps from both cities did not address the issues of race or of socioeconomic status. Comprehensive work in this arena by both movements can allow for cooperative efforts to solve these important issues of today's world.

KEYWORDS

Critical cartography, food movement, food justice, sustainable food, discourse analysis

INTRODUCTION

With corporations and factory farms dominating the food system and the high prevalence of obesity and diet-related diseases, individuals and organizations have pushed against the large anonymous food system. Falling under the umbrella of the “food movement”, these efforts focus on alternatives to the conventional US food system. Calls for change have surfaced throughout the country, particularly in California’s San Francisco Bay Area.

Major media illustrates a unitary movement focused on the popularization of organic, sustainable, grass-fed, free-range foods. Political campaigns to ban GMOs, the push to increase the role of farmer’s markets and support the small farmer—these all bring attention to providing quality food to those who can afford it. Such work focuses on one recipient of the food system: the upper-middle class, the people in a position to be picky about their food choices and pay for “better” food. However, the food movement is also composed of another key faction, one gaining far less media attention. The problems of low income and minority communities are often absent from the dominant narrative, even while they are disproportionately harmed by the conventional food system. The food justice movement is attempting to solve the problem of limited food access and address these racial issues (Alkon and Agyeman 2011).

Many people in the United States have limited access to healthy and affordable food due to institutional, geographic, and economic constraints. Supermarkets are the conventional source of healthy food, but some neighborhoods - particularly low-income and minority ones – lack access (Powell et al. 2007, Bordor et al. 2008, Larson and Gilliland 2008). There is an average of 52% fewer supermarkets in black neighborhoods than white (Powell et al. 2007). The racialized nature of this problem furthers the divides between the food justice movement and the more popular “sustainable” or “slow food” movement (Alkon and Agyeman 2011).

The sustainable food movement relies on locally produced organic food for the purposes of creating a more ideal and sustainable world (Alkon 2008). Allen et al (2003) raise concern with the concept, as it encourages the internalization of externalities by both the consumer and the producer. That is, both consumers and producers have to pay more and put more effort into making and purchasing organic local food. While this system works for those who can afford it, it excludes those without the means to do so. Those excluded are the same who have been left out of the traditional network of food access. In contrast, the food justice movement, particularly

as it plays out in Oakland, California, focuses on such communities as a place for capacity building. The goal is to be self-sustaining, since the global system has excluded them from healthy, affordable food (Alkon 2008). While both movements have similarities in forms of interventions, their context and goals are starkly different, which in turn shapes the actions taken and how they are represented.

As access to nutritious food and associated interventions for food access is tied to space and place, they are often represented through maps. Food access maps appear in academic documents, news articles, and food justice organization circulations. Maps are often taken to present the unquestionable truth (Wood and Krygier 2009). However, maps must be analyzed critically due to the subjective nature of their creation and circulation (Crampton 2001). The information presented in maps is dictated by the values of those creating the map, consciously or unconsciously (Harley 1989). Both the cartographer's perspective and the context in which the map is produced and circulated can be understood through the lens of critical discourse analysis (Fairclough 1992). The critical analysis of maps, called critical cartography, views the information presented with respect to the larger meaning and context. Particularly with something as politically loaded as food access, critical cartography of food maps can give a strong insight to larger implications, power dynamics, and processes of the system as a whole. Yet, there are no discursive studies of all food system maps in a city.

In order to fill this gap, I asked: How is alternative food access represented through maps in San Francisco and Oakland? How do the representations differ between these cities? How do these differences reflect visions of alternative food systems in each city? Specifically, I examined: What do these maps represent in terms of different elements of the food movements? What are the contents of the maps? How do these maps embody the narratives of these movements, the power systems within the movements, and the ways that the movements address power?

Background

San Francisco and Oakland's foodscapes are strongly rooted in the regional history of wartime industrial booms and ensuing post-industrialization, racist social policies, and the

response to corporate dominance. Food access- and food systems in general - cannot be isolated from the overlapping but divergent political, social, and environmental histories of these cities.

A brief history of Oakland foodscapes

Oakland's relationship with traditional food access requires an understanding of the history of Oakland and the role of racism in that history. Oakland was once a booming industrial area, connected to shipping routes through the Southern Pacific railroad and the Port (Walker 2001). Many people, particularly minorities, flocked to the city for these jobs even before World War II. With this influx of workers, black housing projects were placed in West Oakland, and white housing projects in East Oakland. After the war, segregation was maintained through the bank redlining, denying loans to racial minorities trying to live in primarily white neighborhoods, forcing them to locate in the "undesirable" neighborhoods which became dominated by minorities (McClintock 2011). As industry declined, the capital and the white middle class left the industrial areas of the city. By the 1980's, supermarkets, the conventional source of access to healthy foods since their rise over the small grocery in the pre-WWII days felt no incentive to stay in the city, and moved to the suburbs as well (Walker 2001). These areas are entirely man-made, stemming from the combination of these factors to create marginalized communities without appropriate access to healthy affordable food.

Many community-based organizations in Oakland are working to address disparities in food access through a range of interventions. The food access initiatives of Oakland are local movements oriented towards self-sufficiency rather than challenging the larger power structures (Allen et al. 2003). These groups originated separately but with the development of the Oakland Food Policy Council in 2006, the food justice movement in Oakland is gaining cohesion.

A brief history of San Francisco foodscapes

Industrialization in the Bay Area began in San Francisco, with industrial labor making up a third of the workforce by 1880 (Walker 2001). The city's first zoning ordinance, in 1921, concentrated the heavy industry in Bayview-Hunter's Point (Dillon 2011). With the rise of the military-industrial complex, the naval shipyard became a key force driving San Francisco's

industry. The jobs created at the shipyard drew many African Americans, but the discriminatory residential policies left them with only two main areas for housing: the Filmore district or Hunter's Point. With the shutdown of the naval shipyard in 1974, many residents lost their jobs (Dillon 2011). Unemployment in this neighborhood is currently over 20%, and as high as 50% within the Africa American population. The patterns of flight of capital and the grocery store match with those in Oakland.

Thus, the problems of Bayview-Hunter's Point exhibit many similarities to the problems facing West Oakland. In both cases, racial discrimination has shaped housing patterns, and with the lost of industry jobs dominating the local economies, there is little incentive for traditional supermarkets and grocery stores to stay in these regions.

METHODS

Study system and data collection

I examined eighteen maps of Oakland and sixteen of San Francisco. I used internet searches with standardized key words to gather maps of the food access systems in this area, including maps representing the problem of limited access and maps showing the work of alternative food access initiatives. I tabulated the maps by their producer, which included food justice organizations, the city government, news groups/blogs, and academic institutions. I categorized the maps based on their content, focusing on famer's markets, urban gardens, identification of stores, presentation of limited access, and demographic factors, as was identified through my initial analysis.

Data analysis

To analyze map content, form, and context, I used discourse analysis and critical cartography approaches. Critical cartography links geographic knowledge with power relationships (Harley 1989), emphasizing that mapping is the production of space, geography, place and territory that creates political identities of people within these places (Crampton and Krygier 2006). While critical cartography was designed as a tool to produce more unbiased

maps, I used it to analyze the significance and implications of these biases from the producing party. I also drew on critical discourse analysis, as discussed by Huckin (1997). Critical discourse analysis is a tool for analyzing texts in order to take into account both the direct and contextual factors (Huckin 1997).

To understand each map at its most basic nature, I began my analysis with a naïve read, cursorily reading the map as a text without any assumptions or critical analysis (Huckin 1997). I identified what the maps conveyed in the most direct sense and noted the basic facts: the city represented, the form in which the map was published, the author, the year, and other superficial details. I used these surface level impressions to create general categories based on the basic content of the map, including things such as “Famer’s Markets”, “Food Access”, and “Gardens”. I then used these categories to compare the maps, which further helped me to identified regions for further study (Table 1). My comparison also included the differing uses of the same categories to separate ends, as well as the contrasting presentations of inequality.

Next, I dove deeper into the context of these maps to analyze them in terms of the broader contexts in which they were produced and circulated. I considered the organization producing each map and how that related to the apparent goal of the map. I noted what the map appeared to present and the methods in which it was presented. Specifically I focused on how food access and social inequities were represented. Assuming that presence or absence of demographic data and acknowledgement of inequality was an important factor that defined an essential category of differences between maps. With this, as with my initial naïve study, my findings helped provide me with a new iteration of directions for analysis (Table 1).

I examined how authority was established in each map and the impact of this authority on the map. I examined the mode of map publication, considering how a map might be different if it was produced through Google maps instead of through a more official channel, and the authority generally associated with different forms of publication. I also examined the contextual documents in which the maps were situated, to place them within the larger view of Bay Area food movements. Particularly, I kept attention to discrepancies between the map and its contextual document to search for internal contradictions in the producer’s message.

Table 1. Specific factors considered for the discourse analysis of maps. These questions were developed following the principles of Critical Cartography and Discourse Analysis and served to direct my analysis of each map.

Level of analysis	Category	Factors considered
Naïve/basic	Facts	Who produced the map? What city? What year? What is form of food system intervention?
Naïve/basic	Impression	What is the basic feeling the map gives? What is the impression of formality presented? How is authority established at a basic level?
Critical	Presentation of food access	What kinds of interventions are presented and what are not? Why? How are these graphically represented? Are there supporting details in the corresponding document?
Critical	Presentation of Inequality	Are demographics represented? What kind? Is the map of a small section of the city or the entire city?
Critical/contextual	Text/map relationship	How do the map and the text support and/or contradict each other? Are there any deep contradictions?
Critical/contextual	Locality	How does the map address area specific factors? Does it represent policies specific to this city?
Critical/contextual	Power dynamics	Do the map and corresponding text reinforce or challenge power dynamics of the food system players? How do power relations surface?

I used contextual information to delve deeper into each map. I compared different aspects of the map to the goals of the context, drawing on the concepts of critical discourse analysis and of critical cartography (Harley 1989, Huckin 1997). When a map appeared to be presenting limited food access, I searched for the key factors identified in the literature surrounding limited food access: representation of racial factors and economic data, routes of transportation, etc. I also examined how power relations and the changes to the status quo were represented through contrasts between the “traditional” systems of access and the “alternative”. I also analyzed the evolving role of technology, particularly the iterative nature of some maps. Maps produced through Google often included an option for viewers to comment or add information, thus allowing maps to continue to evolve over time.

Finally, I analyzed my findings by: city, kind of intervention, and group producing the maps. This allowed me to understand the evolution and direction of food access interventions themselves in these two cities, the ways in which they have been represented, and what that representation means for the future of the food movement in these cities.

Mapping Project

As an addition to my study, I created a map of the alternative forms of food access in the city of Oakland. This was done under the direction of the Oakland Food Policy Council. Key categories of alternative access were jointly identified. I used Google searches to identify all sites for each category and find their physical addresses. I accumulated this information into an excel document. From there, I used ArcCatalog to geocode these locations. This information was layered into a map in ArcMap, in addition to economic and racial data of Oakland, gathered from the US Census data website.

RESULTS

In my critical analysis of the food system maps of San Francisco and Oakland, I identified several key reoccurring themes. First, there was a higher presence of maps addressing limited food access in Oakland, while maps of San Francisco's food systems seemed to focus on alternative access for those who already had sufficient access to healthy affordable food. Maps illustrating limited food access commonly showed demographic data, displaying the relationship between population and food access. I present results concerning the production and basic contents below, then offer a deeper analysis based on a critical reading in the Discussion section.

Table 2. Results of Map Analysis. This table outlines the key results from all maps analyzed. Maps are presented in Appendix A. *All. = not directly identified, but alluded to.

Map	Name	City	Producer	Category	Lim. access ?	Demo ?
A	Urban agriculture in SF	SF	SPUR	Gardens	No	No
B	Healthy food in BYHP	SF	SEFA	Store access	No	No
C	Public Schools with a garden	SF	City of SF	School garden	No	No
D	San Francisco Farmer's Markets	SF	Blogger	Farmer market	No	No
E	Farmer's market schedule and map	SF	SFoodie	Farmer market	No	No
F	Mobile Food Permit Map	SF	SF data	Mobile food	No	No
G	San Francisco community gardens	SF	Garden Anchors	Gardens	No	No
H	San Francisco CSA program	SF	Ecovain	CSAs	No	No
I	"Food Market Score"	SF	City of SF	Stores	All.	No
J	"Retail Food Stores"	SF	City of SF	Stores	All.	No

K	Community gardens map	SF	"Transition SF"	Gardens	No	No
L	Food Desert Locator	SF+ Oak	USDA	Food desert	Yes	Yes
M	Map of food retail in the mission	SF	Academic	Store access	No	Text
N	Map of food Retail in Bayview	SF	Academic	Store access	Yes	Text
O	Food retail in central east Oakland	Oak	Academic	Store access	No	Text
P	Oakland gardens + farms, population density by sq mi	Oak	For city	Gardens	No	Yes
Q	Oakland Farmer's markets, population density per square mile	Oak	For city	Farmer's markets	No	Yes
R	Food retail and redevelopment areas	Oak	For city	Store access	All.	No
S	Food retail by type	Oak	For city	Store access	Yes	Yes
T	SF Retail Food environment	SF	City	Store access	yes	No
U	Oakland Grocery Stores	Oak	OFPC	Store access	Yes	Yes
V	Mapped representation of organizations working on food issues	Oak	OFPC	Organization locations	No	No
W	Proportion of Average Household incomes spent on food and beverage,	SF	City	Income/ food relationship	No	No
X	"Food Store Availability and Neighborhood Poverty in Oakland"	Oak	Academic	Limited access	Yes	Yes
Y	"The Oakland Food Map"	Oak	Oakland Local	Access forms	Text	No
Z	"Food deserts: what will abandoned America eat?"	Oak	Blog (UCB)	Grocery and liquor stores	Yes	No
AA	"Limited Supermarket Status"	Oak	Policy Map	Limited access	Yes	Yes
BB	"Oakland food distribution sites"	Oak	City	Food banks	No	No
CC	Identified existing urban gardens	Oak	OFPC	Gardens	No	No
DD	"Supermarket Access--West Oakland"	Oak	Mandella Marketplace	Limited access	Yes	No
EE	"No grocery store in sight"	Oak	News	Markets	Yes	Yes
FF	Oakland Food Retail by Store type	Oak	For city	Stores	No	Yes
GG	Oakland's food divide	Oak	Academic	Food access	Yes	Yes

San Francisco Maps

In San Francisco, I located only two maps produced by food justice organizations and five produced by the city government. Other maps came from blogs and academic sources. Four of the maps presented access to traditional food stores, four showed forms of urban gardens, and three showed locations of farmers' markets/CSAs (Table 2). The concept of limited food access was only directly shown in three of the maps (Fig. 1, Fig. 3). Representation of alternative forms of food access as a part of the middle/upper class food movement were most common, including alternative forms of access by consumer choice, rather than by economic circumstance. Only three (19%) of San Francisco's maps visually represent demographic data (Fig. 4).

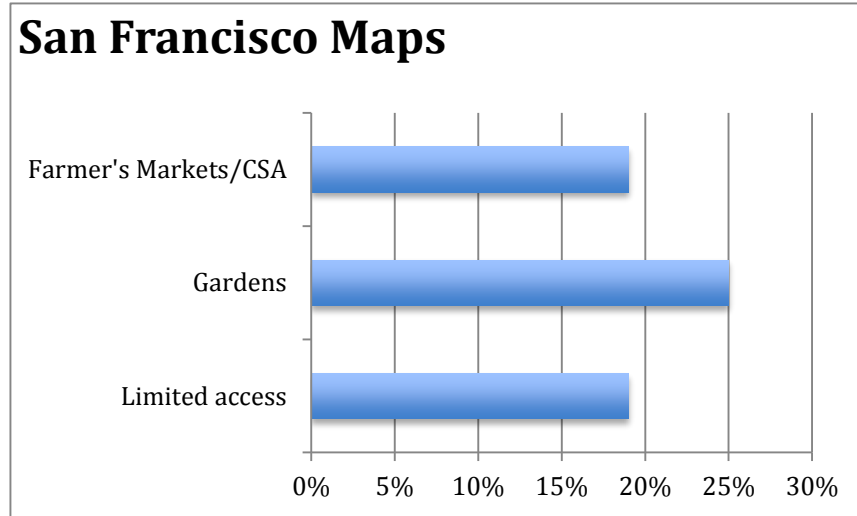


Fig. 1. Key categories of San Francisco food system maps. This represents the results from the analysis of San Francisco's maps.

Oakland Maps

Only two Oakland maps presented community gardens, and two presented farmers' markets in isolation (Fig 2). Other maps used farmers' markets in conjunction with other food stores, to give an overall characterization of locations of food sources (Table 2). Nine of the Oakland maps directly demonstrate limited food access (Fig. 2). Limited food access is a more clearly identified problem in Oakland's maps, and there are many more representations of the interventions taken to improve this. (Fig 2, Fig 3) Nine of the Oakland maps have some form of demographic information visually represented (Fig 2, Fig 4).

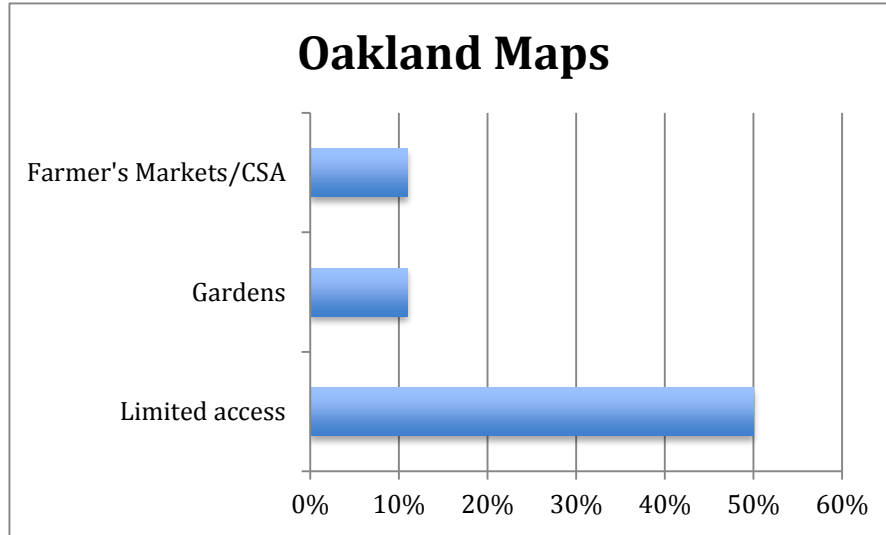


Fig. 2. Key categories of Oakland food system maps. This represents the categories as presented in maps of Oakland.

Comparing the key factors of these two cities will provide the significance of this study. Limited Food access (Fig 3) and demographic representation (Fig 4) will be discussed in the next section.

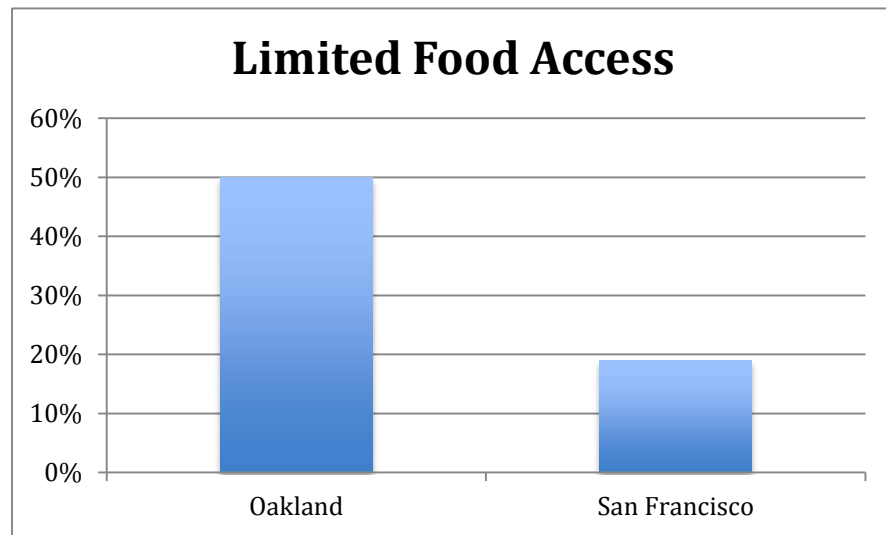


Fig. 3. Limited food access. This illustrates the contrast in portrayal of limited food access in San Francisco and Oakland.

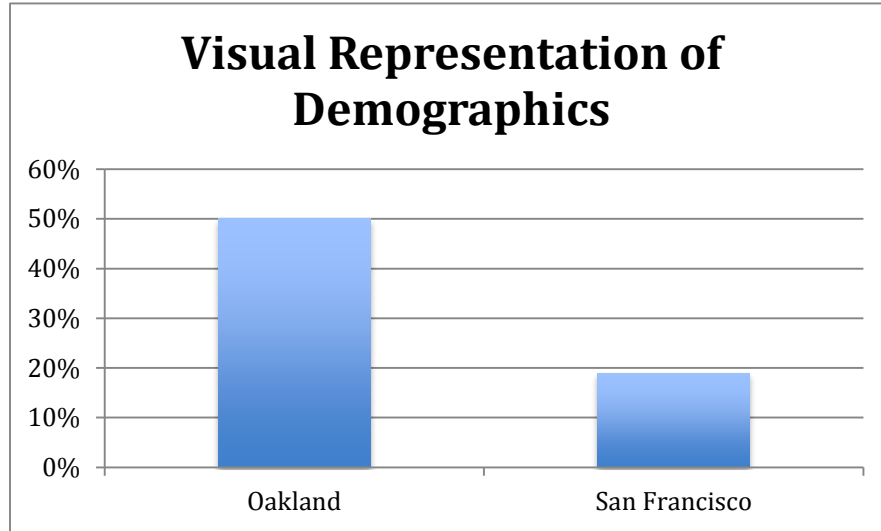


Fig 4. Demographic information. This illustrates the visual representation of any form of demographic data in the maps. As discussed later, this is done almost entirely through population information and a small amount of economic data.

DISCUSSION

The Bay Area is a central location for new ideas and approaches associated with the broadly defined “food movement” (Guthman 2003). The differences between the visual representations of Oakland and San Francisco’s food systems show the range of approaches to changing our nation’s food system and the conflicts inherent in these actions. Discord between the sustainable, local agriculture movement and the food justice movement (Allen and Norgaard 2001) is reflected in the contrasting contexts of San Francisco and Oakland, respectively. San Francisco’s dominant representation of food sustainability shows efforts to change from the corporate, high petrochemical input model. However, the limited attention to the importance of food access and socioeconomic need disregards larger issues of social justice and equity. Oakland’s richness of maps addressing the problem of limited food access and interventions show the nexus of food justice organizations in this city and their major contribution to a social justice approach to the food movement (Alkon et al. 2003). The inclusion and exclusion of certain elements, people, and interventions is indicative of the nature of power relations within these different movements, as well as among the different players in these systems (Huckin 1997, Crampton 2001, Wood and Krieger 2009).

San Francisco

The maps of San Francisco's food systems focused on the availability of sustainable alternative foods, including farmers' markets and CSAs, almost entirely located in the higher income sections of the city. This reinforces the ideals of the local agriculture movement as an upper-middle class white phenomenon (Alkon and Norgaard 2009). Bayview-Hunter's point is affected by institutionalized racism and limited food access (Joe, Schwartz, and Austin 2011) but very few maps showed interventions to address this problem. This neighborhood has been historically disregarded and ignored by the City (Dillon 2011). While community organizations have played an important role in addressing the issues of social justice and economic opportunity in the area, they appear to be lacking the momentum that is so apparent in areas of Oakland (Joe, Schwartz, and Austin 2011). The map produced by the organization SEFA (Map B) shows attempts to begin to change the nature of food systems for this area, so it is possible that strides can be made in the future. However, it appears to be in its infancy and has not yet taken hold in the city government's map production. The city maps focus on the role of sustainable food action, inadvertently pointing out the uneven distribution of these resources (Maps C and T) while celebrating their successes in sustainability.

Framing and implications.

San Francisco is often regarded as a "Green City," with a focus on local production and sustainability. This broader frame shapes the discourse about food and is reflected in the materials I analyzed. Urban gardens, a common tool for both the sustainable food and food justice movements, can serve as a method for understanding the shape of food movements in the city. The representations of urban gardens within San Francisco reinforce stereotypes: Here, urban gardening presents the notion of sustainability and lack of dependency upon corporations and agribusiness. For instance, maps of urban gardens in the city's sustainability report show how "green" the city is (Map C). This series covers a variety of factors expressing "sustainability", including maps of urban gardens and gardens in public schools. Most urban gardens are located within the central parts of the city and are absent from Bayview-Hunter's Point.

I looked for the presence of demographic data within these maps, linking geographies of food access with socioeconomic conditions. Very few San Francisco maps showed any kind of demographic data, reflecting a disregard for the human component. The clear focus was upon finding a better food system without concern for those in who have never been served by San Francisco's food system.

While San Francisco is often represented through the media as a center for activism, organizations producing maps did not seem to be challenging the status quo of pandering to the food interventions for the upper-middle class. Most maps were produced by the City of San Francisco and groups focusing on alternative approaches to sustainability, such as local products and organic options. SPUR and Southeast Food Access are the only two groups represented in this study that are challenging the current paradigm by addressing the problems of limited access in Bayview Hunter's Point (Map A, Map B). Further, the corresponding literature for Southeast Food Access discussed the role of community mapping programs, bringing those impacted by the issue into the conversation. Such organizations align with Oakland's strong food justice culture.

Oakland

Food justice organizations have produced many maps of Oakland food systems that address the issues of justice by highlighting food access interventions, particularly in West Oakland. Such interventions include community gardens, local markets, and education programs through food justice organizations. While, like Bayview-Hunter's Point, this area has also been subject to systemic racism and forced segregation (Walker 2001, McClintock 2011)G, the nature of community response is more strongly established (Self 2003). Oakland has a strong history of community activism. As the government institutions have not served the needs of the communities, people have taken the work into their own hands. One particularly compelling example is the Black Panther's free breakfast program, which served school children starting in 1968. It was so successful that it was later adopted country by the USDA (Patel 2012).

With dozens of community organizations addressing issues of food justice, many parties have mapped food system problems and interventions in the city, often showing the problem of limited access, high liquor store concentration, and actions for intervention. Many of the same

interventions used in San Francisco for the sustainable food movement were also represented here, including farmer's markets and urban gardens. However, these tools were often represented as addressing the problem of limited food access in low-income communities of color.

The strong emphasis on the problems of the people can be identified through the high prevalence of demographic data. Exactly half of Oakland's food systems maps contain some kind of demographic data, primarily through population data (Fig. 4). Representation of economic data was less common, but did appear (Map S).

Framing and implications.

Gertrude Stein is famously quoted as saying of Oakland: "There is no there, there". Authors discussing Oakland have struggled to define the city, due in large part to its the contradicting stories. There is a struggle between empowering the underprivileged, the contrasting forces of gentrification, and efforts for the revitalization of disintegrated areas in the post-industrial era. These struggles are mirrored in the food systems maps, showing the contrasts framing the food movements. While there is a stronger drive within Oakland to address the issues of concern to the food justice issues, it is also a strong center of the sustainable food movement. In Oakland, contrasting food movement perspectives reflected the interests of those making maps. Maps produced by some blogs and groups showed support for alternative systems, including Farmer's Markets and other resources located within higher income areas (Map Q). These follow the patterns as identified by McClintock (2011): income and resources in the hills with limited resources and low income in the flatlands.

Comparing Oakland and San Francisco

While both cities have great class and income disparities, their stories, particularly the stories for post-industrialization, impact the way food systems are framed, and thereby the shape of the food movements. In comparing the maps produced by the city governments, the different frames become clear. The maps produced by the city San Francisco all represented particular forms of sustainability and implications for supporting that movement. The maps produced by the City of Oakland helped to illustrate why community organization have needed to fill the gap

in food access. These maps were generally lackluster, presenting basic information (Map BB), but not addressing any larger context of problems or solutions. News organizations and blogs followed the identified trends for each city: San Francisco blogs and news resources focused on the “foodie” agenda, discussing the joys of visiting a farmer’s market to chose food one can feel good about buying (Map D). On the other hand, Oakland blogs and news articles illustrated the problem of limited food access in the city, and talked about the impressive efforts of local organizations to solve it (Map V, Map DD).

The limitations of these systems

Critical cartography and critical discourse analysis suggest that the inclusion and exclusion of certain map factors reflect significant trends and relationships (Crampton 2001 Harley 1989, Wood and Kriger 2009). Looking at all of these maps of these two cities as a whole, it is clear that there are larger patterns surrounding the choices made in developing these maps. I have argued that maps avoiding demographic factors are often promoting the agenda of the sustainable food movement, and those using demographic factors generally are defending the food justice movement. However, those maps that did that did use demographic data focused on representing population density. Only one of the maps analyzed directly represented the economic standing of the neighborhoods in question (Map S). Racial data was avoided entirely in all cases. The literature surrounding these movements discusses the need to address the systemic racism within today’s food system (Alkon and Norgaard 2009). The groups producing these maps could put more effort into doing so. Even the food justice organizations did not focus on showing the racial nature of food access. This lack of attention to race reinforces the status quo and the “whiteness” of many of the efforts in the food movements (Alkon and Noregard 2009)

The role of technology

I analyzed all maps for this study in a digital form and located them through internet searches. With the recent popularization of GIS software, the ability of organizers, researchers, and city agencies to create maps has greatly increased (Ofper 2010). Further, the interactive

aspects of Google Maps have created new possibilities in the realm of “community mapping”. Several of the maps I analyzed were created in Google Maps, and mentioned in the corresponding text that viewers can contact the producer with additional information to make changes or additions. Much like the addition of the comments section for online media, this allows people to interact with these maps in a way that would not have been possible ten, even five years ago. However, the limited nature of Google Maps stifles representation of complex layers, such as racial, economic, or population density data. These maps rely primarily upon point markers, and often have links to the websites of the interventions presented. This offers another way for people to interact with the map and with the food systems, particularly to learn about how to best use or access some of these key resources. For example, a city resident could look at a map of urban gardens, find one nearby, click to see the garden’s website, and find out how to join or buy their produce.

Study limitations

Studying maps is an unusual approach and as such there are some important limitations to consider. While the maps were able to speak of much of the work in these arenas, not all interventions are mapped. However, following the structure of my study, an unmapped intervention has significance: Why did no group want to map it? What does that mean for the intervention or for the groups that produced similar maps? Further, these maps do not offer an evaluation of the success of the food movements. A map may present interventions, but it cannot explain if goals have been achieved.

Conclusion

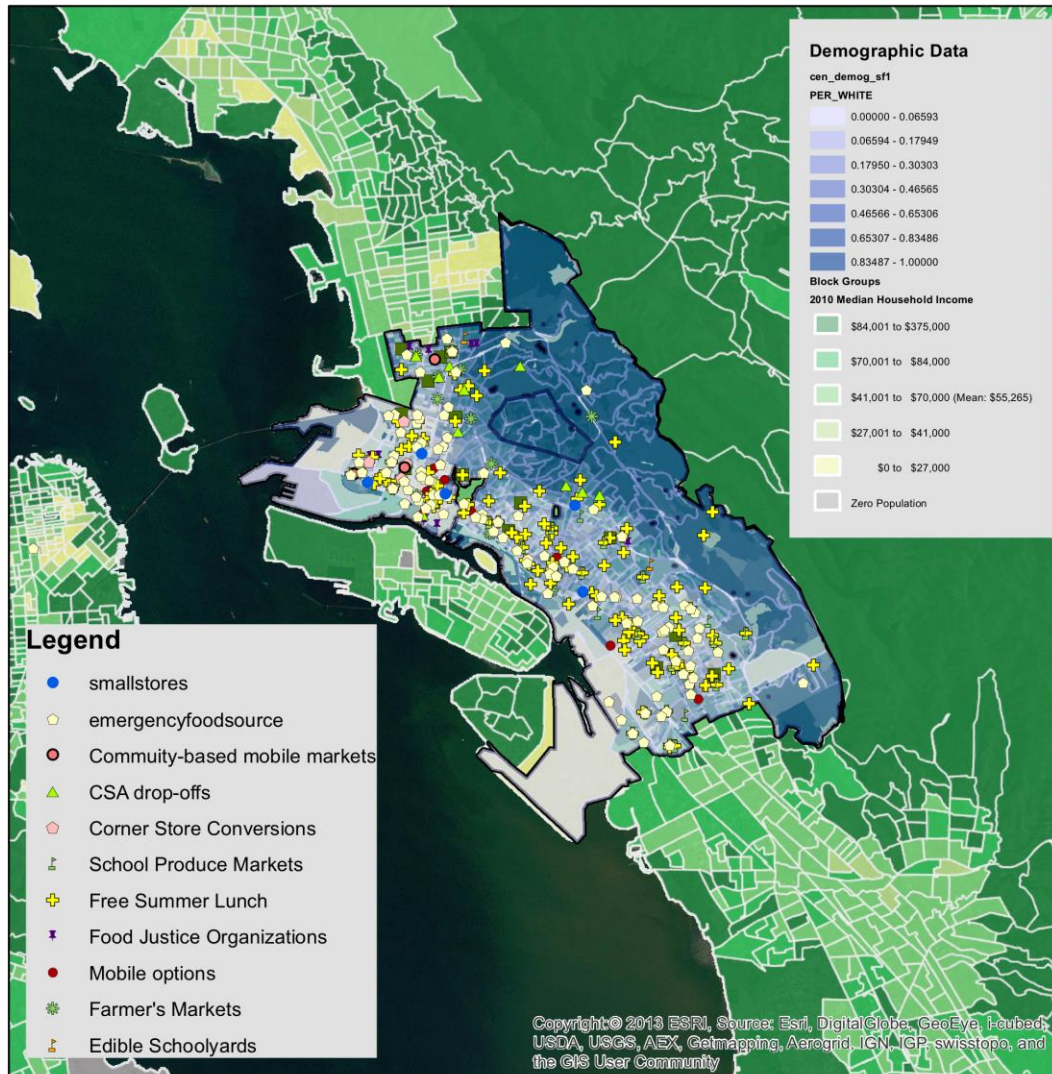
While maps could be seen a mere snapshot of fluid movements, they dig into these different efforts and trends in a way that other forms of representation may not. Looking into the expanding role of maps in the food system could indicate the possible directions of alternative food access in these cities. Food systems maps for the Bay Area parallel what is happening in cities throughout the United States and the conflicts between these food movements. As GIS technologies continue to become more affordable and widespread, the ability to develop

advanced maps that represent complex social dimensions will be open to all kinds of groups and individuals throughout the food movement.

One such application of these GIS technologies comes through my Oakland Alternative Access Map (Fig.4). I worked with the Oakland Food Policy Council to make a map of alternative food access in Oakland. I found the locations of different forms of interventions, and mapped these onto data layers that included economic and racial data. This gave me a chance to see the difficulties and decisions that a map producer must make. Further, it helped me to understand the true shape of the food access interventions in Oakland. This type of mapping project can serve all sorts of purposes, from policy development to academic critiques. Alkon and Agyeman (2011) discuss the need to bridge gaps in the food movements. Maps such as these provide a living document of the social realities on the ground, which reveals the social geography of the food movement and points to ways in which the different approaches can be bridged in a place-specific context.

While the manifestation of food movements differ in each city, maps like mine can provide a window to the connection between disparate histories of activism. As food movements are gathering strength, today's intersection offers a turning point for the future. It is possible to connect the strengths of these different movements and bring together the farmer-supporting, pesticide-free ideals of the sustainable food movement with the poverty-addressing, food access increasing food justice movement. As I have demonstrated through analysis of the maps of San Francisco and Oakland, both movements use the same tools; farmer's markets and urban gardens show a particularly strong role in both cities. As such, it is highly possible to use these similarities to movements address both sets of issues. Further, both movements have common enemies, as it were: they are both against the high presence of fast food and the role of a few corporations in driving the food system. These strong connections could help to shape the food movement to come, offering a method of social inclusion to right the problems of the past while preventing the problems of the future.

Oakland Alternative Access Map



Sarah Edwards, for the Oakland Food Policy Council

As of 4/16

Fig. 4. Oakland Food Systems Map. I produced this map for the Oakland Food Policy Council. After developing categories with the OFPC, I found specific sites of alternative food access and geocoded these using ArcGIS 10.

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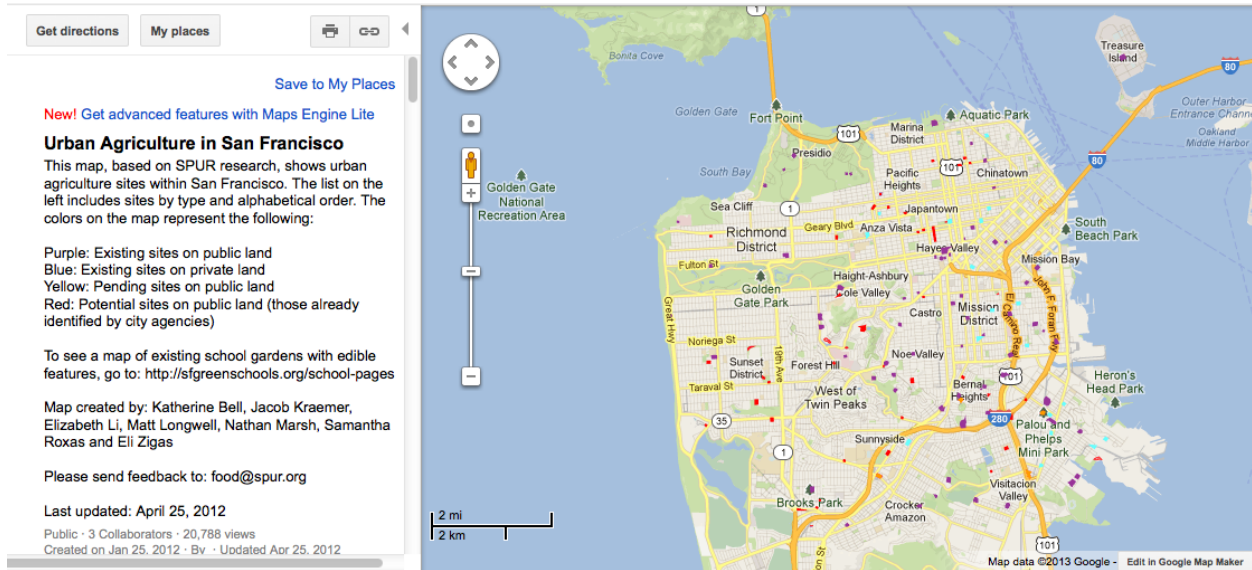
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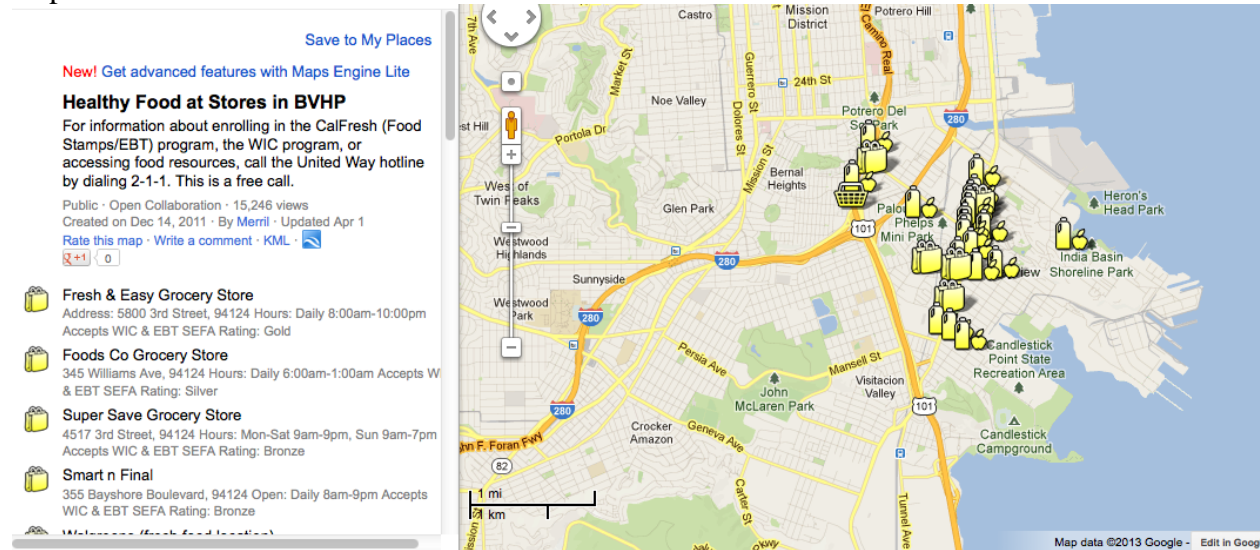
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APPENDIX A: Maps Analyzed

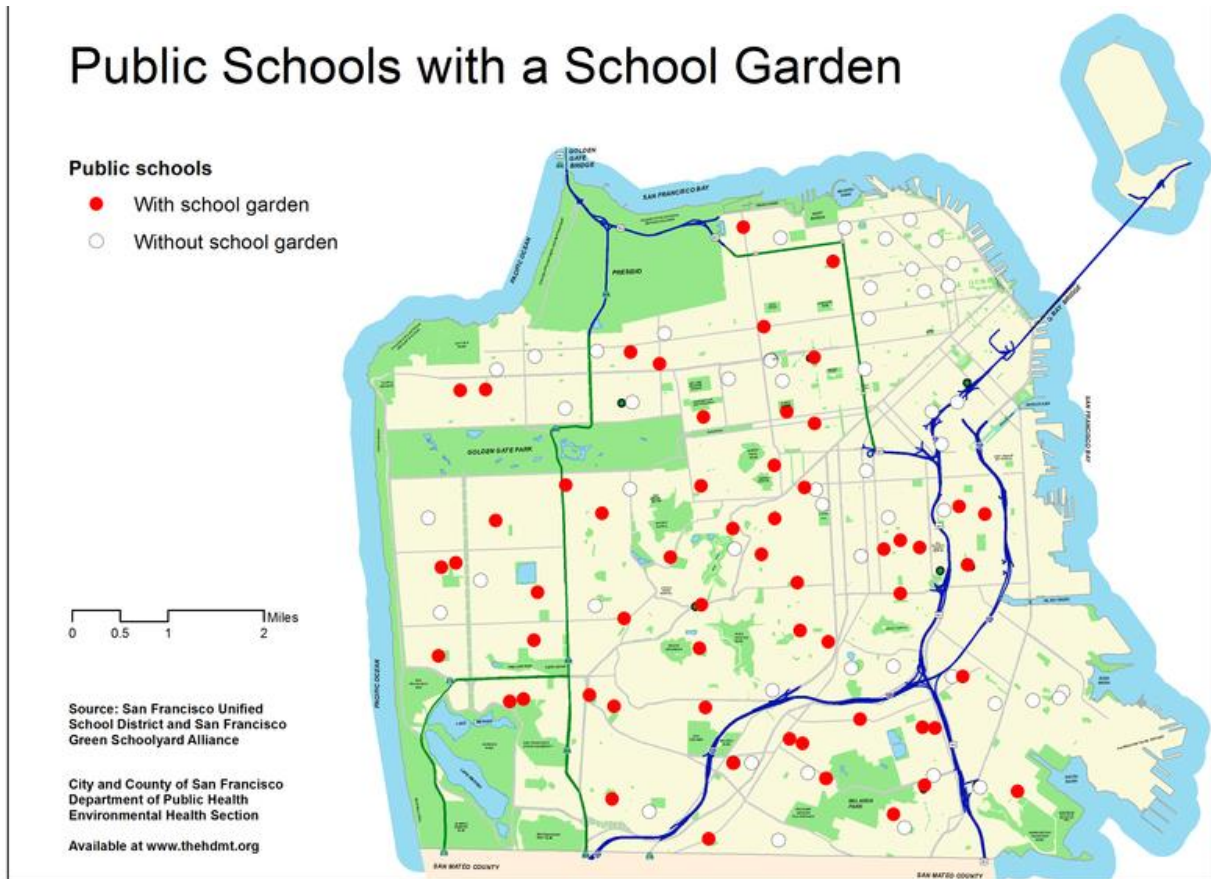
Map A



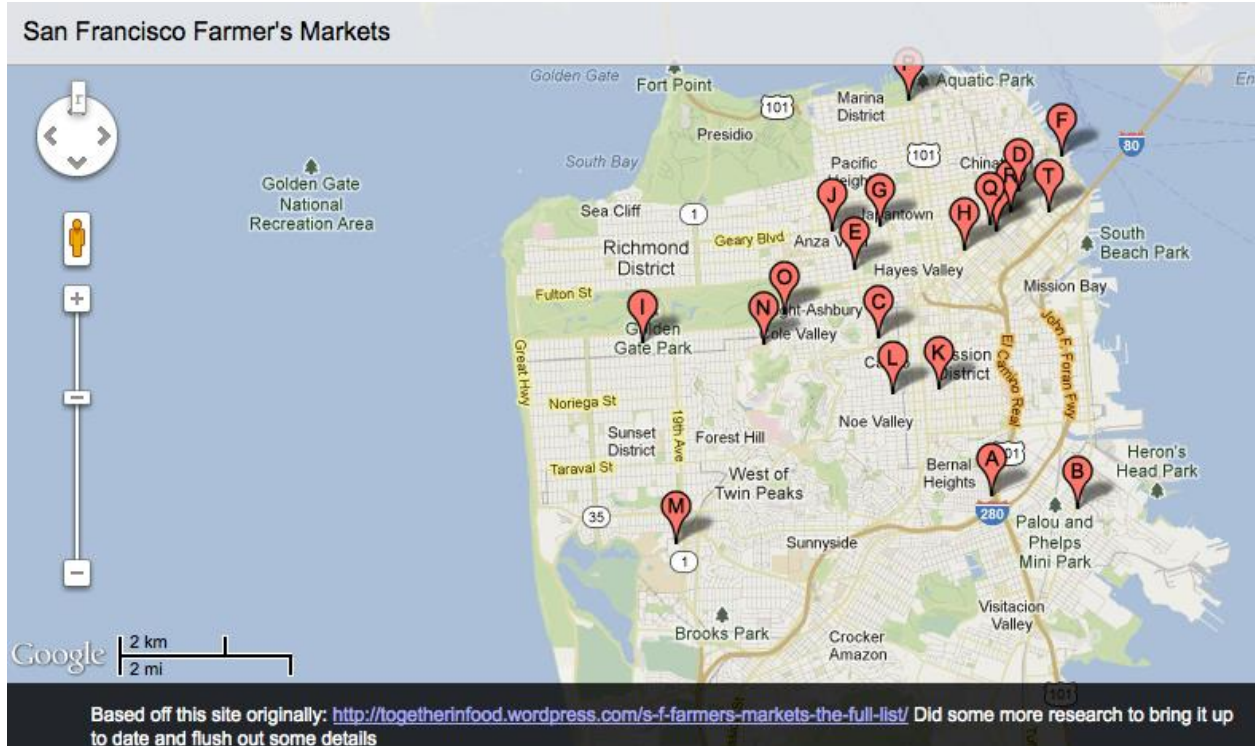
Map B



Map C



Map D



Map E

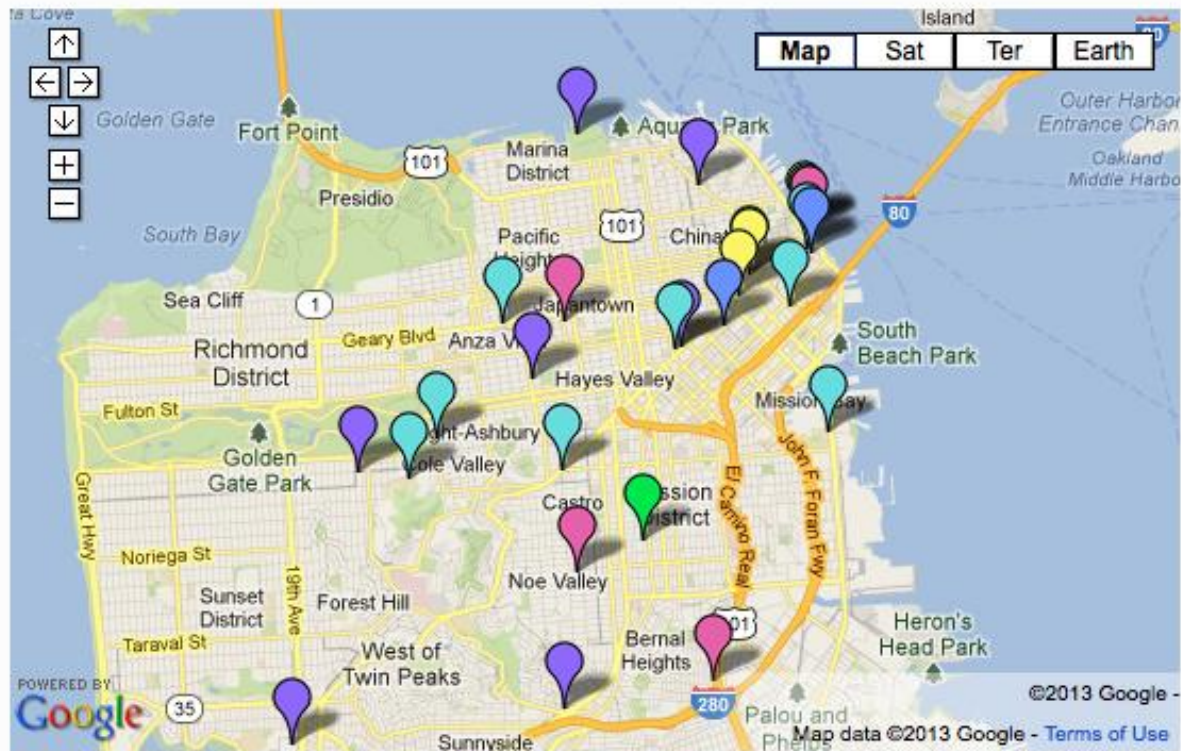
SFoodie's 2012 Farmers' Market Schedule and Map

By Sean Timberlake Thu., Apr. 12 2012 at 3:46 PM

4 Comments 

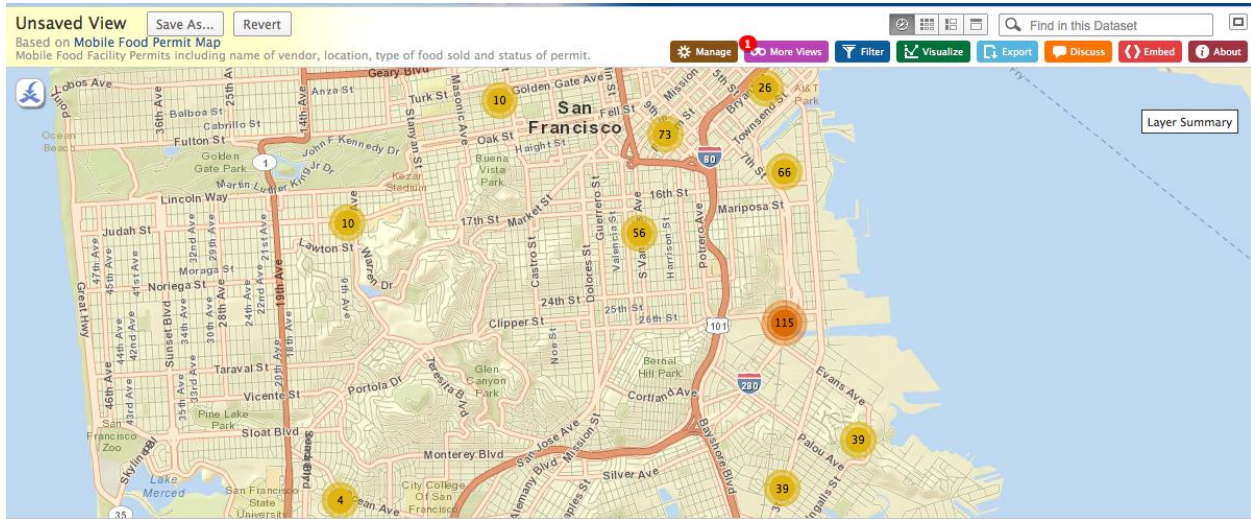
Categories: **Market Report**

 Like 96  Send  Tweet 49  Submit  Pocket 1  +1 1

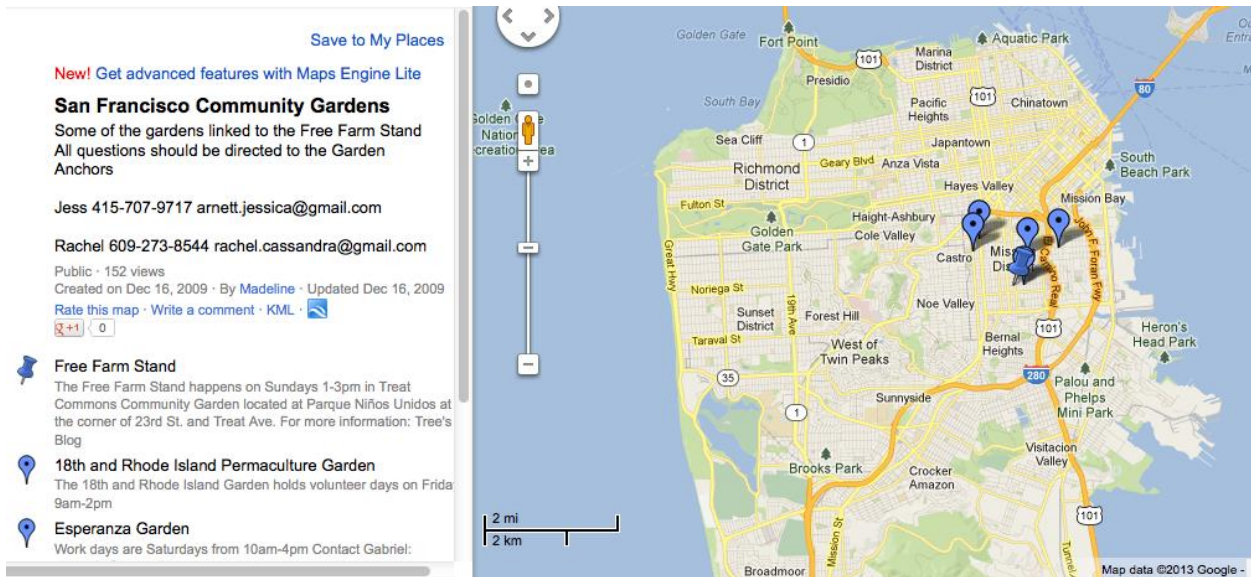


[View San Francisco Farmers Markets 2012 in a larger map](#)

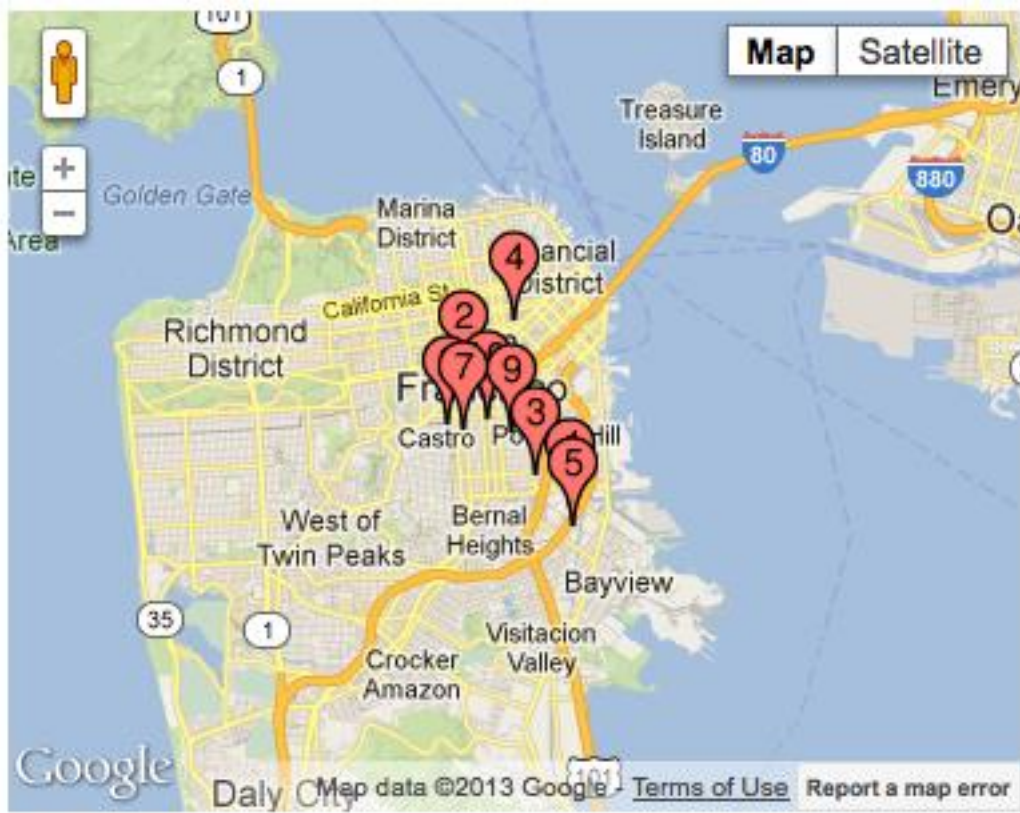
Map F



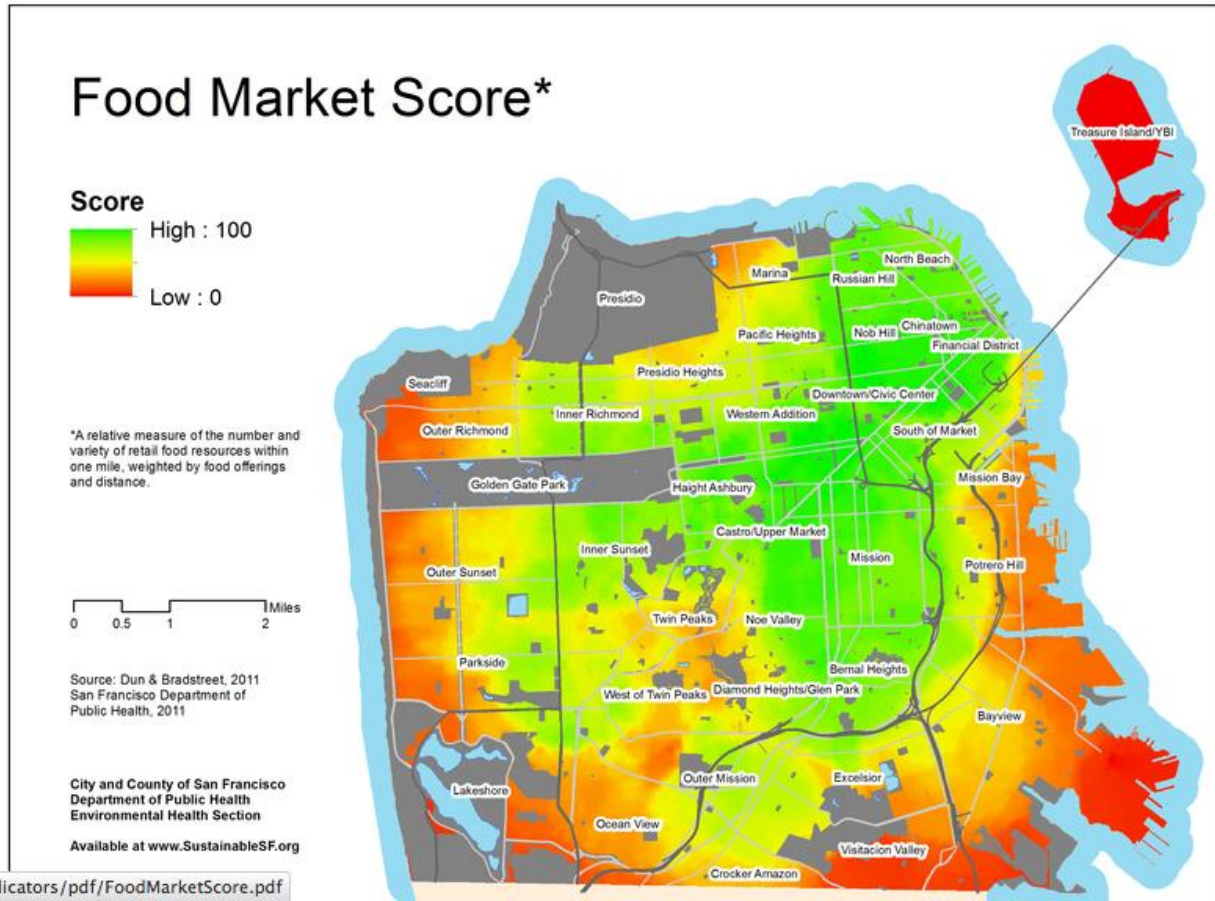
Map G



Map H



Map I



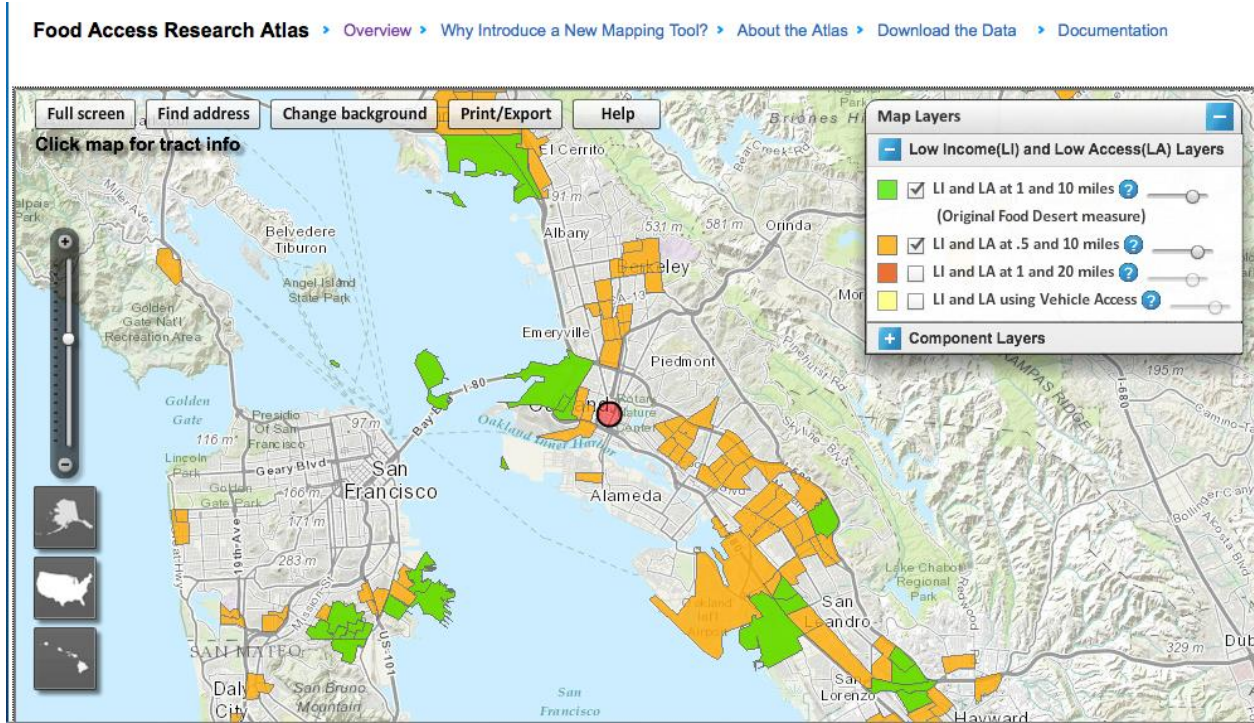
Map J



Map K



Map L



Maps M, N, and O



Figure 3. Map of food retail in the Mission.

concentrated on the main commercial street and scattered with less frequency throughout the rest of neighborhood. A large national chain and three independent supermarkets are located within a half mile of the neighborhood's edge. In contrast, Bayview does not have a thriving commercial center with numerous small food retailers (Figure 4). The main artery is



Figure 4. Map of food retail in Bayview.



Figure 5. Map of food retail in Central East Oakland.

Map P

Figure 2.2: Oakland Community Gardens, School Gardens, and Urban Farms, Population Density per Square Mile

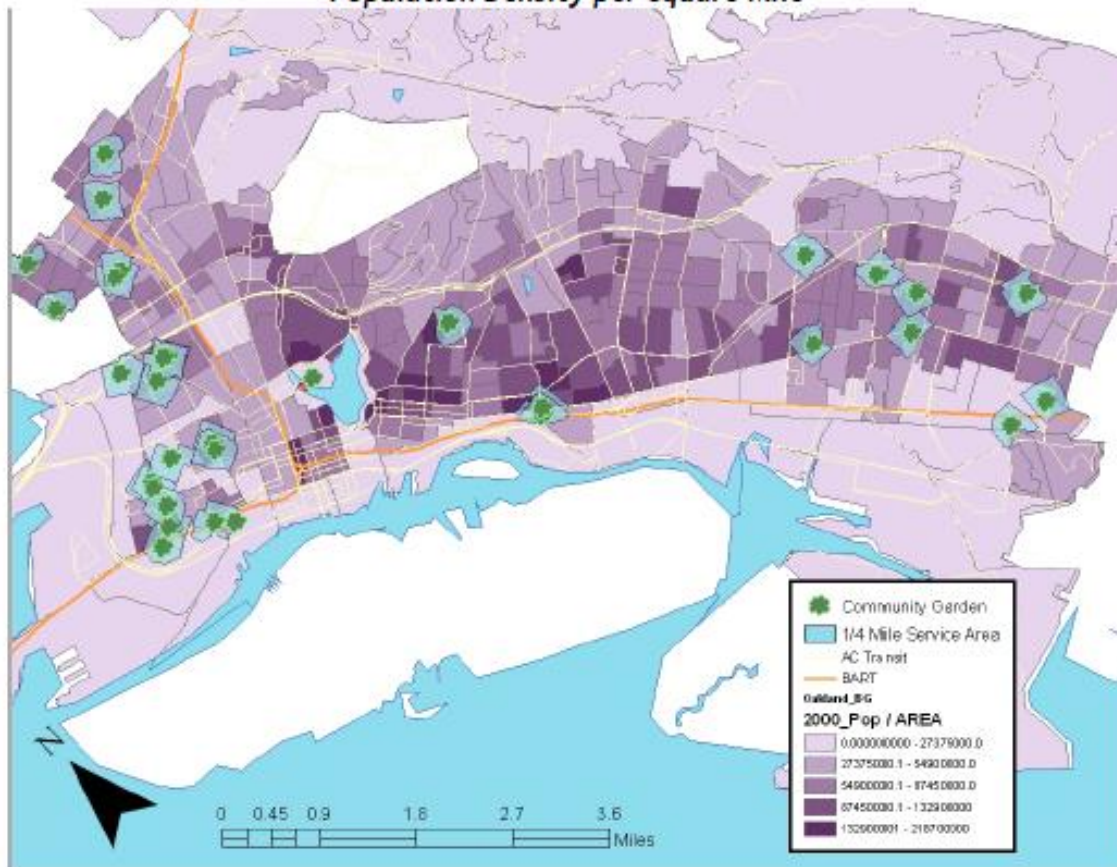


Figure 2.2 shows Oakland community gardens, school gardens and urban farms, along with the population density per square mile. A ¼ -mile “Pedestrian Buffer” around each garden shows the area around each garden from which a person would normally walk by Oakland’s streets. While some areas of Oakland are currently served by several community or school gardens, many areas, including some of the more densely populated areas - where community gardens could provide much needed opportunities for engaging with green space and fresh, nutritious produce – lack community or school gardens.

Map Q

Figure 4.5: Oakland Farmers' Markets, Population Density per Square Mile

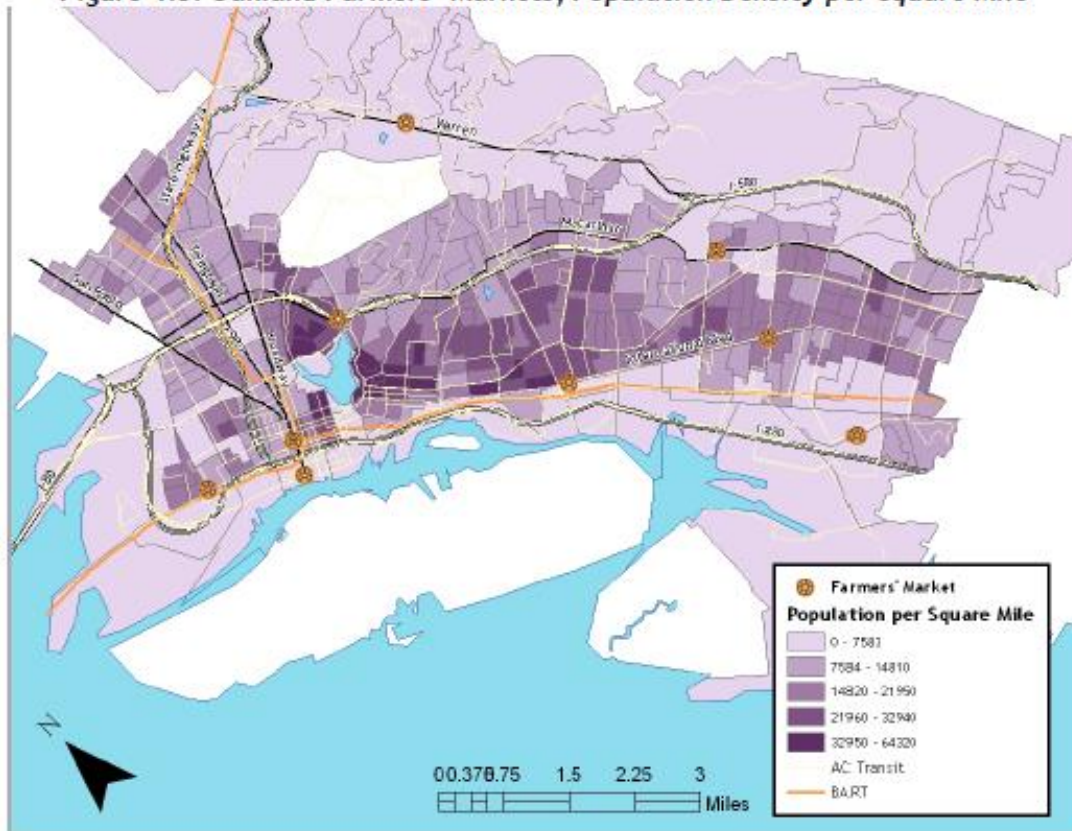
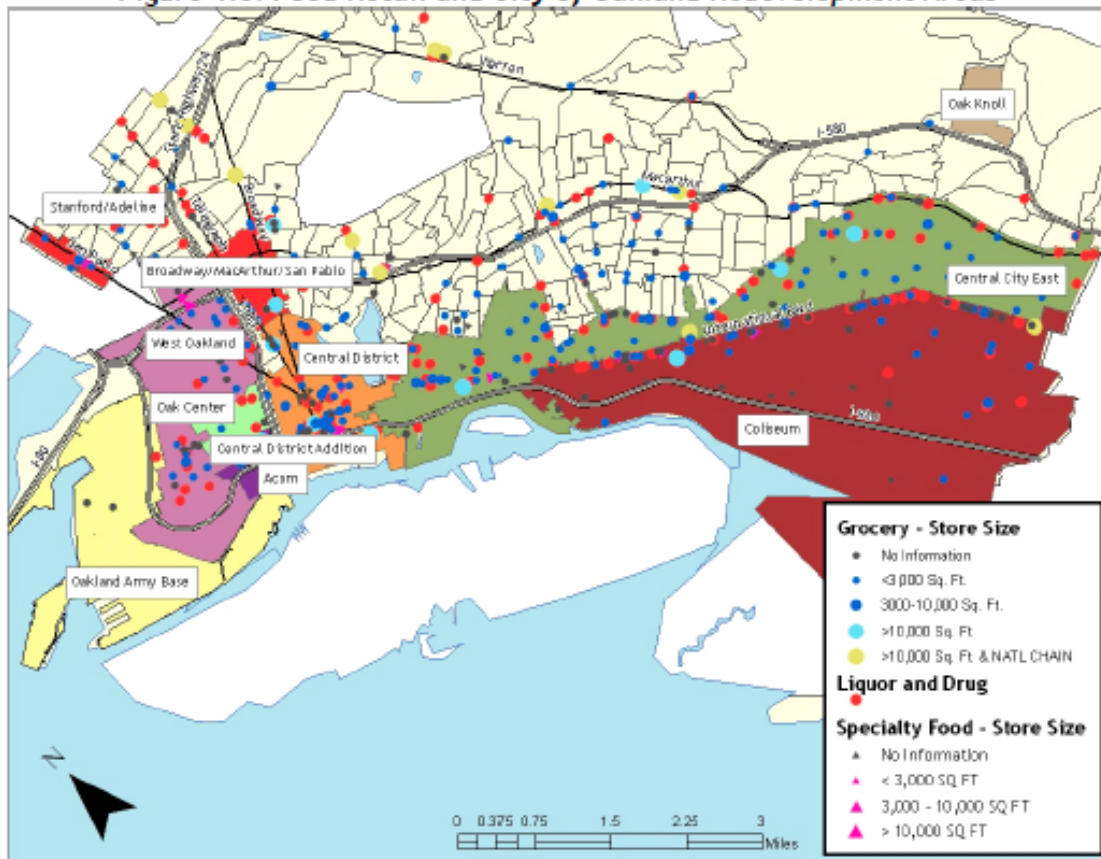


Figure 4.5 shows Oakland Farmers' Markets and population density per square mile.

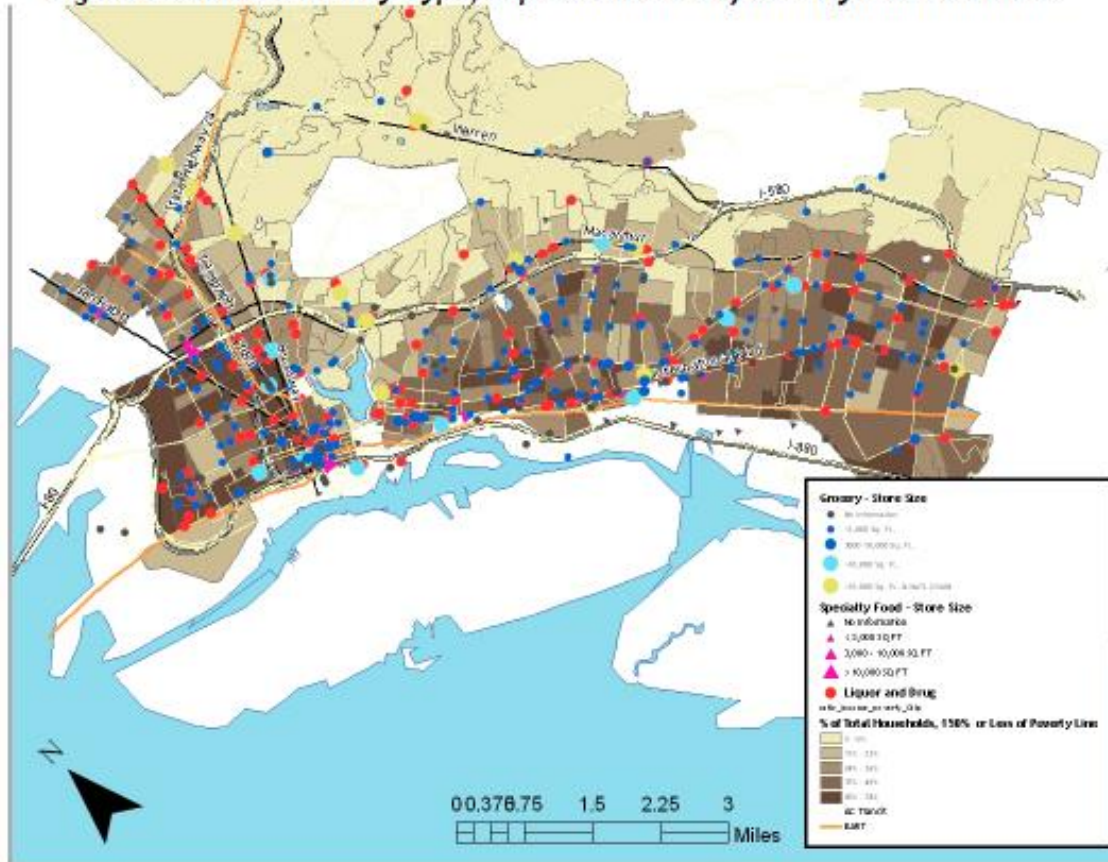
Map R

Figure 4.6: Food Retail and City of Oakland Redevelopment Areas

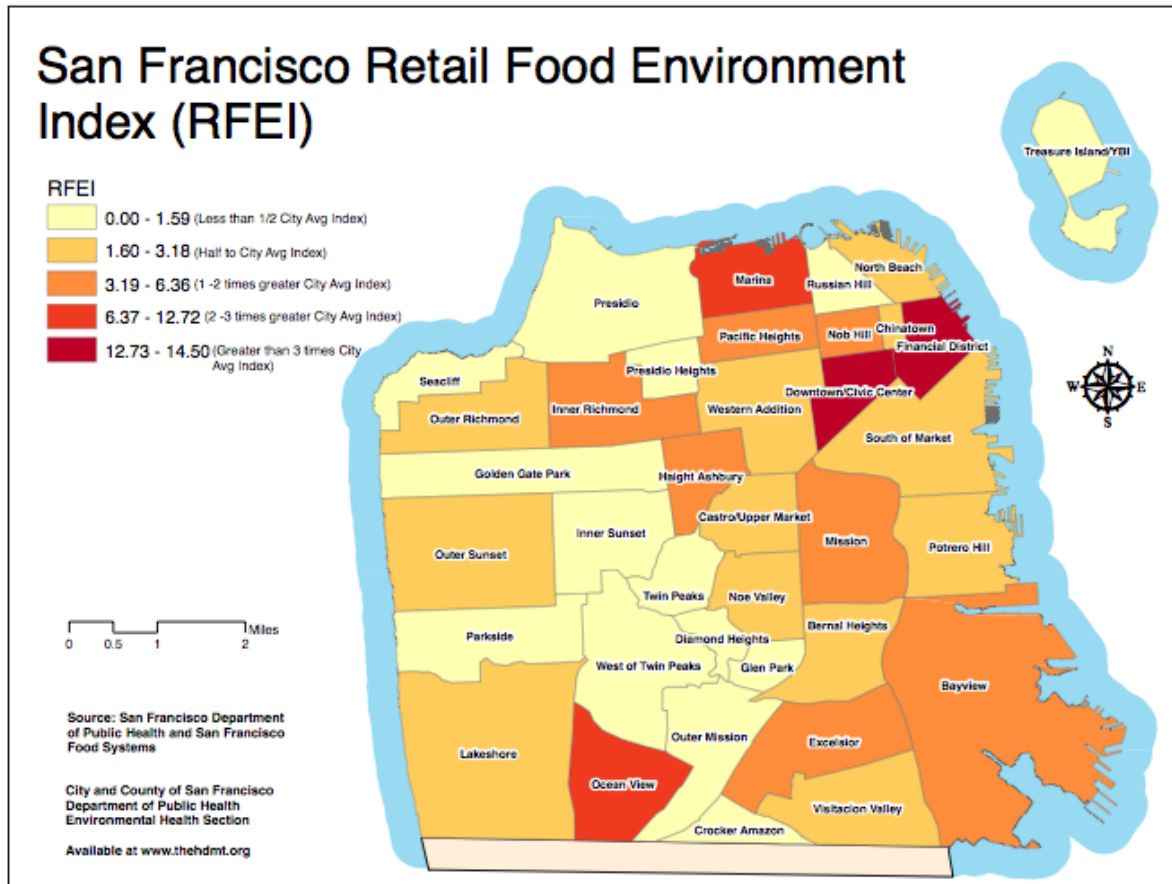


Map S

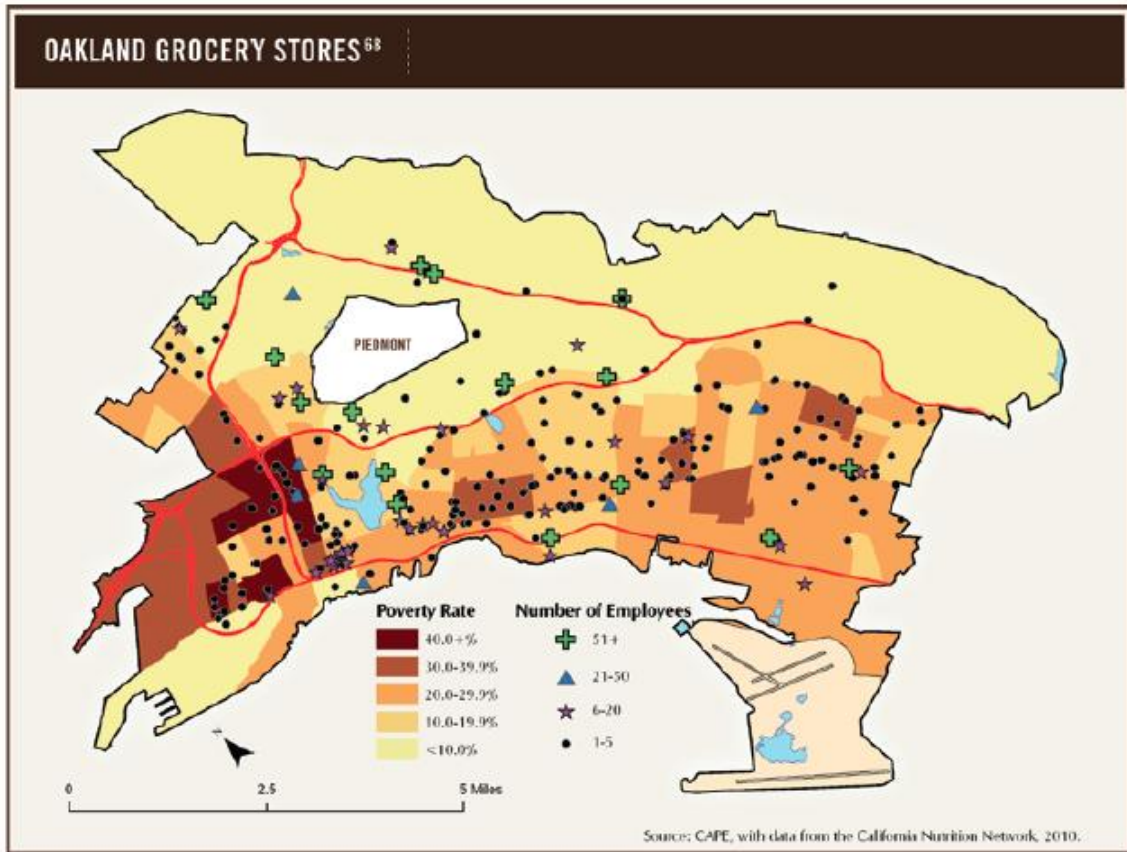
Figure 4.7: Food Retail by Type, Population 150% of Poverty Line and Under



Map T



Map U

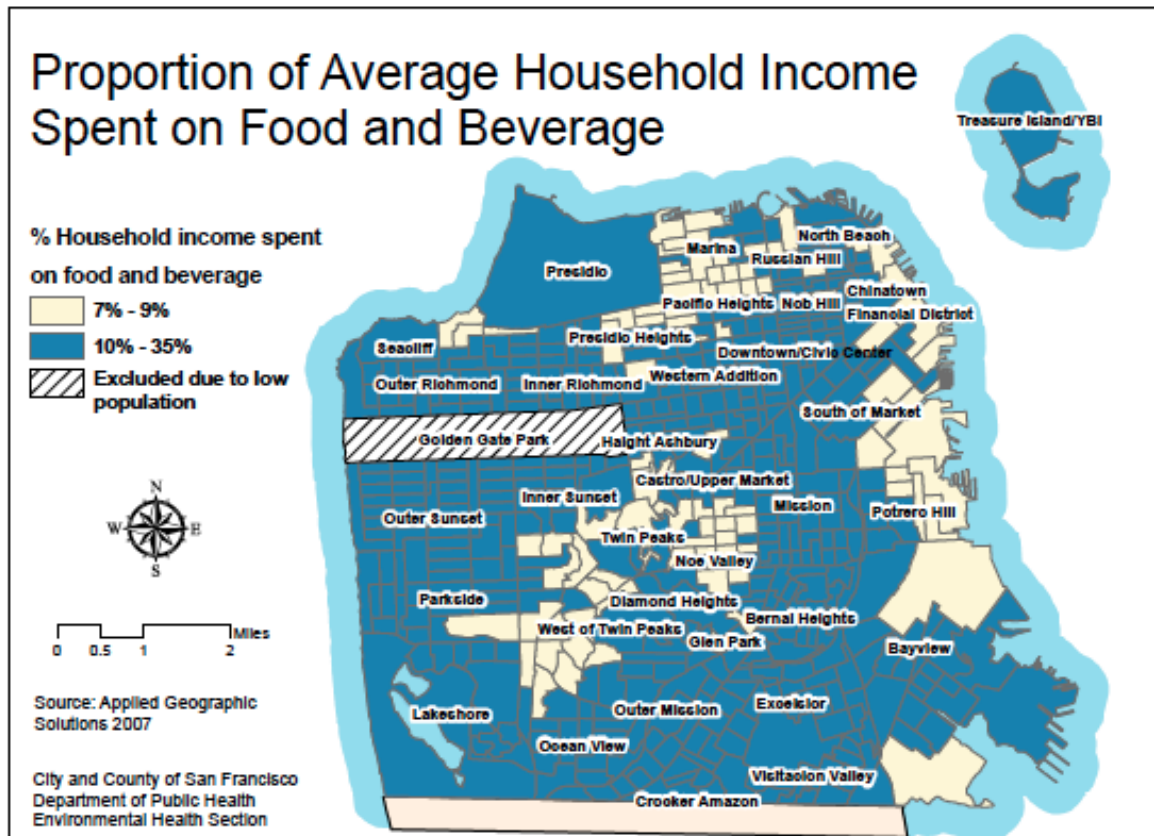


Map V



Map W

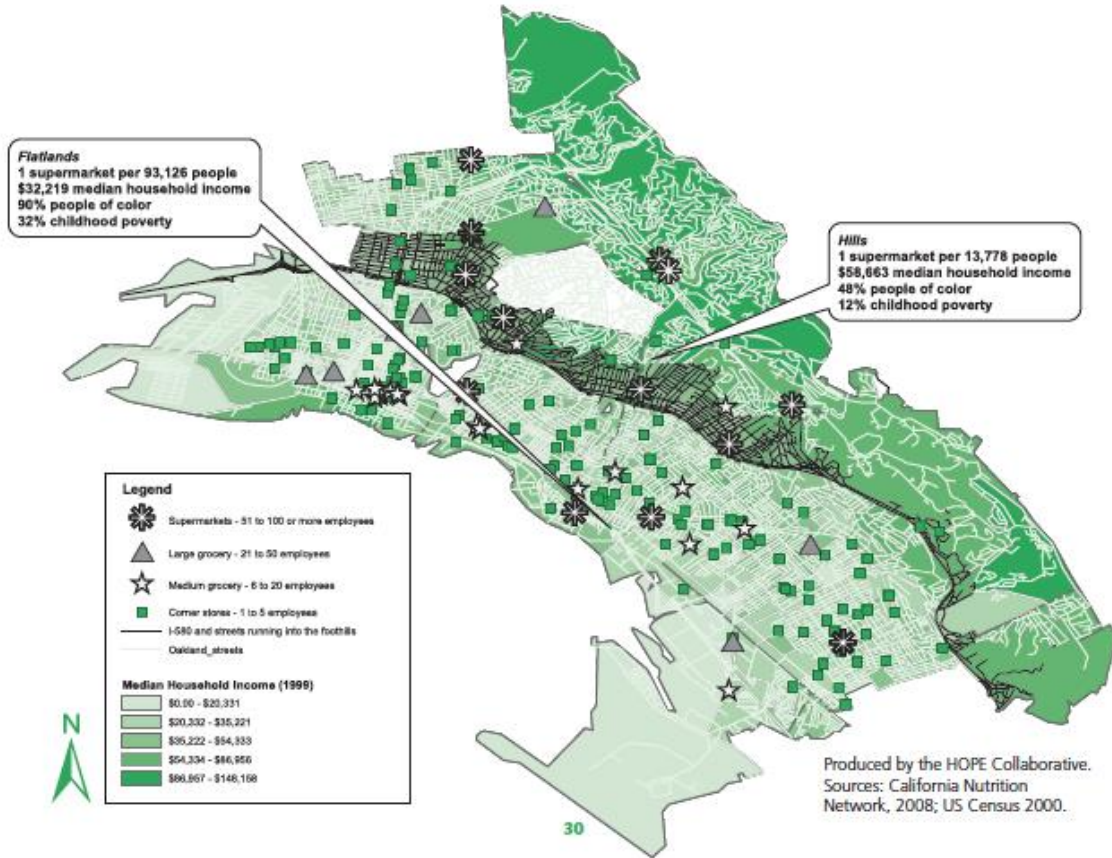
Figure 4.3



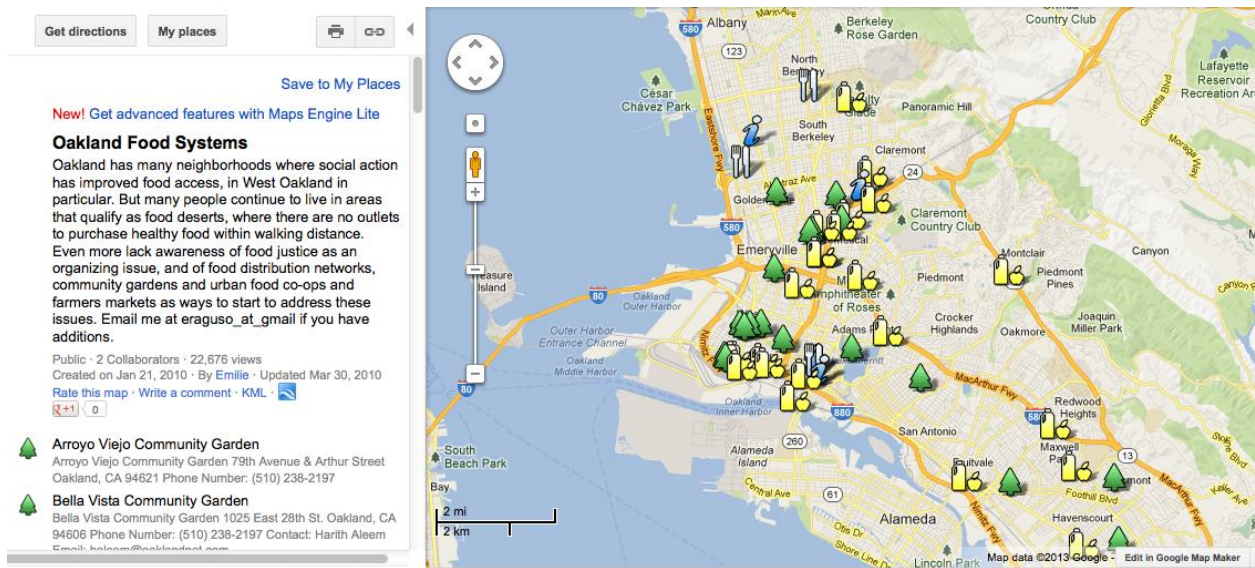
Source: Jen McLaughlin, SF Dept of Public Health, Environmental Health Section

Map X

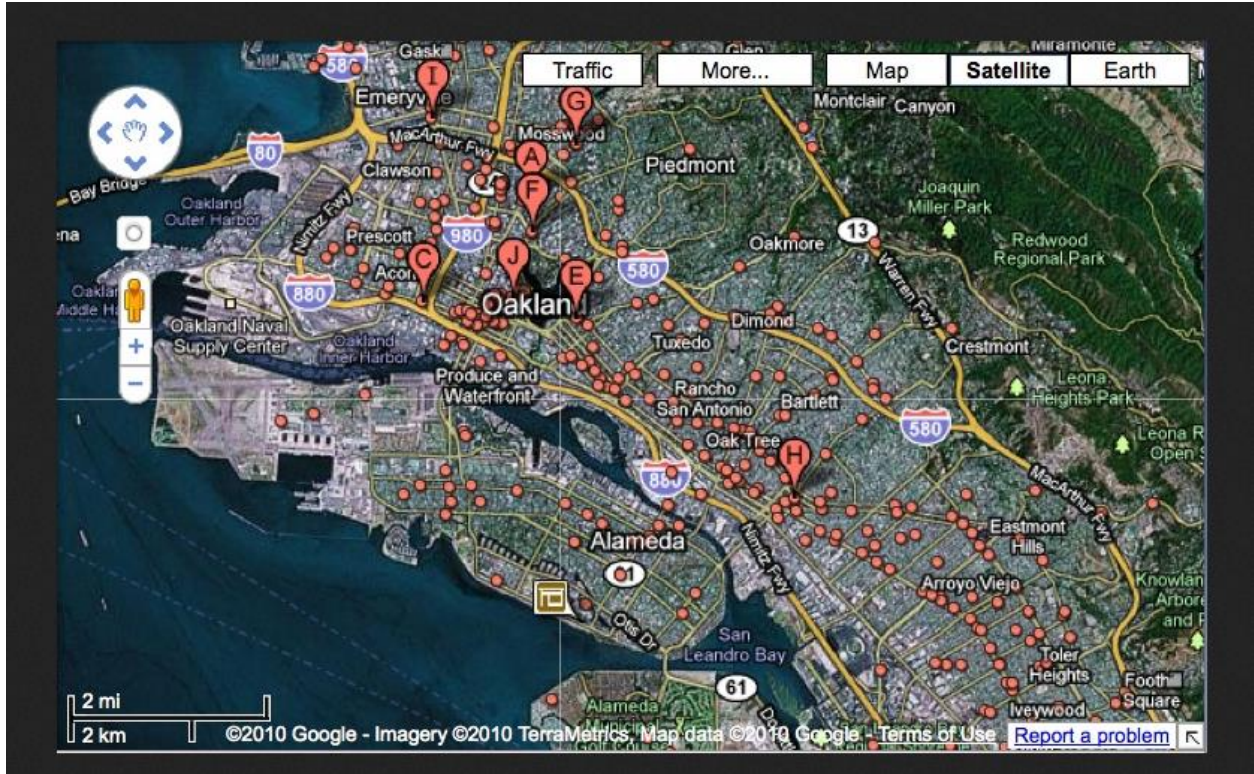
Figure 3. Food Store Availability and Neighborhood Poverty in Oakland



Map Y

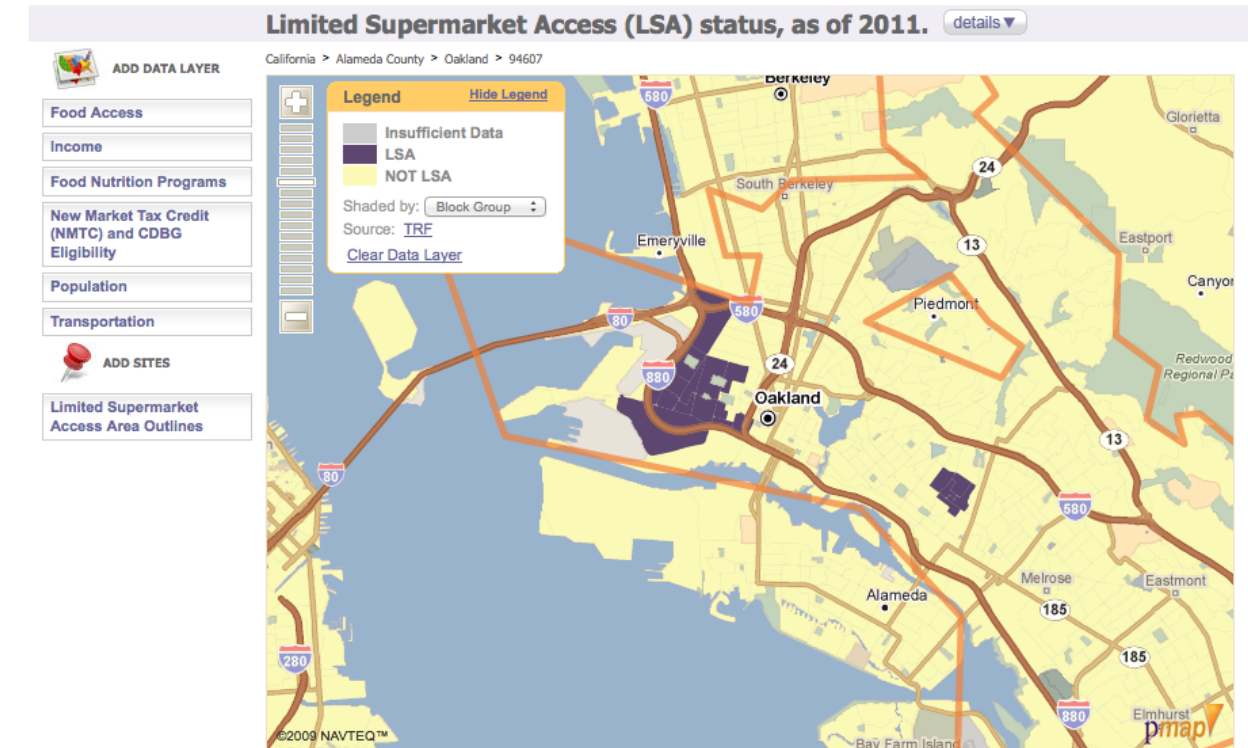


Map Z



This image from google maps shows red dots overwhelming the impoverished flatlands of East Oakland. The red dots are convenience grocery stores and liquor stores such as Dave's Grocery and Liquor, N&S Discount Store, Jalisco Market. The pinpoints with letters, located in the gentrified neighborhoods of Lake Merritt, Oakland Hills, and Alameda, are supermarkets and specialty food stores, such as Lucky, Whole Foods Market, and Piedmont Grocery Company.

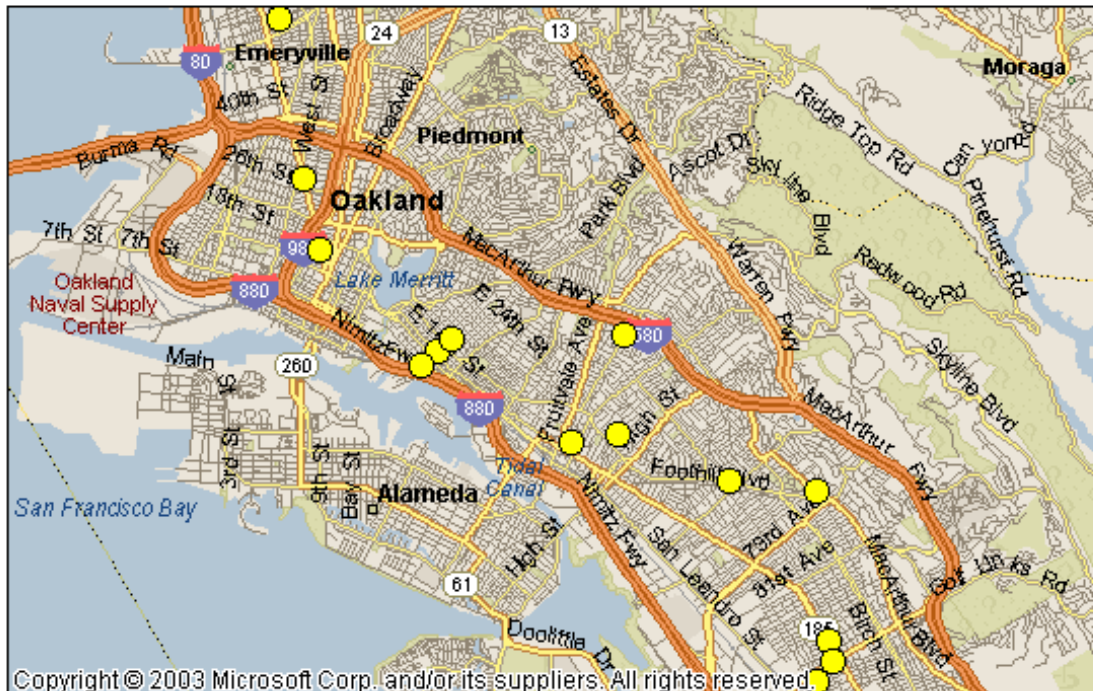
Map AA



Map BB

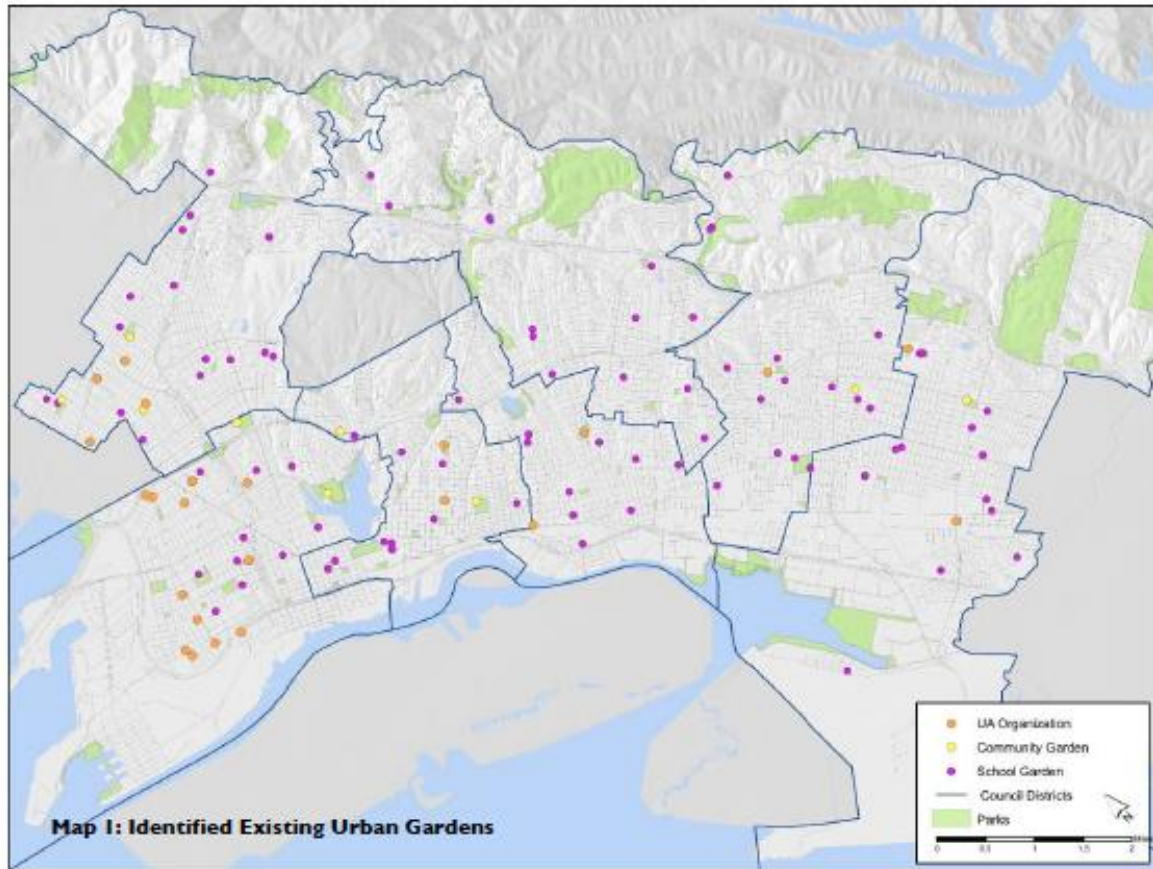
Oakland Food Distribution Sites

Low income families and seniors are encouraged to call the food pantry in their district to check for distribution times. To be eligible, families must reside in one of the 7 Community Development Districts in the City of Oakland. Proof of residence in the CD districts is required. (Proof of residence includes California Drivers License, Military ID card, welfare or food stamps ID, utility bills or other mail. Brown bags are given out on the specified date only, on a first come, first served basis. For information on hunger and homeless services, call (510) 238-7754. City of Oakland, Department of Human Services, Hunger and Homeless Program.



Map CC

Cultivating the Commons: An Assessment of the Potential for Urban Agriculture on Oakland's Public Land

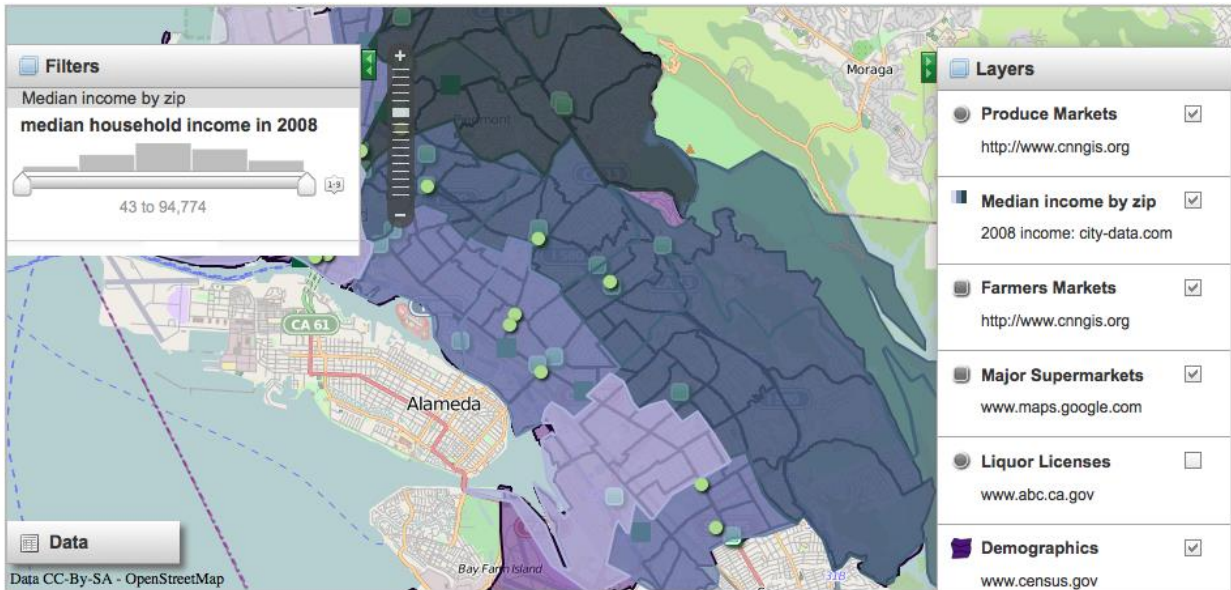


Map DD

Supermarket Access - West Oakland



Map EE



Map FF

Figure 4.2: Oakland Food Retail by Store Type, Population Density per Square Mile

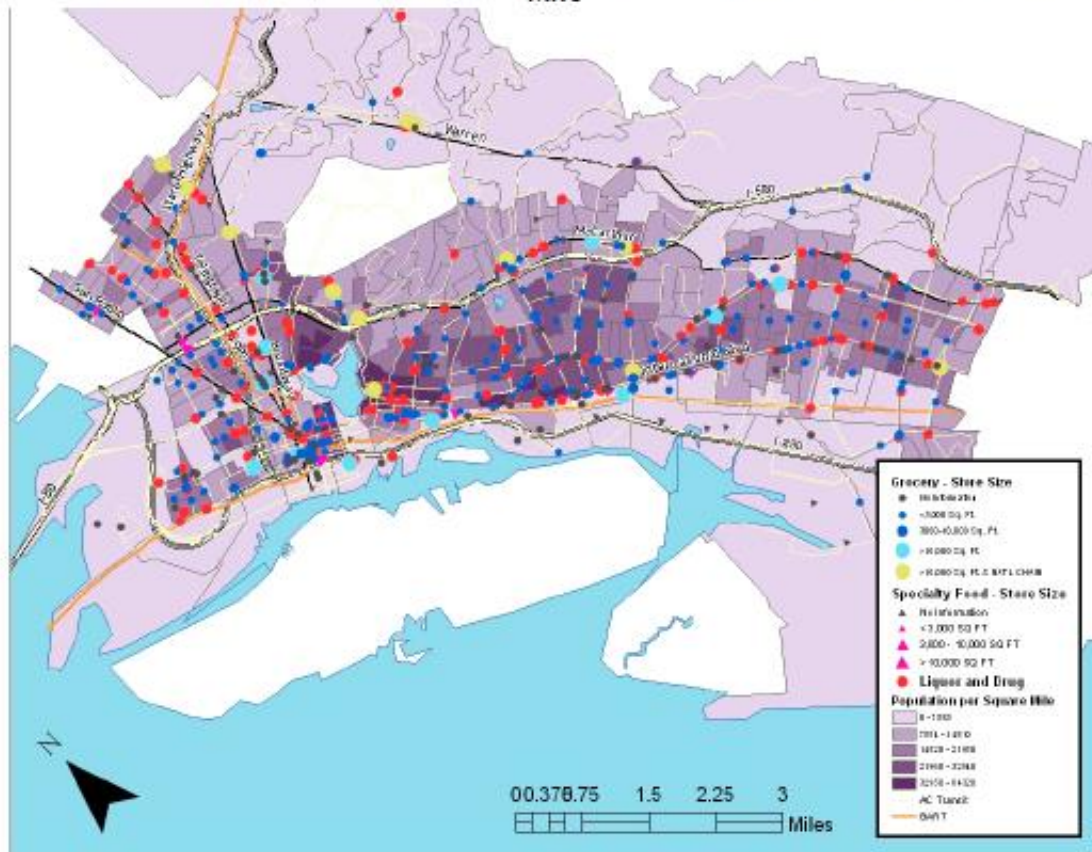


Figure 4.2 shows food retail stores in Oakland and population density per square mile. Food retail is differentiated by type (“Grocery,” “Liquor and Drug,” and “Specialty Food.”)¹⁰⁴ Within these categories, square footage distinctions are made for the “Grocery” and “Specialty Food” categories.¹⁰⁵ For stores over 10,000 square feet, “Grocery” is additionally categorized by whether or not the store is a national chain.¹⁰⁶ Types of food retail available vary in different parts of the city, with some areas that lack large food retail stores being primarily served by small liquor and food retail establishments (convenience or “corner stores.”)

Map GG

Map 6. Critical Food Access Areas and Population Density

