

Environment and Obesity in San Luis Obispo County



2008

Measuring the Effect of Food Availability, Outdoor Marketing and Walkability on Childhood Obesity in San Miguel and Oceano, California.

Project Sponsors



Abstract

Childhood obesity has increased 2.3 to 3.3 fold in the United States over the past 25 years. 32 percent of San Luis Obispo County children are overweight. 75 percent never exercise. *Healthy Eating, Active Living – San Luis Obispo* published a community action plan highlighting several recommendations for improving the health status of San Luis Obispo children, including compiling data. In collaboration with the Public Health Department and AmeriCorps, data was collected in two local communities assessing the impact of environmental factors on nutrition and physical activity and its link to obesity. The two communities were chosen due to the evidence of health disparities in children. Data was collected using the Communities of Excellence in Nutrition, Physical Activity, and Obesity Prevention (CX3) framework provided by the California Department of Public Health and The Network for a Healthy California. Survey results showed evidence of environmental disparities of nutrition and physical activity that contribute to higher rates of obesity in San Miguel and Oceano. This project was funded through a generous grant from the San Luis Obispo County Community Foundation.

Survey Volunteers

We would like to thank the following volunteers for donating their time and efforts to this project.

 Margarita Uribe	 Paola Lopez	 Catalina Ramirez	 Margae Knox
 Raquel Diaz	 Juan Serrano	 Scott Norwood	 Shayna Hamidi
 Marci Santos	 Christopher Taylor	 Nicole Terrell	 Leah Groppo
 Paul uiterrez	 Linda Jaimez	 Spring Furhriam	 Camille Thorsen

Staff

The following staff has also dedicated time and energy to this report through collaborative throughout San Luis Obispo County.

-  Janet Campbell, MCAH Director
-  Angelica Graham, Health Education Specialist
-  Jennifer McNeil, AmeriCorps Intern
-  Cristy Colliver, Administrative Assistant

Introduction

In 2007, The Childhood Obesity Prevention Task Force, a group of community leaders in San Luis Obispo County concerned about the health and well being of the county's children, released the *Community Action Plan to Increase Healthful Eating and Regular Physical Activity among Children in SLO County*. In this report, a series of recommended actions were listed that the task force deemed important for improving the health status of San Luis Obispo children. A key recommendation of the task force was:

“Establish and fund a staff position in the Public Health Department to coordinate county-wide activities to increase opportunities for healthy foods and physical activity, such as compiling data as part of monitoring progress that can be used to evaluate implementation at the process, outcome and impact levels”¹.

During 2007, the task force evolved into the countywide coalition *Healthy Eating, Active Living – San Luis Obispo*. Through this coalition, it was decided that the public health department would conduct surveys analyzing the effects of environment on nutrition and physical activity and its link to childhood obesity. The staff person hired, Health Education Specialist Angel Graham, partnered with the contracted AmeriCorps Intern, Jennifer McNeil, to survey two local communities exhibiting high risk for childhood obesity. The two communities surveyed, San Miguel and Oceano, are located in the North and South County, respectively. Since neither town have its own high school, the areas around the respective high schools were surveyed. The areas around the high schools represent a secondary exposure environment that is more suburban, higher income, and predominantly White. These environments were expected to have better access to healthy foods and physical activity because data showed lower rates of obesity.

Surveys were conducted using the Communities of Excellence in Nutrition, Physical Activity and Obesity Prevention (CX³) framework, which was developed by the California Department of Public Health and The Network for a Healthy California. This project was funded through a generous grant from the San Luis Obispo County Community Foundation.

Obesity

Childhood obesity is an international epidemic that has been sweeping the globe over the past three decades. One in ten children is estimated to be overweight totaling to more than 155 million children worldwide¹. In the United States alone, childhood

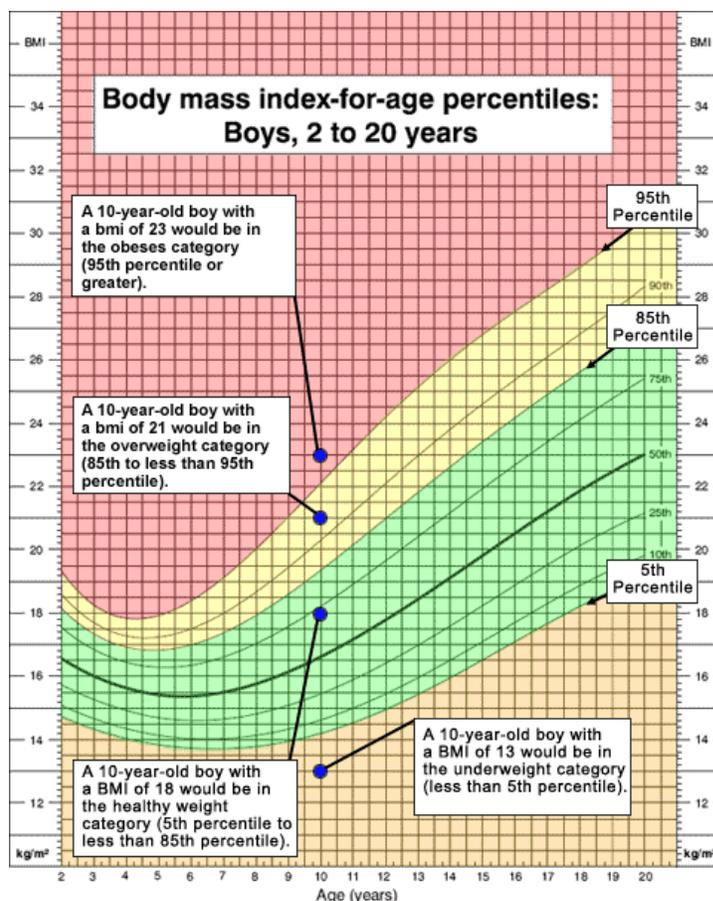


Figure 1: Body mass index-for-age percentiles: Boys, age 2-20, Centers for Disease Control

The consequences of childhood and adolescent obesity include an increased risk for high blood pressure, high cholesterol, asthma and Type 2 Diabetes Mellitus (T2DM). The link between childhood obesity and T2DM is so strong that the CDC estimates that 1 in 3 children born in the year 2000 will become diabetic unless trends reverse³. T2DM is a disease that historically affected middle age adults, hence it's former name "adult-onset diabetes." This increases prevalence of T2DM in children been has been directly linked to increased BMI for age percentile scores.

obesity rates have increased by 2.3-3.3 fold during the past 25 years¹. There are many reasons for this dramatic increase most stemming from changes in activity and nutrition, especially among minorities and the socio-economically disadvantaged. The extent to which the environment has influenced these changes is the focus of this study.

Body Mass Index (BMI) is a number calculated from a child's weight and height and may be used as a reliable indicator of body fatness for most children³. The BMI number is plotted on the CDC BMI-for-age growth carts (gender specific) to obtain a percentile ranking which then corresponds to a weight status category.

Weight Status Category	Percentile Range
Underweight	Less than the 5 th percentile
Healthy Weight	5 th percentile to the 85 th percentile
Overweight	85 th to less than the 95 th percentile
Obese	Equal to or greater than the 95 th percentile

Table 1: BMI-for-age weight status categories, Centers for Disease Control

Children who are also overweight in childhood are 70 percent more likely to be overweight or obese as adults, which increases their risk of developing stroke, hypertension, osteoarthritis, dyslipidemia, type 2 diabetes, gallbladder disease, coronary heart disease, liver disease, cancer, sleep apnea and respiratory problems³. The total cost of obesity in the United States was estimated at \$117 billion in 2000⁴. In addition to this monetary cost, the Surgeon General warns that an estimated 300,000 deaths may be attributable to obesity each year⁵.

San Luis Obispo County

San Luis Obispo County, located on the central coast of California, enjoys a temperate climate with many opportunities for outdoor activity. The fertile land in San Luis Obispo is home to numerous local farms producing over 80 varieties of fresh produce⁶. Despite this region's idyllic resources, data shows increasing rates of childhood obesity. 32 percent of San Luis Obispo County children ages zero to seventeen are overweight⁷. A 2005-2006 survey of 3-5 year old pre-school children found that 29 percent were at risk or overweight¹. In the older children, statewide physical fitness tests are conducted in local public schools. The physical fitness tests measure 6 categories of physical fitness to determine if the child is in the Healthy Fitness Zone (HFZ). HFZ measurements represent levels of fitness that offer some degree of protection against diseases that can result from sedentary living⁸. Physical fitness tests conducted during the 2007-2008 school year show that 19.1 percent of San Luis Obispo 5th, 7th, and 9th grade children are not in the HFZ, indicating a population of unfit and at risk or overweight students⁸. In addition to this finding, 33 percent of Latino or Hispanic children were not in the HFZ, indicating a health disparity in the minority population⁸. School districts in the northern and southern parts of the county reflect higher rates of being unfit, which is in line with the demographic distribution of low-income families and Latino communities¹.

San Miguel and Oceano are the two low-income, predominantly Latino communities surveyed in this study. Both San Miguel and Oceano have exceptionally low HFZ rates. Lillian Larsen School in San Miguel is a Kindergarten through 8th grade school. 36 percent of Lillian Larsen 5th and 7th graders were below the HFZ in the 2007-2008 school year⁸. Oceano Elementary is a Kindergarten through 6th grade school in South San Luis Obispo County. 32.5 percent of Oceano 5th graders scored below the HFZ⁸. These numbers were both slightly higher in Latino children⁸.

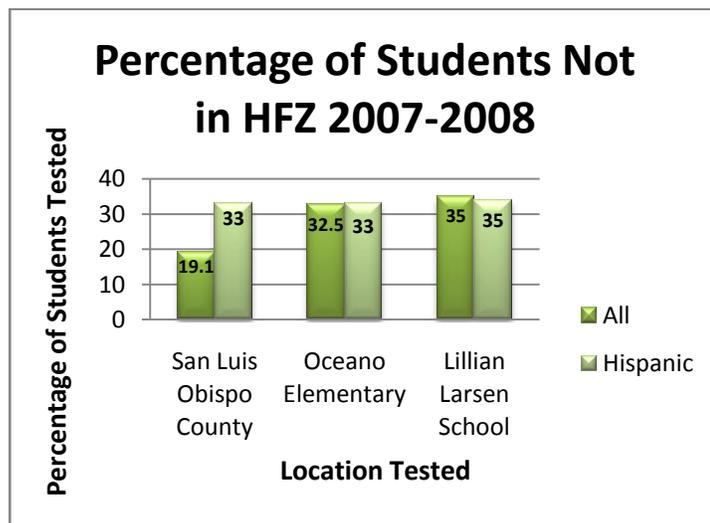


Figure 2: California Physical Fitness Test scores for grades: 5, 7, and 9

Measuring the Effect of Environment

Access to nutrition and physical activity are two essential environmental components in the fight against obesity. Communities designed with easy access to fitness areas, such as walking paths and parks, and healthy foods, such as farmers markets and healthy fast food options, encourage healthy lifestyles. Health-friendly community design plans are essential to preventing the skyrocketing rates of childhood obesity that are being seen today in California and elsewhere across the country and around the world. The built environment in two San Luis Obispo communities where health disparities are the highest was analyzed using CX3 surveys. Walking conditions, access to healthy foods, and marketing practices were examined. The purpose of this report is to analyze the effect of the built environment on nutrition and physical activity in San Miguel and Oceano, highlight areas of excellence, identify areas where improvement is needed, and to examine the link to obesity.



Figure 3: Broken sidewalks near Arroyo Grande High School



Figure 4: Oceano Community Park



Method: Communities of Excellence in Nutrition, Physical Activity, and Obesity Prevention (CX³)



What is CX³?

Communities of Excellence in Nutrition, Physical Activity, and Obesity Prevention (CX³) is a program planning framework that involves taking an in-depth look at communities to identify areas in need of improvement. Because the community itself has a critical role to play in preventing obesity, CX³ examines communities in relation to a variety of obesity prevention benchmarks referred to as community indicators. These CX³ indicators set standards of excellence. They define what a community itself should look like in order to help prevent the devastating health consequences related to obesity.

A special focus on low-income communities:

Lower income populations are disproportionately affected by environmental conditions that don't support healthy living, such as reduced access to healthy foods, fewer parks, paths and crosswalks, and increased marketing of fast and other unhealthy food. Research shows a clear connection between neighborhood factors (including number of grocery stores, fast food outlets, and parks) and community health outcomes (obesity rates, disease prevalence). Building complete pictures of the neighborhood nutrition and physical activity environment, by surveying neighborhood access to healthy food and recreation areas, is critical in planning education, public outreach, and community design. The results of CX³ are used for improving the health environment in these often underrepresented and sometimes neglected communities.

CX³ Data Collection

1. Mapping!

Data collection starts by visiting the California Nutrition Network's Geography Information Systems (GIS) website (www.cnngis.org) to sketch a picture of the neighborhood in terms of access to large food stores, farmers' markets, and density of fast food restaurants, especially around schools. This website can also provide information about socioeconomic status, racial demographics, and the availability of public services such as WIC and food stamps. The map may also help determine which community to focus on in a given area. See Appendix B for an example GIS map of San Miguel.

2. On-the-ground surveying!

On the ground surveying is essential and cannot be replaced by computer based mapping systems. The survey takes place in the community and evaluates aspects that can only be observed in person. It involves looking at the availability of healthy foods in local food stores and fast food outlets, the access to safe sidewalks and crosswalks that encourage pedestrian use, and food and physical activity marketing cues, especially around schools and parks. This information will help paint a clear picture of the food and physical activity environment in the community.

3. Change!

Data collected in CX³ surveys can serve a multitude of purposes. It can be used to raise community awareness about a problem, provide baseline data for research to evaluate change over time, examine the environmental influences of childhood obesity in a specific community, display reasons the community needs granted funding, including state and federal safe routes to school grants, or specific to the community surveyed. Regardless of the purpose of the data being collected, it should be shared with community members through multiple venues, including the newspaper and local media, community meetings, and with business owners, local coalitions and school boards. The information may end up being utilized in a manner never expected once new people find out about it!



Figure 5: Student volunteers surveying in Arroyo Grande

Goals of CX³

Healthy Eating, Active Living – San Luis Obispo will work in collaboration with community groups to attain the following goals:

1. Compile localized data to evaluate a neighborhood's strengths and weaknesses in relation to CX³ indicators
2. Set priorities based on localized data
3. Implement strategic, community-focused action plans
4. Evaluate progress over time

Engaging in this Process will:

1. Place the communities at the forefront of obesity prevention
2. Provide standardized indicators that will be used for all types of work in obesity prevention
3. Provide communities an objective, systematic method for evaluating themselves
4. Advance community change

CX³ Top Picks: Indicators of Nutrition and Physical Activity Environment

Neighborhood Food Environment:

The neighborhood food environment includes all venues of purchasing or accessing food and nutrition including fast food outlets, supermarkets, farmer's markets, and convenience stores.

- 🍏 Supermarkets and grocery stores offering healthy, affordable food choices are located in low income neighborhoods and readily accessible to residents
- 🍏 (If no supermarket) Neighborhood food stores, including convenience stores, offer affordable, quality fruits, vegetables, and other healthy foods
- 🍏 Supermarkets, grocery stores and neighborhood food stores limit interior and exterior advertising and displays of unhealthy foods aimed at children
- 🍏 Density of fast food outlets is restricted in neighborhoods, prohibited around schools and playgrounds, and their on-site marketing practices (e.g., large signage, toy prizes) are limited
- 🍏 Billboard/outdoor advertising and transit companies restrict unhealthy food and beverage advertisement in neighborhoods, particularly around schools, playgrounds and other youth oriented facilities



Figure 6: Produce section in a market in Arroyo Grande



Figure 7: Unhealthy advertisement on fast food outlet in Paso Robles



Figure 8: Transit ad on delivery truck in Paso Robles

Neighborhood Activity Environment

The neighborhood activity environment includes all aspects of the community that provide or potentially could be a venue for physical activity including sidewalks, crosswalks, paths, parks, and playgrounds.

-  Low income neighborhoods are safe and the sidewalks and crosswalks are in good condition
-  Pedestrian, bicycle, and mass transit infrastructure is available, accessible, and well-maintained, particularly in low income neighborhoods.
-  There is a presence of attractions and comforts (e.g., trees, lighting) as well as absence of physical disorder (e.g., trash, noise, overgrown foliage) in low income neighborhoods.
-  Zoning and land use requirements promote “mixed-use” and mandate sidewalks, trails, recreation facilities, and safe pedestrian and bicycle access to schools, food stores, parks, recreation centers, and worksites, particularly in low income neighborhoods.

Political Will

Political will refers to the extent to which the local government, elected officials, and media supports the community’s efforts to improve nutrition, physical activity, and prevent obesity.

-  County elected officials advocate for local government action to promote environments that support health eating, physical activity, food security, and obesity prevention.
-  Local media coverage is supportive of the role of communities and government in addressing obesity prevention. It is not considered just a matter of “individual choice”

*Above information adapted from *CX³ Tools and Methods*

Survey Results

In Northern San Luis Obispo County, San Miguel and the area around Paso Robles High School were surveyed. In Southern San Luis Obispo County, Oceano and the area around Arroyo Grande High School were surveyed. These areas were surveyed because in both communities, high school students attend schools outside their towns, in turn exposing them to a secondary health environment. Volunteers from the respective schools were recruited to assist with the surveying along with local university students.

In Paso Robles, a one mile radius around the high school was surveyed. The stores surveyed were chosen based on feedback from students indicating the areas usually traveled during after school hours. In Arroyo Grande, a one mile route was surveyed from the high school to *The Village*, a four block commercial district, that is the typical area where students walk after school. Blank copies of the surveys can be found in Appendix A for your reference.

Store Environment Walkability Survey

	San Miguel	Near PRHS	Oceano	Near AGHS
<i>Did you have room to walk</i>	4	3	3	2
<i>Was it easy to cross the streets</i>	3	3	3	2
<i>Did drivers behave well</i>	3	2	3	1
<i>Was it easy to follow safety rules</i>	5	2	3	2
<i>Did you feel safe on your walk</i>	3	2	3	1
<i>Was your walk pleasant</i>	3	2	3	1
<i>Overall rating</i>	3.5	2.3	3	1.5

Question rating:
 Good walkability- closer to 0 or 1
 Poor walkability- closer to 5

Table 2: Store environment walkability survey results

Walkability is the concept that an area is designed with pedestrians in mind first. A walkable community caters to pedestrians of all ages and abilities by maintaining safe crosswalks, sidewalks, and curb ramps, low speed limits for cars, well lit streets, and a clean, pleasant environment. Walking can improve the health of residents by providing an easy form of physical activity. It can also increase bonding between family and friends, and decrease air pollution by lowering the number of car trips in a community.

The Store Environment Walkability Survey examines the access to and safety of walking in and around neighborhood food stores. In San Luis Obispo County, this survey was also used to assess walkability around elementary and high schools. Walkability is assessed within two blocks of the establishment being surveyed. An overall walkability rating is determined to gauge how well the area stacks up compared to other areas in the town and elsewhere. The major concept being evaluated by this survey is whether the area is safe and accessible for pedestrians, *especially children*.

The major problems with walkability in San Miguel are the lack of sidewalks, cross walks, and safe rail road crossings. These three things cause there to be little room to walk, difficult to cross the streets, hard to follow safety rules, and lower the feeling of pedestrian safety. Drivers on Mission Street, the main road in San Miguel, frequently speed faster than the 35 mile per hour limit. There is no safe rail road crossing for children walking to Lillian Larsen School. Children use an illegal crossing as their “safe route to school.” There are also areas with mild graffiti and particularly high concentrations of litter. This makes the walk feel less pleasant, although many recent improvements have increased the amount of flowers, street lights, benches and trees in the downtown area.



Figure 9: “Safe railroad crossing” used by students in San Miguel



Figure 10: Sidewalk in Oceano near Johnson’s Market

The area around Paso Robles High School is very walkable and includes sidewalks, crosswalks, street lights, and a pleasant environment. Drivers frequently surpass the 35 mile per hour speed limit and there are only sidewalks on one side of Niblick Road, the main street connecting the high school to the retail areas surveyed. Two intersections were surveyed near the retail areas. In both intersections, crosswalks did not provide enough time for pedestrians to cross. In one case, a driver posed danger to pedestrians by failing to yield.

Oceano has many areas with sidewalks; however most are cracked and broken and frequently stop and start back up again. Speed limits are low, 25 miles per hour in most areas, and were maintained by drivers. It is easy to follow safety rules and cross the street in most parts of the town due to numerous crosswalks. The most problematic area was on Pacific Coast Highway/Highway 1/Front Street, which connects two parts of Oceano. There is a sidewalk that starts and then stops on the sides of an overpass. This is one of the only areas where drivers frequently surpass the 35 mile per hour speed limit, reducing the safety of pedestrians. Walking conditions were best around Arroyo Grande High School and into The Village of Arroyo Grande. Sidewalks do not stop and there are many crosswalks to connect the sides of the



Figure 11: Pedestrian path/shoulder on Hwy 1

streets. The speed limit is low and seems to be abided by. The biggest problems were areas where the sidewalk was very narrow or cracked.

Food Availability and Marketing Survey

	San Miguel	Near PRHS	Oceano	Near AGHS
<i>Store types</i>	2 Small Markets 1 Convenience	3 Supermarkets 1 Convenience	3 Small Markets	1 Small Market 1 Convenience
<i>½ mile of school</i>	Yes	Yes	Yes	Yes
<i>WIC</i>	None	Yes	Yes	No
<i>food stamps</i>	Yes	Yes	Yes	Yes
<i>Healthy ads on storefront</i>	1-2	2-4	2-4	6-9
<i>Unhealthy ads on storefront</i>	21-22	4-7	15-18	17-20
<i>More than 1/3 of ads for alcohol</i>	Yes	No	No	Yes
<i>Ads below check out level</i>	Yes	Yes	Yes	Yes
<i>Unhealthy products located by checkout counter</i>	Yes	Yes	Yes	Yes
<i>Healthy products located near checkout counter</i>	Yes	Yes	Yes	Yes
<i>Is produce sold</i>	Yes	Yes	Yes	Yes
<i>Variety of Fruit</i>	7 or more types	7 or more types	7 or more types	7 or more types
<i>Quality of fruit</i>	Mixed, more poor than good	All or most is good quality	Mixed, more good than poor	All or most is good quality
<i>Ave price per pound* (apples, bananas, oranges)</i>	\$0.85	\$1.12	\$0.78	\$1.22
<i>Variety of Vegetables</i>	7 or more types	7 or more types	7 or more types	7 or more types
<i>Quality of vegetables</i>	Mixed, more poor than good	All or most of good quality	Mixed, more good than poor	All or most of good quality
<i>Average price per pound* (carrots, tomatoes, broccoli, cabbage)</i>	\$1.43	\$0.93	\$0.64	\$0.98
<i>Healthy foods available</i>	19	26	25	23
<i>Healthy foods not available</i>	7: brown rice, tofu, salmon in water, frozen fruit, frozen vegetables, baby food vegetable,	All available	1: tofu	2: sardines in water, salmon in water

Table 3: Food availability and marketing survey results

The Food Availability and Marketing survey is designed for data collection at neighborhood food stores. Food stores included convenience stores, small markets, large grocery stores, and supermarket chains. Indicators examined include the sale of affordable, quality fresh fruits, vegetables and other healthy foods, marketing messages on the storefront and around the checkout counters, and the extent to which the food store promotes healthy messages. Healthy foods available were classified by the availability of the 26 specific healthy food items listed on the survey (see appendix A).

All of the neighborhoods in this survey had food stores located within a half-mile of a school, displayed ads below the checkout counter, sold healthy and unhealthy products near the checkout counter, carried a wide variety of produce, and accepted food stamps. Produce was always of higher quality in the neighborhoods around the high schools.

Three food stores were surveyed in San Miguel: Mission Market & Deli, Tortilleria Sinaloa, and Chevron. Of these three food stores, two were classified as small markets and one as a convenience group. None of the food stores accepted WIC coupons, representing a disparity found to be unique to San Miguel during this survey. San Miguel food stores also displayed the most amount of unhealthy and the lowest amount of healthy advertising. Mission Market and Deli had more than 1/3 of ads pertaining to the sale of alcohol. San Miguel food stores had more poor than good produce sold and the highest price of vegetables. San Miguel food stores also had the least amount of healthy foods available, seven of which were unavailable at any of the three food stores.



Figure 12: Rotting bananas found in San Miguel

The food stores surveyed around Paso Robles High School included three supermarkets and one convenience store: Albertson's, Food 4 Less, Wal-Mart, and AMPM. Three of the stores accepted WIC. There was little advertising on the storefronts, healthy or unhealthy. No store had more than 1/3 of the advertisements pertaining to alcohol. All or most of the produce sold was of good quality and moderate price. All healthy foods were available.

In Oceano, three small markets, La Tapatia Market and Deli, Central Market, and Johnson's Market, were surveyed. One market was a WIC vendor. The markets had few healthy ads and a high number of unhealthy ads on their storefronts. None of the markets had more than 1/3 of the ads pertaining to alcohol. Produce was mixed, mostly good quality and had the lowest prices in the survey. The only healthy food unavailable was tofu.

The food stores around Arroyo Grande High School included a small market, JJ's Fresh Market, and a convenience store, Log Cabin, neither of which accept WIC. The two stores had the highest amount of healthy advertising and a high amount of unhealthy advertisements on the storefront. Log Cabin had more than 1/3 of total advertisements pertaining to alcohol. All or most of the produce sold was of good quality; however it had the highest price per pound for fruit.

Fast Food Marketing Environment Survey

	San Miguel	Near PRHS	Oceano	Near AGHS
<i>Number of Outlets</i>	3	7	1	5
<i>Distance from school</i>	½ mile or more	½ mile or more	½ mile or less	½ mile or more
<i>Drive through</i>	No	Yes	No	No
<i>Open after 9 pm</i>	Yes	Yes	No	Yes
<i>Healthy ads</i>	0	8-10	0	0
<i>Unhealthy ads</i>	3-5	35-45	0	5-9
<i>Signs on poles higher than building</i>	No	Yes	No	No
<i>Child oriented signs</i>	No	Yes	No	Yes
<i>Play areas attached to outlet</i>	No	Yes	No	No
<i>Kids meals available</i>	No	Yes	No	Yes
<i>Toys part of kids meal</i>	No	Yes	No	No
<i>Healthy options for kids meal</i>	No	Yes	No	Yes
<i>Are calories listed on the menu</i>	No	No	No	No
<i>Is nutrition information otherwise available</i>	No	Yes	No	No
<i>Traditional healthier options available</i>	5 of 9	9 of 9	6 of 9	9 of 9
<i>Specific healthier options available</i>	2 of 3	3 of 3	1 of 3	3 of 3

Table 4: Fast food marketing survey results

A fast food outlet is a quick service restaurant characterized both by food ready to eat quickly after ordering, and by minimal service. A key trait of all fast food establishments is that the customer pays for their food prior to its consumption. All of the fast food outlets in San Miguel and Oceano and most of those around the high schools were surveyed. Data on the availability and promotion of healthy options, nutrition information, and child oriented marketing is the primary focus of this survey. Healthy options were analyzed in two ways: traditional and specific. Traditional healthier items include healthier versions of traditional fast food establishment such as 100% fruit juice, non-fat/1% milk, whole grain options, etc. Specific healthier options pertain to healthier versions of typical menu items specific to those genera of restaurant (burger, pizza, deli, etc.).

In San Miguel, three fast food establishments were surveyed: Mission Pizza and Pasta Kitchen (PPK), The Coffee Station, and San Miguel Bakery, which serves Hispanic food in addition to traditional baked goods. All of the fast food establishments in San Miguel are privately owned and more than a half mile away from the school.



Figure 13: Fast food restaurant in San Miguel



Figure 14: Fast food advertisements in Paso Robles was available.

There are no drive-thru's. One place is open past 9 pm, but only on Saturday nights until 9:30 p.m. None of the establishments had healthy ads on their storefront and there were few unhealthy ads. There were also no tall signs, defined as signs on poles higher than the building. None of the places had child oriented marketing, kids meals, or play places. No nutrition information of any sort

Seven fast food outlets were surveyed around Paso Robles High School, all of which were located over a half-mile from the school. Most of the fast food outlets were large chains with drive-thru's and were open past 9 pm. They had the most amount of all types of advertising, including healthy, unhealthy, tall signs and child-oriented. There were play places, kids-meals with toys, and kids-meals with healthier options. Nutrition information and healthier options were available; however calories were not posted on the menu board.

Oceano is home to only one fast food outlet, Chacho's, located less than a half-mile from the school. Chacho's is not open late, has no drive-thru, no advertisements, or signs on poles. There are no kids-meals, play place, and no nutrition information available of any sort. Chacho's offers some healthier items.



Figure 15: The only fast food restaurant in Oceano

Five fast food outlets were surveyed near Arroyo Grande High School, all located more than a half-mile from the school. None had drive-thru's or tall signs, and some were open after 9 pm. Most of the fast food outlets surveyed were privately owned or small chains. No healthy ads were present but there were many unhealthy ads and some child oriented marketing. There were kids-meals, and kids-meals with healthier options, no toys offered and no play places. No calories were listed on menus and none of the surveyed places had nutrition information available. All of the healthier options were available upon request.

Outdoor Marketing Environment Survey

	San Miguel	Near PRHS	Oceano	Near AGHS
<i>Location type</i>	None	None	School and Park	School and Park
<i>Type and size</i>	None	None	Convenience building ad, small billboard	Large billboard, building ads, transit ads
<i>Product ad</i>	None	None	Unhealthy food item, other restaurant	Other restaurant, unhealthy food items, healthy food items
<i>Total ads</i>	None	None	1	8

Table 5: Outdoor marketing environment survey results



Figure 16: Oceano Memorial Park

Schools and parks are areas that typically encourage physical activity. These are areas where children ideally play without the influence of outdoor marketing, especially marketing pertaining to food.

The outdoor marketing environment survey examines the extent of advertising within 1000 feet of schools and parks. The purpose of this survey is to collect data on the prevalence, if any, of advertisements for food, beverages, and physical activity around schools and parks and the extent to which healthy items are promoted in these ads.

In the San Miguel and Paso Robles High School areas, there were no advertisements of any sort around schools and parks.

In Oceano there were two ads within 1000 feet of the school and park. Visible from the school was a convenience-building ad for the Valero gas station, also known as Oceano Market and Gas, which sells unhealthy food items. (This store was not surveyed during the food market survey because the manager denied us access). Visible from the park was a small billboard for a restaurant located near the park.



Figure 17: Saturday Farmers Market in Dohan Park

Around Arroyo Grande High School there were 4 advertisements. All were visible across the field that led to Fair Oaks Blvd. One was a small billboard for McDonald's fast food. The other three were Convenience store building ads for AMPM, Chevron and Shell. Two other ads were visible from the park on Dohan Street in the Village. One was a large billboard for a restaurant. The second was a transit ad for an unhealthy food item. There were also healthy advertisements at Dohan Park during the Saturday Farmers Market.



Figure 18: Advertisements in front of Arroyo Grande High School

Discussion

Results from the Communities of Excellence in Nutrition, Physical Activity and Obesity Prevention (CX³) food availability, walkability and outdoor marketing surveys provide evidence that childhood obesity is linked to the built environment in San Miguel and Oceano. Reduced access to nutrition and physical activity, especially in San Miguel, has a direct impact on elevated obesity and decreased fitness among children.

In San Miguel, there is a clear disparity in the access to healthy foods and physical activity. The lack of a grocery store has restricted access of healthy foods and quality produce to San Miguel residents. The Women, Infants, and Children (WIC) program has no vendors in San Miguel which limits the purchasing power of low-income mothers who receive food coupons through the program. San Miguel desperately needs a grocery store that supplies quality produce, healthy food options, and accepts WIC coupons. Working with store owners to incorporate more of these items is encouraged.

The lack of sidewalks connecting San Miguel decreases the likelihood of children and adults walking for physical activity. Furthermore, neighborhood streets have no streetlights which limit safe walking past dusk. Since this survey was conducted, two new crosswalks have been added in town, which has improved walking in the downtown area. However, there is still no safe pedestrian rail road crossing in San Miguel. The town is split into halves by the rail road and the only legal crossing has no sidewalk. School children illegally cross the tracks at 16th street near Lillian Larsen School. This is actually the safest crossing for children as there is no vehicular traffic. A proper pedestrian crossing in this spot is essential for the health and safety of San Miguel children.

The low incidence of outdoor marketing around San Miguel's Lillian Larsen School and San Miguel Community Park is an area of excellence. This is also true for the area around Paso Robles High School. These data are important not only for measuring change over time, but for preventing change over time. This data may be shared to deter any future advertising in these areas.

Fast food is limited in San Miguel; however San Miguel children are still exposed to fast food around their high school in Paso Robles. Many of the high school volunteers on this project stated that they frequent these establishments after school. This is evidence of the influence that secondary health environments can have on children, especially teens.

Based on the survey results, Oceano reflects a community with fewer health disparities when compared to San Miguel. Oceano has excellent food availability between the two main grocery stores and only one fast food establishment. The areas around Arroyo Grande High School have worse food availability, which is a factor to consider when addressing teen health.

Access to physical activity is both encouraged and prevented by walkability in Oceano. It is encouraged because of the fair walking conditions in Oceano, where sidewalks and crosswalks connect most streets making walking an easy form of exercise. However there are a few areas, including the section of Highway 1 between Pacific Blvd and Cabrillo Hwy, where the lack of sidewalks and crosswalks discourages

walking. In this case, the town of Oceano becomes disconnected and walking to Oceano Memorial Park, only 1 mile from Oceano Elementary School, becomes too far and too dangerous for families. Improvements on walking access to this park could increase the amount of physical activity among Oceano children and families. Walking conditions around Arroyo Grande encourage physical activity and an area of excellence where sidewalks and crosswalks safely connect Arroyo Grande.

Outdoor marketing is a concern in both Oceano and Arroyo Grande where food oriented marketing is visible from the schools and park. It is unlikely that storeowners would remove their signs; however measurements to prevent any future signage are encouraged.

The following are a list of recommendations for action based on the findings of the report.

Recommendations for Action

San Miguel

- Food Availability
 - 🍏 Work with store owners to improve selection of healthy foods and produce that were poorly represented in this survey.
 - 🍏 Lobby local officials to encourage construction of a large grocery store in San Miguel.
- Outdoor Marketing
 - 📍 Encourage store owners to decrease the amount of alcohol ads and replace them with healthy advertisements on their store fronts
 - 📍 Use the results of this survey to discourage any future vending machines, billboards, or other types of advertising for unhealthy products in and around San Miguel Community Park and Lillian Larsen School.
- Walkability
 - 👟 Lobby local officials to pass measures to construct a pedestrian bridge or safe crossing at 16th Street.
 - 👟 As new housing projects enter San Miguel, implement requirements for the construction of sidewalks throughout older parts of San Miguel.
 - 👟 Install street lights with shatter-proof screens on all San Miguel streets.
 - 👟 Lower the speed limit on Mission Street to 25 mph.

Oceano

- Food Availability
 - 🍏 Grocery stores will continue to sell healthy foods at affordable prices.
 - 🍏 No new fast food establishments will enter Oceano.
- Outdoor Marketing
 - 📍 Discourage any future vending machines, billboards, or other types of advertising for unhealthy products in and around Oceano Memorial Park, Oceano Elementary, and Arroyo Grande High School.
 - 📍 Work with store owners to limit the advertisements visible to children from the park and schools.
- Walkability
 - 👟 Lobby local officials to expand the sidewalk on Hwy 1 between Pacific Blvd. and Cabrillo Hwy to encourage use by families with small children.
 - 👟 Upkeep sidewalks and crosswalks by replacing old or cracked sidewalks and repainting faded crosswalks.
 - 👟 Lower speed limit along Hwy 1 to 25 mph.

Appendix A

The following are templates of the surveys used on this project. They were developed by the California Department of Public Health and have been used to evaluate food availability, outdoor marketing, and walkability throughout the state.

Appendix B

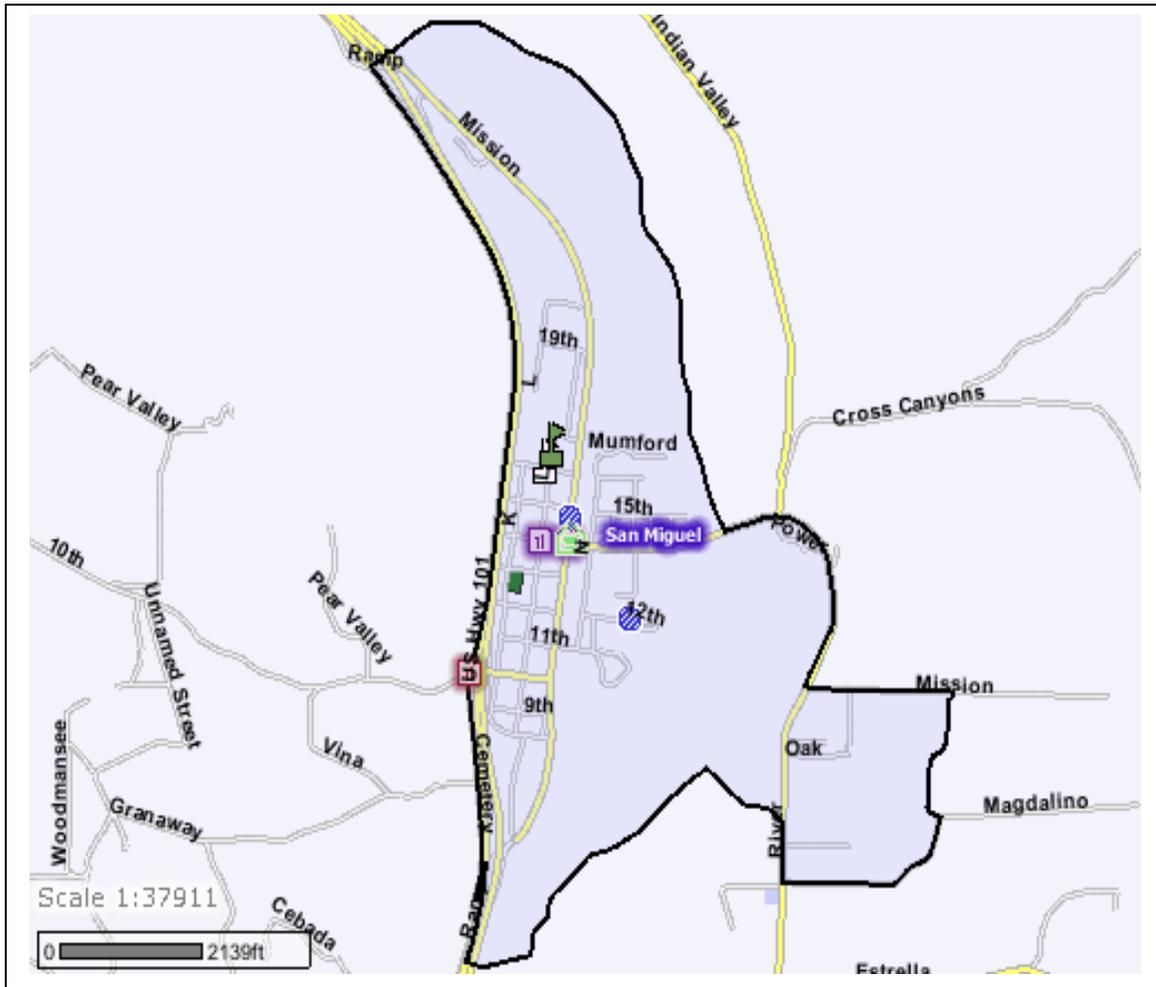


Figure 1: California Nutrition Network GIS Map of San Miguel

Legend

Public Schools	General Convenience	Bars/Nightclubs	Counties
Elementary	Convenience Chain	Ethnic-Other	Population Centers
High School	Retail Liquor Stores	Ethnic-Asian	Streets
Junior High	Single Category and Other	Ethnic-Mexican	Detailed Streets
K-12	Bakery/Bread/Bagels	Independent Restaurants/Small Chains	Parks
Middle	Other Beverages	Chain Restaurants	Water
Other	Retail Beverages	Fast Food, Pizza, Sandwiches	State Boundary
Food Stamp Certified Vendors	Deli Store	Fast Food, Not Chain	Neighbor States
General Grocery	Meat/Fish/Poultry	Fast Food Chain	
Grocery, Other	Other	Pizza, Other	
Grocery, Large Chain	Specialty/Gourmet	Pizza Chain	
Coop	Fruit and Vegetable Markets	Sandwich/Deli Chains	
Grocery, Small Chain	Fruit and Vegetable Market	Other Eating Places	
Warehouse Club Stores	WIC Vendors	Ice Cream Store	
Convenience Group	Restaurants	Other Eating Places	

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