

## **Research Project**

Microeconomic & Social Effects due to a Public Elementary School Closure



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## 1. Abstract

*Public elementary school closures may have significant microeconomic and social effects on the local community surrounding the school. Stress from being forced to transfer to a new school, reduced local business patronage, and increased transportation costs are just a few of the many effects felt by students, parents, and local business owners. This case study on the recent closure of Cabrillo Elementary School located in the Richmond District of San Francisco has identified similar microeconomic and social effects felt by the community. Data has been collected through semi-structured interviews of parents of students who used to attend Cabrillo and local business owners in the nearby community. Cabrillo Elementary School, along with two other schools, was closed in 2006 because of a decrease in enrollment. When considering future public elementary school closures in San Francisco, microeconomic and social considerations on the communities, like the ones identified from Cabrillo's closure, must also be considered by the school administrators in addition to decreases in enrollment.*

## **2. Introduction**

The future of the public education system in the United States is uncertain. Charter schools are becoming more prevalent, No Child Left Behind is causing increased financial strain on schools that are failing to meet the minimum requirements set forth by the act, and enrollment rates are decreasing in many urban communities. In San Francisco particularly, the Board of Education has been forced to close elementary schools because of declining enrollment. “On January 19, 2006, the San Francisco Board of Education voted to close three schools, merge four schools into two campuses, and relocate five District schools” (Office of Public Engagement & Information, 2006).

To some degree, a public elementary school closure will have an impact on the community in which it is located. Because the strategy taken by the San Francisco Board of Education to close, merge, and relocate elementary schools is relatively new, the effects on a community in which the school is located are unknown. Many effects on communities that have experienced a public elementary school closure are microeconomic and social in nature. If San Francisco Unified School District continues to use a strategy of school closure, merging, and relocation to combat the declining enrollment problem, it would be in SFUSD’s best interest to understand what microeconomic and social effects a school closure has on a community. This information might prove to be very useful in future elementary school closures being considered. Also, this will show those living in communities who may be affected by a potential school closure that SFUSD is taking their best interests and well being into consideration.

### **3. Literature Review**

A public elementary school may close for a variety of reasons, most of which center around the efficient use of taxpayers' money. In 1980, three elementary schools closed in Madison, Wisconsin because of cost saving measures associated with the fluctuating community population and density (Lerman, 1981). In 1990, a downturn in a Nova Scotia resource economy had a negative impact on the economic strength of the area. Rural depopulation and migration away from the province reduced the number of school boards from twenty-two to seven (Goddard, 1997). As the make-up of a community population changes over time, community resources, including public schools, must be re-assessed for efficient and optimal utilization in order to meet the needs of those living in that community.

People who might be affected do not take a potential public elementary school closure decision lightly. In Clinton County, Pennsylvania, a tension existed between the governing bodies wanting to consolidate schools and the local communities that strived to retain and define their identities (Post & Stambach, 1999). In Romantown, England, the parents of a school closure felt very strongly that they should have been brought into the planning process at the beginning so that their expertise as parents could have been utilized (Cook & Swain, 2001). Once the decision has been made to close a public elementary school, those living and operating businesses in that community will experience microeconomic and social effects.

Various microeconomic effects will occur in a community due to a public elementary school closure. In Victoria, Australia, four school closures disrupted the travel patterns of local trade (Bowie, 1994). These businesses relied heavily on those

associated with the schools for frequent patronage. When the schools closed, the financial stability of the businesses was put in jeopardy.

Employment and property value has declined from school closures also. It takes a number of individuals to operate a school successfully. Aside from teachers, schools also rely on the human resources of school administrators, coaches, janitorial staff, and volunteers. When a school closes, those working and volunteering will be forced to work elsewhere, immediately affecting the employment in that community. In cities across North America that have experienced a school closure, property values in those communities have decreased (McLean, 2003). This may allow people to purchase property in that community with the reduced property values, but it also has a negative effect on those who already own property. In relation, the current reuses of public schools after closure in Windsor, Ontario after 1959 have been suboptimal and not efficient, especially when measuring the current property value compared to their sale price (Phipps, 2006).

A significant direct effect felt by students and parents of a school closure is travel time. When Surrey Park School in Intercargill, New Zealand closed in 2001, many parents experienced a larger financial burden with having to send their children to a school farther away (Witten, McCreaner, Kearns, & Ramasubramanian, 2001). When three schools closed in Madison, Wisconsin in 1980, students' travel time and transportation costs increased, which negatively affected the disposable income of families of those children (Lerman, 1981). Also, when four schools closed in Southern Australia in 1997, the opportunity cost of student's travel time was considered when

deciding which schools to close (Witham, 1997). When a child has to spend more time getting to and from school, it allows less time for studying, family, and social interaction.

Various social effects will occur in a community due to a public elementary school closure as well. In communities across North America where schools have closed, combining cultures of two different communities may cause tension (McLean, 2003). Also, school closures had an impact on day care centers, community centers, counseling programs, and senior citizen activities in Seattle, Washington between 1973 and 1983 (Weatherly, Narver, & Elmore, 1983). Parents of students and the actual students themselves feel more specific social effects.

In Seattle, Washington, school consolidation caused overcrowding which had a negative impact on student's morale and discipline (Weatherly, Narver, & Elmore, 1983). Also, in Intercargill, New Zealand, students experienced stress from dealing with the unknown of being forced to attend a new school, and child safety concerns were put into question with transportation to the new school location (Witten, McCreanor, Kearns, & Ramasubramanian, 2001). These factors may cause undue stress and discomfort for a student being forced to attend a new school because of a school closure.

Parents who have children who attended the school that closed in Intercargill lost a social network of other parents in their nearby community because many families were forced to relocate to be closer to the new school in which their child was enrolled (Witten, McCreanor, Kearns, & Ramasubramanian, 2001). Also, parents of children who attended one of the four schools in Victoria, Australia that closed in 1994 were less involved in the community after the school closure. It was concluded that active parental

involvement in the community was contingent upon the school in that community (Bowie, 1994).

Many of the microeconomic and social effects mentioned above are specific to those schools researched in the literature; however, similar effects might be found with a recent public elementary school closure in San Francisco. The goal and question of this research is to uncover what the microeconomic and social effects are on a San Francisco community in which a public elementary school has recently closed. This research is necessary to determine if similar microeconomic and social effects have occurred in San Francisco school closures and also identify other effects not currently know. San Francisco differs from those cities already studied in its unique demographic make-up and urban community compared to the more rural communities already mentioned; therefore, this research is necessary to build a base of knowledge of San Francisco school closures and their effects on the community.

#### **4. Methods**

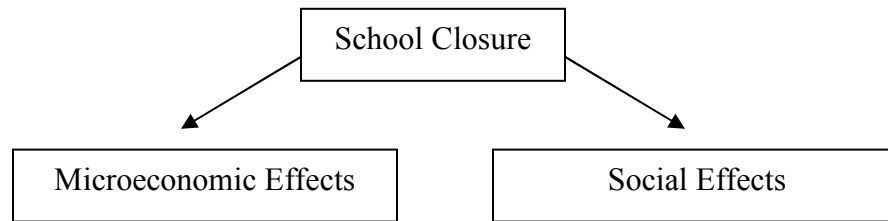
A case study analysis was used to conduct the research. After reviewing a great deal of published literature on similar topics, the effects of public elementary school closures have been researched using this method. In order to understand the specific effects on those in a community of a school closure, it is necessary to gather a great deal of deep, meaningful data that is mostly qualitative in nature. Also, one particular school closure was researched to describe the specific conditions associated with its closure. The case study research design is an advantageous framework for conducting this type of research.

In 2006, the following three public elementary schools closed in San Francisco: Cabrillo Elementary School in the Richmond District, Enola Maxwell Middle School in the Protrero Hill District, and Luther Burbank Middle School in the Bayview/Hunter's Point District (Office of Public Engagement & Information, 2006). Of these three schools, Cabrillo Elementary School is currently the only school to still remain closed. Therefore, the closure of Cabrillo Elementary School has been identified as the unit of analysis in this research endeavor. Aim High School relocated to the site of Luther Burbank Middle School, and the International Studies Academy relocated to the site of Enola Maxwell Middle School. Currently, the Cabrillo facility is being occupied by twenty-two special education students of Erikson Private School; however, Cabrillo is still closed to the general population for public education.

Cabrillo Elementary School was first opened in 1926 and is located in the heart of the Richmond District (School Accountability Report Card, 2005). The following is the breakdown of the 421 students enrolled during the 2005-2006 school year by grade level: 74 in Kindergarten, 68 in 1<sup>st</sup> Grade, 74 in 2<sup>nd</sup> Grade, 69 in 3<sup>rd</sup> Grade, 70 in 4<sup>th</sup> Grade, and 66 in 5<sup>th</sup> Grade. The students of Cabrillo were also racially diverse, over 50% of which were Asian. At the time of Cabrillo's closure, it was only operating at 69% capacity, which made it a strong candidate for closure by SFUSD (see Appendix 9j for pictures).

The independent variable identified in the research model is the elementary school closure. The dependent variables identified in the research model are the microeconomic and social effects caused by the elementary school closure. A direct relationship exists between the independent and dependent variables; specific effects on individuals in a community are felt because of a school closure. A graphical logic model

can explain the relationship between the independent and dependent variables, which is supported by the relationships described in the literature. The following logic model explains this relationship.



The single school closure of Cabrillo Elementary School operationalizes the elementary school closure independent variable. The microeconomic effects dependent variable is operationalized in various ways. Local business patronage and general business trends of businesses located in the general vicinity of Cabrillo were researched. Also, data on the transportation costs and time of students who used to attend Cabrillo and their parents to their new schools was gathered. The social effect dependent variable is operationalized in various ways as well. Data on student involvement in various school activities and community activities at and around Cabrillo and their new schools was researched. The types of social relationships of parents of students who used to attend Cabrillo were researched. School philanthropy trends of parents of students who used to attend Cabrillo and local businesses were identified. And the stress of students being forced to leave Cabrillo to attend another school, if any, was researched.

The target population consists of the following two distinct groups of people: all local business owners in the surrounding community of Cabrillo and all parents of students who used to attend Cabrillo. The parent target population is not easily identifiable for various reasons. The geographic community surrounding Cabrillo Elementary School is not necessarily the same as the social community; I cannot assume

that households physically closest to Cabrillo house students who used to attend Cabrillo. In San Francisco, children have the ability to attend school outside of their geographic district. Therefore, the following sampling frames have been strategically identified in order to maximize my ability of collecting data from the individuals in the target population.

The sampling frame of local business owners in the community surrounding Cabrillo Elementary School consists of all businesses located in the near vicinity of the school. Cabrillo Elementary School is located at 735 24<sup>th</sup> Avenue (see Appendix 9d for a Map Surrounding Cabrillo). Going 11 blocks east and west and 2 blocks north and south of the school location yield a local business population of 34. The types of businesses range from beauty salons to karate studios to Laundromats. Also, Geary Boulevard, a major commercial street in San Francisco, is located just 2 blocks north of the school. In the 22-block stretch of Geary Boulevard, which is considered to be included in the local community of Cabrillo Elementary School, an estimated 200 businesses exist. Therefore, the estimated sampling frame of local business owners is roughly 234 businesses in the community (see Appendix 9k for Pictures).

The sampling method and procedures used to collect data from local business owners is a form of judgment or purposive sampling. Of the sampling frame population of 34 businesses located nearest Cabrillo, I began sampling the businesses geographically located closest to Cabrillo and worked my way farther away. Of the sampling frame population of 200 businesses located on Geary Boulevard, I began sampling the businesses geographically located closest to Cabrillo also and worked my way farther

away. This method gave me the necessary flexibility to collect data from businesses located in each unique sampling frame.

Overall, thirteen local businesses were interviewed, six of which are located in the surrounding community, and seven of which are located on Geary Boulevard. Three of these businesses were interviewed on January 3, 2007, eight of them were interviewed on January 27, 2007, and two of them were interviewed on February 16, 2007. Forty-one attempts were made to interview local businesses. Some businesses did not partake in the research for the following reasons: the employee was too busy to be interviewed, the employee simply did not want to participate, the store was closed, or no one was available to be interviewed.

The sampling frame of parents of students who used to attend Cabrillo Elementary School consists of 421 households at most, assuming there is only one student per household, which was Cabrillo's enrollment during its last year of existence. As mentioned, these households are difficult to identify since it is unclear where these households are located in relation to Cabrillo.

The sampling method and procedures used to collect data from parents of students who used to attend Cabrillo is a combination of cluster sampling and snowball sampling. Three distinct strategies were identified in sampling parents of students. First, the Parents for Public Schools of San Francisco organization was contacted to identify parents of students who used to attend Cabrillo Elementary School. "Parents for Public Schools rely on its base of parent members to achieve its mission of improving public schools in San Francisco. [They] believe in solutions, teamwork, and action to create quality public education options for all families in the city" (PPSSF, 2006). Second, I

contacted the three closest public elementary schools to Cabrillo, Alamo Elementary School located 4 blocks north, Argonne Alternative School located 7 blocks east, and Lafayette Elementary School located 12 blocks west, to inquire about parents of students who used to attend Cabrillo. Some students who used to attend Cabrillo may now be attending these schools since they are very close, geographically, in relation to Cabrillo. And third, San Francisco Unified School District was contacted to discuss potential involvement in this research.

These strategies are created around a cluster sample design since the groups of parents are naturally occurring. The Parents for Public Schools organization is already in existence, and students are currently attending the three elementary schools nearest to Cabrillo. Also, I relied on those parents who were interviewed to refer me to other parents of students they know who would be willing to participate in this research, which is a form of snowball sampling (see Appendix 9e for a Snowball Sampling Diagram).

Overall, seven parents were interviewed, three of which stemmed from contacting the Parents for Public Schools organization, and four of which stemmed from contacting Argonne Alternative School. Telephone, email, and one presentation were used to facilitate communication, and telephone communication was used to conduct interviews. These interviews were conducted between January 4, 2007 and February 26, 2007. The snowball sampling strategy from the Parents for Public Schools consisted of three levels of referrals while the Argonne Alternative School sampling strategy consisted of seven levels of referrals. A parent in the final level of referral from the Argonne Alternative School strategy had referred me to a parent in the second level of referral from the Parents for Public Schools strategy. The individuals that were contacted at Alamo

Elementary School and Lafayette Elementary School were not willing to participate in the research. Also, the Research, Planning, and Accountability Office of the San Francisco Unified School District was not willing to participate in the research due to the low extent of parent involvement.

The data collection instruments used in this research are semi-structured interviews for both parents and local business owners. For parents, specific and open-ended questions were asked to gather data on the following topics: background and introductory information about them and their child who attended Cabrillo, local business patronage in the community, transportation to and from Cabrillo and the new school their child is attending, their child's and their own social activity and involvement in the community, school philanthropy trends of Cabrillo and their child's new school, and closing remarks. For local business owners, specific and open-ended questions were asked to gather data on the following topics: background and introductory information about the nature of their business, customer profiles of children and parents, general business trends during certain times of day and seasons, school philanthropy trends of Cabrillo and other schools, and closing remarks (see Appendix 9a-c for Data Collection Instruments & Instructions for the Interviewer).

Supplementary, a quantitative data analysis was conducted using 2000 United States Census Bureau data. As mentioned, three communities in San Francisco experienced a public elementary school closure in 2006. The purpose of this analysis is to determine the demographic differences in a community that experienced a school closure compared to other communities and San Francisco as a whole. The following demographic variables were gathered from all twenty-six zip codes in San Francisco: sex,

age, ethnicity, education, income, and native/foreign born. Cabrillo Elementary School is located in zip code 94121, Enola Maxwell Middle School is located in zip code 94107, and Luther Burbank Middle School is located in zip code 94112 (see Appendix 9i for a San Francisco Zip Code Map).

Multiple forms of analysis were used in this research. Pattern matching of the relationship between the independent and dependent variables and content analysis were used to analyze the qualitative data. Descriptive statistics were used to analyze the quantitative data collected from the United States Census Bureau.

### **5a. Qualitative Results**

The methods employed to analyze the large amount of qualitative data gathered from twenty interviews required the use of Microsoft Excel. A tabular matrix was created for each sampling frame to list all questions asked in the interview and other interview details as columns. Each participant and their responses were listed as a row. For example, the matrix built to analyze the parents' responses listed thirty-four columns (i.e. respondent's answers and other details about the interview) and seven rows (i.e. a row for each participant). This matrix of qualitative data facilitated pattern matching between interviewee's responses. Once these matrices were built for parents and business owners after all interviews were completed, pattern matching and content analysis was conducted, and results from the analysis were listed.

Many microeconomic effects were discovered from analyzing the qualitative data gathered from both parent and business owner interviews. One parent currently lives within one block of Cabrillo Elementary school. The parent used to walk her daughter to and from school. Now, the parent drives her daughter to and from West Portal

Elementary School, which is located at 5 Lenox Way, roughly 3.2 miles away from their house. The total increase in travel time for the parent and child is 101.5 hours in one school year (see Appendix 9f for Parent Time Calculations).

This increase in travel time has a negative economic effect on this parent as well. As mentioned, the child's new school is located 3.2 miles farther away from Cabrillo resulting in 6.4 miles roundtrip each school day. Taking gasoline, insurance, and general maintenance cost increases into account due to the increase in mileage, \$250.37 was calculated as the annual economic effect of the travel increase (see Appendix 9f for Parent Travel Expense Increase Calculations). Other potential effects include the increased chance of an automobile accident from more travel time and the increased chance of being late to school due to bad weather conditions or road closures.

Another parent decided to enroll her daughter in Holy Name of Jesus Parish School, a private institution, after Cabrillo Elementary School closed. The annual tuition at Holy Name is \$4,450, assuming the parent is active in the parish. If the parent is not active in the parish, the annual tuition cost is \$5,450. This tuition expense is a negative economic effect to the parent due to the school closure.

Balboa Bi-Rite Market is located at 2449 Balboa Street, roughly one block from Cabrillo Elementary School. After interviewing the store clerk, he commented that five students who used to attend Cabrillo would purchase items, such as chips, candy, and soda, from the store on a daily basis. Now that the school has closed, the clerk only notices one of those students purchasing items from the store, a decrease in four students. The annual economic effect to Balboa Bi-Rite Market due to the reduction in patronage from the four students is \$2,568.24 (see Appendix 9g for Economic Effect Analysis).

The Medical Group is located at 2345 Balboa Street, less than one half blocks from Cabrillo Elementary School. After interviewing the receptionist at the front desk, she described the school closure as having a positive effect on their business. The receptionist did not notice any fluctuation in customer patronage since the school closure. Also, their customers have more accessible and available parking on the surrounding city streets since their customers no longer have to compete with parents, school administrators, and teachers for parking.

Other economic effects were also identified, some of which were not a major issue for the respondents. Most parents did not experience any issues from the change in travel patterns from the school closure. Some parents said they don't frequent many of the local businesses around Cabrillo anymore since their child no longer attends school in that community; however, most businesses did not notice any change in business patronage since Cabrillo's closure. None of the businesses interviewed attributed any changes in business activity to the closure of Cabrillo. One business was not even aware that Cabrillo had closed.

Many social effects were discovered from analyzing the qualitative data gathered from parent interviews. Many of these social effects pertained specifically to the children who used to attend Cabrillo. According to the parent interviews, some children experienced stress from being forced to leave Cabrillo and attend a new school where they didn't know anyone. One parent described their child's behavior as being more introverted, lonely, and depressed after Cabrillo's closure. Many of the children lost contact with their friends and classmates who used to attend Cabrillo. Some of the children are experiencing difficulties in making new friendships at their new schools.

And social involvement in after-school activities, such as sports and drama, has stopped for one child.

Many of the parents of children who used to attend Cabrillo experienced social effects from the school closure as well. Some parents became less involved in social activities, mainly Parent-Teacher Associations, since Cabrillo's closure. Of the seven parents interviewed, six of them were either involved in the PTA at Cabrillo during its last year or were involved in the PTA during an earlier year. One parent is not involved in the PTA at their daughter's new school because the parent "needed a break" from being so heavily involved with Cabrillo's PTA, especially during the months prior to Cabrillo's closure while attempting to keep the school open. Two other parents are not involved in the PTAs at their daughters' new schools because their daughters will only be attending the new schools for one year. Both parents did not feel the need to become involved for such a short time commitment.

Philanthropy trends have changed for some of the parents since Cabrillo's closure. Six of the seven parents interviewed either donated money or time to Cabrillo while their children were attending school. Now that Cabrillo has closed and their children are attending a new school for the first year, only four of the seven parents are either donating money or time. Both parents who are not currently philanthropic with their child's new school did not provide a reason for this change; however, both parents expressed their intent to become philanthropic in the near future.

Some parents experienced frustration from the process of Cabrillo's closure also. Some of the parents were unclear as to why school administrators had decided to close Cabrillo. Some parents were disappointed and disagreed with the actions of Cabrillo

teachers in voicing their negative opinions and feelings about Cabrillo's closure to the students. One parent was frustrated that her daughter did not receive any of the seven choices of new schools they requested and was placed in a school 3.2 miles away from their house. One parent experienced stress from being told by school administrators that Cabrillo would merge with another school and it did not happen.

Other social effects were also identified, some of which were not a major issue for the respondents. One parent expressed that Cabrillo was "special" because it offered a great fine arts program which included a music teacher, a dance instructor, and a drama teacher who would coordinate after-school productions. None of these programs are offered at the child's new school. One parent believes the school closure has "worked out for the best" for their family. And no social effects were identified through business interviews.

As you can see, many microeconomic and social effects were identified in the community surrounding Cabrillo Elementary School after its closure. All microeconomic effects were negative except for more accessible parking identified by the Medical Group. And all social effects were negative except for the parent who believes the school closure had "worked out for the best." The microeconomic effects identified through the interviews were unique for each respondent; a pattern was not able to be identified between responses other than many of them do not frequent the local businesses around Cabrillo since its closure. The social effects identified through the interviews have similarities among respondents. Many parents expressed that their children experienced stress, and many parents expressed frustration with the process of Cabrillo's closure.

Also, multiple parents experienced changes in their social involvement in Parent-Teacher Associations and philanthropy trends.

### 5b. Quantitative Results

The method employed to analyze the quantitative data gathered from the U.S. Census Bureau required the use of Microsoft Excel also. Descriptive statistical formulas were used to calculate average, minimum, maximum, and other statistics, in order to analyze demographic data of zip codes in San Francisco. The average refers to the average for San Francisco. The minimum and maximum refer to the zip code that has the minimum and maximum value for that variable.

Below are charts summarizing results from analyzing Sex and Age:

	Male	Female
94107	54.5%	45.5%
94112	49.2%	50.8%
94121	47.6%	52.4%
Average	50.8%	49.2%
Minimum	46.7%	37.3%
Maximum	62.7%	53.3%

	0 - 17 Yrs	18 & Older
94107	11.0%	89.0%
94112	20.8%	79.2%
94121	14.7%	85.3%
Average	14.5%	85.5%
Minimum	2.1%	69.7%
Maximum	30.3%	97.9%

Below is a chart summarizing results from analyzing Ethnicity:

	White	Black	Asian	Other
94107	62.4%	13.0%	15.0%	9.5%
94112	28.9%	6.3%	44.9%	19.8%
94121	48.6%	1.6%	44.4%	5.4%
Average	49.7%	7.8%	30.8%	11.7%
Minimum	9.6%	0.5%	7.2%	1.0%
Maximum	86.5%	48.0%	63.6%	34.8%

Below is a chart summarizing results from analyzing Education:

	Below High School	High School & Some College	Bachelor's Degree or Higher
94107	27.6%	24.9%	47.5%
94112	51.0%	32.3%	16.7%
94121	34.8%	29.1%	36.0%
Average	37.7%	27.8%	34.5%
Minimum	13.9%	16.7%	6.6%
Maximum	63.4%	35.8%	66.6%

Below is a chart summarizing results from analyzing Income:

	<b>Median Household Income</b>	<b>Income per Capita</b>	<b>% of Population below Poverty Level</b>
94107	\$61,362	\$53,646	15.5%
94112	\$57,629	\$19,645	8.0%
94121	\$61,776	\$32,881	7.0%
Average	\$56,710	\$34,552	11.1%
Minimum	\$14,609	\$13,885	3.6%
Maximum	\$95,313	\$88,829	37.2%

Below is a chart summarizing results from analyzing Native & Foreign Born:

	<b>Foreign Born</b>	<b>Native Born</b>
94107	23.7%	76.3%
94112	52.4%	47.6%
94121	44.8%	55.2%
Average	36.8%	63.2%
Minimum	8.9%	21.4%
Maximum	78.6%	91.1%

The sex and age population percentages of zip codes that experienced a public elementary school closure in 2006 did not differ much from the population of San Francisco. However, the ethnicity, education, income, and native or foreign born population percentages of zip codes that experienced a public elementary school closure in 2006 did have some differences from the population, minimum, and maximum. (See Appendix 9h for Quantitative Research Graphs)

The percentage of the population of zip code 94107 whose ethnicity was white was 62% while the average percentage for San Francisco was 50%. This 12% difference shows uniqueness for this zip code. Also, the range is very large from a minimum of 10% to a maximum of 87% showing a wide range of percentages. The percentage of the population of zip code 94112 whose education was below a high school level was 51% while the average percentage for San Francisco was 38%. This 13% difference shows uniqueness for this zip code.

The income per capita of zip code 94107 was \$53,646 while the average income per capita for San Francisco was \$34,552. This \$19,094 difference is quite large between the individual zip code and the average for San Francisco. The percentage of the population of zip codes 94107 and 94112 who were native born was 24% and 52%, respectively, while the average percentage for San Francisco was 37%. These differences also show uniqueness for these zip codes. The demographic comparisons for zip code 94121, the zip code where Cabrillo Elementary School is located, were not very different from the San Francisco population.

## **6. Limitations**

Many limitations exist in this research. Most notably, many biases exist in the sampling frame and procedures. The judgment sampling method used to determine the sample of local businesses is based solely on the knowledge and observation of the researcher. Other businesses may be operating in the community that had not been identified; therefore, the effects on those businesses were excluded from potential data collection. Also, the cluster sampling method used to determine the sample of parents is subject to biases associated specifically with those naturally formed groups. For example, parents who are members of Parents of Public Schools may have certain personal predispositions towards Cabrillo Elementary School's closure compared to parents who aren't members.

The snowball sampling method used to sample parents also has biases. For example, I interviewed parents who experienced negative social effects from Cabrillo's closure. Those parents may have referred me to other parents who experienced similar negative effects, which in turn adds to the number of negative effects in the data

collection. Also, six of the seven parents interviewed belonged to Cabrillo's PTA, which only represents one social group at Cabrillo.

Another limitation of this research proposal is the ability to generalize the microeconomic and social effects results to other public elementary school closures. This case study analysis only researched Cabrillo Elementary School, not any other school closure in San Francisco. The community surrounding Cabrillo is unique therefore making generalizing the results to other communities difficult.

Since I worked individually on this research project, the resources used in gathering data, both financial and time, were very limited. Also, a few individuals who were interviewed, both parents and local business owners, did not speak English fluently. They were not able to fully understand the questions being asked, and I was not able to fully understand their responses. And finally, I could not offer much incentive to those participating in the research. The only direct benefit the participants received from their participation was promising to distribute the completed research project. Four of the seven parents who were interviewed requested a copy upon completion.

## **7. Conclusions**

Recently, three public elementary schools closed in San Francisco because of a decrease in enrollment. Currently, a majority of research suggests most effects caused by school closures are negative and leave the community worse off than it originally was when the school was open. It is unclear if these effects are taken into consideration when the decision to close a school by administrators must be made.

This case study analysis of the closure of Cabrillo Elementary School in 2006 has identified multiple microeconomic and social effects on the community since the closure.

Travel time and expenses have increased for students and parents, tuition is now a cost for a family sending their child to a private school, and a business has identified reduced patronage from students who no longer frequent the store. Many children experienced stress and depression from the closure, many parents are not as involved in Parent-Teacher Associations as before, parents' philanthropy trends to their children's schools have declined, and many parents were frustrated with the school closure process.

When being faced with the difficult decision to close public elementary schools in San Francisco in the future, school administrators should acknowledge the effects felt by those in the community surrounding Cabrillo to understand the potential effects on communities that may be faced with a school closure. School administrators could offer counseling services to students who experience stress or depression because of a school closure. They could help parents connect with social activities in the new school their child attends. They could provide clear and consistent information to parents throughout the process of deciding which schools to close. They could solicit opinions and feedback from parents and school administrators in a focus group setting open to the public. And they can continue researching the economic impact felt by businesses after schools close.

Future research should also be conducted to understand the effects on a community when a school closes. As mentioned, this case study only researched the closure of Cabrillo Elementary School. In order to comprehend other potential effects, case studies could be conducted on the other two schools in San Francisco that closed in 2006 and future school closures. Also, a similar quantitative analysis can be conducted after the 2010 U.S. Census Bureau data has been collected to understand any demographic changes that may have occurred in the zip codes that experienced a public

elementary school closure in San Francisco. This quantitative analysis can be conducted in other cities that have experienced school closures also. After continued research in understanding the demographics of communities that experience school closures, a pattern may eventually be identified that describes their unique demographics.

The decision to close a public elementary school is a difficult one to make. Not only does a closure affect the students who currently attend the school, but it also has affects on teachers, school administrators, and those living in the surrounding communities. Understanding the microeconomic and social effects as a direct result of a school closure gives school decision makers the necessary information they need in order to make an informed decision about which schools to close, not just considering enrollment trends.

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## **9a. Data Collection Instrument (Parent Interview)**

### Informed Consent Script

The purpose of this research project is to identify the microeconomic & social effects on a community when a public elementary school closes. Recently, Cabrillo Elementary School closed, and you are being asked to participate because you are a parent of a child who used to attend Cabrillo. The procedure of this research is a semi-structured interview. Media devices will not be used at any time. Information gathered from this interview will be used to complete a research project for a Masters program at San Francisco State University. Some potential risks of participating include the loss of privacy and discomfort or anxiety due to the nature of the questions. A benefit of participating is to inquire about the results of the research project once it is complete. Your participation is voluntary, and you may stop the interview at any time for any reason.

### Topic 1: Background & Introduction

1. How many years did your child attend Cabrillo Elementary School?
2. What is the name of the school that your child currently attends?
3. In what neighborhood of San Francisco do you live?
  - a. Is the new school, which your child is currently attending, located in your neighborhood?
    - i. If not, how far away is the school?

### Topic 2: Local Business Patronage

1. Have you ever shopped at any of the local businesses near Cabrillo Elementary School?
  - a. If so, which stores & how often have you shopped at?
  - b. Now that your child attends a different school, do you still frequent those stores?
    - i. If not, do you now shop at stores closer to your child's new school?

### Topic 3: Transportation

1. Describe how your child used to get to Cabrillo.
  - a. Describe any issues you or your child had with transportation to and from Cabrillo.
2. Describe how your child gets to the new school.
  - a. Describe any issues you or your child has with transportation to and from school.

### Topic 4: Social Activity Involvement

1. Are you involved in any social activities or groups, such as Parent Teacher Association, community groups, or volunteering?
  - a. Describe your involvement in these groups & how often you participate.
  - b. Are any of these social activities coordinated through the school in which your child now attends?

- i. If so, are other parents of children attending the school involved?
2. Did you partake in any social activities through Cabrillo Elementary?
  - a. If so, are you participating in the same kinds of social activities?
  - b. Did parents of students from Cabrillo Elementary School also partake in those social activities?
3. Now that your child is attending a new school, are you still involved in the same social activities from Cabrillo Elementary School?
  - a. In what ways is the community still involved in social activities after Cabrillo closed?

#### Topic 5: School Philanthropy

1. Please discuss how often, how much, and the reasons why you donate money to your child's current school.
2. Please discuss how often, how much, and the reasons why you donated money to Cabrillo Elementary School.

#### Topic 6: Closing Remarks

1. Do you have any comments about this interview?
2. Do you know of any other parents or guardians of children who used to attend Cabrillo who would be willing to partake in this research?
  - a. If so, can you please provide their contact information?
3. Is there anything else you would like to say before we finish the interview?

## **9b. Data Collection Instrument (Local Business Owner Interview)**

### Informed Consent Script

The purpose of this research project is to identify the microeconomic & social effects on a community when a public elementary school closes. Recently, Cabrillo Elementary School closed, and you are being asked to participate because you are a local business owner in the community surrounding Cabrillo. The procedure of this research is a semi-structured interview. Media devices will not be used at any time. Information gathered from this interview will be used to complete a research project for a Masters program at San Francisco State University. Some potential risks of participating include the loss of privacy and discomfort or anxiety due to the nature of the questions. A benefit of participating is to inquire about the results of the research project once it is complete. Your participation is voluntary, and you may stop the interview at any time for any reason.

### Topic 1: Background & Introduction

1. What is the nature of your business?
  - a. How long have you been in business?
  - b. Have you been operating from this location since the start of your business?
  - c. What are your hours and days of operation?
  - d. What are your busiest times of day?
  - e. Describe your busy season, if any.

### Topic 2: Customer Profile

1. What types of customers come into your store?
  - a. If children come into your store, did some of them attend Cabrillo Elementary School?
  - b. If so, did they purchase any items from your store?
  - c. Did any parents of children who used to attend Cabrillo Elementary School come into your store?
2. Have you noticed any changes in customer patterns in your store due to the closure of Cabrillo Elementary School?
  - a. Do the same children purchase items from your store?
  - b. Do parents of those students still come into your store?
3. Do most of your customers live in this community?
  - a. If so, about what percent?

### Topic 3: School Philanthropy

1. Have you ever donated money to a local school?
  - a. If so, what schools have you donated money to?
    - i. Please discuss how often, how much, and the reasons why you donated money.
  - b. If you donated money to Cabrillo Elementary School, are you donating money to a new school now?
    - i. If so, what is the name of the school?

- ii. Please discuss how often, how much, and the reasons why you donated money.

Topic 4: Closing Remarks

1. Do you have any comments about this interview?
2. Is there anything else you would like to say before we finish the interview?

### 9c. Instructions for the Interviewer

Introduce yourself by stating the following:

1. **Name** – Keith DeMartini
2. **School & Program** – San Francisco State University Graduate Student in Public Administration
3. **Purpose of Research** – to understand the microeconomic and social effects of a San Francisco community in which a local public elementary school has recently closed.

Thank them for taking the time to interview with you today and that you appreciate this. If they have any questions at anytime, be sure to take the appropriate amount of time to answer them thoroughly. You want to make them as comfortable as possible.

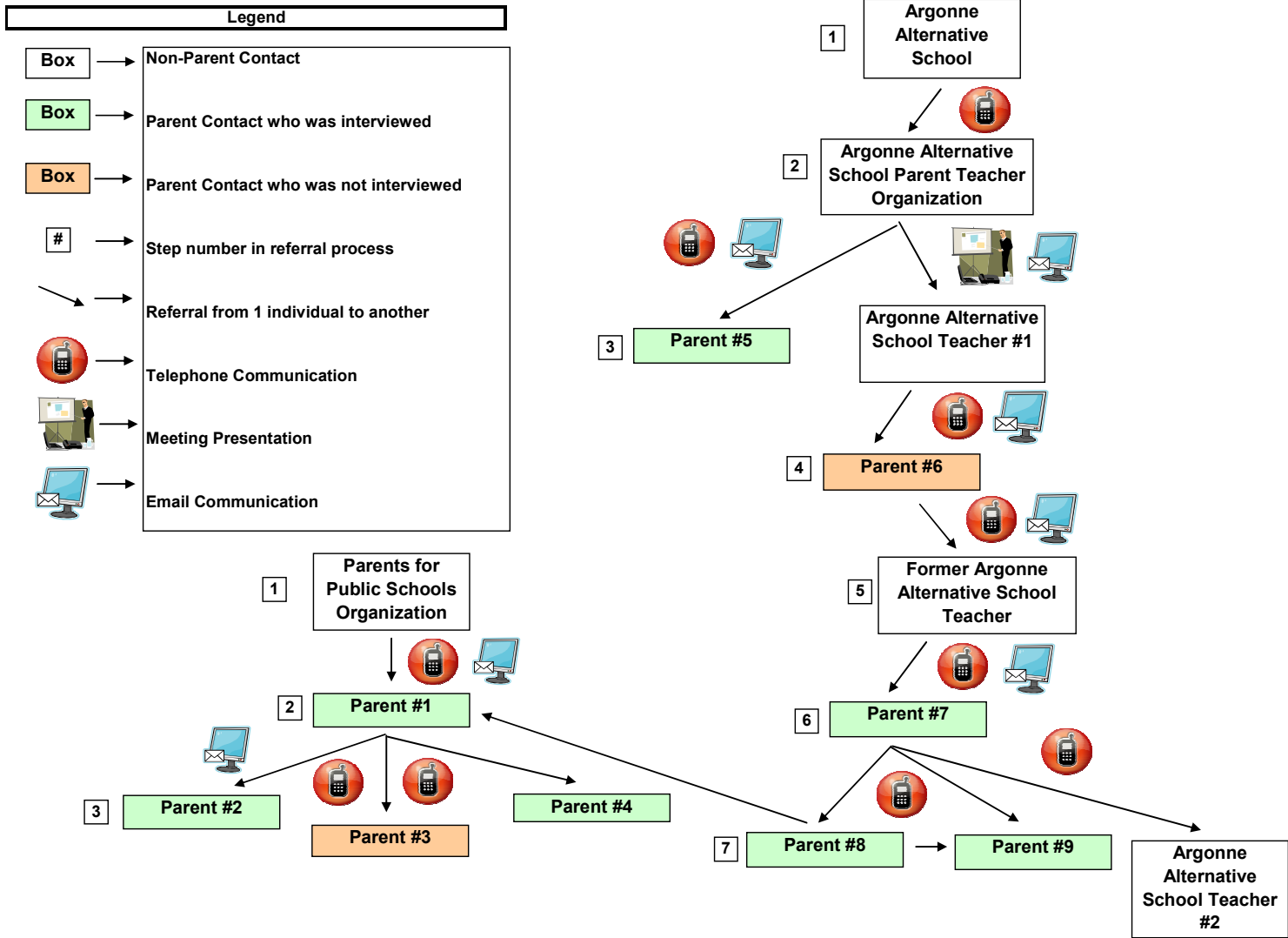
Explain the following logistics of how the interview will work:

1. **Duration** – the interview should not last roughly 15 minutes. If at anytime the respondent must stop the interview, ask to reschedule if possible. If the interview is anticipated to take longer than 15 minutes, ask the respondent's permission to do so.
2. **Format** – semi-structured interview questions have been prepared in this interview protocol, which you will ask each respondent. Explain that you will be taking notes while the respondent is answering the questions. Reinforce that no media (video camera or recording devices) will be used during the interview. Make sure the respondent acknowledges this.
3. **Conduct the interview.**
4. **Closure** – once the interview has ended, thank them again for taking the time to talk with you today and let them know they can contact you either by phone or via email if they have any follow-up questions, concerns, or would like to be contacted with results found from the research.

**9d. Map surrounding Cabrillo Elementary School****Note:**

- A red box identifies Cabrillo Elementary School.
- Blue markers identify local businesses in the community not located on Geary Boulevard.

9e. Snowball Sampling Diagram



### 9f. Parent Time & Travel Expense Increase Calculation

<b>Time Increase Calculation</b>	<b>Amount</b>	<b>Ref</b>
Travel time to West Portal (in minutes)	15	A
Travel time from West Portal (in minutes)	15	B
<u>Misc Time (in minutes)</u>	<u>5</u>	<u>C</u>
<b>Total Travel Time (in minutes)</b>	<b>35</b>	<b>D=A+B+C</b>
Instructional Days at West Portal	180	E
Sick Days	4	F
<u>Vacation Days</u>	<u>2</u>	<u>G</u>
<b>Total Travel days to/from School</b>	<b>174</b>	<b>H=E-F-G</b>
Total Minutes of Travel per School Yr	6,090	I=D*H
<u>Minutes in 1 Hour</u>	<u>60</u>	<u>J</u>
<b>Total Time Increase (Hrs) per School Yr</b>	<b>101.5</b>	<b>K=I/J</b>

<b>Travel Cost Increase Calculation</b>	<b>Amount</b>	<b>Ref</b>
Distance to drive to West Portal	3.2	A
<u>Distance to drive from West Portal</u>	<u>3.2</u>	<u>B</u>
<b>Total Miles Travelled</b>	<b>6.4</b>	<b>C=A+B</b>
Instructional Days at West Portal	180	D
Sick Days	4	E
<u>Vacation Days</u>	<u>2</u>	<u>F</u>
<b>Total Travel days to/from School</b>	<b>174</b>	<b>G=D-E-F</b>
<b>Total Number of Miles Driven (School Yr)</b>	<b>1,113.6</b>	<b>H=C*G</b>
Estimated Gas Mileage per Gallon	20.0	I
% of Gallon used per day	32%	J=C/I
Estimated Gas Price during Fall 2006	\$ 2.63	K
<u>Gas Cost per day for school travel</u>	<u>\$ 0.84</u>	<u>L=J*K</u>
<b>Gas Costs for School Transit</b>	<b>\$ 146.44</b>	<b>M=G*L</b>
Estimated Annual Insurance Premium	\$ 950.00	N
Estimated Yearly # of Miles Driven	11,400	O
<u>Estimated Insurance Premium per Mile</u>	<u>\$ 0.08</u>	<u>P=N/O</u>
<b>Insurance Costs for School Transit</b>	<b>\$ 92.80</b>	<b>Q=H*P</b>
Estimated Yearly Cost of Car Repairs	\$ 114.00	R
Estimated Yearly # of Miles Driven	11,400	S
<u>Estimated Repair Costs per Mile</u>	<u>\$ 0.01</u>	<u>T=R/S</u>
<b>Repair Costs for School Transit</b>	<b>\$ 11.14</b>	<b>U=H*T</b>
<b>Total Increase in Travel Costs</b>	<b>\$ 250.37</b>	<b>V=M+Q+U</b>

#### Sources:

- Estimated Gas information: [www.fueleconomy.gov](http://www.fueleconomy.gov)
- Insurance information: [www.carinsurance.com](http://www.carinsurance.com)
- Car Repair information: California Department of Consumer Services Bureau of Automotive Repair

9g. Balboa Bi-Rite Market Economic Effect Analysis

Item	Amount	Ref
Price of Soda	\$ 1.75	A
Price of Candy	\$ 0.75	B
<u>Price of Chips</u>	<u>\$ 1.19</u>	<u>C</u>
<b>Total Price</b>	<b>\$ 3.69</b>	<b>D=A+B+C</b>
Patronage before Closure	5	E
<u>Patronage after Closure</u>	<u>1</u>	<u>F</u>
<b>Difference in Patronage</b>	<b>4</b>	<b>G=E-F</b>
Instructional Days at Cabrillo	180	H
Sick Days	4	I
<u>Vacation Days</u>	<u>2</u>	<u>J</u>
<b>Total Patronage Days</b>	<b>174</b>	<b>K=H-I-J</b>
Total Expenditures by 1 Student	\$ 3.69	D
Difference in Patronage	4	G
Total Patronage Days	174	K
<b>Financial Impact</b>	<b>\$ 2,568.24</b>	<b>L=D*G*K</b>

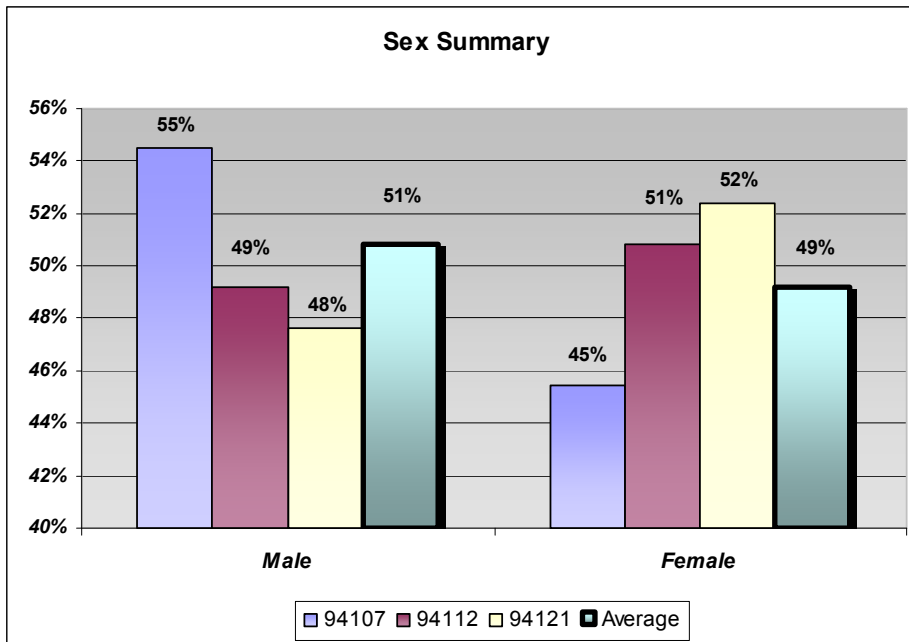
**Note:**

- Sales Tax was not included since amount of tax paid by students are not considered revenue for the business.

### 9h. Quantitative Research Graphs

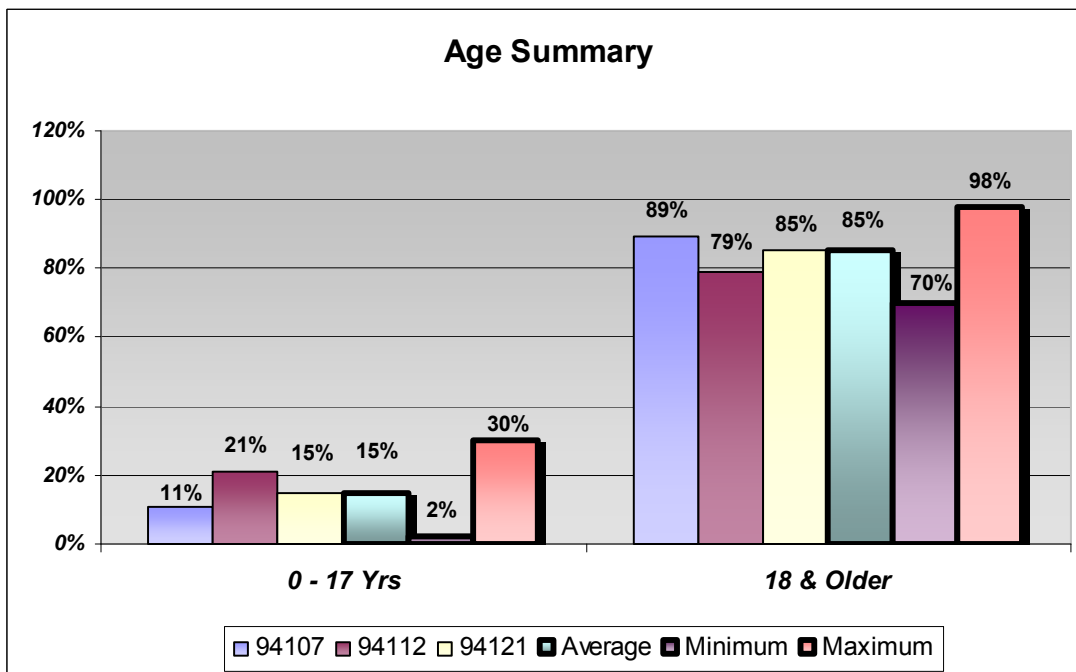
#### Sex Summary

- Comparing each Zip Code that had a Public Elementary School Closure in 2006 with the Average for San Francisco



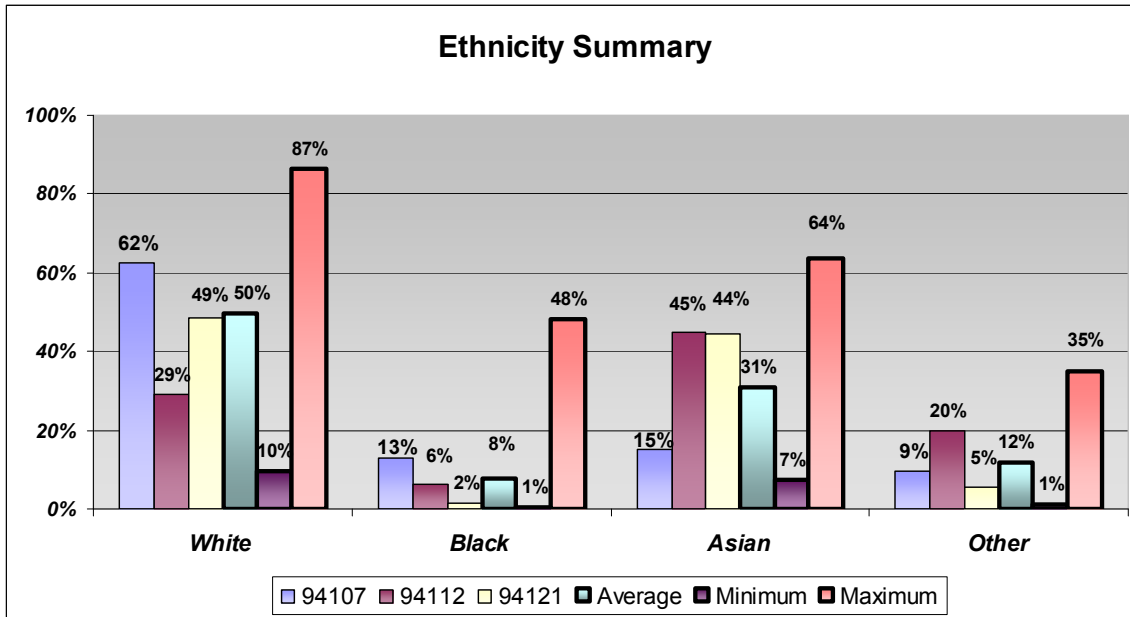
#### Age Summary

- Comparing each Zip Code that had a Public Elementary School Closure in 2006 with the Average for San Francisco, the Minimum Zip Code, & the Maximum Zip Code



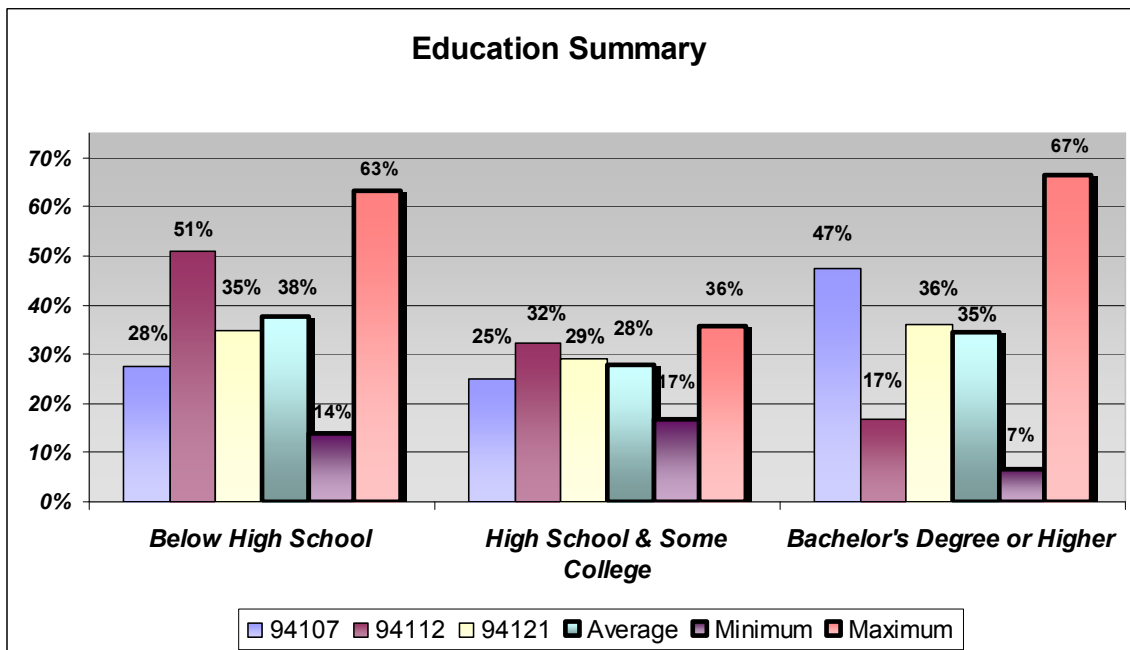
### Ethnicity Summary

- Comparing each Zip Code that had a Public Elementary School Closure in 2006 with the Average for San Francisco, the Minimum Zip Code, & the Maximum Zip Code



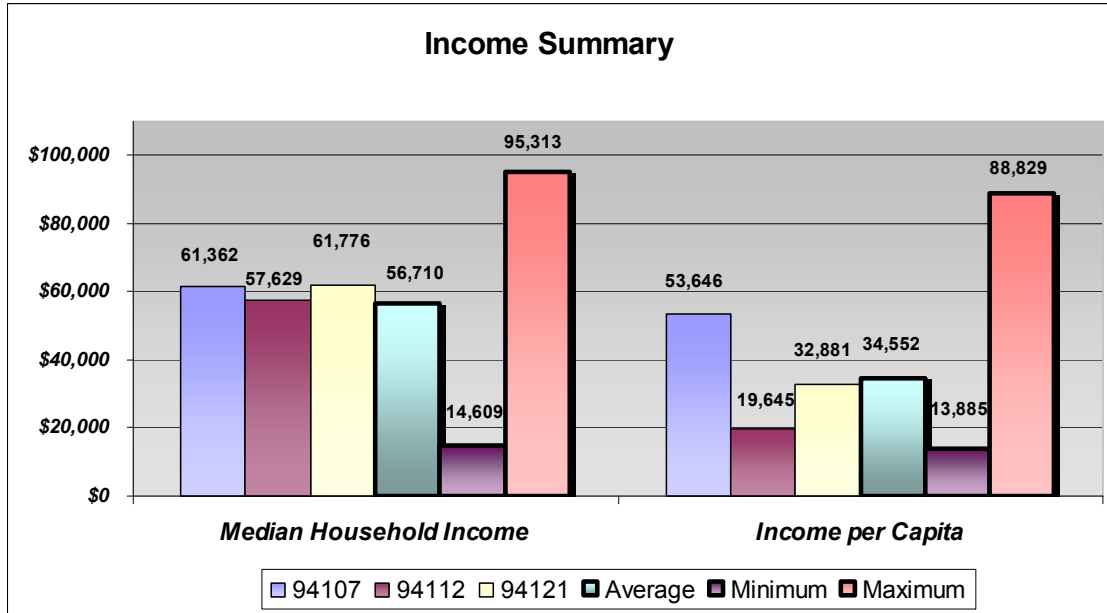
### Education Summary

- Comparing each Zip Code that had a Public Elementary School Closure in 2006 with the Average for San Francisco, the Minimum Zip Code, & the Maximum Zip Code



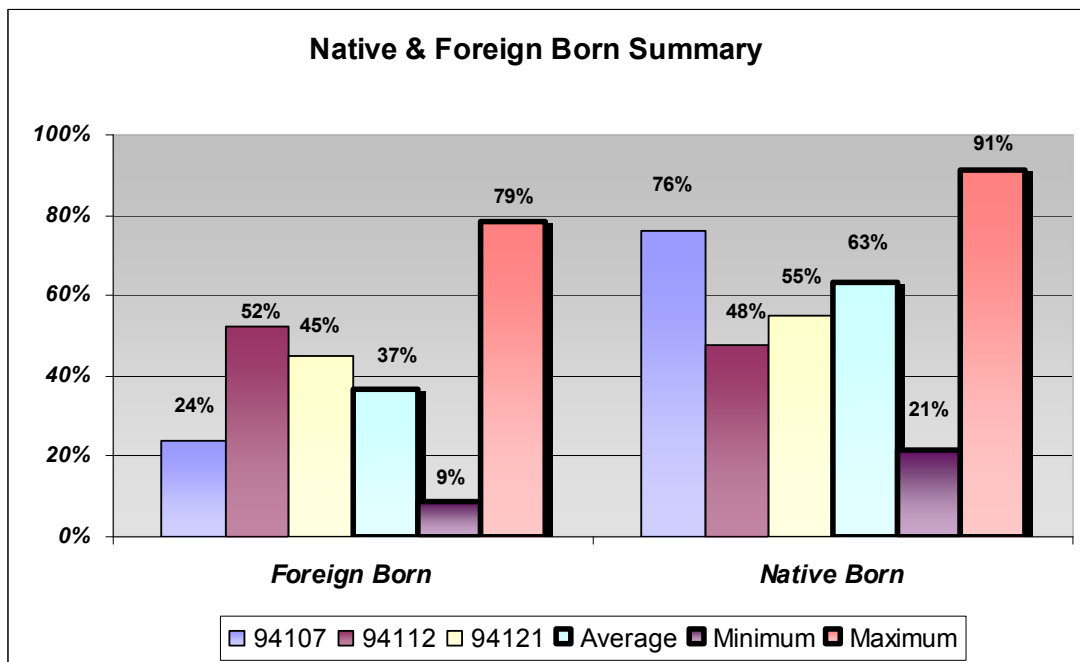
### Income Summary

- Comparing each Zip Code that had a Public Elementary School Closure in 2006 with the Average for San Francisco, the Minimum Zip Code, & the Maximum Zip Code



### Native & Foreign Born Summary

- Comparing each Zip Code that had a Public Elementary School Closure in 2006 with the Average for San Francisco, the Minimum Zip Code, & the Maximum Zip Code



## 9i. San Francisco Zip Code Map



### Zip Codes of schools that closed in 2006:

- 94121: Cabrillo Elementary School
- 94107: Enola Maxwell Middle School
- 94112: Luther Burbank Middle School

9j. Pictures of Cabrillo Elementary School



**9k. Pictures of Local Businesses**

**Medical Group**

2345 Balboa Street



**Balboa Bi-Rite Market**

2449 Balboa Street



**Style Sensations**

2424 Balboa Street



**Salon**

2400 Balboa Street



**House of Flowers**

6040 Geary Boulevard



**Joe's Breakfast Lunch Coffee Shop**

6132 Geary Boulevard

