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CITY OF PASADENA  
**Public Health**  
DEPARTMENT

Serving the Greater Pasadena Area for Over 120 Years

PASADENA | ALTADENA

**Quality of Life**  
INDEX **2012**

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CELEBRATING 20 YEARS | 1992 - 2012



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This report is published by the City of Pasadena Public Health Department with various contributions from a myriad of organizations. This document is presented as a local reference for policy makers, academia, and stakeholders interested in the quality of life in Pasadena and Altadena.

**[www.cityofpasadena.net/qualityoflifeindex](http://www.cityofpasadena.net/qualityoflifeindex)**

**[www.cityofpasadena.net/publichealth](http://www.cityofpasadena.net/publichealth)**

**[www.healthypasadena.org](http://www.healthypasadena.org)**

**SUGGESTED CITATION:**

E Walsh, M Feaster, G Namdar, T Yoko, W Zhang, K Folkins. Pasadena/Altadena 2012 Quality of Life Index. Pasadena, CA: City of Pasadena Public Health Department, 2012

“ Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. ”

**-World Health Organization**



# Preface

Quality of life is not indicated solely by genetics or by individual behavior; rather, quality of life is strongly influenced by a person's overall environment. These environmental factors, such as living wage, access to quality health care, housing security, clean air and water, and open community recreational spaces, expand upon the traditional understanding of what constitutes well-being.

By studying the social determinants of health, health care advocates can look upstream at the root causes of diseases. Addressing these root causes is the work of elected officials, health care providers, educators, planners, and community organizers.

## BACKGROUND

The City of Pasadena has been a pioneer in the study of social determinants and their influence on public health and quality of life. In 1989, Pasadena became a charter city in the California Healthy Cities Project. The City's efforts culminated in the release of the 1992 *Pasadena Quality of Life Index*, one of the first comprehensive community health assessments in the nation.

The *Pasadena Quality of Life Index's* inaugural edition contained 10 broad categories, with 55 indicators that were defined by a citizen steering committee. In 1999, the Healthy Cities Steering Committee undertook a three-year revision of the *Index*. During this process, the focus of the *Index* shifted substantially, and its potential readership broadened to include the general public. In the 2012 edition of the *Index*, the City of Pasadena Public Health Department has selected 20 indicators that affect the mental, physical, and social well-being of Pasadena and Altadena residents.

## PURPOSE

The *Index* identifies factors that influence community wellness, gaps in services, issues in health delivery and access, and inequity in overall health and well-being. It is a valuable resource for all public and private health care advocates and organizations. It is offered to academia, community-based organizations, policy-makers, and individuals to use this document as a resource to guide planning, to develop policy, and to procure or allocate resources.

## METHODS

To fulfill the *Index's* comprehensive objectives, the Quality of Life Team drew from a wide cross-section of agencies and disciplines. All statistics, figures, and vignettes were collected from a broad spectrum of community partners and agencies. These data were extrapolated for each indicator and paired with current research appropriate to their significance and subject matter.

In addition to the data collected by the Quality of Life Team, data from Huntington Memorial Hospital's HealthyPasadena.org are provided at the end of each section. The Quality of Life Team recommends that interested readers consult HealthyPasadena.org for further reference.

## LIMITATIONS

The Team made every effort to collect the most current, reliable data available; however, omissions may have occurred.

The Quality of Life Team strove to present all corroborative, local data with relevant research into causal and correlative associations. However, the data have not been evaluated for such associations. Instead, data for the local region have been paired with related bodies of research. Furthermore, when considering relatively small areas such as Pasadena and Altadena, the statistical accuracy of certain metrics may not facilitate broad policy decisions. In some cases where city/area statistics were not available, county, state, and national data were presented.

## NEXT STEPS

The Quality of Life Index is designed to identify environmental impediments to a healthy and vibrant Pasadena. The City of Pasadena Public Health Department intends to form a community advisory group that will explore any identified gaps in service and redress them. It will need to establish common goals, complementary roles, and ongoing constructive relationships, to promote collaborative, but discrete, efforts.



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## Dear Friends, Partners, and Colleagues,

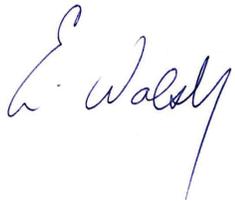
On behalf of the City of Pasadena Public Health Department, I am proud to present the *2012 Quality of Life (QOL) Index* for the City of Pasadena and its neighbor, unincorporated Altadena. This edition of the *QOL Index* is particularly significant in that it represents a remarkable 20 years of studying the quality of life of Pasadena through community health assessments, and our 120<sup>th</sup> anniversary as a health department.

The City of Pasadena Public Health Department's mission is to promote the physical, social, and mental well-being of all who live, work, worship, and play in Pasadena; through this *QOL Index*, we are able to study and evaluate our strengths and weaknesses as a City in order to move toward the overall goal of health equity.

People often believe health to only be defined in medical terminology. However, as the *QOL Index* strives to depict, health is defined by one's ability to access affordable housing, to earn a living wage, to have safe open spaces for recreation and to simply breathe clean air. Studying these social determinants of health are stepping stones to developing policies and quality assurance practices. Through the *QOL Index*, we are able to see where Pasadena and Altadena thrive, as well as identify areas of improvement. This assessment will be invaluable in developing future programs to provide the best possible public health for Pasadena/Altadena residents.

This edition of the *QOL Index* is the culmination of a year-long effort to bring the most up-to-date information to the community. We are grateful to the various local agencies and community partners for their support and input, including the Mayor's Office, City Council, the City Manager, other City Departments, and community partners.

Sincerely,

A handwritten signature in blue ink that reads "Eric G. Walsh". The signature is fluid and cursive, with the first name "Eric" being the most prominent.

**Eric G. Walsh, M.D., Dr.P.H.**

Director of Public Health/Health Officer  
Pasadena Public Health Department

# Executive Summary

The *2012 Quality of Life Index* presents 20 broad indicators of health equity in Pasadena and Altadena. This Executive Summary presents key findings, prioritizes major gaps, and suggests next steps toward achieving true health equity.

Though the 20 indicators are individually vital to understanding the major needs of the community, they are also interdependent. For this reason, the Executive Summary outlines all major findings in four principal categories: Social and Economic Factors, Physical Environment, Clinical Care, and Health Behaviors.

## SOCIAL AND ECONOMIC FACTORS

Social and Economic Factors are key concepts such as income, employment, housing, education, culture, and community relations. These determinants influence the decisions citizens may make, and as such are vital in predicting quality of life patterns.

### KEY FINDINGS

- California's minimum wage remains unchanged at \$8.00 per hour, despite a family of four requiring approximately \$18.15 per hour, per household, to earn a living wage in Los Angeles County.
- There are broad geographic earning disparities within Pasadena. In the 91103 zip code, the median income was \$44,358, compared to its neighbor, 91105, with a median income of \$91,587.
- In Pasadena, 13.7%, or 18,282 individuals, live below the Federal Poverty Threshold.
- Unemployment rates in Pasadena have more than doubled since 2000.
- Approximately 40% of both renters and owners in Pasadena dedicate more than 35% of their earnings to housing costs.
- Despite continued advances in the Pasadena Unified School District, students consistently underperform on the Scholastic Aptitude Test (SAT) by 100-200 points each year when compared to other students in the State of California.

- Though Los Angeles County has a private school enrollment rate of around 8%, Pasadena and Altadena have much higher rates, at 23.3% and 30.1%, respectively.
- In Pasadena, the number of high school graduates decreased 6% since 2007, and those with less than a high school diploma increased 4%.

## PHYSICAL ENVIRONMENT

Physical environment may present external barriers and obstacles to maintaining a healthy lifestyle. Environmental factors like available transportation services, environmental quality, and access to open space and nutritious foods all influence the pursuit of a high quality of life.

### KEY FINDINGS

- There has been a 79.3% reduction in unhealthy air quality days since 2002 in Pasadena.
- Without interventions, Pasadena may expect a 10% shortfall in water supply by 2015, and 17% by 2035.
- Five identified areas in Pasadena are more than a half-mile from a park or open space.

## CLINICAL CARE

In order to prevent and treat disease, individuals must have access to quality health care. Seeking treatment; acquiring effective, clinically preventative services; and having insurance may all prevent and manage disease.

### KEY FINDINGS

- Almost 25% of the non-elderly adult population in Pasadena does not have medical insurance.
- The teen birth rate of 37 per 1,000 births is well above the State's teen birth rate of 29 per 1,000 births.
- Pasadena's Cesarean section rate of 42.4% of births is much higher than the recommended 15%.

## HEALTH BEHAVIORS

A person's behaviors have the power to compensate for or overcome the disadvantages due to genetic predisposition or a poor physical environment.

### KEY FINDINGS

- The suicide rate in the United States is 11.3 per 100,000 people, while Pasadena's rate is 9.1.
- Pasadena has a relatively high alcohol-related motor vehicle crash rate, at 13.7 crashes per 1,000.
- Approximately 12% of Pasadena's adult population are regular smokers.
- In Pasadena, 22% of adults are obese.

## KEY STAKEHOLDER FINDINGS

In an effort to target the major areas for improvement in Pasadena and Altadena, an Executive Summary Planning Team was convened. Key stakeholders from diverse organizations and community groups reviewed the major findings and prioritized efforts to improve overall quality of life.

## *Academic Achievement*

While world-class academic institutions such as Caltech call Pasadena home, and though the City has a substantial population of citizens with advanced degrees, an increasingly large segment of the population does not complete high school. These citizens may have greater challenges in acquiring a college degree. For this reason, improving equity in educational attainment should be a top priority among local leaders.

It is in the best interest of society to encourage strong schools, whether public or private. Parents are forming collectives that pledge to keep their children in the public school system; schools are working to ensure that students interested in advanced placement classes are able to secure spots; and local organizations are banding together so that environmental barriers like housing and transportation do not thwart students' attempts at educational advancement. Prioritizing education will ensure that the next generation is prepared for life's challenges.

## *Socioeconomics*

The economy is a major determinant in quality of life, whose effects are difficult to attenuate. With the high cost of housing in Pasadena and Altadena, and high unemployment rates, interventions to avoid downstream effects are more important than ever. As a community, support of housing assistance programs and promotion of living wages are vital.

Health advocates should recognize that these social and economic factors are major barriers that impede the attainment of other quality of life indicators, like access to clinical care, academic achievement, and transportation.

## *Food Environment*

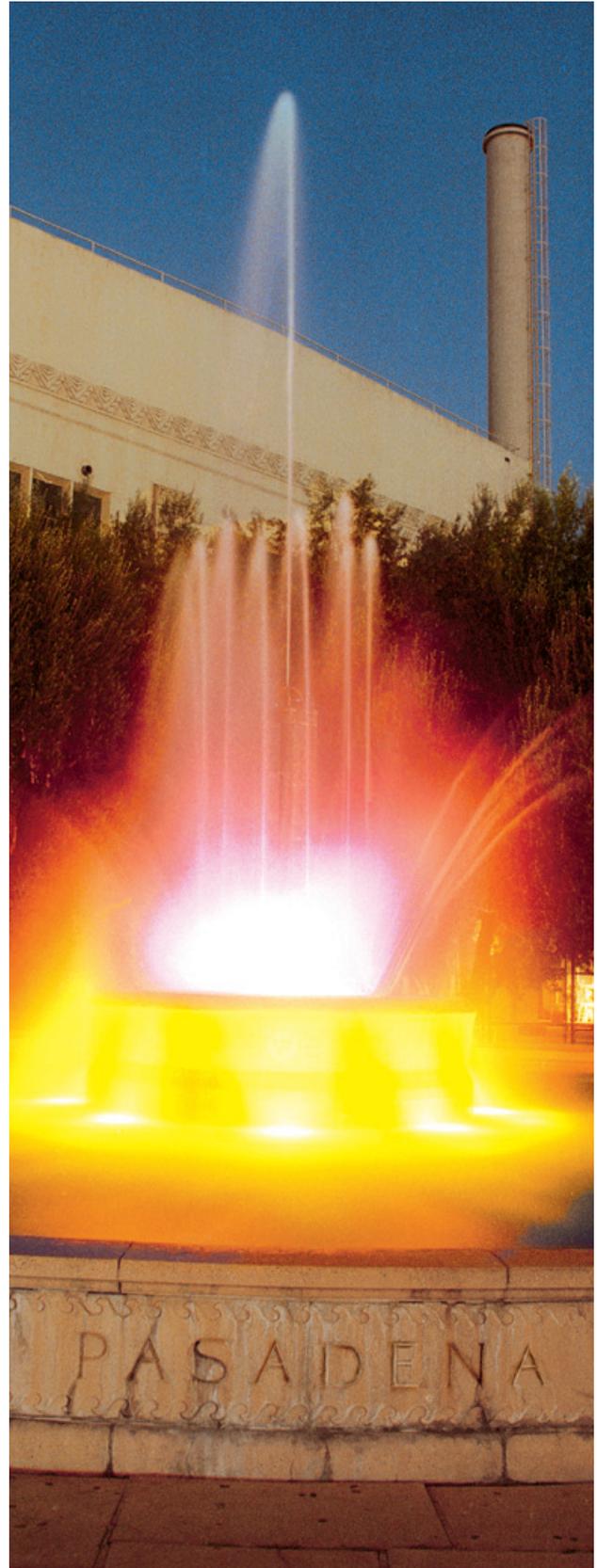
Neighborhoods should be designed in ways that provide access to places that offer affordable healthy foods. Targeted efforts towards children should incorporate lessons not only on how to identify healthy options, but to also understand the process of growing vegetables and cooking/preparing those foods. Communities should encourage the presence of grocery stores and supermarkets, farmer's markets, community gardens, and/or food co-ops in every neighborhood.

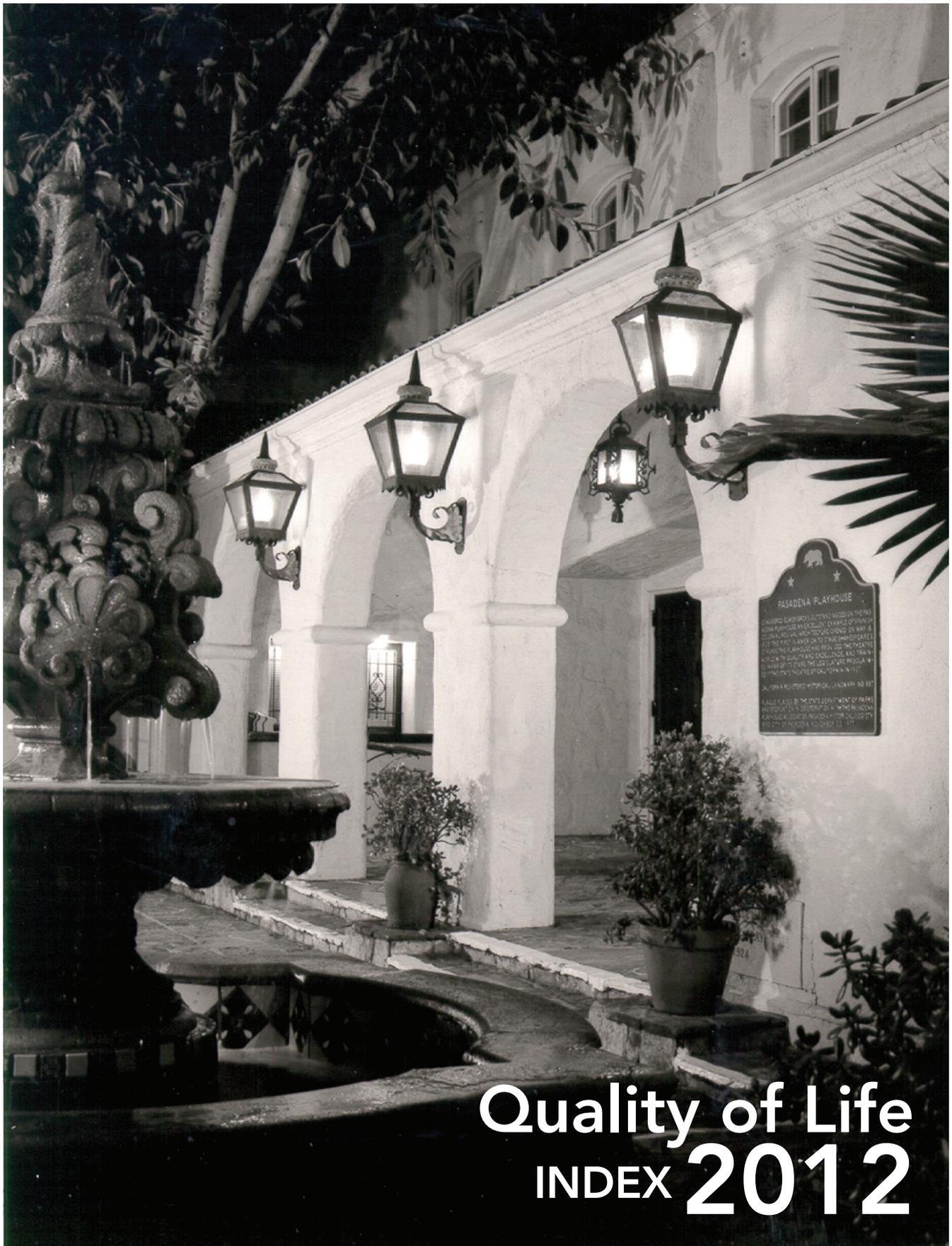
## *Mental & Substance Abuse*

Mental health was identified in the inaugural *Index* as one of the 11 focus determinants. Twenty years later, it remains a crucial focus area.

The Executive Summary Planning Team identified low-level mental health disorders, child abuse, and high-risk behaviors such as drug abuse, as priority areas. In addition, the group also emphasized the importance of parent education, empowerment, and advocacy as potential tools in the struggle against substance abuse.

Health care advocates should encourage environments that allow people to live a healthy lifestyle. They should equip people with tools to make good choices in the face of bad situations, and help people find the best resources and opportunities to secure a more equitable quality of life.





## Quality of Life INDEX 2012



# Living Wage

A living wage is a minimum level of pay that allows a worker to afford basic necessities and have the money and leisure to participate in civic life without assistance. Many accepted definitions of adequate wage levels exist, but generally a living wage does not include the cost of unexpected medical needs and other emergency or unusual expenses.

Scientific literature shows that persons of lower socioeconomic status, or earning salaries below living wage, have an overall diminished quality of life and are expected to suffer poorer health outcomes throughout life. For example, lower income levels are associated with higher rates of chronic heart disease, malignant cancers, infant deaths, and mortality.<sup>1</sup> Furthermore, low income individuals are more likely to participate in risky health behaviors such as poor diet, smoking, and substance abuse.<sup>2</sup>

## MINIMUM WAGE

In 1940, the Fair Labor Standards Act laid the groundwork for what is now the federal minimum wage.<sup>3</sup> As of 2012, California's minimum wage remains \$8.00 per hour, stagnant at the rate set in 2008.<sup>4</sup> This rate places California below seven other states. At \$8.00 per hour, a full-time minimum wage worker in California will earn \$64.00 per day, \$320.00 per week, or \$16,640.00 per year. At this rate, a family of two would be just above the federal poverty threshold of \$15,130 per year. It is important to note that this scenario does not include unpaid vacation or sick days and the high cost of living in Los Angeles County.

## FEDERAL POVERTY GUIDELINES

To identify the number of Americans living in poverty, the Social Security Administration established federal poverty levels, which eventually became the federal poverty guidelines maintained by the U.S. Census Bureau. The guidelines are derived from a formula developed in the mid-1960s and are based primarily on food costs rather than housing, since food was seen as the main household expenditure at the time. For 2012, the federal poverty

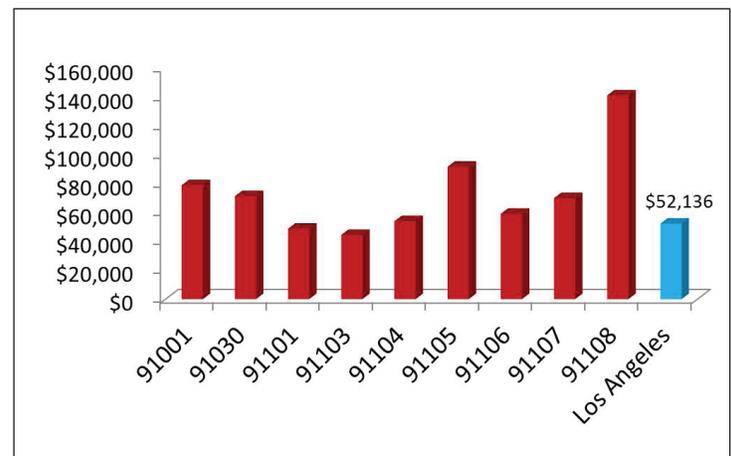
threshold for a family of four (two adults, two children) is \$23,050.<sup>5</sup> This number is not adjusted for regional differences. The California Budget Project estimates that the living cost for a family of four residing in Los Angeles County is \$75,500, far exceeding the federal threshold of \$23,050. In order to secure an annual income of \$75,500, each parent would need to work full-time at an hourly wage of \$18.15, more than double California's minimum wage.<sup>6</sup>

## PUBLIC ASSISTANCE PROGRAMS

There are many programs aimed at preventing families from slipping beneath the poverty threshold. Programs such as the California Work Opportunity and Responsibility to Kids (CalWORKS) provide temporary financial assistance to low income families with children so they may meet their basic needs. The program also promotes education, employment, and training programs so that families may be self-sufficient after their assistance periods end. In Los Angeles County, an average of 20,796 adults received CalWORKS aid between October and December 2011.<sup>7</sup>

Cash public assistance income is another program that help families make ends meet and it includes general assistance funds and Temporary Assistance to Needy Families (TANF).

**FIGURE 1: MEDIAN HOUSEHOLD INCOME BY ZIP CODE (2011)**



The graph shows the distribution of total income levels per household among Pasadena, Altadena, South Pasadena and San Marino zipcodes, as well as the median household income level for Los Angeles County.<sup>9</sup> In 2008-2010, the median income of Pasadena households was \$64,692; 12% of households had income levels below \$15,000 per year while 17% had incomes of \$150,000 or more.<sup>8</sup>

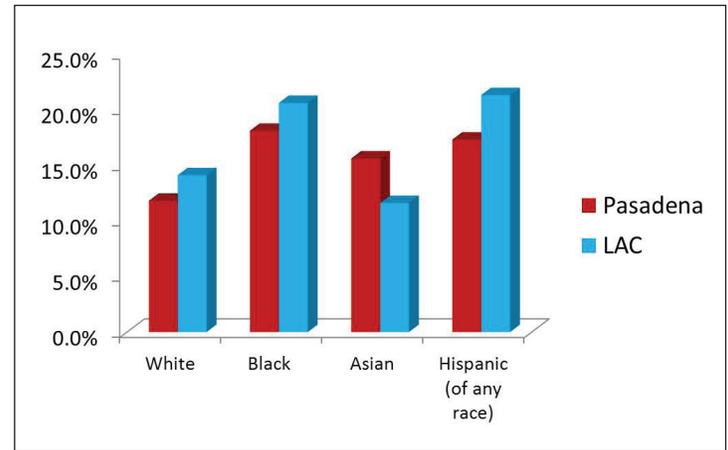
From 2008-2010, 3.2% of Pasadena residents, or 1,694 persons, and 2.9% of Altadena residents, or 432 persons, received cash public assistance income.<sup>9</sup>

Social Security is another government program that provides income support. It distributes monetary funds to the elderly, disabled, survivors of deceased workers, and dependents of beneficiaries with little to no income. The program is based on tax contributions by employers and employees made during an individual's working career. Funds are released at retirement or other points of eligibility; the earliest age at which retirement benefits may be claimed is 62.<sup>12</sup> Of the total number of households in Pasadena, 22% received Social Security, with an average annual Social Security Income of \$14,811.<sup>8</sup> In addition to monthly Social Security benefits, individuals who are 65 and over, blind, or disabled with low income and few resources may be able to receive Supplemental Security Income (SSI). Although funds are administered by the Social Security Administration, SSI is funded by general tax revenues and not by the Social Security trust fund.<sup>12</sup> The American Community Survey estimated that 4.3% of Pasadena (2,267 persons) and 3.2% of Altadena (483 persons) received SSI during the 2008-2010 period.<sup>8</sup>

Programs like CalFresh, known federally as the Supplemental Nutrition Assistance Program (SNAP) and previously as the Food Stamp Program, also provide financial assistance to the nation's low- to no-income individuals and families, in order to increase nutrition levels. SNAP is a federal aid program controlled by the Food and Nutrition Service of the United States Department of Agriculture.<sup>9,10</sup> It was estimated that 5.0% of Pasadena (2,615 persons) and 4.3% of Altadena (653 persons) received SNAP assistance per year during the 2008-2010 period.<sup>8</sup>

Living wage is heavily influenced by household income, and many federal and state programs exist to ensure that individuals are able to meet basic needs and maintain a safe, decent standard of living. Although a lower percentage of Pasadena and Altadena residents live in poverty when compared to Los Angeles County, it is critical to maintain such assistance programs to protect community members who are in need.

**FIGURE 2: PERCENT LIVING BELOW THE FEDERAL POVERTY THRESHOLD BY ETHNICITY**



\* Hispanic of any race

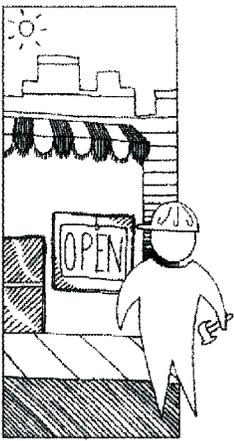
The graph shows the distribution of poverty within ethnic groups, and indicates that disparities exist between different racial groups. A higher percentage of Blacks and Hispanics are living below the Federal Poverty Level than that for Caucasians or Asians, both in Pasadena and Los Angeles County.<sup>8</sup> The 2008-2010 American Community Survey estimated that an overall 13.7% (18,282) of individuals within Pasadena are living below the poverty level, compared to 10.0% (4,379) and 16.3% (1,571,827) of individuals within Altadena and Los Angeles County, respectively.<sup>8</sup>

**healthy PASADENA**

**RELATED HEALTHYPASADENA.ORG DASHBOARDS:**

- Households with Public Assistance
- Income Inequality
- Children Living Below Poverty Level
- Families Living Below Poverty Level
- People Ages 65+ Living Below Poverty Level

# Employment & Economic Development



The ability to find a job and earn an adequate income is a strong determinant of health.<sup>13</sup> Income inequality is influenced by the quality of schools, arts and cultural opportunities, affordable housing options, etc. More equitable access

to public and private resources around employment may yield improvements in public health.<sup>14</sup> Increasing the income per capita is positively correlated with longer life-expectancy.<sup>15</sup> Numerous studies have shown that lower levels of income are associated with higher mortality rates, and that this association is even greater among the poor and middle class.<sup>16</sup>

## UNEMPLOYMENT RATES

Although Pasadena and Altadena's unemployment rates have been consistently lower than that of the county or state, Pasadena's are slightly higher than the national unemployment rate (Figure 1). Figure 2 displays Pasadena's unemployment rate, which has more than doubled since 2000. When unemployment rates increase, families are at an increased risk for premature death, detrimental mental effects, and financial burden.<sup>17</sup> Also, though someone may have a job, even the thought of losing their job can be damaging. Job insecurity can influence mental health, self-reported illness, and heart disease and its attendant risk factors.<sup>17</sup>

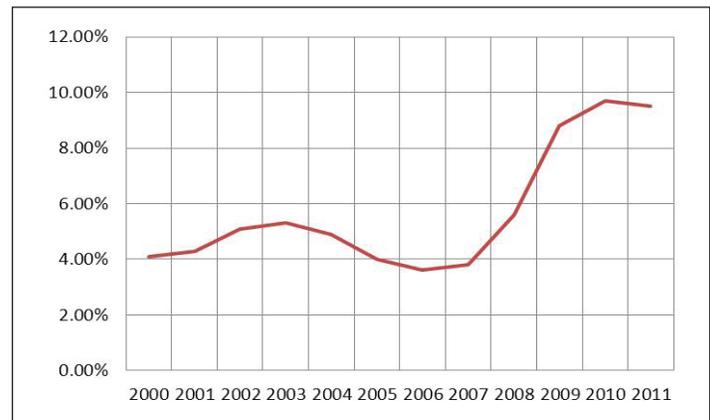
## ECONOMIC STRUCTURE

Pasadena derives the majority of its economic strength from its well-balanced mix of various businesses, including "its scientific institutions, a large international engineering base, a regional health care cluster, and a broad retail sector."<sup>18</sup> Despite state- and nation-wide economic struggles, thanks to Pasadena's relatively diverse business environment, several industries have reported growth and expansion, such as health care (e.g. Huntington Hospital and Kaiser Permanente).<sup>18</sup> Nonetheless, high standards of education and training are needed alongside unemployment benefits to adequately prepare the labor force and to safeguard public health.<sup>17</sup>

**FIGURE 1: UNEMPLOYMENT RATES BY LOCALE<sup>22</sup>**

	1992	Dec 2011	Feb 2012	Apr 2012
Altadena	Unavailable	8.1%	8.5%	7.7%
Pasadena	7.7%	8.9%	9.2%	8.4%
Los Angeles County	9.5%	11.6%	12.1%	11.0%
California	8.7%	10.9%	11.4%	11.0%
United States	7.4%	8.3%	8.7%	7.7%

**FIGURE 2: UNEMPLOYMENT RATES IN PASADENA (2000-2011)<sup>18</sup>**



## EMPLOYMENT CHARACTERISTICS

Employment resources in Pasadena have seen significant improvements. Only five types of employment services were available in 2000; today, there are 200 programs spanning 10 different types of services available to the citizenry.<sup>19</sup>

Approximately 56% of Pasadena's population accounts for the total labor force (76,575), 24,204 of which live and work in Pasadena. With about 111,029 available jobs in Pasadena, there are 86,825 workers (76% of the people employed in Pasadena) commuting into the city to work, and 42,107 people (59% of labor force) commuting out of the city.<sup>18</sup> More people commute into Pasadena for work than leave it. This has detrimental health effects, as commuters experience much higher levels of stress, leading to health and psychological concerns, sickness, and absenteeism from work.<sup>20</sup> For example, one report explains that 14% of Pasadena's labor force work is in service occupations, yet only 8% of the jobs in Pasadena are available for those employees (hospitality, restaurants, hotels) (Figure 3). Such discrepancies typically lead to the large number of out-commuters since, according to the International Archives

of Occupational and Environmental Health, commuting becomes a necessary response to limited job opportunities.<sup>20</sup> Education and reinvestment in the local community may help to decrease this gap in access to local employment.

## SELECTED HIGHLIGHTS

This year, the California Supreme Court upheld the State’s ability to eliminate redevelopment agencies, removing more than \$100 million in tax increment revenues for Pasadena intended for future improvements and affordable housing. As a result, Pasadena will need to rely more heavily on private investments and resources for project implementation.<sup>21</sup>

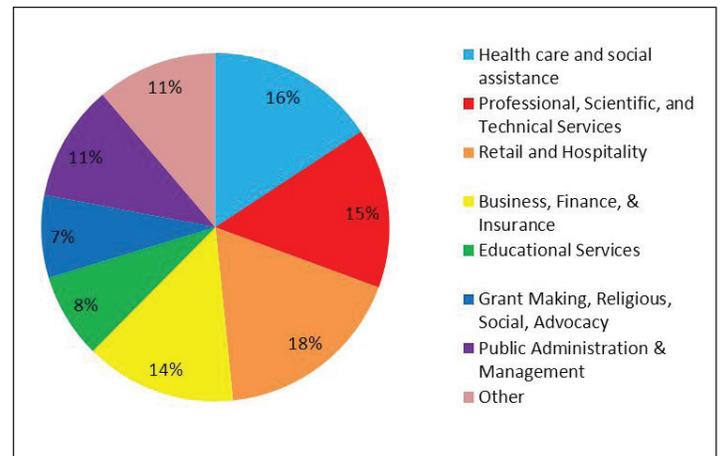
In an effort to increase revenue and make doing business in Pasadena easier, amnesty was granted on overdue business licenses in 2011, bringing 360 local business back into compliance.

In response to unemployment rates, the City of Pasadena continues to sponsor job fairs in collaboration with other government agencies and local employers. For example, at the One Stop Center, operated jointly by the City, California Economic Development Department, and Foothill Workforce Investment Board, 38,000 unemployed people were assisted in finding employment.<sup>21</sup>

Economic and employment opportunities for Pasadena are an ongoing concern, especially with much higher unemployment rates than a few years ago. Above all, living wage can safeguard the well-being of all; therefore, efforts toward economic development and job availability are vital to an equitable quality of life.

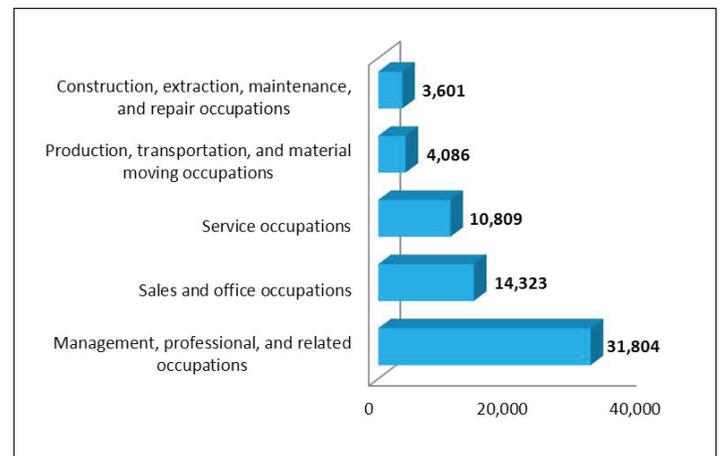
For more information about Pasadena’s economy and the City’s plan to ensure economic development, please refer to the 2012 Economic Development Strategic Plan available on the City of Pasadena website at [www.cityofpasadena.net](http://www.cityofpasadena.net).

**FIGURE 3: INDUSTRY DISTRIBUTION IN PASADENA (2011)**



*This graph shows the distribution of occupations within Pasadena, according to the California Employment Development Department. This can also be seen as the available job opportunities within the City of Pasadena.<sup>18</sup>*

**FIGURE 4: JOB DISTRIBUTION IN PASADENA (2011)**



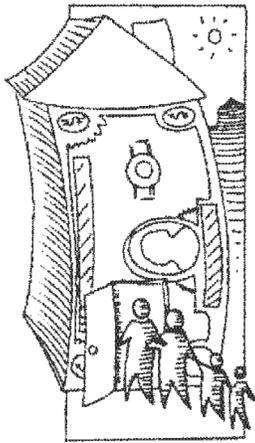
*This graph shows the professional and occupational titles of the residents of Pasadena. Despite the distribution of Pasadena’s labor force, not all of these residents will be able to find work within Pasadena.<sup>18</sup>*

**healthy PASADENA**

**RELATED HEALTHYPASADENA.ORG DASHBOARDS:**

- Unemployed Workers in Civilian Labor Force
- Firms Owned by Women

# Housing Affordability



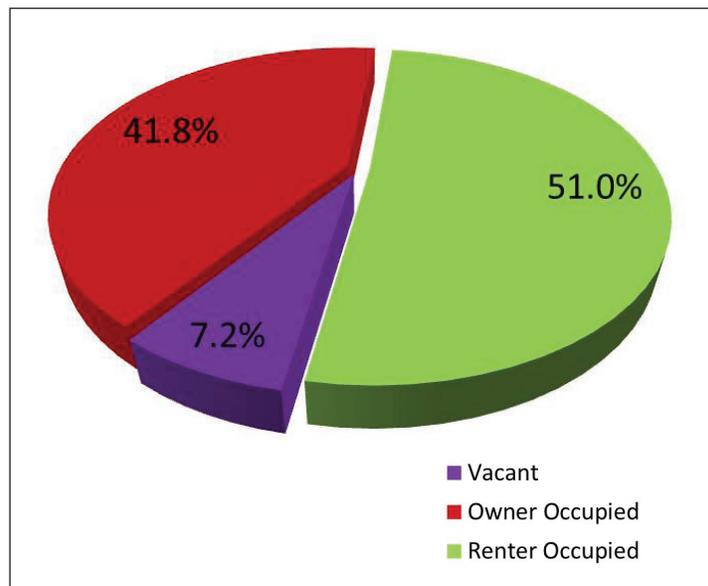
Safe and affordable housing is a basic necessity, regardless of income level, age, or life status. A lack of affordable housing can result in poor academic performance, escalation in domestic violence, substance abuse, poor health, and homelessness.<sup>23</sup> Furthermore, living in substandard housing may increase the risk of lead poisoning, asthma, and accidental injury.<sup>24</sup> Those living in affordable housing are more likely to self-report better health than their counterparts in unaffordable housing, and they are more likely to follow advised health care regimens.<sup>25</sup> Additionally, literature suggests that affordable, stable housing is a major factor for individuals with chronic diseases, such as type 2 diabetes, hypertension, and HIV/ AIDS, in maintaining their treatment regimens.<sup>26</sup>

## OVERCROWDING

Overcrowding is defined by the U.S. Department of Housing and Urban Development as a housing unit occupied by more than one person per living or sleeping room (excluding kitchens, bathrooms, hallways, and porches). Overcrowding may also be indicated by more than two people occupying each bedroom, and/or occupancy of a residence with less than 165 square feet per person.<sup>27</sup> Crowding reflects a family's inability or lack of desire to buy or rent an adequately-sized living space, and may lessen an individual's ability to manage daily stressors. Studies have shown this can result in increased levels of psychological distress as well as high blood pressure.<sup>28-30</sup>

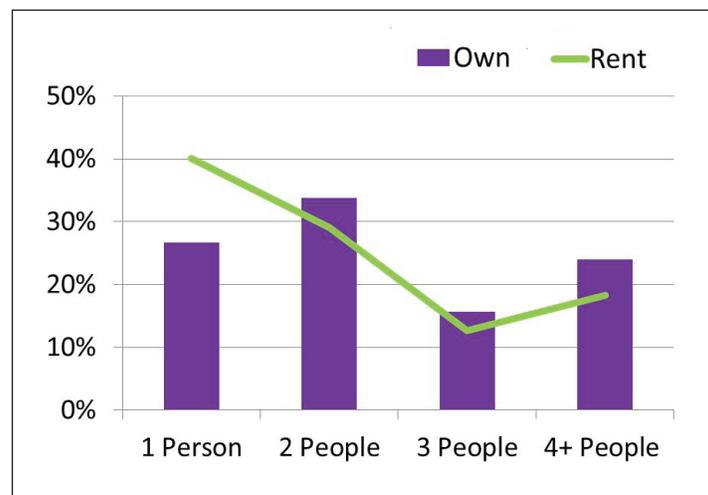
Overcrowding adversely affects health by increasing exposure to infectious diseases such as meningococcal infections, rheumatic heart disease, respiratory syncytial virus, and tuberculosis.<sup>31</sup> Data from the American Community Survey, conducted by the U.S. Census Bureau, indicate that 92.5% and 96.1% of Pasadena and Altadena households had one or fewer occupants per room, respectively. The average household size was 2.42 and 2.78, and median rooms per housing unit was 4.5 and 5.7 for Pasadena and Altadena, respectively, implying that the majority of persons in Pasadena and Altadena do not live in overcrowded housing.<sup>8</sup>

**FIGURE 1: HOUSEHOLD OCCUPANCY STATUS IN PASADENA (2010)**



The 2010 Census reported that there were 59,551 housing units in total in Pasadena. Of these, 4,281 were vacant, 24,863 were owner-occupied, and 30,407 were renter-occupied. Of the owner-occupied homes, 35.7% (19,744) owned a home with a mortgage or loan, while 9.3% (5,119) owned the home outright. On average, 53.5% of total housing units were in single-unit structures, 47.3% were in multi-unit structures like apartment complexes, and less than 0.5% were mobile homes.<sup>9</sup>

**FIGURE 2: PROPORTION OF POPULATION IN PASADENA BY HOUSEHOLD SIZES AND OCCUPANCY STATUS (2010)**



The data shows that the size of the households in Pasadena is fairly well distributed amongst the four groups, with a slight bulk of households consisting of one to two people for both those that rent or own. The discrepancy is at the ends, where households with one individual were more likely to rent, while larger households were slightly more likely to own.<sup>9</sup>

## OVERPAYMENT

Housing expenditures which exceed 30% of a household's gross income are considered overpayment. When families overpay on housing, they may be left unable to pay for essentials such as food, medical insurance, and health care costs, which are subsequently paid out of pocket.<sup>32</sup> Unaffordable housing is associated with poorer overall well-being; for example, adults in unaffordable housing are less likely to fill a prescription or follow health care treatments, due to cost.<sup>32</sup> Housing overpayment thus has long-lasting downstream health effects.

## AFFORDABLE HOUSING

Housing programs and vouchers help families afford housing, as well as alleviate overcrowding.<sup>33</sup> Programs such as the Federal Housing Choice Voucher Program, also known as the Section 8 Rental Assistance Program, help very low-income families, the elderly, and the disabled to afford decent, safe, and sanitary housing in the private market. Participating households are responsible for locating a rental unit that meets their needs within the city; they are not limited to units in subsidized housing projects. Assisted households are required to pay 30% of their adjusted income for rent. Housing subsidies cover the difference.<sup>34</sup> Pasadena is required to allow applications from around the United States, but may prefer local distribution of housing vouchers if the demand is high enough. In 2011, 182 applicants were issued vouchers, and 3,446 applicants are currently on the City's waiting list. The waiting list for Section 8 has been closed since May 2008, and does not currently have a date for re-opening.<sup>35</sup>

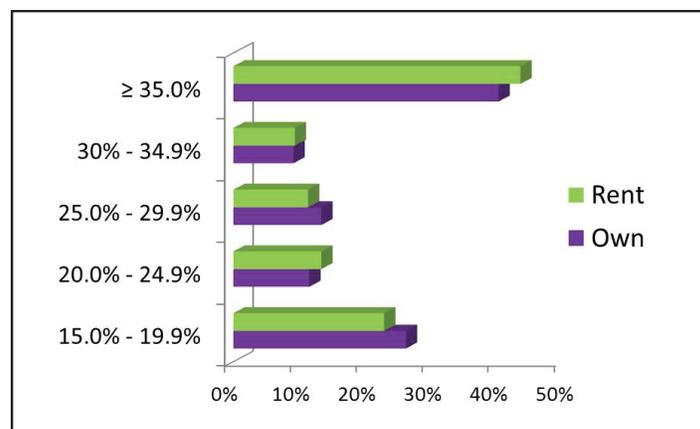
## FORECLOSURES

Although homeowners typically have improved health status over renters, financial and emotional stress caused by foreclosures can negate home ownership benefits.<sup>36</sup> Adults undertaking a foreclosure are more likely to lack insurance coverage compared to the general population, and are less likely to fill a prescription because of cost.<sup>32</sup> Foreclosure rates peaked in 2010 at 4.62%, or around 1,400 homes in

Pasadena. In 2011, only 3.14%, or 955 homes, entered into foreclosure in Pasadena.<sup>37</sup> If this reduction is sustained in 2012, it could mean a stabilization of the housing market in Pasadena and a minimization of the negative downstream effects of foreclosures on health and well-being.

Pasadena's residential neighborhoods and overall quality of life make the community a desirable place to live; it is therefore important that Pasadena and its community partners encourage housing availability that reflect its highly diverse socioeconomic population.<sup>18</sup>

**FIGURE 3: PERCENTAGE OF HOUSEHOLD INCOME DEDICATED TO HOUSING COSTS IN PASADENA BY OCCUPANCY STATUS (2010)**



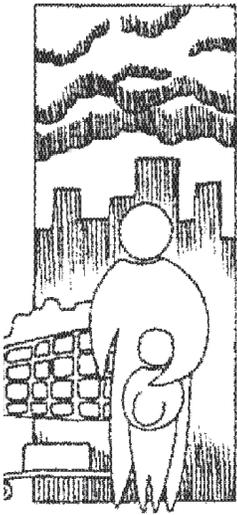
*Overpayment for housing costs is not uncommon in Pasadena, as an estimated 43.4% of renters and 40.1% of owners spent over 35% of their income on housing costs. The median monthly housing costs for mortgaged owners in Pasadena was \$2,701, \$594 for non-mortgaged owners, and \$1,322 for renters.<sup>9</sup>*

**healthy PASADENA**

**RELATED HEALTHYPASADENA.ORG DASHBOARDS:**

- Home Ownership Rate
- Renters Spending 30% or more of Income on Rent

# Homelessness



Homelessness is defined as a lack of regular housing, including residence in places not meant for habitation, in transitional housing, and/or in shelters. People without steady housing are at risk for various physical and mental problems. In fact, according to the Committee on Health Care for Homeless People, homelessness

contributes to increased risk for a broad range of acute and chronic illnesses.<sup>38</sup> Like many of the more complex social determinants of health, homelessness is a cyclic result of many interactions between personal health and environment. Health issues may thus be both the cause and the effect of homelessness.

Homelessness is affected and compounded by many factors. For instance, when social support and service systems fail at addressing issues including, but not limited to, income maintenance, child welfare, foster care, incarceration, employment, and care of mental illness, then communities may anticipate higher levels of homelessness. Additionally, the existence of affordable housing options and the status of the housing market can greatly influence the risk of homelessness.<sup>38</sup>

## HOMELESS COUNT

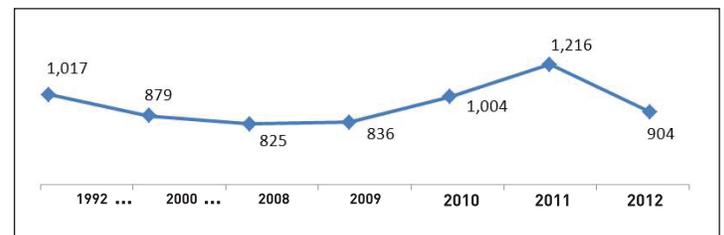
In a partnership between the Pasadena Community Development Commission (PCDC), City of Pasadena Housing Department, and the Pasadena Housing and Homeless Network, an annual homeless count was conducted to track the number and characteristics of the homeless population within Pasadena. The survey looked at adults who met the criteria for homelessness; it did not include those who were at-risk for homelessness. Of the homeless adults counted, 64% were male, 35% were African American, 32% White, and 23% Latino. In addition, 12% were children and 75% of those surveyed were unsheltered (an improvement from 80% last year).<sup>39</sup> Though sheltering numbers went up, 50% of the homeless population were classified as chronically homeless. Persons are chronically homeless if they do not reside in a place meant for living (shelter, safe haven), have been in such a situation for at least a year or four times

in the last three years, and have or reside with someone with a mental health or substance abuse problem. In addition, the survey looked at physical and developmental disabilities, chronic health conditions, HIV/AIDS status, mental health status, history of incarceration or substance abuse, and more.<sup>39</sup>

## PREVENTING HOMELESSNESS

The direct relationship between a lack of low-cost housing and an increase in the homeless population is profound. According to the Los Angeles Homeless Services Authority, the most efficient way to end homelessness for chronically homeless families and individuals is to provide permanent supportive housing.<sup>40</sup> Figure 2 shows the dramatic decrease in health care costs, as well as other public service costs, when supportive housing options are readily available. In a study done by the Los Angeles Homeless Services Authority, public agencies spent \$2,897 per homeless person, per month but only \$605 per resident in supportive housing (Figure 2). That translates to a savings of \$2,292 to the public. Even after deducting operational and capital costs of creating housing units, there is still an average monthly savings of \$1,190 per person to the public. This represents a 79% reduction in public costs for residents as a result of housing and supportive care.<sup>40</sup>

**FIGURE 1: TOTAL COUNT OF HOMELESS PEOPLE IN PASADENA (1992-2012)**



*Although homelessness increased by about 20% between 2009 and 2011, the number of homeless people decreased by 26% in the last year in Pasadena. The fluctuation in homeless count is most likely due to the economy, with the recent slow upturn in the economy represented by the significant decrease in homelessness in 2012.<sup>39</sup>*

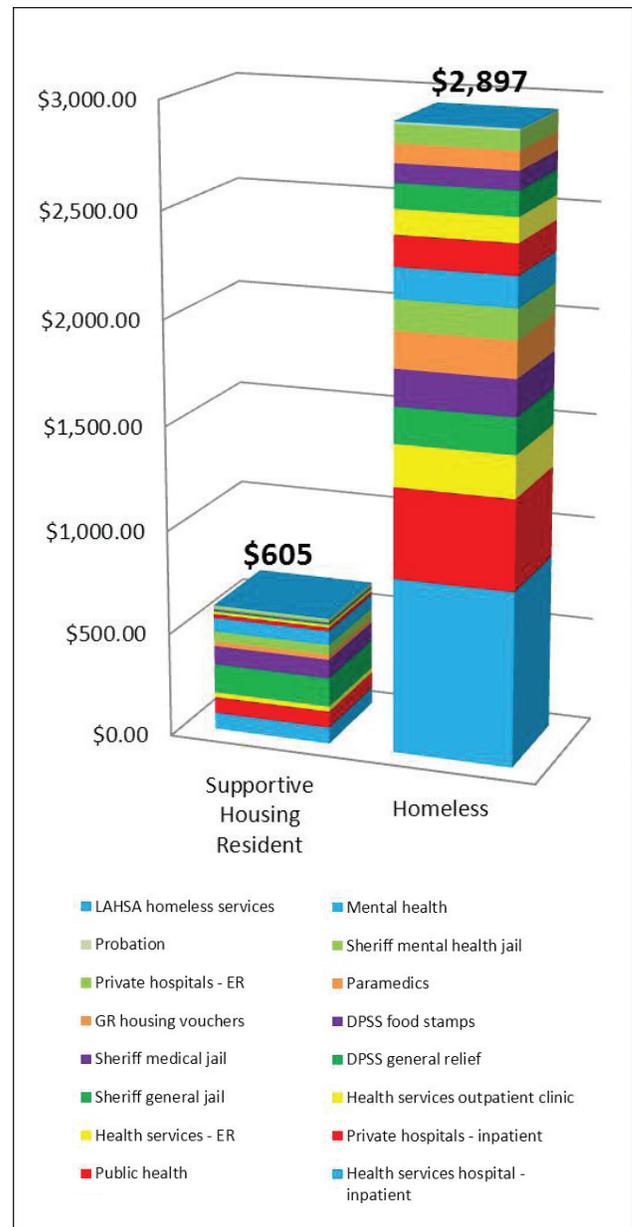
## SELECTED HIGHLIGHTS

To combat homelessness in Pasadena, many local organizations are working together to provide housing assistance. For example, Centennial Place, a 144-unit residential complex in Pasadena’s civic center area, was converted to house single adults transitioning from homelessness.<sup>21</sup> The City of Pasadena, in collaboration with numerous regional organizations, recently launched Project HOUSED. The Project’s objective is to secure permanent housing for 20 of the most vulnerable chronically homeless people in Pasadena.<sup>41</sup> Section 8’s Moderate Rehabilitation Program for Single-Room Occupancy (SRO) provides rental assistance to properties that provide housing units for homeless individuals.<sup>42</sup> The Shelter Plus Care Program, administered by PCDC, continues to provide rental assistance and supportive services to homeless individuals and families with specific disabilities, including chronic substance abuse, serious mental illness, and HIV/AIDS.<sup>43</sup> PCDC also administers the Housing Opportunities for Persons with AIDS (HOPWA) program for the cities of Pasadena and Glendale. The program provides housing assistance and supportive services for low-income persons living with HIV/AIDS and their families. This year, the FY2011 HOPWA Competitive Notice of Funding Availability (NOFA) is developing an Integrated HIV/AIDS Housing Plan (IHHP) to coordinate the delivery of supportive services in the community.<sup>44</sup> Furthermore, PCDC administers several Community Development Block Grants (CDBG) to more than 50 non-profit agencies. These two-year grants fund services including job training, homeless services, counseling, and child care.<sup>45</sup>

In May 2009, President Obama signed the Homeless Emergency and Rapid Transition to Housing (HEARTH) Act, thereby amending and reauthorizing the McKinney-Vento Homeless Assistance Act. The Act mandated changes to the U.S. Department of Housing and Urban Development’s grant programs. It created a Rural Housing Stability Program, redefined homelessness, simplified match requirements, increased prevention resources, and emphasized performance. As a result of these changes, the HEARTH Act will improve the functionality of Pasadena’s Supportive Housing Program and the Shelter Plus Care Program.<sup>4</sup>

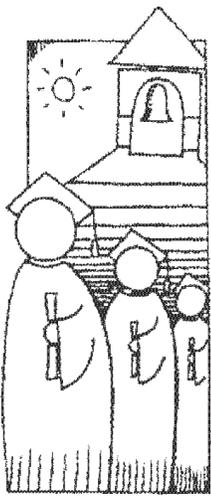
For more information on homelessness in Pasadena, please refer to the 2012 City of Pasadena Homeless Survey made available by Urban Initiatives.

**FIGURE 2: AVERAGE MONTHLY COST TO PUBLIC AGENCIES FOR PERSONS IN SUPPORTIVE HOUSING (2009)**



\*DPSS – Department of Public Social Services  
 A study done by the Los Angeles Homeless Services Authority shows the significant decrease in cost (for various public agencies) between a homeless individual and a supportive housing resident. The study encompasses more than 10,000 homeless individuals in Los Angeles County (approximately 1,000 of whom had entered supportive housing provided by Skid Row Housing Trust).<sup>40</sup>

# Academic Achievement



Educated citizens enjoy more robust career opportunities, exercise greater control over income and residence, and make healthier decisions about other quality of life determinants such as alcohol and drug use, nutrition, and sexual practices.<sup>47</sup> Health and mortality are influenced by educational levels, with lower quality of life and

increased mortality associated with lower educational achievement.<sup>48</sup>

## PERFORMANCE MEASURES

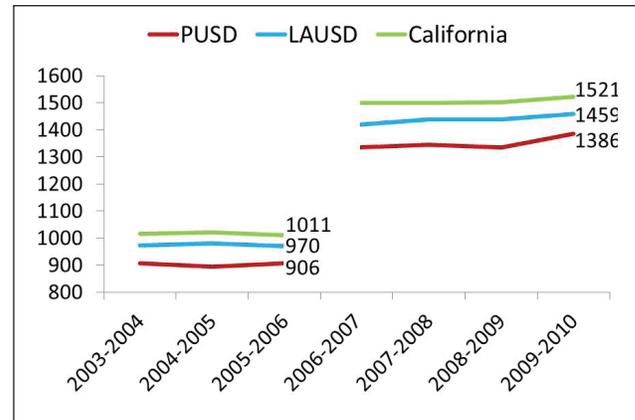
Academic success is typically measured by standardized achievement test scores and number of graduates pursuing higher education. Funding is often based on test performance, and therefore usually results in more funding for mathematics and reading, at the expense of untested subjects such as art, music, and physical education (P.E.). However, studies have shown that subjects such as art and P.E. increase success on standardized tests. For example, sustained art course enrollment is positively correlated with higher SAT math and verbal scores.<sup>49</sup> Additionally, academic performance and cognitive development increase with physical education.<sup>50</sup>

For the graduating class of 2010, 36.9% of Pasadena Unified School District's (PUSD) students met course requirements for the University of California/California State University application process. This is lower than the county average of 43.0%, but above the state average of 36.3%.<sup>51</sup>

## DIVERSITY

Diversity is a valuable quality in any school system, just as it is in all communities. Diversity in the classroom broadens and enhances academic learning, and prepares students for success in a highly heterogeneous, adult society.<sup>52</sup> PUSD serves a geographically diverse population. It includes Pasadena, Altadena, and Sierra Madre. The largest concentration of students for the 2011-2012 school year comes from Pasadena (73%), then Altadena (18.5%), and finally from Sierra Madre (4.6%) or from outside the district (3.9%).<sup>53</sup>

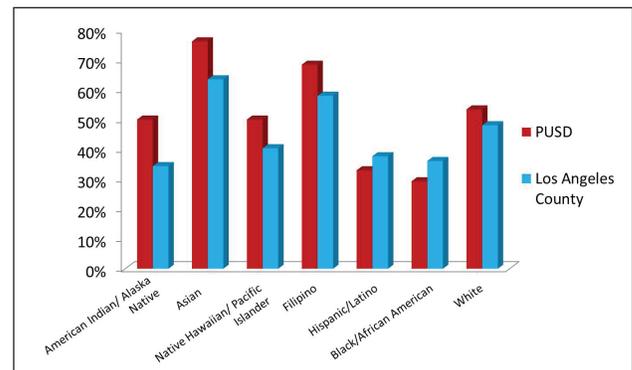
**FIGURE 1: SCHOLASTIC APTITUDE TEST (SAT) SCORES BY YEAR AND JURISDICTION (2003-2010)**



\*PUSD=Pasadena Unified School District, LAUSD= Los Angeles Unified School District

The Scholastic Aptitude Test (SAT) is the nation's most widely accepted standardized admissions test for college. It is generally taken during junior or senior year of high school and is used to assess a student's academic readiness. The SAT standards changed in March 2005, raising a perfect score from 1600 to 2400. The current exam is comprised of three sections which test critical reading, math, and writing. Each section is scored out of 800 points, and possible overall scores may range from 600 to 2400. The chart shows that PUSD has consistently underperformed regionally as well as within California. The average scores for those who took the SAT during the 2009-2010 academic year in PUSD were 463, 463, and 460 for critical reading, math, and writing, respectively. At the State level, scores in each section averaged at 501, 520, and 500.<sup>55</sup>

**FIGURE 2: PROPORTION OF GRADUATES WITH UC/CSU\* REQUIRED COURSES BY RACE (2009-2010)**



\*UC=University of California, CSU=California State University Although several ethnic groups within PUSD fulfill the UC/CSU admission requirements at rates superior to their counterparts countywide, disparities still persist. Fewer Hispanic/Latino and Black/African American PUSD students fulfill the UC/CSU admission requirements upon graduation.<sup>51</sup>

Before 1970, PUSD was a high-performing, yet highly segregated, school district. In efforts to reduce racial segregation and provide a more diverse learning environment, PUSD was mandated to integrate. This was not well received, as many White middle- and upper-class families opted to leave the school district and/or send their children to private schools. Working class and ethnic minorities then became the district's primary demographic. The White population currently comprises 14% of all PUSD students, despite making up 55.8% of Pasadena's total population. The observed racial and socioeconomic disparity in PUSD highlights opportunities for integrative efforts to restore balanced diversity within the school district.<sup>52</sup>

## THE PUBLIC-PRIVATE NEXUS

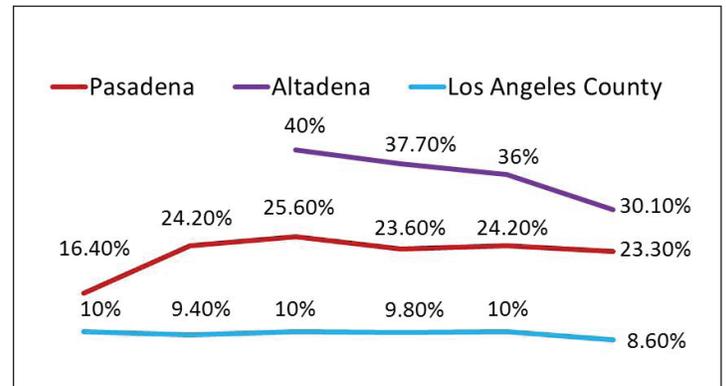
As government budgets shrink and educational needs multiply, public-private partnerships may potentially play an important role in improving learning outcomes. Students of both public and private education could benefit from sharing libraries, course registrations, and collaborative programs. This would provide students with similar educational experiences, which are essential to equitable economic, political, and social goals.<sup>54</sup>

While PUSD has historically underperformed, and while only 74% of its students graduate from high school, the district continues to lead with high per-pupil expenditures and low pupil-teacher ratios, as compared to its neighboring jurisdictions. Furthermore, despite more than \$30 million in budget cuts over the past five school years, PUSD is earning recognition and awards for its efforts. In 2011, the California Department of Education selected Blair High School as a California Distinguished School, out of a list of 97 secondary schools statewide. Blair became the first secondary school in PUSD to receive this honor. Shortly thereafter, Don Benito Fundamental Elementary School was also honored as a California Distinguished School. It was selected out of a list of 387 elementary schools.<sup>53</sup>

Academic achievement is important to a community's health, as better health outcomes are associated with higher educational attainment. A strong educational foundation prepares young adults to meet the economic

and social challenges in a highly diverse society. To ensure downstream health equity, it is important that communities ensure that all students have access to quality educational institutions.

**FIGURE 3: PERCENT OF SCHOOL-AGED CHILDREN ENROLLED IN PRIVATE EDUCATION BY LOCALE (2005-2010)**

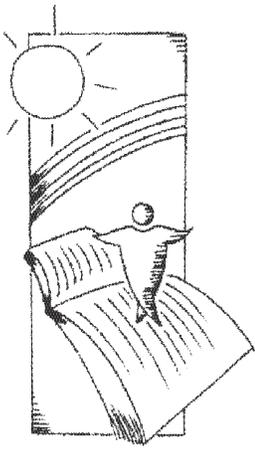


*At the end of the 2005-2006 academic year, PUSD closed four elementary schools: Allendale, Edison, Linda Vista, and Noyes. Additionally, the Armenian General Benevolent Union opened a new private Armenian-American high school in fall of 2006. The closure of four PUSD schools and the addition of a new private school are strongly indicative of the sharp rise of private school enrollment in Pasadena in the 2006-2007 academic year.<sup>9</sup>*

healthy PASADENA

RELATED HEALTHYPASADENA.ORG DASHBOARDS:

- Student-to-Teacher Ratio
- 4th Grade Students Proficient in Math
- 4th Grade Students Proficient in Reading
- 10th Grade Students Passing High School Exit Exam: Math
- 10th Grade Students Passing High School Exit Exam: English



# Literacy & Lifelong Learning

Literacy and opportunities for lifelong learning redress economic inequality and bolster communal well-being. A society that values learning and literacy will improve not only its economic conditions, but also the health of its inhabitants.<sup>56</sup>

Literacy is generally broken down into three major types: prose, document, and quantitative.<sup>57</sup> Prose literacy is a measure of how well a person understands and interprets information when reading materials, like a book, menu, hymnal, or brochure. Document literacy is a measure of how well a person can interpret or complete simple forms, applications, and charts, such as bus schedules, weather charts, maps, or consent forms. Quantitative literacy is a measure of how well a person can perform calculations in everyday situations, like calculating tips, applying retail discounts, or keeping score during a game.

More than 5 million California adults, or about 25%, are considered “functionally illiterate,” and 33% of Californians lack basic prose literacy skills.<sup>58</sup> If these rates hold true for Pasadena, 34,281 adults would be unable to follow an instructional pamphlet and 45,250 would be incapable of filling out a prescription form. Literacy levels this low hinder not only citizens' basic functionality, but also their access to quality health care.

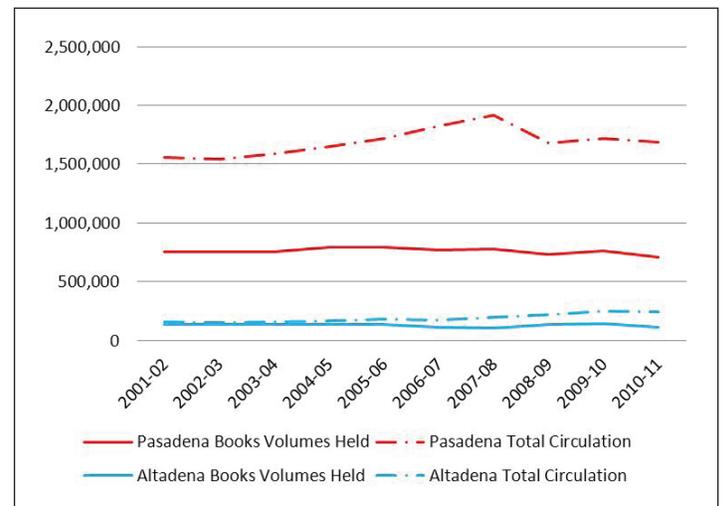
## HEALTH LITERACY

According to the U.S. Department of Health and Human Services, health literacy measures an individual's ability to obtain, process, and understand basic health information and services.<sup>59</sup> Furthermore, according to an article published in *Health Promotion International*, improving health literacy does not only increase the spread of information or the development of skills relating to health decisions; health literacy also increases access to health information and the capacity to use it effectively.<sup>60</sup> In 2003, the National Assessment of Adult Literacy estimated only 12% of adults in the United States have proficient health literacy. They also found that adults with below basic health literacy, whether insured or uninsured, were more likely to report poor health.<sup>59</sup>

The level of health literacy in a community further confirms the role that various social, economic, and environmental factors play in increasing the risk of disease and determining health status.<sup>59</sup> According to a study done by the California Health Literacy Initiative, 65% of the respondents reported avoiding going to the doctor simply because of difficulties with paperwork.<sup>58</sup> This study also found that 75% of medical professionals indicated that they were aware of medical errors that were the product of low literacy in patients and that 94% of physicians believed low literacy adults experience a lower quality of care.<sup>58</sup> Based on these findings, increased health literacy encourages a higher standard for quality of care and more precise compliance with medical treatment and protocol.

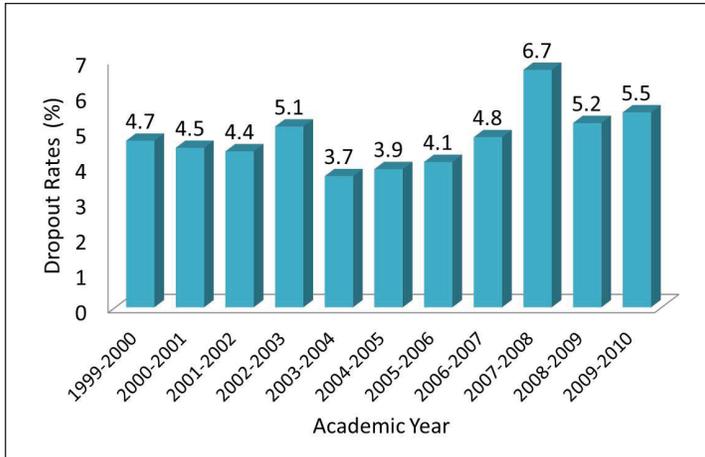
In 2010, three federal policy initiatives have made health literacy a priority. The Affordable Care Act requires health plans and insurers to provide clear, consistent, and comparable health information to their consumers.<sup>61</sup> The National Action Plan to Improve Health Literacy presented a list of health literacy goals based on people's right to health information and understandable health services delivery. Finally, the Plain Writing Act of 2010 requires federal agencies to write documents in a way

**FIGURE 1: SIZE AND CIRCULATION OF PUBLIC LIBRARY HOLDINGS**



*Pasadena contains 10 city libraries. Pasadena's total circulation increased by 2.3% 2008-09 to 2009-2010, but decreased by about 12% overall from 2007-2008 to 2010-11. Altadena's total circulation increased by 8.5% from 2008-2009 to 2010-11.<sup>63</sup> Pasadena is one of the first libraries in California to offer eBooks via a “cloud” system. This allows people to download library materials to a computer, iPad, iPhone, or other “smart” device.<sup>64</sup>*

**FIGURE 2: DROPOUT RATES FOR THE PASADENA UNIFIED SCHOOL DISTRICT FOR GRADES 9-12**



Since 2000, the dropout rates have fluctuated, with the lowest rate occurring in the 2003-2004 school year. It is important to minimize the number of students who drop out of high school, as they typically earn a lower income and are more likely to be unemployed. It is estimated that the unemployment rate for high school dropouts in 2009 was 15.4%, compared to 9.4% for high school graduates and 4.7% for those holding a Bachelor's degree or higher.<sup>65</sup> An estimated \$337 billion is expected to be lost by the dropouts from the class of 2010 over the course of their lifetimes.<sup>66</sup>

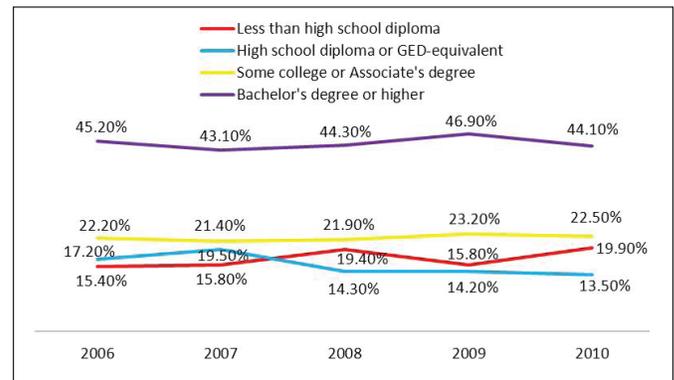
that the public can understand.<sup>61</sup> At the federal level, the government is taking steps to ensure that all levels of society can stay informed, and it is important that local jurisdictions attempt to do the same.

## LIFE-LONG LEARNING

Life-long learning is associated with healthy aging, in addition to preventing the effects of social disparities with age.<sup>62</sup> It is an effective way to ameliorate social inequality in a community. Figures 2 and 3 depict the status of educational attainment in Pasadena.

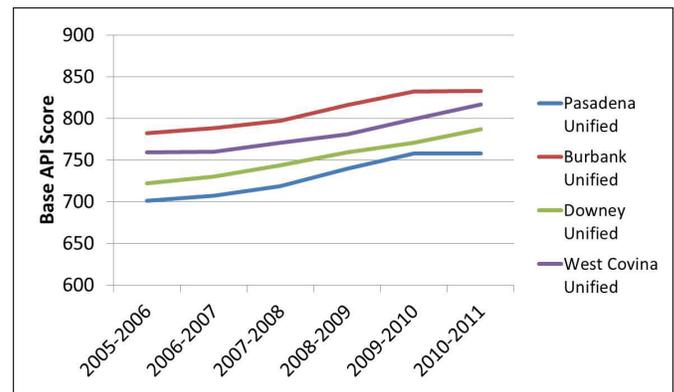
Literacy and life-long learning are valuable tools for social change and health improvement, and their widespread implementation safeguards the well-being of a community. Partners in the community should strive to ensure literacy, at least at the most basic level for all residents, so that all citizens may pursue an excellent quality of life. Finally, updated health literacy rates warrant additional attention in editions to come.

**FIGURE 3: EDUCATION ATTAINMENT LEVELS IN PASADENA (ADULTS 25 OR OLDER)**



The number of residents with a Bachelor's degree or higher decreased by almost 3% from 2009 to 2010. Furthermore, the number of residents with a high school diploma or GED-equivalent has decreased 6% since 2007, while the number of residents with less than a high school diploma has increased 4%. This is most likely due to the economic recession at that time (which lasted from summer 2008 until late 2010).<sup>9</sup>

**FIGURE 4: ACADEMIC PERFORMANCE INDEX (API) BASE SCORE FOR COMPARABLE LOCAL JURISDICTIONS**



Note: Jurisdictions were selected based on similar median household incomes ( $\pm$ \$6,000), similar populations ( $\pm$ 34,000 residents), and similar amounts of children under 18 years of age (19-24%).

The State of California uses API scores to monitor the growth of a student's academic performance from year to year, and to track a school's level of academic achievement. Scores range from 200 to 1,000, with a statewide goal of 800. Comparing local districts with similar household incomes, populations, and distribution of children variations illustrates how other social determinants are influencing the student's performance. Pasadena Unified hovers close to the goal, but does not perform as well as comparable cities.<sup>51</sup>

**healthy PASADENA**

**RELATED HEALTHYPASADENA.ORG DASHBOARDS:**

- Linguistic Isolation

# Arts & Culture



Contributions from art and culture stimulate the imagination, encourage creativity, and encourage learning within the community. They help diverse populations understand and appreciate the rich heritages around them. Traditions and religious diversity can be shared

through architecture, literature, design, festivals, and other art forms. Research has shown that the presence of cultural resources in a neighborhood is strongly associated with reduced levels of stress in children, irrespective of income, as well as lower incidence of racial and ethnic harassment.<sup>67</sup> While they may be difficult to quantify, and sometimes difficult to understand, their relationship to both quality of life and sense of well-being have a profound effect on health.

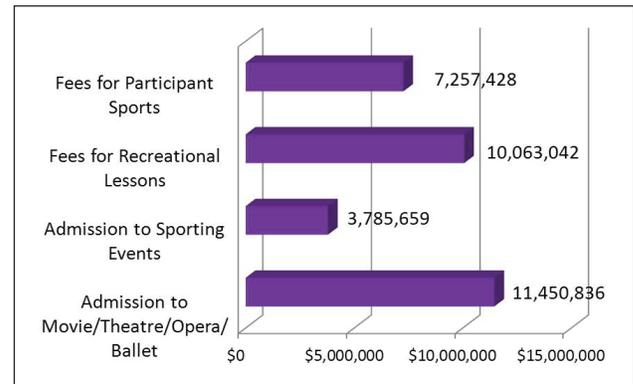
## ECONOMIC DEVELOPMENT

Culture and arts programs transform communities into places of interest to residents as well as visitors. This can provide sustained economic payoff by increasing social connections within a neighborhood.<sup>67</sup> Further, a variety of cultural options in close proximity of one another encourages tourists to extend their stay and spend more while visiting.<sup>57</sup> The Norton Simon Museum, Rose Bowl and Parade, Pacific Asia Museum, and Art Center College of Design make Pasadena a unique place to visit. An additional array of performance and special activity venues, including the Convention Center, Civic Auditorium, Pasadena Playhouse, Boston Court, Noise Within, and Beckman Auditorium, as well as ArLight Theaters, 300 Pasadena, and Gold Class Cinemas, contribute to Pasadena's entertainment hub.<sup>68</sup>

## FILMING

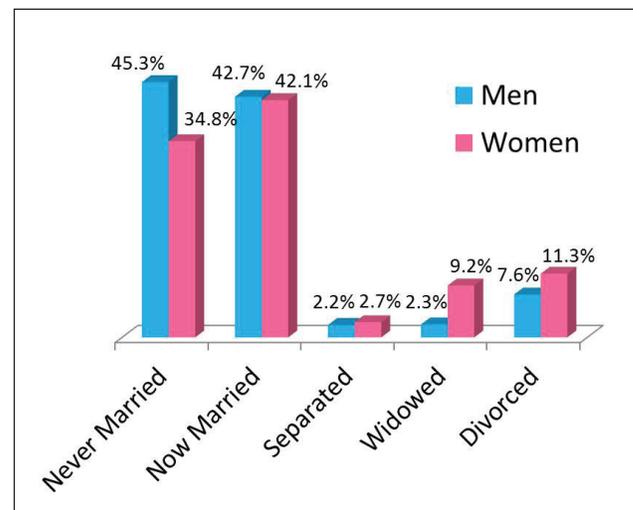
Pasadena has permitted about 500 productions annually during the past 20 years.<sup>68</sup> Pasadena can be seen in major motion pictures, commercials, television shows, and photo shoots. The Pasadena Film Office serves to help filmmakers secure filming locations, coordinate City logistics, issue film permits, and resolve any production problems that may arise.<sup>68</sup>

**FIGURE 1: TOTAL SPENT ON VARIOUS ACTIVITIES IN PASADENA (2010)**



The graph above shows the total amount of money spent among households in Pasadena in various activities. These expenditures include fees and admission prices for services such as: Clubs, sporting events, participant sports, dating services, movies, theatre, opera, and ballet performances. Not included in these totals is money spent on television and television services, video, audio, pets, toys, games, reading, and photography equipment and supplies. When including those services, Pasadena spent almost \$219 million in entertainment and recreation in 2010.<sup>72</sup>

**FIGURE 2: NUMBER AND TYPE OF MARRIAGES IN PASADENA (2010)<sup>9</sup>**



Marriage is the predominant relationship for many adults, and is protective for a number of acute and chronic conditions, including cancer, heart attacks, and surgery. Marriage also provides better mental and physical health, with pronounced effects on men. For example, unmarried men have 250% greater mortality than married men, whereas unmarried women have a comparatively reduced mortality of 50% compared to their married counterparts. These effects are compounded, as men experience more detrimental mental and physical health changes with the loss of spouse or divorce. However, it is important to foster a supportive marriage, as the mere presence of a spouse is not protective. Troubled marriages are associated with increased stress and symptoms of depression.<sup>73</sup> Finally, preliminary research shows same-sex marriages provide access to social support and the same mental and physical health benefits associated with heterosexual marriages.<sup>74</sup>

## ARTS AND EDUCATION

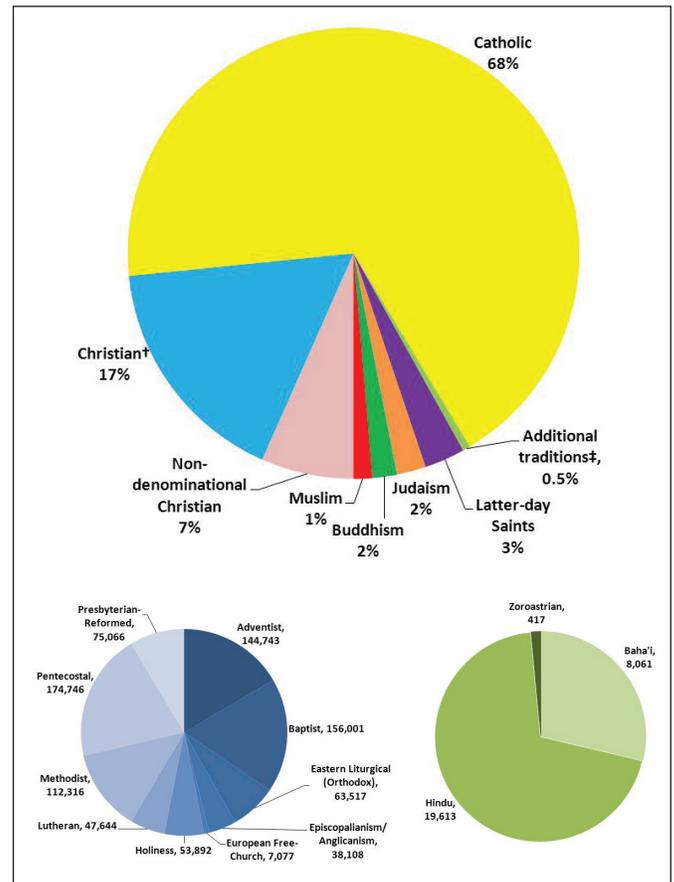
In recent years, funding for the arts in schools has been reduced in favor of more traditional academic subjects, despite the growing body of evidence that students involved with the arts outperform students with little to no involvement with the arts on standardized academic achievement tests.<sup>69</sup> Visual and performing arts education is a major focus at Pasadena Unified School District (PUSD). PUSD participates in the L.A. County Arts Commission “Arts for All” program and provides high-quality sequential arts education from kindergarten through 12th grade.<sup>70</sup> PUSD elementary schools aim to teach art as both a specific subject and as an integral part of core subjects such as social studies and math.<sup>70</sup> To connect classroom learning with the rich cultural resources of the Pasadena area, PUSD students regularly visit local museums such as Kidspace, the Norton Simon, the Huntington Library, and the Armory Center for the Arts. In addition, PUSD secured a federal grant to connect third, fourth, and fifth grade teachers with experienced artists from the Armory Center for the Arts for professional development.<sup>70</sup>

## RELIGION

A considerable amount of research has been done on the association between religion and both mental and physical health, and while religion alone would not be a social determinant of health, the sense of community and spirituality it affords is.<sup>71</sup> On average, most studies have found that religion offers a protective factor and a preventive effect against morbidity. These studies considered a variety of diseases, including heart disease, hypertension, stroke, cancer, and overall self-rated health.<sup>71</sup> Furthermore, research has also explored religion’s effect on depression, anxiety, and psychiatric disorders. Most studies have shown significant positive effects of religious involvement on both physical and mental health outcomes.<sup>71</sup>

Arts and culture allow individuals and communities to define who they are. They allow communities to evaluate and establish values, and provide insight and perspective on different ways of life. Further, they are important economic drivers for visitor attractions and tourism, and impart verbal, visual, and kinesthetic life skills to community members that are essential for the attainment of a quality of life.

**FIGURE 3: BREAKDOWN OF RELIGIOUS TRADITIONS IN LOS ANGELES COUNTY WITH ADDITIONAL BREAKDOWNS FOR CHRISTIAN† AND ADDITIONAL TRADITIONS‡**



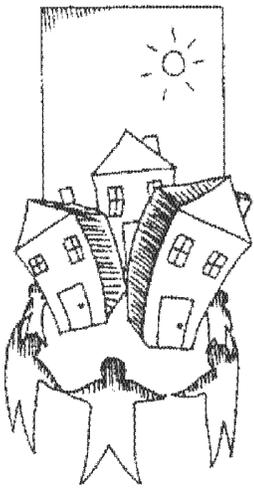
† Christian traditions includes all congregations listed except Catholic, Non-Demoninaitonal Christian, and Latter-day Saints which were large enough to include separately. Data for the number of Independent Fundamentalist adherents was not available, although 16 congregations exist in Los Angeles County.

‡ Data for the number of Sikh adherents was also not available, although 14 congregations exist in Los Angeles County.

The graphs above represent the distribution of religious adherents, or people currently practicing in their respective religious traditions. In the first figure it is immediately apparent that the majority of Los Angeles County identifies as Catholic. In fact, about 68% of Los Angeles County’s congregational adherents are Catholic (3.5 million), followed closely by Christian denominations (not including Catholicism and Latter-day Saints faiths). The second figure represents the breakdown of Christian traditions (not including Catholicism and Latter-day Saints), while the third figure represents the breakdown of the remaining traditions.<sup>75</sup>

Note: The data collected by the Religious Congregations and Membership Study represent the most comprehensive study in Los Angeles County, though still some data were missing for certain traditions.<sup>75</sup> The Quality of Life Team made every effort to present the faiths in a meaningful way for planning efforts.

# Neighborhood Engagement



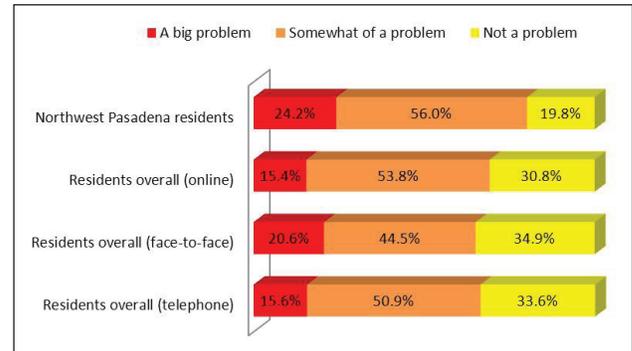
Social support is an important component of all healthy communities. Neighborhood activities and organizations, as well as neighborhood-level social support, are all protective of individual and community health.<sup>76</sup> Conversely, structural deficits and neighborhood disorganization are linked to poor health outcomes and victimization.<sup>76</sup> For instance, racism and bullying cause social isolation and reduce quality of life. Oppressive social conditions, such as racism, contribute to poor health and premature death.<sup>77</sup> In fact, research has shown that frustration and social upheaval resulting from racism lead to increased smoking, drug use, and overeating, which in turn heightens racial health disparities.<sup>77</sup> Similarly, bullying has been found to negatively impact the health of not only the victim, but also the bully.<sup>78</sup> All of these social situations are risk factors for substance abuse, psychiatric disorders, depression, and suicidal thoughts.<sup>78</sup> When individuals are involved in community and neighborhood organizations, it helps decrease exposure to problem behaviors, encourage a stronger sense of connectivity, and foster collective efficacy, linked to better health outcomes.<sup>76</sup>

## SELECTED HIGHLIGHTS

Numerous City organizations encourage Pasadena residents to engage with their local communities. For instance, Pasadena Neighbor Leadership Institute (PNLI) is a free training program designed to empower emerging, locally based leaders. Participants are committed to improving the quality of their neighborhoods, and include adults and youth in their senior year of high school.<sup>79</sup> Neighborhood Connections is an organization that promotes participation between and communication among neighborhood organizations, elected representatives, and city staff in finding solutions to neighborhood problems.<sup>79</sup> As of July 2011, a total of 85 neighborhood associations operate within the seven Pasadena council districts.

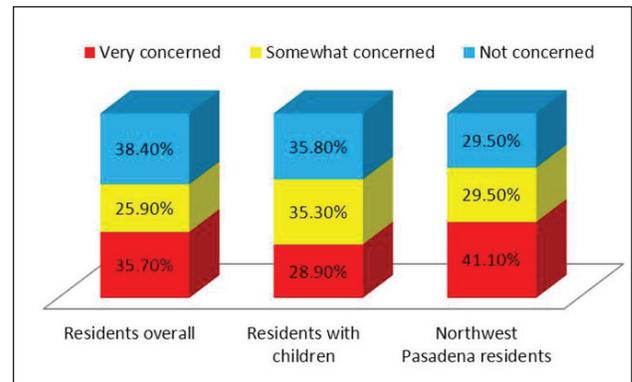
While neighborhood engagement is an indicator that is difficult to define, it is irrefutable in its importance to quality of life. For information on related topics, please see the City of Pasadena 2012 Human Services, Recreation and Housing Needs Assessment conducted by Applied Surveys Research and coordinated by the City of Pasadena Department of Human Services and Recreation.

**FIGURE 1: HOW MUCH OF A PROBLEM IS RACISM IN PASADENA?**



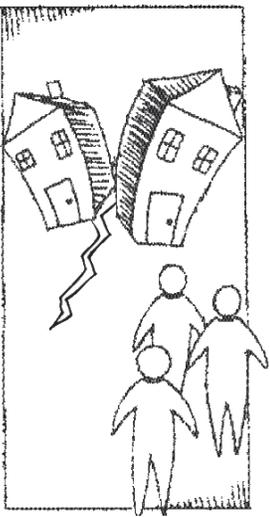
In a recent survey conducted by Applied Survey Research on behalf of the Pasadena Department of Human Services and Recreation, in partnership with the Pasadena Housing Department, a series of questionnaires through different modalities (e.g. phone, interview, and internet) were distributed to community members. In one question, featured above, respondents were asked, "How much of a problem is racism in Pasadena?" On average, almost two-thirds of Pasadena residents believe that racism is "a big problem" or "somewhat of a problem"; in northwest Pasadena, over 80% of all respondents believe that racism is "a big problem" or "somewhat of a problem." In a subsequent question, 65% of the residents that reported experiencing discrimination in Pasadena in the last year said that it was due to race/ethnicity.<sup>80</sup>

**FIGURE 2: HOW CONCERNED ARE PASADENA RESIDENTS ABOUT BULLYING?**



In the same survey mentioned above, respondents were asked, "How concerned are you about bullying?" About 62% of Pasadena residents reported being "very concerned" or "somewhat concerned" about bullying in their neighborhood. Furthermore, 100% of community stakeholders feel that bullying is "a big problem" or "somewhat of a problem" in Pasadena.<sup>80s</sup>

# Community Readiness



Planning and preparation are the foundation of effective emergency response and recovery. Pasadena should be prepared to respond promptly and efficiently to emergencies and disasters, such as major earthquakes, fires, floods, acts of terrorism, and the threat of pandemic influenza.

preparedness and provides hands-on disaster training with fire extinguishers, first aid, medical triage, and light search and rescue.<sup>84</sup> In 2001, more than 250 Pasadena residents completed a PERT course.<sup>85</sup> Altadena's CERT program has performed trainings with the same curriculum. It has certified more than 125 individuals since March 2011.<sup>86</sup>

## INDIVIDUAL READINESS

According to the Los Angeles County Health Survey, approximately 75% of Pasadena's residents have the recommended three-day supply of food and water for their household members. Ideally, a household should maintain these caches in addition to further emergency stores.<sup>81</sup>

## EARTHQUAKES

The Southern California region has an estimated 10,000 earthquakes each year.<sup>82</sup> Of these, only several hundred are greater than magnitude 3.0, and only 15-20 are greater than magnitude 4.0.<sup>82</sup> To prepare, each year Californians participate in the Great California ShakeOut. In 2011, more than 8.6 million California residents participated in the "Drop, Cover, and Hold On" earthquake drill, designed to minimize injury and death in the event of a major earthquake.<sup>83</sup> In addition, Pasadena Unified School District requires each school to have a disaster preparedness plan, with teachers, administrators, and other personnel trained to supervise, counsel, and care for students. Schools participate in drills to prepare for emergencies, and are equipped with food, water, and first aid supplies.

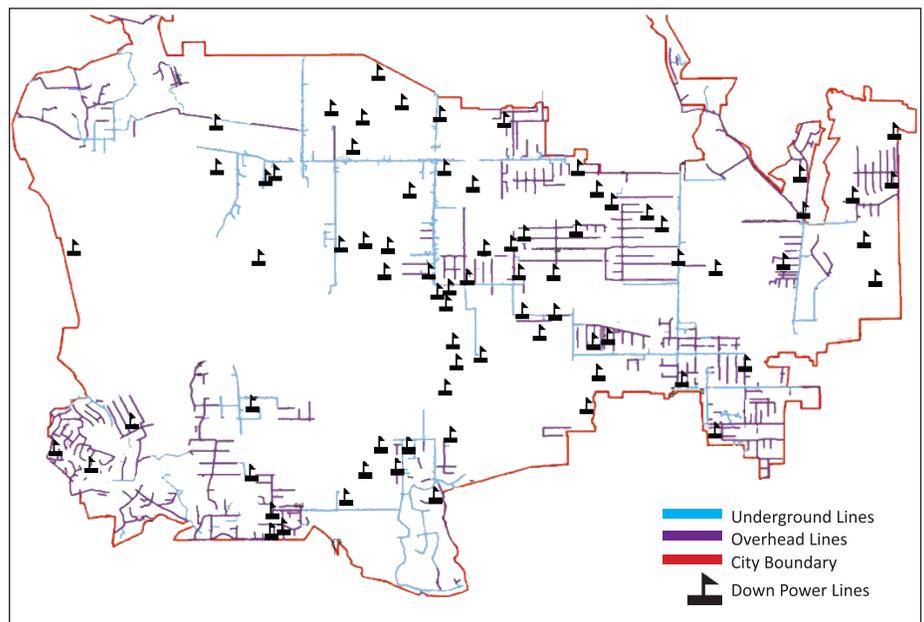
## PASADENA EMERGENCY RESPONSE TEAM (PERT)

PERT, Pasadena's version of the Community Emergency Response Team (CERT), educates community members about emergency

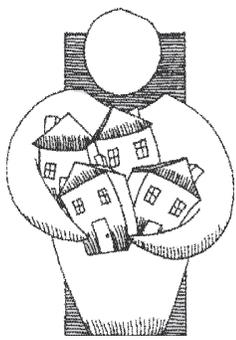
## WINDSTORM REHABILITATION

In 2011, Pasadena declared a state of emergency after experiencing hurricane-force winds on November 30 and December 1. The windstorm caused extensive damage, and left 10% (6,155) of Pasadena's homes without electricity. More than 1,500 street and park trees were uprooted or made unstable, and 525 were severely damaged.<sup>21</sup> Pasadena Public Works' crews, with assistance from private contractors and crews from Los Angeles County, made all arterial and secondary streets passable the day after the storm. During the next month, Public Works crews cleared debris from all city roadways. Additionally, several hundred residents offered neighbor-to-neighbor assistance. The cities of Burbank, Glendale, and Anaheim also provided support services.<sup>21</sup>

**FIGURE 1: MAP OF AFFECTED POWER LINES DURING WINDSTORM RESPONSE, DECEMBER 2011<sup>21</sup>**



*Note: Please refer to the Appendix for a larger version of this map.*



# Community Safety

Community safety describes how neighborhood residents feel about their security and how involved they are in identifying and resolving their own safety issues and concerns.

Neighborhood safety is important to physical and mental health, and is conducive to successful local businesses and a vibrant community.<sup>87</sup> Lack of safety may influence whether businesses invest in an area and visitors may be warned to avoid unsafe areas, which can have negative effects on a community's economy.<sup>87</sup>

The health impacts of community safety are extensive and affect health outcomes such as birth weight, diet and exercise, and family and social support.<sup>88</sup> For example, scientific literature has shown neighborhood safety has important implications on physical activity. Traffic, environmental hazards, crime, and incivilities are associated with reduced levels of physical activity, while safe parks and play areas are positively correlated with increased physical activity levels.<sup>89</sup>

**FIGURE 1: INCIDENCE OF CRIME IN PASADENA (2008-2011)<sup>97</sup>**

	2008	2009	2010	2011	Change from 2010
Rape	34	26	30	26	-13%
Robbery	256	180	182	178	-2%
Assault with a Deadly Weapon	162	155	154	126	-18%
Assault	324	287	262	241	-8%
Assault Domestic Violence	151	173	150	154	3%
Burglary Commercial	509	445	357	421	18%
Burglary Residential	560	614	645	719	11%
Burglary Vehicle	910	1044	1094	650	-41%
Burglary Other	104	85	86	96	12%
Stolen Vehicle	420	325	378	278	-26%
Theft	1378	1303	1259	1189	-6%
Total	4932	4759	4717	4167	-12%

Note: This Preliminary Statistical Report is based on Call for Service data and is not Uniform Crime Report-compliant.

The data show that in the last few years, overall crime in Pasadena has declined, with the exception of total incidence of burglary, which has risen. It is important to reduce crime and violence, as they are known to increase stress, which may aggravate hypertension and other stress-related disorders.<sup>98</sup> Crime and violence may also lead people to smoke in efforts to reduce or cope with stress. Exposure to violent neighborhoods has been associated with increased substance abuse and sexual risk-taking behaviors as well as risky driving practices.<sup>99</sup>

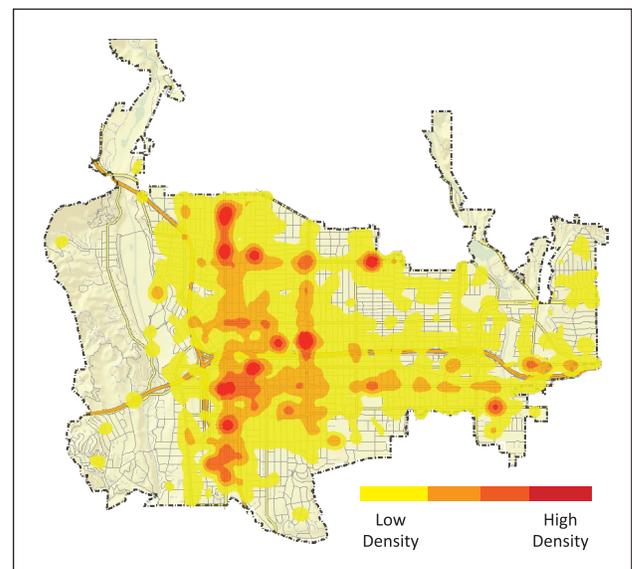
## NEIGHBORHOOD WATCH

Neighborhood Watches teach citizens how to identify and report suspicious activity, helping residents make their neighborhoods safer. Neighbors learn how to “watch out for each other” and with police assistance, learn how to protect themselves, their families, and property through crime prevention strategies.<sup>90</sup> An estimated 301 Neighborhood Watch and Neighborhood Association Groups are currently active in the City of Pasadena. In addition, residents may subscribe to NIXLE, which sends text messages or emails with police information to subscribers.<sup>91</sup>

## CRIME STOPPERS

Pasadena Crime Stoppers is a tip line that allows individuals to call in anonymously to provide valuable and timely information which may help resolve violent and/or serious crimes in the Pasadena area. Tips may be related to suspected burglary, cyber crimes, extortion, assault,

**FIGURE 2: HOT SPOT MAP FOR ALL EMERGENCY MEDICAL SERVICES AND RESCUE REQUESTS IN PASADENA (2008-2010)**



The map above shows the density of calls originating from different areas in the city. The areas in red represent those with the highest amounts of calls during the time period. For the most part, areas with the highest amount of calls were areas with long-term care facilities and convalescent centers, and areas with higher population densities.<sup>100</sup>

Note: Please refer to the Appendix for a larger version of this map

homicide, or other various crimes. They may be provided by phone, text, or Internet. The Crime Stoppers program has been successfully used by numerous local and national law enforcement agencies, including the Los Angeles Police Department, Federal Bureau of Investigation (FBI), and the U.S. Secret Service. Individuals who report information to Crime Stoppers have total protection of identity. Cash incentives may be rewarded for valuable information.<sup>91</sup>

## PASADENA POLICE DEPARTMENT VOLUNTEERS

Dedicated citizen volunteers support the City of Pasadena Police Department by bridging the gap between the Department and area residents. Volunteers participate in various programs such as the Community Response to Eradicate and Deter Identify Theft, which aids victims of identity theft by investigating the fraud, sending letters to various financial entities, contacting outside jurisdictions, and collecting evidence. Additional programs which support the Department include, but are not limited to: Citizens Assisting Pasadena Police, Youth Accountability Board, Chaplain Corps, and the Missing Persons Unit.<sup>91</sup>

## CHILD SAFETY

Unsafe neighborhoods adversely affect a child’s health by limiting physical activity and increasing incidence of injury.<sup>92</sup> Many children who are abused and/or neglected have chronic physical and mental health problems, including attention deficit hyperactivity disorder (ADHD), irritable bowel syndrome, depression, and educational difficulties.<sup>93</sup> Research shows that these health problems are similar whether a maltreated child remains at home or enters foster care.<sup>93</sup>

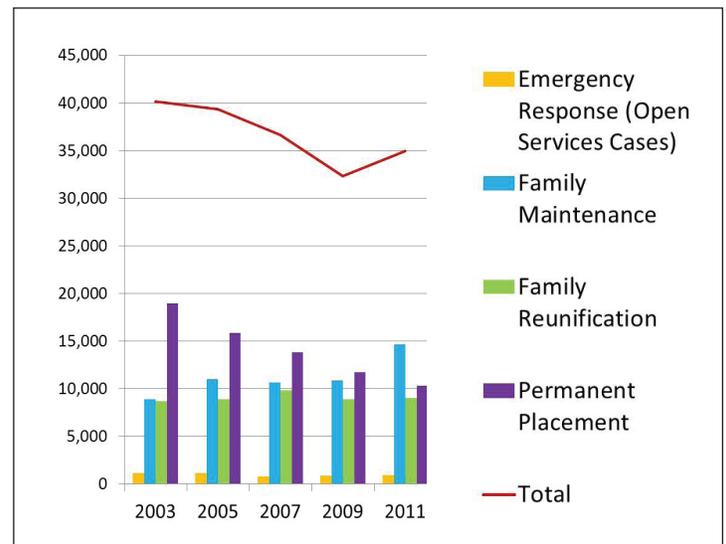
Child welfare systems receive and investigate reports of possible child abuse and neglect. They provide services to families that need assistance in protecting and caring for their children; arrange for children to live with kin or foster families when they are not at safe at home; and arrange for reunification, adoption, or other permanent family connections to ensure childhood safety when leaving foster care.<sup>94</sup>

## FIGURE 3: NUMBER OF PASADENA POLICE OFFICERS PER 1,000 RESIDENTS

Year	1989	1994	2000	2008	2010
Rate per 1,000	1.67	1.65	1.70	1.84	1.77

*The ratio of police officers to the number of residents affects the crime response capacity of the Pasadena Police Department. This ratio has remained fairly consistent with the increase of the population.<sup>101</sup>*

## FIGURE 4: NUMBER OF CHILDREN IN LOS ANGELES COUNTY RECEIVING CHILD WELFARE SERVICES (2003-2011)



*While permanent placement has decreased, family maintenance numbers have increased since 2003. The number of children receiving child welfare has increased since 2009.<sup>102</sup>*

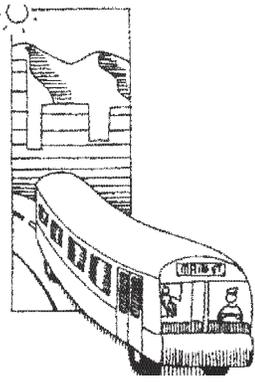
Although reported crimes in Pasadena have decreased, incidents of burglary and accounts of children receiving welfare services have increased. Furthermore, the age-adjusted homicide rate of 8.3 per 100,000 residents is above the Healthy People 2020 goal of 5.5.<sup>95, 96</sup> It is critical that residents as well as police officers continue to engage in crime prevention strategies in order to sustain a safe community.

**healthy PASADENA**

**RELATED HEALTHYPASADENA.ORG DASHBOARDS:**

- Violent Crime Rate
- Child Abuse Rate

# Transportation



Properly planned public transportation systems directly impact public health. Increased usage of public transportation also increases physical activity, thereby generating health benefits through substantial weight

loss.<sup>103</sup> Careful transportation planning affects the rate of traffic accidents and amount of released pollution.<sup>104</sup> For the City to foster healthy, active lifestyles and significantly improve the physical fitness of its population, transportation systems should be considered.

## DIRECT HEALTH EFFECTS

According to the California Highway Patrol Statewide Integrated Traffic Records System (CHP SWITRS), Pasadena's total number of vehicular collisions decreased 50% from 2000 to 2010, while Altadena's total collisions increased 4.5% from 2000 to 2010 (Figure 1). Collisions due to unsafe speed increased by 2.7% in Pasadena between 2000-2010, and increased in Altadena by 5.2% between 2000-2010.<sup>105</sup>

Research shows pollution from motor vehicles contributes to mortality and morbidity in heavily polluted areas like Los Angeles County. Ambient air pollution is linked to an increase in premature deaths due, but not limited, to cancer, heart failure, and respiratory illness.<sup>104</sup> In fact, the California Clean Cars Campaign estimated that about 9,200 premature deaths in California can be attributed to air pollution. This total renders the rate of premature deaths from pollution comparable to those from collisions.<sup>106</sup>

## PREVENTING HEALTH EFFECTS

Individual behaviors can influence exposure to air pollution, but the impact of the built environment on public health cannot be discounted. Land use plans are an important way of improving and maintaining the built environment. "Land use planning is the systematic assessment of land and water potential, alternatives for land use and economic and social conditions in order to select and adopt the best land-use options."<sup>107</sup> A land use plan ensures that a city's decisions about transportation and transportation planning are conducive to the needs and health of a community. A well-conceived active transportation environment land use plan can reduce the

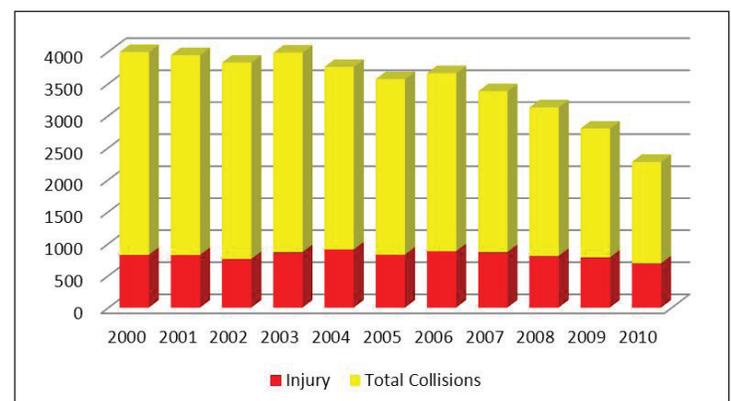
necessity of vehicular travel and reduce a person's amount of time spent in motor vehicles.<sup>108</sup>

Healthy, active transportation environments encourage bike-friendly streets and walkable neighborhoods; give way to increased physical activity; and ultimately lower the rates of obesity and chronic diseases.<sup>108</sup> In Pasadena, three new bikeways and 100 new bike racks opened in 2012 help promote an active environment.<sup>109</sup> Furthermore, Bike Week Pasadena strives to reduce the volume of cars on the road by promoting bicycling as a convenient mode of transportation.<sup>21</sup>

However, barriers exist that stymie active transportation efforts. According to an article published in *The Journal of Planning Literature*, built environments (including poor accessibility to recreational facilities and long distances separating places) may discourage active transportation.<sup>110</sup> Built environments may also encourage vehicular travel and dissuade people from public transportation and other healthy alternative transportation options.<sup>103</sup>

Pasadena boasts many methods of transit, but driving alone to work remains the consensus choice. Despite the method's deleterious effects on health, over 70% of Pasadena's population drive alone to work (Figure 2).<sup>9</sup> To encourage public transit, the Pasadena area offers four different public transportation options: The Pasadena ARTS Bus service, the Foothill Transit Bus Service, the Metro Bus Service, and the Metro Gold Line. Some options have seen decreases in ridership as a result of the economy, while others have increased ridership due to expansions.<sup>111</sup> Employer-mandated systems may also encourage public transit or carpooling. For example, the City of Pasadena

**FIGURE 1: NUMBER AND TYPE OF COLLISIONS IN PASADENA<sup>105</sup>**

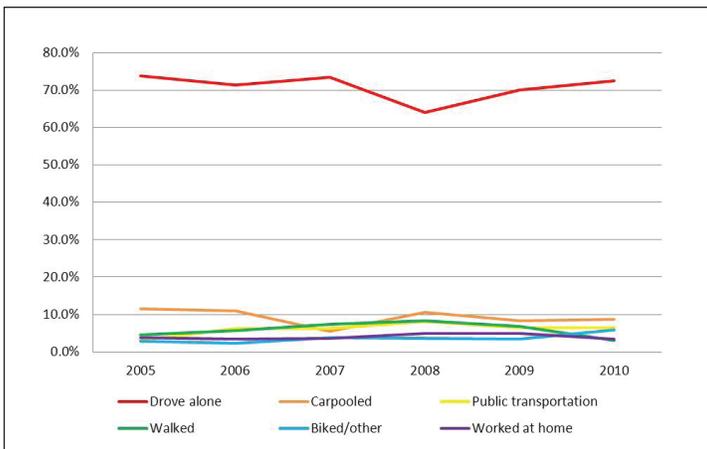


requires employees to carpool or use public transit, or incur a clean air/parking fee each pay period. These fees go towards subsidizing public transportation costs like vanpool, mass transit, and light-rail options.<sup>112</sup>

## SELECTED HIGHLIGHTS

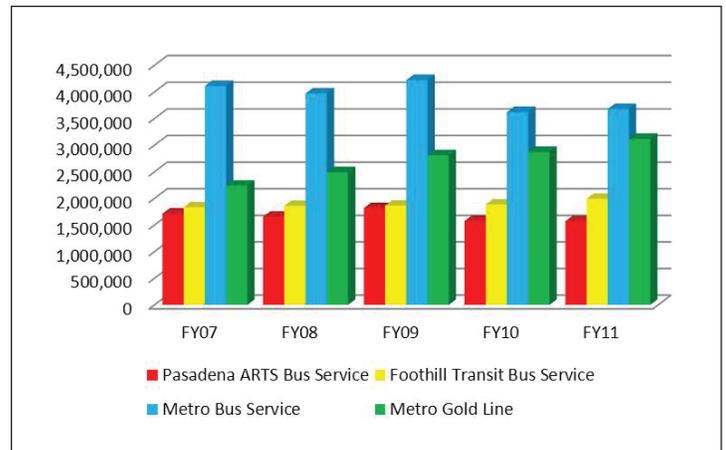
Pasadena’s Planning Department has created a land use plan, using a survey of Pasadena residents for input in its development. According to the Department, the survey indicated a desire for future growth to focus on Gold Line Stations and major intersections. Increasing jobs was frequently cited as a factor for guiding land use alternatives. Public education and sustainability are major themes to be integrated into the Plan’s guiding principles. The most strongly supported policy statements involve centering new houses, shopping, and offices around transit stations, and modifying streets so they are safer and more attractive places to walk. The plan will be proposed in mid-to late-2012.<sup>113</sup>

**FIGURE 2: MEANS OF TRANSPORTATION TO WORK IN PASADENA (2005-2010)**



The total percentage of people who drove alone to work decreased 1.3% overall since 2005 but has increased 8.5% recently from 2008-2010, resulting in little net change. The total percentage of people who used public transportation increased 3.4% overall since 2005 but decreased 1.7% from 2008-2010.<sup>9</sup>

**FIGURE 3: PUBLIC TRANSIT RIDERSHIP IN PASADENA**

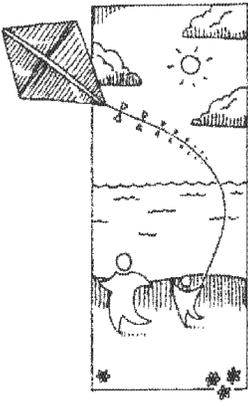


Pasadena Area Rapid Transit System (ARTS) Bus Service ridership decreased 8.3% from 2007-2011. Foothill Transit Bus Service ridership increased 8.6% from 2007-2011. Metro Bus Service ridership decreased 10.5% from 2007-2011. Metro Gold Line ridership increased 39.2% from 2007-2011. From 2008-2009, increases in ridership were likely due to spikes in gas prices. However, subsequent decreases may have resulted from fee increases, the leveling out of fuel prices, and the economic downturn (public transit ridership presumably decreases with increased unemployment). The reason for the dramatic increase in Metro Gold Line ridership is the Eastside Extension, which expanded the Gold Line in 2009 by eight more stations.<sup>111</sup>

**healthy PASADENA**

**RELATED HEALTHYPASADENA.ORG DASHBOARDS:**

- Mean Travel Time to Work
- Workers who Drive Alone to Work
- Households with 1+ Vehicles
- Annual Hours of Delay due to Roadway Congestion



# Air & Water Quality

Clean air and water are essential to a healthy environment. Poor air and water quality increase the risk of many negative health outcomes; polluted air is associated with premature death, cancer, and long-term damage to the respiratory and cardiovascular systems, and water contamination can cause severe illness.<sup>114</sup> Additionally, because a poor environment increases the effects of individual health risks, decreasing pollution and protecting water sources are of utmost importance to a healthy Pasadena.

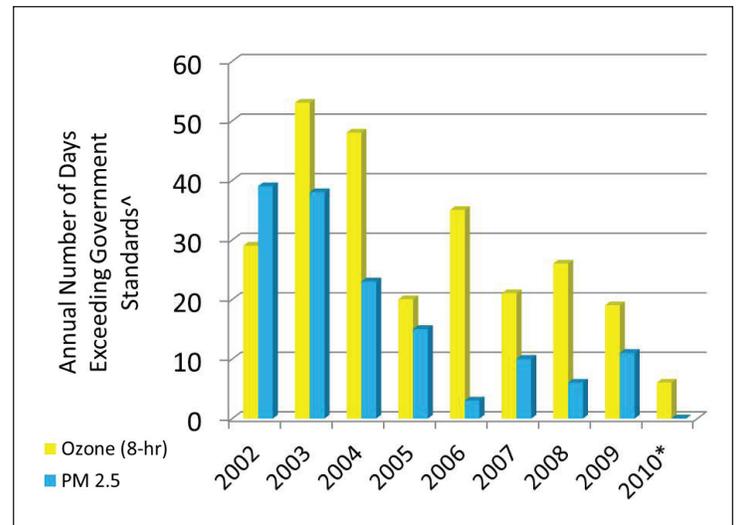
## AIR QUALITY

Air is considered clean if it does not exceed acceptable levels for any identified pollutant, as determined by state and federal agencies. Two types of standards exist; the first protects against adverse health effects, and the second protects against negative public welfare effects that may cause significant economic and/or environmental damage.<sup>115</sup>

Currently, the U.S. Environmental Protection Agency (EPA) sets National Ambient Air Quality Standards for the six most common air pollutants: Particle pollution, or particulate matter (PM), ground-level ozone, carbon monoxide, sulfur oxides, nitrogen oxides, and lead. Of these, particle pollution and ground-level ozone are the most widespread health threats, especially in Los Angeles County. Pollutant levels are monitored near ground-level and outside buildings at varying time intervals.<sup>116</sup>

Some of the worst contributors to air pollution are fuel emissions from cars, trucks, trains, buses, and stationary sources such as refineries and factories.<sup>117</sup> At the Port of Los Angeles, many of the engines that support ships, trucks, trains, and cargo equipment are fueled by diesel, and consequently pollute the air with diesel exhaust. Diesel exhaust is responsible for an estimated 70% of cancer risk due to air pollution, and is also associated with asthma.<sup>118</sup> Low-income and minority residents tend to be disproportionately affected by poor air quality, as many live along rail corridors, freeways, factories, and refineries, where air quality is at its worst.<sup>117</sup> And though effects are greatest near the ports, the pollution emitted can be measured throughout the Los Angeles County Basin and beyond. Reaffirming mitigation efforts should be done regionally, not just locally.

**FIGURE 1: ANNUAL NUMBER OF DAYS POLLUTANT LEVELS EXCEED GOVERNMENT STANDARDS IN PASADENA**

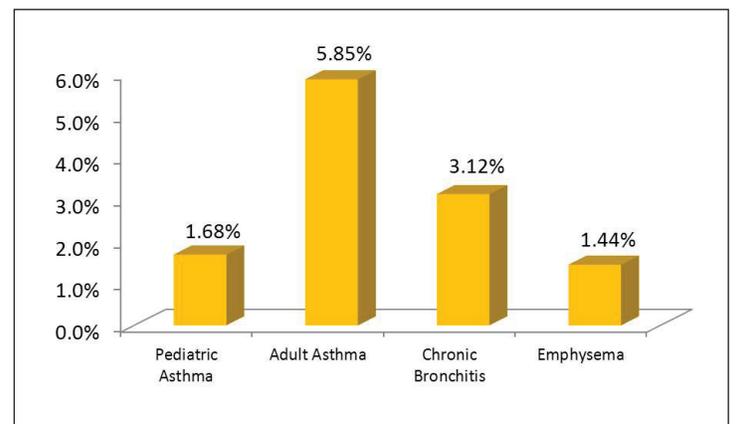


\*There were unavailable/insufficient data for the PM2.5 levels for the City of Pasadena in 2010. PM 2.5 refers to the size of the particulates, which is 2.5 micrograms in size. The smaller the particulates, the deeper they can penetrate into the lungs/respiratory system, and therefore the greater damage they can cause.

^Government standards vary by pollutant because California defines its own state standards for some pollutants, such as ozone, and follows national standards for others.

The annual number of days that ozone levels exceeded the national 8-hour standards has decreased since 2002 from 29 to 6, which is a 79.3% decrease in unhealthy air quality days.<sup>126</sup>

**FIGURE 2: PERCENT OF LOS ANGELES COUNTY POPULATION WITH SELECT RESPIRATORY CONDITIONS (2011)**



The American Lung Association's State of the Air 2011 reported that within the Los Angeles area in 2011, 165,892 people were affected by pediatric asthma, 576,310 had adult asthma, 306,992 had chronic bronchitis, and 141,524 had emphysema. Individuals with these lung diseases are at a greater risk from ozone and particle pollution and can require increased medical attention, emergency department admission, or hospital admission especially on days with air quality advisories.<sup>117</sup>

**FIGURE 3: COMMON INDOOR AIR POLLUTANTS** <sup>120</sup>

Pollutant	Source	Effects	Prevention and Control
Radon	Radioactive gas formed in soil.	Second leading cause of lung cancer.	Perform an at-home test. If the test results indicate radon presence, call a qualified radon mitigation specialist. Include radon-reducing features at home.
Secondhand Smoke	Smoke from burning tobacco products such as cigarettes, pipes and cigars.	Can cause cancer and serious respiratory illness.	Do not smoke or allow others to smoke indoors.
Mold	Molds produce spores that float in the air, land on damp surfaces and grow.	May lead to hay fever-related symptoms such as sneezing, runny nose, red eyes, and skin rashes. May also trigger asthma attacks.	Moisture control. Water-damaged areas should be dried within 24-28 hours to prevent mold growth.
Volatile Organic Compounds (VOCs)	Evaporated chemicals emitted by various household products including paints, paint strippers, varnishes, cleaning supplies, air fresheners, and pesticides. They are released both during use and while stored.	May cause eye, nose, and throat irritation; headaches; nausea; and can damage the liver, kidney, and central nervous system.	Read and follow all directions and warning labels. Properly ventilate by opening windows and using fans. Never mix products, unless directed to do so on the label. Store products according to the manufacturers' instructions.
Carbon Monoxide (CO)	Indoor use of furnaces, gas stoves, unvented kerosene and gas space heaters, leaking chimneys, and tobacco products.	May cause headaches, nausea, dizziness, disorientation, and fatigue. High levels can be fatal.	Ventilate rooms where fuel-burning appliances are used. Use appliances that vent to the outside whenever possible. Ensure that all fuel-burning appliances are properly installed, used, adjusted, and maintained. Install a CO monitor.
Nitrogen Dioxide (NO <sub>2</sub> )		May cause eye, nose, and throat irritation; impairs lung function; and increases respiratory infections.	

Though the region has reduced its average number of days where pollutant levels exceed state or federal levels, continued efforts are required to meet and exceed pollution standards. In the future, consistently setting new thresholds will be the only way to strive for excellence in air quality. This is especially important with respect to vulnerable populations, who are susceptible to even lower concentrations of pollution.<sup>117</sup>

## INDOOR AIR POLLUTION

The EPA states that indoor air pollution is among the top five environmental risks to the health of the public, and can often be 6-10 times more polluted than outdoor air.<sup>119</sup> This is of concern because the average American spends an estimated 90% of his/her time indoors.<sup>119</sup> Pollution in indoor air settings may include outdoor pollutants, such as pesticides, that leak inside, as well as pollutants from indoor sources such as oil, gas, building materials, pressed

wood products, radon, and cleaning and personal care products.<sup>119</sup> Indoor air pollution has significantly increased due to tighter building construction and use of building materials that release gaseous chemicals.<sup>120</sup> High indoor pollutant exposure may result in asthma, hay fever, and other allergies, especially in infants and children under five years of age.<sup>121</sup>

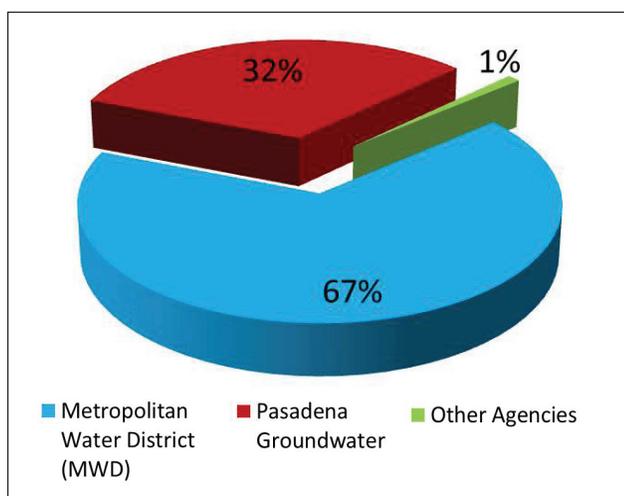
## WATER QUALITY

To ensure that tap water is safe to drink, the EPA and the California Department of Public Health (CDPH) set legal limits on the levels of certain water contaminants provided by public water systems. These standards reflect a protective level for human health.<sup>122, 123</sup>

## PREVENTING CONTAMINATION

Surface water and ground water are the two major sources for tap water. Surface water is comprised of water from lakes, reservoirs, and rivers; groundwater comes from aquifers. An aquifer is an underground formation of permeable rock which allows water to slowly filter through, and therefore is capable of collecting contaminants deposited in the ground by human activity.<sup>120</sup> For this reason, anything considered not potable should not be put in the ground, as it greatly compromises water integrity. Four common contaminants detected in both surface and groundwater intended for later consumption are: Agricultural pollutants, including pesticides and chemicals from fertilizers; nutrients such as nitrites and phosphates, which are also released by fertilizers and leaking septic tanks; trace metals such as mercury, copper, and chromium from industrial discharges and consumer products; and volatile organic compounds such as those used in dry cleaning and industrial operations.<sup>120</sup> Pasadena Water and Power (PWP) performs nearly 30,000 analytical tests on over 170 different constituents in the water every year to safeguard water quality. Water is tested daily (including weekends and holidays) at approximately 300 locations across the city.<sup>124</sup> Pasadena's water meets all state and federal drinking water standards and does not require further treatment.<sup>125</sup>

**FIGURE 4: WATER SUPPLY SOURCES IN PASADENA (2010)**



In 2010, PWP produced 9.6 billion gallons of water to serve 175,957 customers in the Pasadena, Altadena, and surrounding Los Angeles County areas. Approximately 32% of the water supply was pumped from Pasadena local groundwater (Raymond Groundwater Basin), 67% imported from the Metropolitan Water District of Southern California (MWD), which imports its water from the Colorado River Aqueduct, and the remaining 1% was purchased from neighboring water agencies.<sup>125</sup>

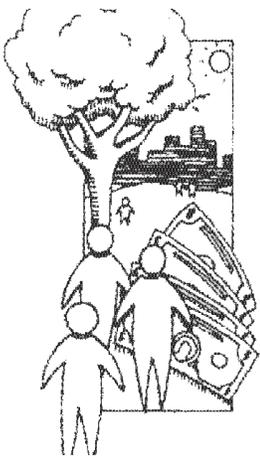
**FIGURE 5: MAJOR KNOWN THREATS TO WATER QUALITY**

Pollutant	Source	Effects
Protozoa	Protozoal pathogens ( <i>Giardia lamblia</i> or <i>cryptosporidium parvum</i> ).	Can cause asymptomatic infections, and/or chronic and severe diarrhea.
Nitrates	Accumulate in ground and surface water from fertilizer runoff or leaching of ammonia compounds from septic tanks.	Can cause blood disorders that can lead to oxygen starvation, cyanosis, brain damage, and death.
Pesticides	Found in ground water and surface water due to their application onto agricultural and urban landscapes.	Exposure can lead to permanent sterility and have been associated to several types of cancer.
Industrial Discharges	Seepage of chemicals from underground storage tanks, old hazardous waste sites, and contaminated sediments.	Associated with liver and kidney damage, neurotoxicity, and cancer.
Radon	Results from uranium deposits that dissolve in water through cracks in the Earth's crust.	Increase in risk of lung cancer and gastric cancer.
Arsenic	Leaching of arsenic deposits into Earth's crust or by pesticides, wood preservatives, and mining.	Associated with skin, lung, and bladder cancer; skin hyperpigmentation; vascular diseases; and neurotoxicity.
Lead	Dissolves into water passing through lead pipes.	Associated with decreased mental acuity and behavioral problems in children, and hypertension in adults.
Disinfectant By-Products	Formed by the reaction of dissolved hydrocarbons with chlorine (added for disinfection) and bromine.	Associated with cancers of the bladder and colon and with adverse reproductive outcomes.

**healthy PASADENA**

**RELATED HEALTHYPASADENA.ORG DASHBOARDS:**

- Annual Ozone Air Quality
- Annual Particle Pollution
- HPBT Released
- Recognized Carcinogens Released into the Air



# Sustainable Environment

Sustainable environments reduce energy waste, lower energy costs, and contribute to improved health.<sup>127</sup> According to an article published in the journal *Epidemiology*, consumption of unsustainable, natural resources creates health hazards like water pollution, solid and hazardous waste accumulation, and chemical and radiation hazards from industrial and agricultural technologies. Emphasizing reductions in unsustainable consumption creates long-term, sustained benefits for human health.<sup>128</sup>

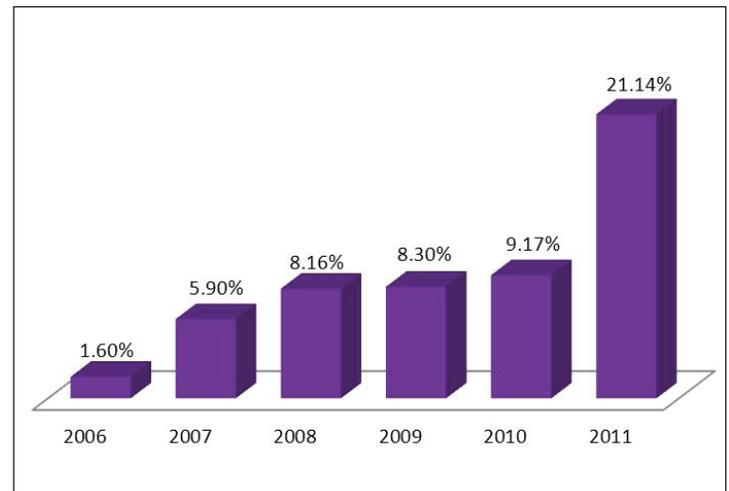
## RENEWABLE ENERGY

Conventional energy technologies create health hazards such as air pollution, water acidification, and carbon dioxide emissions.<sup>129</sup> Almost half of Los Angeles County's greenhouse gas emissions originate from the transportation sector (i.e. cars, trucks, trains, airports, and the ports of Los Angeles and Long Beach).<sup>130</sup> Combined, these sources produce a higher per capita emissions rate than in other metropolitan areas. Increasing renewable energy sources would decrease air pollution and toxic emissions, improving overall health and decreasing health costs. Pasadena is fifth in the nation among United States municipal cities for installation of solar-powered systems. The City of Pasadena can provide up to 3.5 megawatts of clean, renewable energy from the sun, potentially powering more than 1,100 homes. In addition, solar-powered households can now sell surplus energy back to Pasadena Water and Power (PWP).<sup>21</sup> PWP has begun work on its Environmental Review Report, which will address the replacement of an old steam turbine unit at the Glenarm Power Plant with a cleaner-burning, more efficient turbine. Lastly, the Public Works Department has converted all traffic and flashing pedestrian signals from incandescent lights to energy-efficient, light-emitting diodes (LEDs).<sup>21</sup>

## SUSTAINABLE WATER

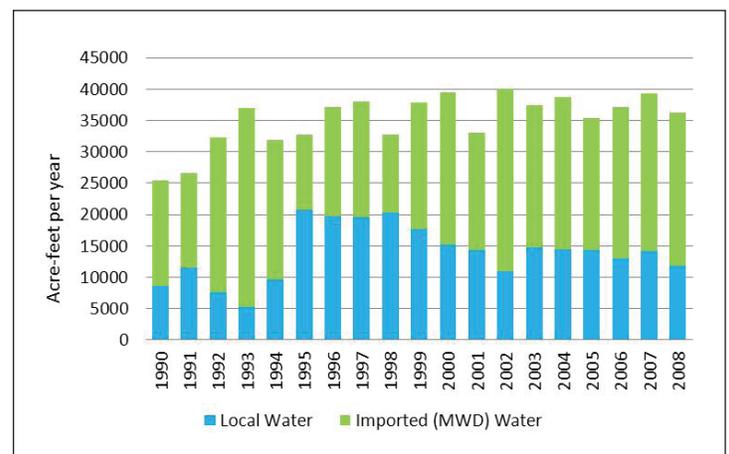
According to an article published in the American Chemical Society's *Environmental Science and Technology*, water reuse and reclamation can help alleviate pressure on freshwater sources, maintain control of water supply integrity, and help prioritize water usage. In addition,

**FIGURE 1: PROPORTION OF RENEWABLE ENERGY USE IN PASADENA (2006-2011)**



In Pasadena, renewable energy usage increased by almost 12% from 2010-2011. Furthermore, in 2009 Pasadena's Energy Integrated Resource Plan (IRP) established targets of using 33% renewable energy by 2015 and 40% by 2020. This is dependent upon the availability of renewable energy.<sup>113</sup>

**FIGURE 2: SOURCES OF WATER IN PASADENA (1990-2008)**



According to the data, over 67% of Pasadena's water supply in 2008 was imported. The City of Pasadena and neighboring communities receive their water supply from local groundwater from the Raymond Basin, while the majority (65% of the imported water) is purchased from the Metropolitan Water District of Southern California (MWD). Recent groundwater levels in the Raymond Basin have resulted in a reduction in water rights by the Raymond Basin Management Board for the foreseeable future. This will result in a 20% reduction in PWP's groundwater pumping by 2014.<sup>133</sup>

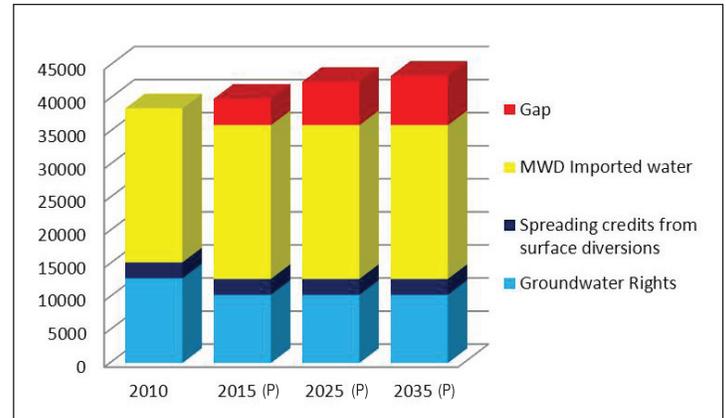
indirect use of reclaimed water (such as for thermoelectric power generation) circumvents the harmful health effects of direct exposure (such as drinking reclaimed water).<sup>131</sup> The Environmental Protection Agency (EPA) suggests several sustainable water practices. Sustainable water infrastructure, which is an extensive network of drinking water, waste water, and storm water, is now at least 100 years old and requires constant maintenance and renewal. Investments should be made to ensure that the infrastructure can be sustained long term (i.e. through asset management, efficient technologies, and innovative solutions). Sustainable water systems, including the technical, managerial, and financial capacities of the infrastructure, should be supported and routinely assessed. Lastly, since these investments and decisions have an impact on sustainable communities, health advocates should take various areas of the public sector (i.e. housing, transportation, etc.) into account, in order to promote livability and sustainable growth.<sup>132</sup> Current water systems should thus be upgraded, rendered sustainable, and incorporate the needs of the community.

According to Pasadena’s Water Integrated Resources Plan, the City of Pasadena currently has an agreement to purchase recycled water from the Los Angeles-Glendale Water Reclamation Plant. A Recycled Water Master Plan is now being created to evaluate potential uses for this water.<sup>133</sup> Similarly, waste water from the California Institute of Technology and Pasadena City College is being treated for on-site irrigation and cooling towers. The City of Pasadena is one of approximately 20 communities in California that own their own water and power utilities.<sup>21</sup>

## WASTE MANAGEMENT

Increased waste management efforts decrease the need for landfills and other waste repositories, thereby reducing hazardous environmental exposure to the air and groundwater. Typical waste management procedures may include activities like recycling, composting, and waste combustion, all of which decrease harmful emissions exposure.<sup>134</sup> For example, proper disposal of electronic wastes may limit public exposure to toxic substances that leach off as they degrade.<sup>135</sup> Safe, regulated electronic waste recycling is increasingly important as the use and quantity of electronic devices rapidly expand.<sup>135</sup> In 2011, the Pasadena Public Works Department collected 60 tons of electronic supplies for proper disposal at city-sponsored e-waste events.<sup>21</sup>

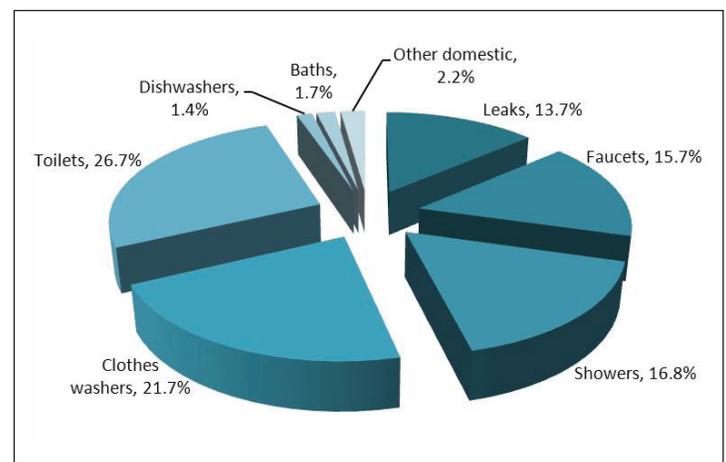
**FIGURE 3: PROJECTED STATUS QUO SHORTFALL FOR WATER SOURCES IN PASADENA**



(P)= Projected amounts

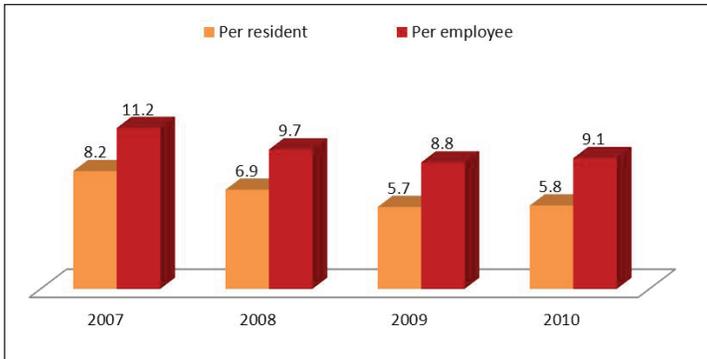
As the demand for water increases each year, the MWD water restrictions create an ever-increasing gap between Pasadena’s available resources and need. This shortfall projection assumes steady allocations of imported water every year from MWD, which cannot be expected. In 2015, the gap represents 10% shortfall, rising to 17% of the demand in 2035. This signals the need for conservation efforts, development of new sources of water supply, and/or mandatory rationing. Placing mandatory restrictions on the water supply can be detrimental to a community’s quality of life and to the economy (influencing business owners’ decisions to remain in Pasadena).<sup>133</sup>

**FIGURE 4: RESIDENTIAL INDOOR WATER USE**



In the United States, about 27% of household water is used by toilets.<sup>137</sup> According to the Environmental Protection Agency, a leaky toilet can waste about 200 gallons of water per day. To save water, ensure toilets are working to their maximum efficiency. A few more common water-efficiency measures would be purchasing a high-efficiency washing machine and turning off the tap while washing dishes or brushing teeth.<sup>138</sup>

**FIGURE 5: PASADENA DISPOSAL RATES (2007-2010)**



According to the California Department of Resources Recycling and Recovery (Cal Recycle), “per capita disposal” is a numeric indicator of reported disposal divided by jurisdiction population (residents) or in some cases jurisdiction industry employment (employees) to obtain disposal by individual. The Integrated Waste Management Act created a “50 percent per capita disposal target” (the amount of disposal that is approximately equivalent to the current 50 percent diversion requirement). To meet the 50 percent goal, jurisdictions should dispose of not more than their 50 percent per capita disposal target. Pasadena’s target disposal rates for residents and employees are 10.9 and 15.3, respectively. As can be seen, Pasadena’s per capita disposal is clearly well under the target rate each year in both categories.<sup>133</sup>

**SELECTED HIGHLIGHTS**

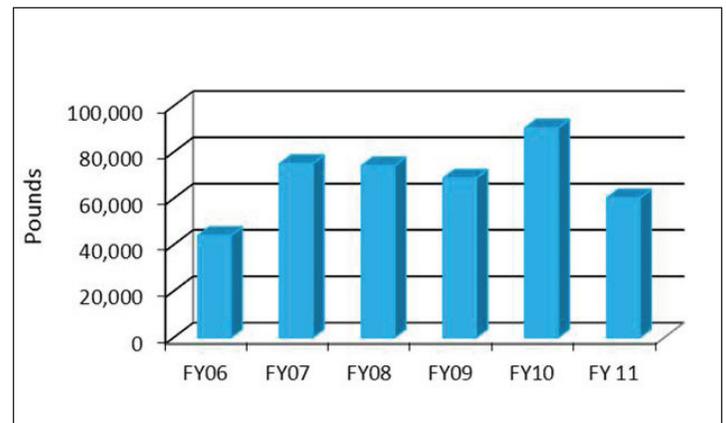
In addition to e-waste, last year the City also collected 9,350 tons of recycled debris from private and public construction projects. A majority of the 50,000 tons of tree debris from the November/December windstorm was recycled into free mulch and made available to residents.<sup>21</sup> Furthermore, on October 3, 2011, the City Council unanimously approved the recommendation to prohibit the distribution of single-use plastic carryout bags for consumer use. It also established a charge on single-use paper carryout bags.

Nuclear power is not without controversy. It generates large amounts of energy, but by-process waste may linger for millions of years, potentially impacting health and well-being. Pasadena Water and Power acquires 6% of its energy from the Palo Verde Nuclear Generating Facility near Phoenix.<sup>136</sup> In addition, one of California’s only two nuclear power-generating stations is 70 miles from Pasadena, in San Onofre. In January 2012, a radiation leak was detected in one of the 39,000 newly installed radioactive water tubes in the plant’s steam generators. The plant was shut

down and investigated by Southern California Edison (SCE) and the federal Nuclear Regulatory Commission (NRC). By mid-May, 1,300 tubes were removed due to unexpected wear and potential for rupture and radioactive discharge. The NRC has shut down San Onofre until a plan to prevent such problems is submitted. Meanwhile, SCE customers in the San Gabriel Valley are vulnerable to possible rolling blackouts this summer due to the loss of electricity usually generated by San Onofre. Finally, there is no permanent repository for nuclear waste, allowing for potential downstream environmental implications.<sup>136</sup>

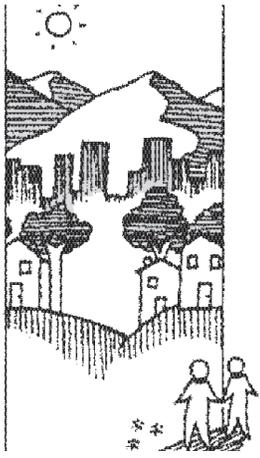
The City of Pasadena values sustainability and environmental consciousness. The City is not only meeting its disposal targets, but is also making significant strides in renewable energy expansion. Because of the long-term and often unpredictable environmental effects on human health, it is important to look at sustainability in any policy.

**FIGURE 6: ELECTRONIC WASTE IN PASADENA (FY06-2010)**



The City continually strives to increase the rate of recycling for green waste, hazardous waste and electronic waste. Since FY2007, Pasadena Public Works Department has collected almost 60 tons or more of E-Waste, greatly reducing the amount of toxic substances being released into the environment.

# Valuing Open Space



## OPEN SPACE

The U.S. Environmental Protection Agency (EPA) defines open space as an undeveloped piece of land accessible to the public and includes all green spaces, parks, playgrounds, greenways, and trails.<sup>139</sup> They help make cities more livable by fostering a connection between residents to the surrounding environment, which can be especially important in an urban area.<sup>140</sup> Additionally, they promote health by providing opportunities for physical activity, helping to relieve symptoms of depression and anxiety; improve overall mood; and enhance psychological well-being.<sup>140</sup> Individuals who have access to parks and open spaces are more likely to engage in physical activity, which can reduce obesity and its negative health outcomes, including high blood pressure, high cholesterol, congestive heart failure, and stroke.<sup>140</sup>

The City of Pasadena Department of Public Works Parks and Natural Resources Division oversees 23 parks, totaling 1,539.58 acres of parkland, or 10.5% of Pasadena's total land. These parks and recreational areas are meant to encourage community involvement and provide safe places for residents to gather and play. The City aims to keep these parks and the Arroyo Seco safe, functional, and attractive places for visitors. The City strongly emphasizes cultivating trees, natural areas, and native vegetation and wildlife.<sup>141</sup>

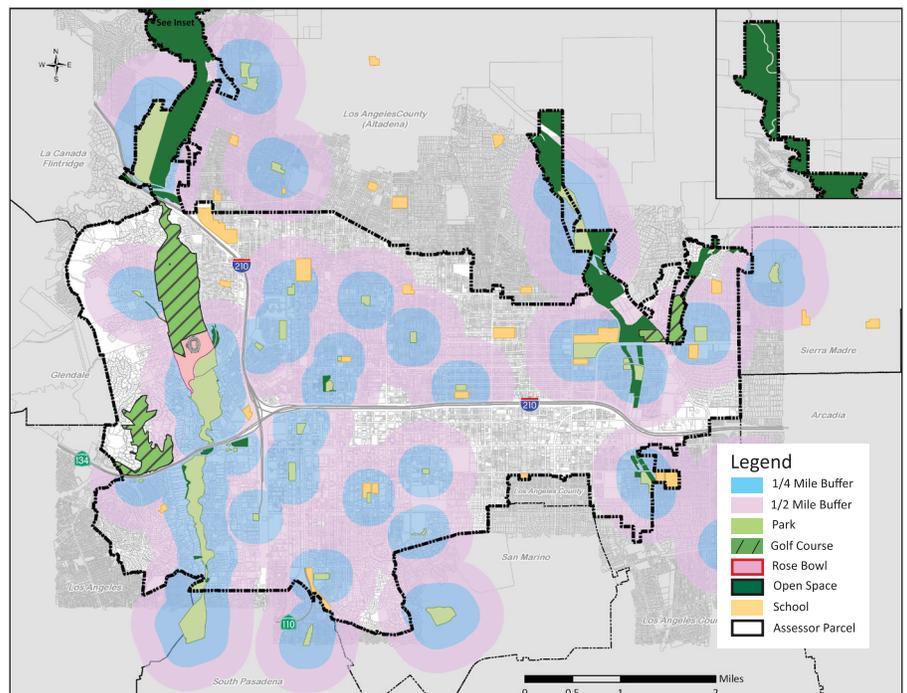
## NATURE AND HEALTH

A growing body of research shows interaction with the natural world improves physical and psychological health. Exposure to plants has been shown to have a number of well-established mental health benefits. For example, green and grassy settings lead to a decrease in fear and anger, and are further associated with heightened mental alertness, attention, and cognitive performance.<sup>140</sup> Additionally, recovering surgical patients who have views of trees

and nature have shorter hospital stays and less need for pain medications.<sup>140</sup>

To ensure Pasadena's residents have equal access to green space, Pasadena's Urban Forestry Program maintains more than 60,000 trees throughout the city, and enhances the city's urban forest with reforestation projects in parks, municipal grounds, open spaces, medians, and streets. In fact, for the 11th year, in 2011 the City of Pasadena was awarded with the Tree City USA Designation and Growth Award for their commitment to urban forestry.<sup>141</sup>

**FIGURE 1: MAP OF OPEN SPACE GAPS IN PASADENA (2012)**



*This map depicts both 1/4 mile and 1/2 mile radii or "walkable service areas" around Pasadena's Neighborhood and Community Parks. A 1/2 mile is around a 10-20 minute walk for many, while a 1/4 mile represents a more appropriate distance for residents with limited walking abilities. In 2007, when the map was originally made, seven gaps existed; however, with the addition of access to a park in the Linda Vista and McKinley areas, only five gaps remain. These five areas have been identified as gaps in open space and are listed as priority areas in the Pasadena Green Space, Recreation and Parks Master Plan.<sup>146</sup>*

*Note: Please refer to the Appendix for a larger version of this map.*

## COMMUNITY GARDENS

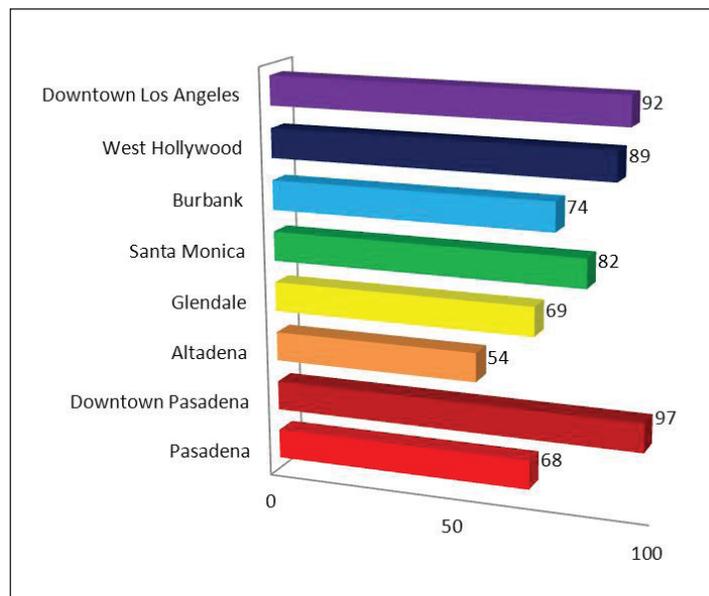
Community gardens are plots of land used to cultivate plants, either to eat or just for recreation. Community gardens provide a form of physical activity, help reduce blood pressure and alleviate muscle tension, and provide free or inexpensive produce. Strong evidence shows that gardeners consume vegetables more frequently than their non-gardener counterparts.<sup>140</sup> Community gardens provide a forum for local residents to relax and connect with other community members.<sup>140</sup> In April 2012, Pasadena Community Gardens announced the opening of its first community garden. The vacant plot of land across from Huntington Hospital will be used to create a vegetable and flower garden, and will also provide a sitting area to enjoy the scenery; gardening will begin in fall 2012.<sup>142</sup> Harambee Ministries also has lots available for community gardening, located on Howard and Navarro.<sup>143</sup> Pasadena hopes to develop several more community gardens throughout the city.<sup>142</sup>

## WALKABILITY

A 'walkable' city considers the presence and quality of paths, sidewalks, traffic and road conditions, land use patterns, building accessibility, and safety.<sup>144</sup> Walkable spaces increase physical activity levels, which consequently can help lower body mass index (BMI).<sup>108</sup> Walkability provides opportunities for social interaction, increased number of friends and associates, reduced crime rates, and more volunteerism.<sup>108</sup> Additionally, walkability promotes the reduction of carbon emissions if individuals choose to walk rather than drive, and yield cost savings to the walker, who no longer pays for car maintenance and fuel.<sup>145</sup>

The beauty of the natural environment is one of Pasadena and Altadena's strongest features. Adequate open space should be encouraged and made equally available to the community, even as the population continues to grow, so that the area's public health may be fostered by the natural environment.

FIGURE 2: WALKABILITY SCORES FOR LOS ANGELES COUNTY LOCALES



90–100 Walker's Paradise — Daily errands do not require a car.  
70–89 Very Walkable — Most errands can be accomplished on foot.  
50–69 Somewhat Walkable — Some amenities within walking distance.  
25–49 Car-Dependent — A few amenities within walking distance.  
0–24 Car-Dependent — Almost all errands require a car.

*The cities above were selected for their proximity to Pasadena and Altadena, or due to their high score. Pasadena, in comparison to Los Angeles County locales, performs well for a city, especially in downtown Pasadena. Downtown Pasadena has an extremely high Walk Score®, a near-perfect 97. Pasadena has a well-balanced mix of residential and commercial properties throughout the city. While Altadena is 'somewhat walkable' like Pasadena, it is on the lower end of the spectrum. This is primarily due to the fact that it is largely residential, with few commercial properties where the bulk of errands are performed. These rankings further highlight the importance of good community planning.*

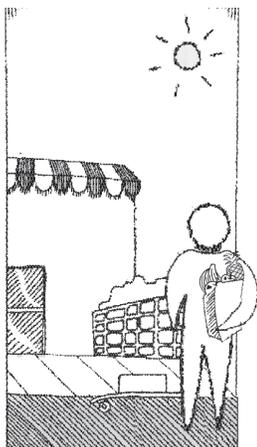
*The walkability score creators note: "Certain categories are weighted more heavily than others to reflect destinations associated with more walking trips. Additionally, road connectivity metrics such as intersection density and average block length are factored into the score. Walk Score® uses a variety of data sources such as Open Street Map, local business listing, and public data sources such as parks and schools." Walkability scores were used with permission. More information on walkability scores are available online at <http://www.walkscore.com>.<sup>147</sup>*

**healthy PASADENA**

**RELATED HEALTHYPASADENA.ORG DASHBOARDS:**

- Land Used for Farming

# Food Environment



Access to healthy foods is integral in influencing health disparities and attaining an equitable quality of life.<sup>148</sup> Neighborhood differences may influence dietary patterns and obesity, which may lead to serious chronic diseases.<sup>148</sup> It is important to assess the availability of healthy foods and their barriers to access, in order to determine what is needed to improve the health of communities.

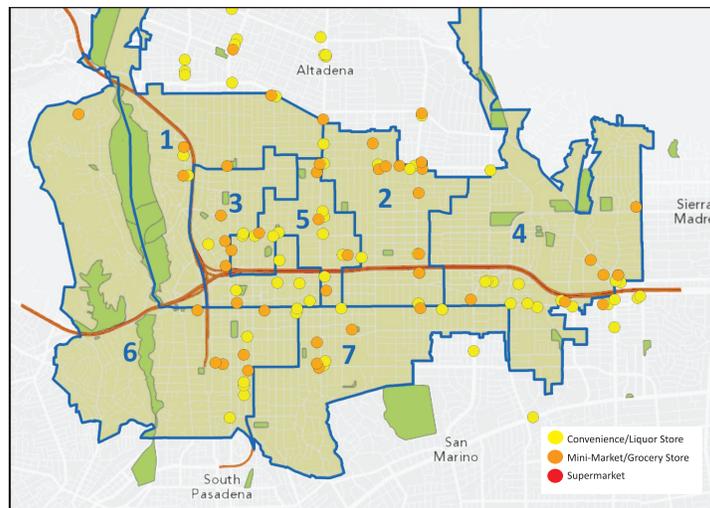
## INFLUENCES ON EATING BEHAVIORS

Healthy food choices are influenced by many factors, including cognition, lifestyle choices or behaviors, genetics or biology, and demographics.<sup>149</sup> A person's physical environment is a major determinant in eating behaviors because of factors like proximity to a store, but social and macro-level environments also play a significant role. Social environments, such as interactions with family and friends, influence food choices through role-modeling, social support, and social norms. A person's culture can strongly influence their dietary choices. Macro-level environments involve larger societal factors that indirectly influence food choices (such as marketing, agriculture policies, production and distribution, as well as economic price structures). These three concepts form a person's collective food environment, and it is important to consider all three if a change is to be sustainable.

## PHYSICAL ENVIRONMENT BARRIERS

Neighborhoods with better access to markets and limited access to convenience stores demonstrate healthier diets and lower levels of obesity.<sup>148</sup> Conversely, neighborhoods with a scarcity of markets and an abundance of fast food or convenience stores can damage public health by limiting the affordability of, and access to, healthy food options. These areas are formally known as "food deserts."<sup>150</sup> Food deserts occur more often in neighborhoods with increased socioeconomic disparity, minority composition, and population density.<sup>148</sup> Some strategies to improve the physical environment include establishing more public markets, developing community gardens, and lowering prices for healthy foods.<sup>148</sup> In Pasadena, three farmers' markets provide fresh fruits, vegetables, and other items

**FIGURE 1: DISTRIBUTION OF GROCERY AND CONVENIENCE STORES IN ALTADENA AND PASADENA (2012)<sup>154</sup>**



*In Pasadena, there are approximately 47 grocery stores/markets, which amounts to about 2 grocery stores per square mile.<sup>155</sup> Ideally, there would be an equal distribution of grocery stores in walking distance from every neighborhood, with a larger proportion of supermarkets to convenience stores. Disproportionate distribution encourages the presence of food deserts in a community.<sup>148</sup>*

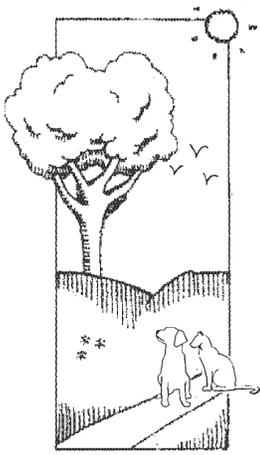
*Note: Please refer to the Appendix for a larger version of this map.*

three days of the week.<sup>151</sup> Also, a community garden is scheduled to open in fall 2012. Programs like Women, Infants and Children (WIC) and CalFresh work to subsidize healthy foods. Finally, volunteer students and teachers at John Muir High School have converted 1.5 acres of its campus into an urban farm known as Muir Ranch CSA (community supported agriculture).<sup>152</sup>

## SELECTED HIGHLIGHTS

On April 25, 2011, the City of Pasadena passed the Healthy Eating Active Living (HEAL) Resolution in an effort to encourage healthy food and physical activity and to prevent obesity. Of the over 110 cities participating in the campaign, Pasadena was the sixth to receive the 'Fit HEAL City' designation.<sup>153</sup> As part of the effort, the Pasadena Public Health Department (PPHD) Nutrition and Physical Activity Program drafted the City of Pasadena Healthy Food and Beverage Vending and Procurement Policy, limiting snacks and beverages sold/served in vending machines and city functions to those that meet nutritional requirements.<sup>153</sup>

# Animal Health & Vector Control



The overall health of a community is closely tied to the health of its other residents, the animals. Animal-borne diseases that can be transmitted to humans are called zoonoses. Examples of zoonoses include, but are not limited to: Plague, Tularemia, West Nile Virus, Rabies, Salmonellosis, Endemic Murine Typhus, and Lyme Disease. Methods that reduce or eradicate zoonose carriers help to stop the spread of disease in humans and animals alike.

## ANIMAL HEALTH

Animal health is closely tied to human health. Diseases like heartworm and Rabies remain low to almost non-existent because of proper screening and mandatory pet vaccination programs.

## VECTOR CONTROL

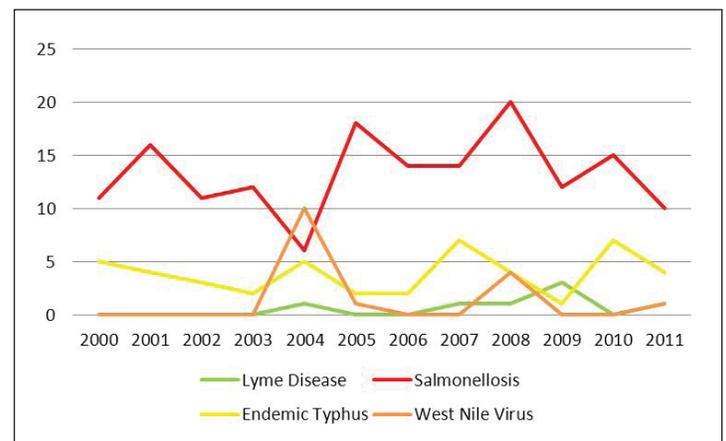
Generally, a vector is any animal, human or organism that transmits disease to another living organism; however, in most cases, a vector-borne disease describes a disease transmitted by a blood-sucking insect like a tick, mite, flea, mosquito, or spider. Zoonoses, including vector-borne diseases, can be controlled by removing sick or dying animals from the environment, or through medical prophylaxis and animal vaccinations that prevent disease from occurring.<sup>156</sup> The Pasadena Humane Society (PHS) and SPCA impound various animals and wildlife vectors to control disease. In 2011, PHS received 11,929 animals and adopted 3,938 companion animals. In 2011 they had a placement rate of 93% for cats and 96.6% for dogs, despite seeing a 2.5% decrease in adoptions since 2010.<sup>157</sup>

In Pasadena, select species of mosquitoes may be vectors for diseases like Western Equine Encephalitis, Malaria, West Nile Virus, and dog and cat heartworms. To control the presence of mosquitoes, the Pasadena Public Health Department in conjunction with the Pasadena Police Department (PPD) operate a Green Pool Initiative. PPD helicopters look for stagnant pools and green standing water, and notify the Public Health Department upon discovery. The number of green pools has increased in the last five years due to the economic downturn, which has resulted in decreased maintenance of swimming pools and increased home foreclosures. Pools or

ponds that contain mosquitoes are drained, covered with a tarp or screen, or stocked with mosquito fish. The Pasadena Public Health Department provides residents with free mosquito fish to stock their pools or ponds.

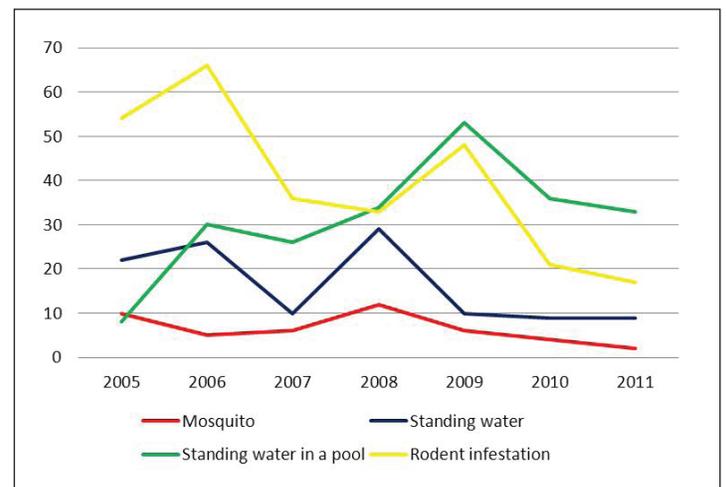
To protect public health, the City and health advocates should be conscious of animal health.

**FIGURE 1: REPORTED CASES OF VECTOR-BORNE DISEASES IN PASADENA (2000-2011)**

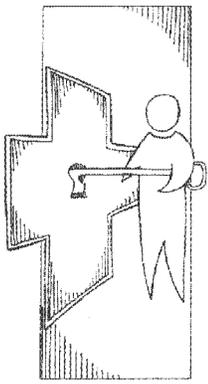


*With the exception of West Nile Virus in 2004, the disease incidence of vector-borne diseases in Pasadena is relatively static with limited pockets of localized outbreaks. Due to the nature of the diseases, most of the occurrences go undiagnosed or unreported and therefore these numbers are likely underestimates. In California, between 2002 and 2004 West Nile Virus went from statistically insignificant to its peak height. The high number of cases is likely due to increased attention and proper reporting.<sup>158</sup>*

**FIGURE 2: PEST COMPLAINTS REPORTED IN PASADENA (2005-2011)**



*Pest complaints are important to track because they can act as a precursor to disease outbreaks. Complaints of rodent infestation have decreased 68.5% since 2005. Complaints of standing water in pools were over four times higher in 2011 than in 2005, while mosquito complaints decreased 80%.<sup>155</sup>*



# Access to Care

Access to care means coverage in a health care system, access to a health care location, and access to a trustworthy health care provider.<sup>96</sup> Accessibility not only impacts overall physical, social and mental health status, but is also directly associated

with disease prevention, treatment detection, quality of life, preventable death, and life expectancy. Barriers to access (including cost, health insurance, and availability) lead to delays in care, preventable hospitalizations, and unmet health needs. In 2014, an estimated 32 million Americans will have health insurance for the first time, making the need for accessible health care an even bigger priority.<sup>96</sup>

The issue of accessibility spans a number of sub-topics within health care, including geographic availability, price, organization, and their social and cultural acceptability.<sup>159</sup> Accessibility and the successful integration of health care are associated with better health outcomes and lower health care costs. In addition, the ease of access to primary care increases the likelihood of receiving preventive health care and decreases disparities in care.<sup>160</sup> Since California has the largest uninsured population of any state in the country, local resident coverage is particularly important.<sup>161</sup>

## HEALTH INSURANCE COVERAGE

According to the 2012 U.S. Census American Community Survey, 4% more of the total population in Pasadena is uninsured, compared to the United States as a whole (Figure 1). In fact, almost 25% of people ages 18-64 in Pasadena are uninsured. Furthermore, according to the California Health Interview Survey, almost half of all health insurance coverage in SPA 3 is employment-based with only 9% of the population purchasing private insurance. Consequently, 15% of those in SPA 3 are uninsured (Figure 2). According to the California Healthcare Foundation, employer-based insurance decreased by 8.9% in Californians from 2000-2010, while uninsured residents increased by 2.2% and Medicaid recipients increased by 7%.<sup>161</sup>

## HEALTH INSURANCE SPENDING

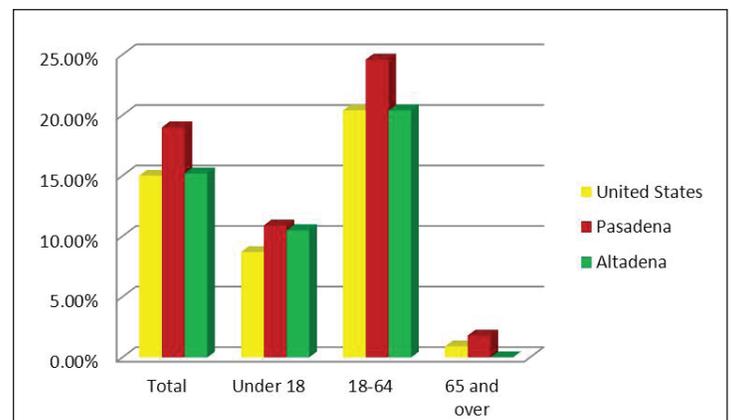
In comparison to other countries, the United States spends the most national income on health care but still has a high percentage of uninsured or under-insured citizens, as well as the smallest proportion of primary care physicians. In fact, according to the California Healthcare Foundation,

national health spending per capita increased by almost 76% from 1999 to 2009 (and is projected to increase by 7% from 2009-2011).<sup>161</sup>

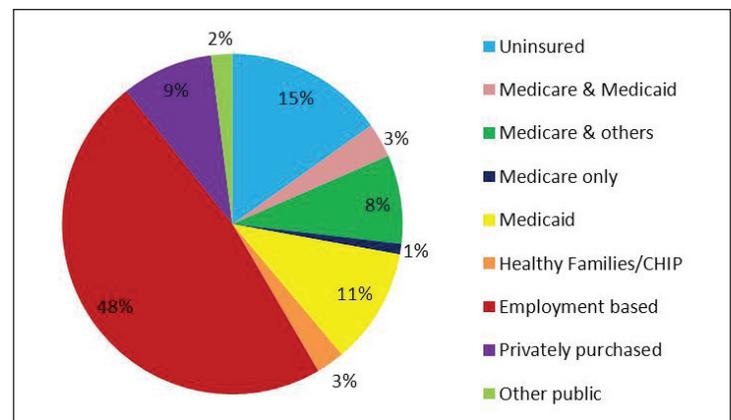
## HEALTH CARE UTILIZATION

Low-cost care in Pasadena is heavily utilized (Figure 6). Huntington Hospital Dispensary, also called the Ambulatory Care Center, serves uninsured and under-insured clients. The Community Health Alliance of Pasadena (CHAP) and the Bill Moore Community Health Clinic are public/private partnership (PPP) clinics that contract with the Los Angeles County Department of Health Services to provide outpatient care to un- and under-insured people.<sup>165-167</sup>

**FIGURE 1: UNINSURED PROPORTION OF THE POPULATION (2010)<sup>9</sup>**

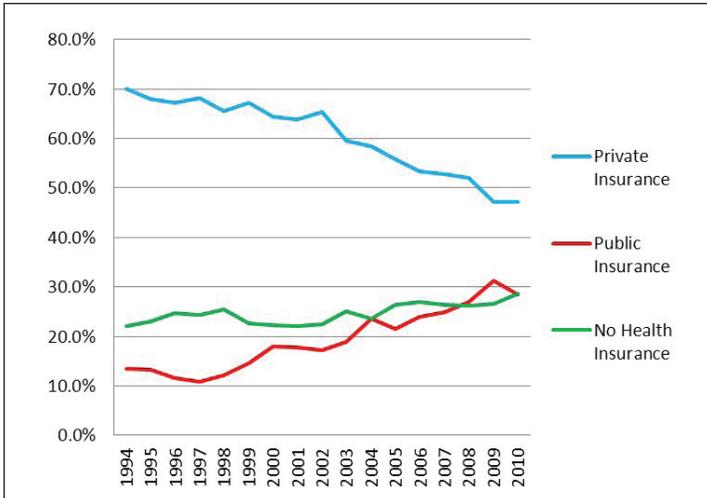


**FIGURE 2: HEALTH INSURANCE COVERAGE IN SPA 3 (2009)\*<sup>168</sup>**



\* Los Angeles County is divided in eight Service Planning Areas (SPA) for health care planning purposes. Pasadena is located in SPA 3, or the San Gabriel SPA, along with cities like Altadena, Alhambra, Arcadia, Azusa, Claremont, El Monte, Diamond Bar, Pomona, and San Dimas.

**FIGURE 3: TRENDS IN INSURANCE COVERAGE SOURCES IN CALIFORNIA (1994-2010)\***



\* Data presented is for non-elderly California residents earning \$25,000-49,999. Elderly citizens were excluded due to Medicare eligibility and earners over \$50,000 were not presented due to likelihood of inability to qualify for public insurance. The population presented represents those most at-risk for losing insurance coverage.

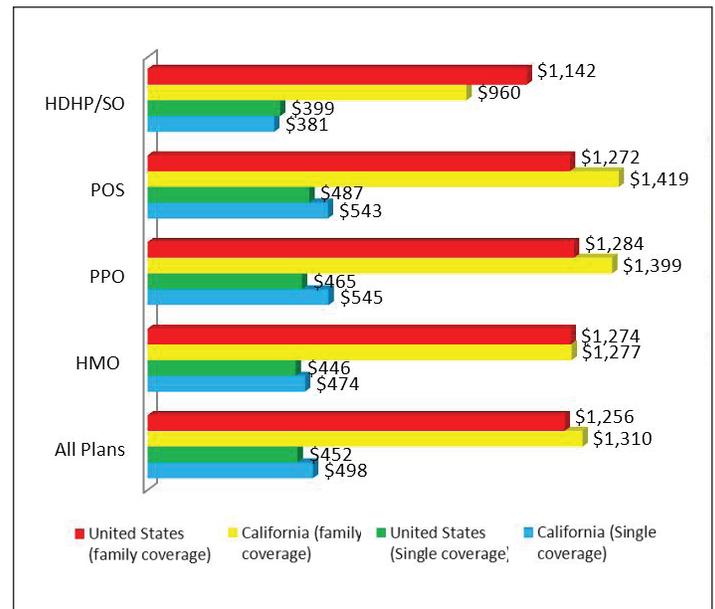
There has been a sharp decline in private insurance coverage in California, while the segment with public insurance coverage more than doubled. Also, California's rate of private insurance has consistently been lower than the national rate, falling about 6% lower in 2010.<sup>161</sup>

According to the Bill Moore Clinic, the dramatic increase in patient visits is attributable to several factors. The Clinic has increased its hours to include three daytime clinic sessions, increased the services available to the homeless population, opened a satellite clinic in Monrovia, and implemented an electronic health record system to decrease patient waiting times. The economic downturn during the last two years has also increased the amount of people seeking low-cost care, thereby increasing the patient load significantly.<sup>166</sup>

The Huntington Hospital Emergency Department is also heavily utilized. Visits have increased by 6.9% since 2002, but decreased 1.5% since 2010. According to Huntington Hospital, the emergency department was initially built to accommodate 30,000 patient visits per year. The number of yearly patient visits has exceeded that amount every year for the last decade, to a current figure of over 59,000 visitors. To accommodate this, an \$80 million expansion, funded through community philanthropy, is under way. The Emergency and Trauma Center expansion is expected to allow for 80,000 patient visits yearly.<sup>162</sup> The expansion will add 20,000 square feet to the Center, nearly doubling the department's capacity

to provide emergency care. The expansion will be completed by mid-2012. Subsequently, physicians and staff will move into the new facility, and renovation construction will begin on the existing emergency department. At that stage of the expansion, the department will be operational with 28 active beds. This will increase to 50 beds at completion of the project in late 2013. Wait-times are expected to decrease as a result.<sup>162</sup>

**FIGURE 4: AVERAGE MONTHLY PREMIUMS BY INSURANCE TYPE AND REGION (2011)**



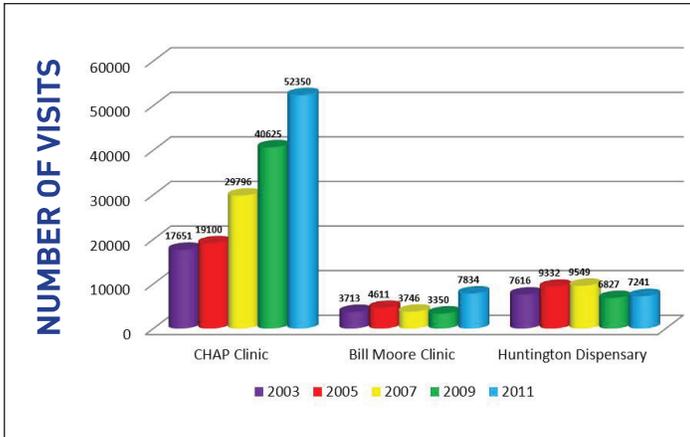
Average monthly premiums and employer contributions for both single and family coverage were significantly greater in California than nationally. Furthermore, since 2002, health insurance premiums in California have increased by 153.5% compared to the State's overall inflation rate increase of 29.3%.<sup>161</sup>

**FIGURE 5: SPENDING TRENDS IN HEALTH IN PASADENA (2010)**

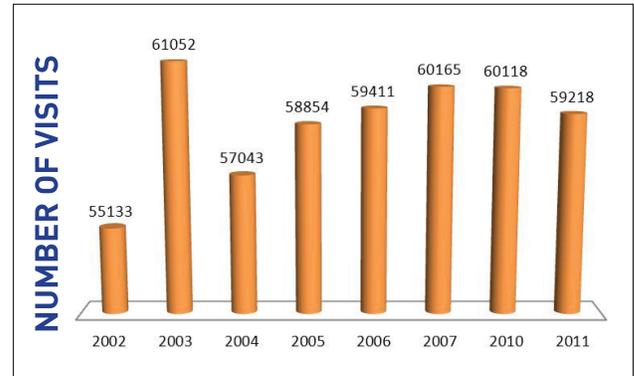
Pasadena Spending	Annual Total	Annual Average per Household	Spending Potential Index
Health Care	\$221,621,723	\$4,007.55	108
Prescription Drugs	\$26,533,339	\$479.80	96
Non-Prescription Drugs	\$6,220,336	\$112.48	109

The spending potential index can be compared to a national average of 100. Therefore, with total healthcare spending in Pasadena in 2010 at \$221,621,723, spending was 8% higher in Pasadena than the national average. Pasadena's non-prescription drug spending was 9% higher than the national average; however Pasadena spent 4% less in comparison to the nation on prescription drugs.<sup>72</sup>

**FIGURE 6: LOW-COST CLINIC UTILIZATION IN PASADENA (2003-2011)<sup>165-167</sup>**



**FIGURE 7: EMERGENCY DEPARTMENT VISITS AT HUNTINGTON HOSPITAL (2002-2011)<sup>167</sup>**

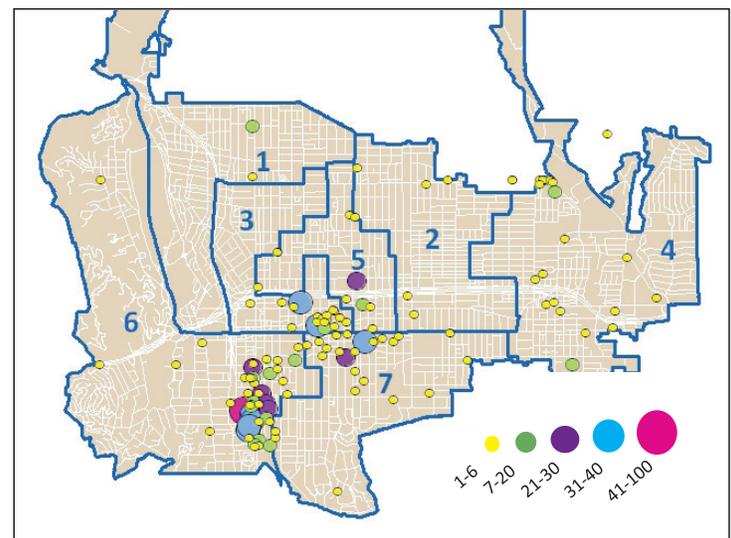


## SELECTED HIGHLIGHTS

Several organizations within Pasadena and Altadena aim to improve access to care and support medical endeavors. The Pasadena Healthcare Consortium is a collaboration of local healthcare providers working to improve access to health care for Pasadena’s low-income, uninsured, and underserved population. The Consortium established the Pasadena Healthcare Link (PHL), which coordinates healthcare services and referrals in an effort to provide increased access to healthcare and to decrease inappropriate emergency department visits for non-urgent conditions.<sup>163</sup> In addition, the Altadena Guild is a non-profit organization founded by the Women’s Auxiliary of Huntington Hospital. It raises funds for the Huntington Medical Research Institutes by organizing and hosting a number of events every year. The Altadena Guild also supports other local charitable programs through fundraising, awareness, and volunteerism.<sup>164</sup>

In March of 2010, President Obama signed the Patient Protection and Affordable Care Act and Health Care and Education Reconciliation Act of 2010 into law. The two laws are collectively referred to as the Affordable Care Act. The Affordable Care Act includes a wide variety of provisions designed to provide more health care choices, to enhance the affordability and quality of health care for all Americans, to hold insurance companies accountable, and to lower healthcare costs.

**FIGURE 8: DISTRIBUTION OF MEDICAL PROVIDERS IN PASADENA (2011)**



*This map shows the number of physicians by location within the City of Pasadena. The highest concentration of physicians is near the central and downtown areas and at Huntington Hospital. There is a barrier to access care for those outside these areas who want to visit a physician within walking distance, especially in the Northwest region.<sup>169, 170</sup>*

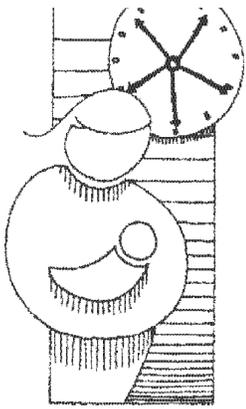
*Note: Please refer to the Appendix for a larger version of this map.*

**healthy PASADENA**

**RELATED HEALTHYPASADENA.ORG DASHBOARDS:**

- Adults with Health Insurance
- Adults with Private Health Insurance
- Children with Health Insurance
- People Delayed or had Difficulty Obtaining Care
- People with a Usual Source of Health Care

# Maternal Health and Child Development



The health and well-being of mothers, infants, and children are vitally important. They not only reflect the current health status of individuals and communities, but also serve as predictors for the health of the next generation and provide insight for future public health challenges in the health care system.<sup>171</sup>

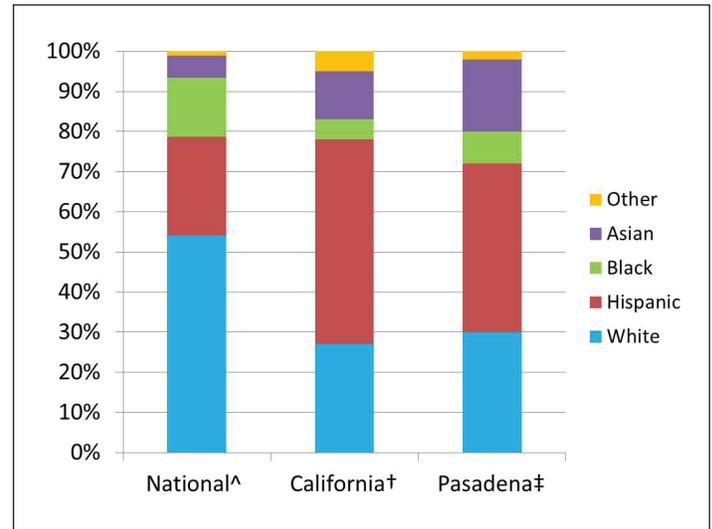
Maternal health refers to the health of women during pregnancy, childbirth, and postpartum. Family planning, preconception, prenatal, and postnatal care reduce maternal morbidity and mortality due to hemorrhage, infection, high blood pressure, unsafe abortion, and obstructed labor.<sup>172</sup> Pregnancy provides opportunities to identify existing health risks in women and to prevent future health problems for women and their children. Early identification of these health risks can prevent harm from diseases including hypertension, heart disease, diabetes, depression, certain genetic conditions, sexually transmitted diseases, tobacco use and alcohol abuse, inadequate nutrition, and unhealthy weight.<sup>173</sup>

## BIRTH RATES

In 2010, preliminary data published by the Centers for Disease Control and Prevention (CDC) reported 4,000,279 registered births in the United States, a 3% decrease from 2009. Birth rates for women aged 20-24 dropped 6%; birth rates for women in their 20s and 30s declined; and the birth rate for women aged 40-44 increased by 2%, suggesting an overall trend toward women delaying pregnancy.<sup>174</sup> Additionally, the composition of births does not reflect the distribution of the community. There is an over-representation of births amongst Hispanic households.<sup>175, 176</sup>

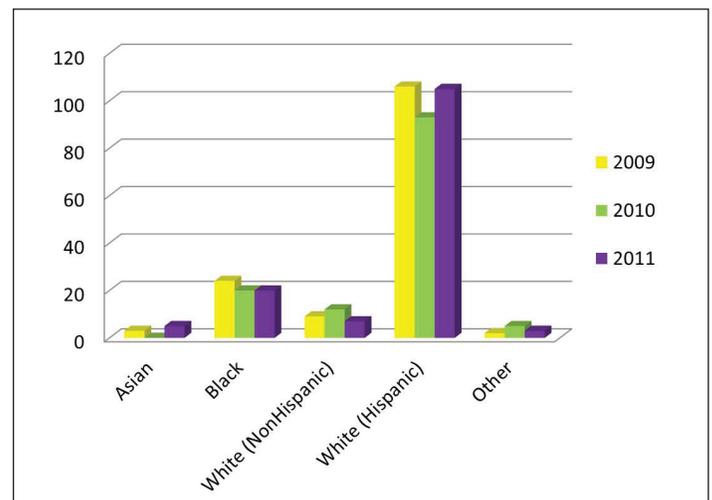
In addition to the changing paradigm of childbirth, issues such as teen pregnancy place substantial social and economic costs on teen parents and their children.<sup>177</sup> Teen pregnancy and birth significantly contribute to high school dropout rates among girls. Only an estimated 50% of teen mothers receive a high school diploma by age 22, compared to 90% of women who were not teen mothers.<sup>177</sup> In addition, teen pregnancy accounts for approximately \$11 billion per year to U.S. taxpayers in increased health care and foster care costs, increased incarceration rates among children of teen parents, and lost tax revenue due to lower educational attainment and income among teen mothers.<sup>178</sup>

**FIGURE 1: DISTRIBUTION OF BIRTH RATES BY RACE/ETHNICITY AND LOCALE (2009)**



Reflective of California's demographics, Hispanics make up the largest percent distribution of births in Pasadena. White (Non-Hispanic) births are underrepresented at 30% of births, despite making up 38% of Pasadena's total population. This is likely due to age distribution of White people in Pasadena. There are relatively more Asians and Hispanics of reproductive age, than their White counterparts.<sup>175, 176</sup>

**FIGURE 2: NUMBER OF BIRTHS TO TEENS (AGES 15-19) IN PASADENA BY ETHNICITY (2009-2011)**



In 2010, births among teens aged 15-19 in the United States was 34.3 births per 1,000 females. Though this was a 44% decline since 1990, it still accounted for an estimated 368,000 teen births. Marked racial/ethnic disparities exist, as non-Hispanic Black, Hispanic/Latino, American Indian/Alaska Native, and socioeconomically disadvantaged youth of any race or ethnicity nationally exhibit the highest rates of teen pregnancy and childbirth. Together, Black and Hispanic youth comprised 57% of U.S. teen births in 2010.<sup>2</sup> A similar trend is seen in Pasadena, as Black and Hispanic teen births remain highest.<sup>158</sup>

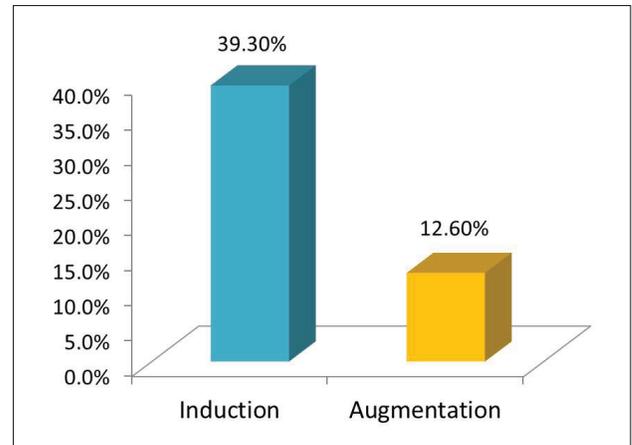
## CESAREAN SECTIONS

Cesarean sections are an effective intervention when risks of a vaginal delivery outweigh the benefits. The World Health Organization (WHO) recommends that the best outcome rates for C-sections are at 5%-10%, and that rates above 15% do more harm than good.<sup>179</sup> Pasadena has a C-section rate of around 42%, much higher than the WHO recommendation (Figure 4).<sup>180</sup>

In general, high rates of C-section have been attributed to a number of factors, including refusal to offer informed choice of vaginal birth, social tolerance of unnecessary surgical procedures, providers' fears of malpractice claims and lawsuits, and the casual attitude regarding surgery and C-sections in particular. While it is difficult to ascertain precisely why Pasadena's C-section rate is so high, a number of factors may contribute. Due to the high standards of care practiced at Huntington Hospital, and because Huntington is one of the few facilities in the area with a Neonatal Intensive Care Unit, Huntington Hospital is the only hospital in the Pasadena region that receives the riskiest obstetrical cases. C-sections performed may thus be disproportionate to Pasadena's population. This does not wholly account for its C-section rate, but may nevertheless be a significant contributing factor.

These high rates provide opportunities to educate expectant mothers about mode of delivery, enhance patient safety, and decrease health care costs due to C-sections.<sup>181</sup>

**FIGURE 3: PROPORTION OF MEDICAL INITIATIONS OF BIRTH IN PASADENA (2010)<sup>158</sup>**

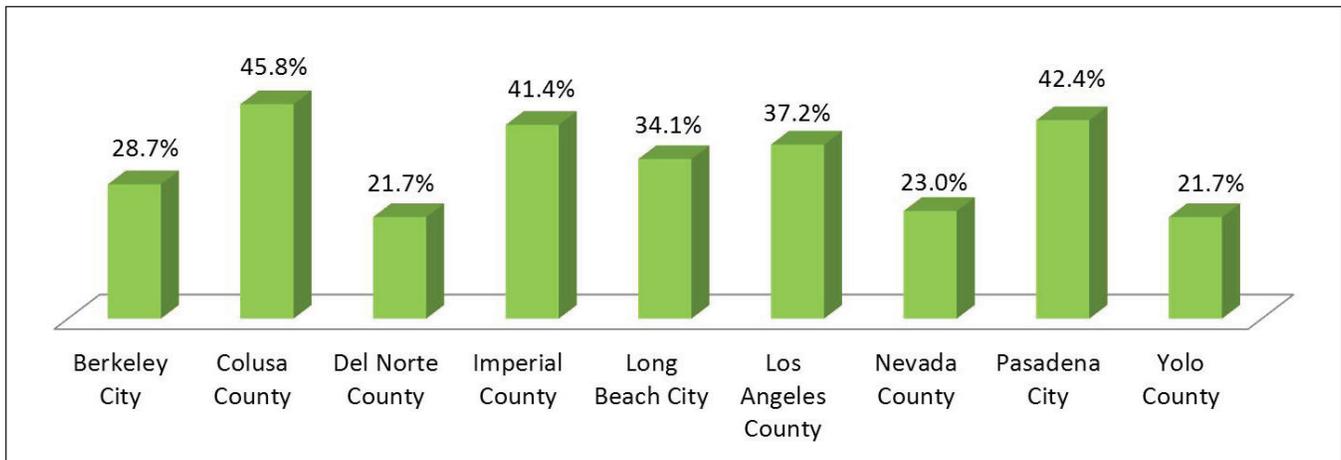


## LABOR INDUCTION AND AUGMENTATION

Induction and augmentation of labor are two of the most common obstetric procedures. They are performed when the benefits of immediate childbirth outweigh the risks of delaying the birthing process. Induction is medically inducing labor before a natural process has begun, while labor augmentation employs a synthetic form of the oxytocin hormone that is naturally produced during a spontaneous labor to help stimulate contractions and move the baby down the birth canal.

Rates of labor induction in the United States have more than doubled since 1990, increasing from 9.5% in 1990 to 20.2%

**FIGURE 4: PERCENT OF BIRTHS BY CESAREAN SECTION (C-SECTION) IN VARIOUS CITIES AND COUNTIES IN CALIFORNIA (2009)<sup>180</sup>**



in 2000 and 22.6% in 2006.<sup>182</sup> Reasons for this rise in induction rates include widespread availability of cervical ripening agents, pressure from patients, and conveniences to physicians.<sup>183</sup> Although induction has the benefit of planning when birth will occur, induction places an increase on costs related to maternal morbidity such as elongated pre-delivery hospital stays, Cesarean deliveries, and more frequent requests for epidural anesthesia.<sup>183</sup> Induction of labor increases the risk for Cesarean deliveries, especially among first-time mothers, advanced maternal age, and those with a cervix unfavorable for birth.<sup>183</sup>

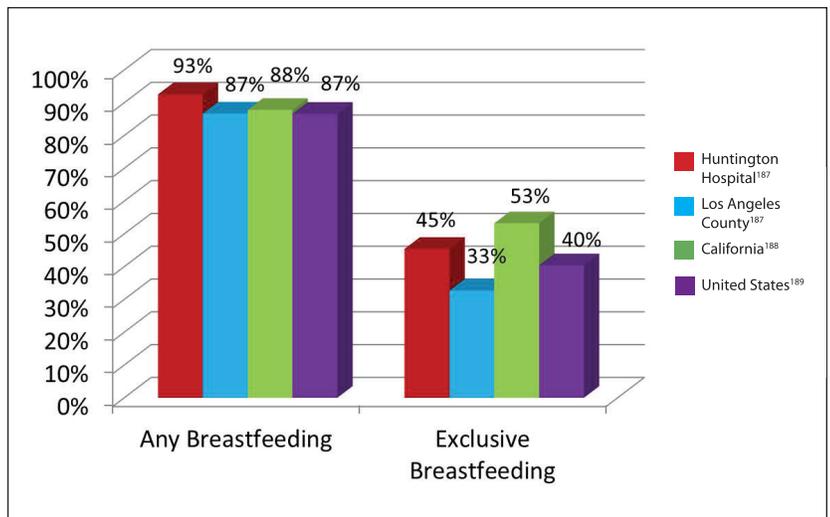
Studies have shown that White women are more likely to have an induced labor than those of other races.<sup>183</sup> Unlike most health outcomes where increased risk is associated with less education and early care, induction rates increase with higher formal education and earlier prenatal care. Induction is also high for those women who are giving birth for the first time.<sup>183</sup>

## BREASTFEEDING

Breastfeeding provides many benefits for both mothers and their children. It provides all the energy an infant requires for the first months of life, as well as salubrious hormones and antibodies that are unique to breast milk. Studies have shown that breastfeeding can reduce risk of childhood leukemia, atopic dermatitis, as well as sudden infant death syndrome (SIDS). Conversely, infants who are formula-fed are more likely to have ear infections, diarrhea, necrotizing enterocolitis, lower respiratory tract infections, asthma, downstream obesity, and type 2 diabetes.<sup>184</sup> Breastfeeding demonstrates positive effects on the mother as well as the baby. Postmenopausal women in the U.S. who breastfed less than 12 months during their reproductive years had higher risk for developing cardiovascular disease, diabetes, hyperlipidemia, and hypertension.<sup>185</sup>

An even healthier option is exclusive breastfeeding. Exclusive breastfeeding is the consumption of breast milk by the infant without any additional food or drink (including water), except for vitamins, minerals, and/or medications.<sup>186</sup> National guidelines recommend infants should be exclusively breastfed for the first six months of life. Benefits include

**FIGURE 5: TRENDS IN BREASTFEEDING AMONG VARIOUS LOCALES (2009)**



reduced infant mortality due to common childhood illnesses such as diarrhea and pneumonia, as well as faster recovery during illness.<sup>179</sup> Pasadena exhibits a higher portion of women who exclusively breastfeed when compared to Los Angeles County and the nation; however, rates in California are higher, implying that it may be possible to increase the percentage of women who exclusively breastfeed in Pasadena.

Ensuring the health of mothers, infants, and children is highly important. Providing resources early in life will return the investment many-fold, as preventing morbidity and mortality preclude expensive treatments downstream. Pasadena and Altadena should continue to reduce unnecessary birthing procedures and promote breastfeeding to ensure better health for future generations.

**healthy PASADENA**

**RELATED HEALTHYPASADENA.ORG DASHBOARDS:**

- Mothers who Received Early Prenatal Care
- Preterm Births
- Kindergartners with Required Immunizations
- Children who Visited a Dentist
- Children with Asthma
- Hospitalization Rate due to Pediatric Asthma

# Mental Health and Substance Abuse



Mental health and substance abuse disorders have been largely excluded from focus in the current health care system. According to the Substance Abuse and Mental Health Services Administration (SAMHSA), this largely unmet need negatively impacts the health and

well-being of individuals, while placing an unnecessary financial burden on communities, schools, businesses, prisons, and the health care system.<sup>190</sup>

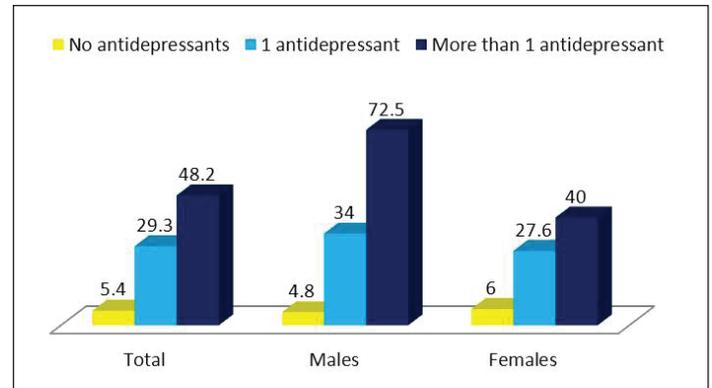
## DEPRESSION

According to the Center for Disease Control and Prevention (CDC), antidepressants were the third most common prescription drug taken by Americans, and their rate of use has increased 400% in the last twenty years.<sup>191</sup> Females are 2.5 times more likely than males to take antidepressants, while 11% of Americans 12 years and older take antidepressant medication. Furthermore, less than one third of those taking an antidepressant medication have seen a mental health professional in the last year.<sup>191</sup> According to SAMHSA, 11 million adults had serious mental illness in 2009, and 25% of those adults had co-occurring substance dependence or abuse.<sup>192</sup>

## SUICIDE

According to the SAMHSA, more than 34,000 deaths in the United States in 2007 were due to suicide, making it the 11th leading cause of death.<sup>192</sup> Consequently, major risk factors for suicide include mental and substance use disorders. Nationally, there are much higher rates of suicide for men than for women.<sup>192</sup> Furthermore, among adults that have experienced a major depressive episode in the past year, 56.3% thought it would be better if they were dead, 40.3% thought about committing suicide, 14.5% made a suicide plan, and 10.4% made a suicide attempt.<sup>193</sup> According to Healthy People 2020, the age-adjusted suicide rate in the United States is 11.3 suicides per 100,000 people.<sup>194</sup> Pasadena's age-adjusted, five year average rate is 9.1 suicides per 100,000 people, in line with the Healthy People 2020 Goal of 10.2 suicides per 100,000 people.<sup>95</sup> Though Pasadena meets the goal, there is opportunity to minimize further suicides.

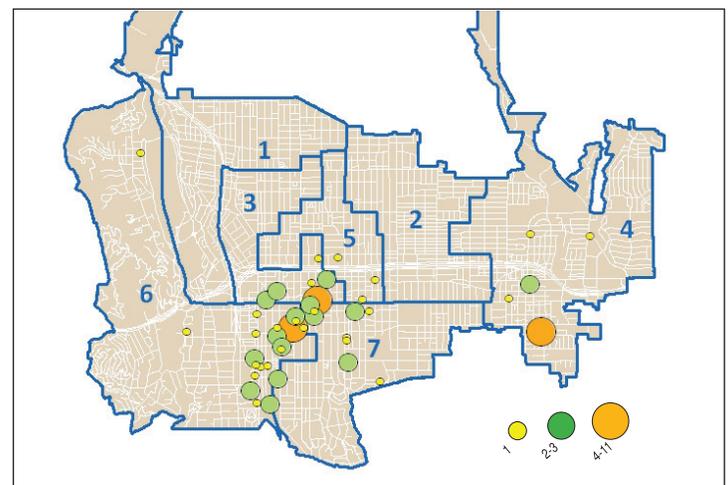
**FIGURE 1: PERCENT OF AMERICANS SEEN BY A MENTAL HEALTH PROFESSIONAL (2005-2008)\***



\*Americans 12 years and older who have seen a mental health professional at least once in the last year.

Only 29.3% of individuals taking an antidepressant have seen a mental health professional in the last year. Also, only 40% of females who are on more than one antidepressant have seen a mental health professional in the last year, compared to 72.5% of males who are on more than one antidepressant.<sup>191</sup>

**FIGURE 2: DISTRIBUTION OF MENTAL HEALTH PROFESSIONALS IN PASADENA (2010)**



Similar to the map of physicians in the 'Access to Health Care' section, the majority of psychologists and psychiatrists in Pasadena are located in commercial areas (downtown).<sup>169, 200</sup>

Note: Please refer to the Appendix for a larger version of this map.

## SUBSTANCE ABUSE

According to the California Healthy Kids Survey for Pasadena Unified School District (2009-2010), 8% of 7th graders and 37% of 11th graders have had an alcoholic drink four or more times in their lifetimes. Among 11th graders, 24% have driven a car after drinking or been driven by a friend who had been drinking. Additionally, 5% of 7th graders and 25% of 11th graders have smoked marijuana four or more times, while 4% of 11th graders report daily marijuana use. Furthermore, 5% of 11th graders have used inhalants to get high four or more times and 3% have used cocaine four or more times. Taken all together, 65% of 11th graders have used alcohol or other illicit drugs (AOD) at least once and 19% of 7th graders and 33% of 11th graders are current AOD users (past 30 days).<sup>195</sup>

In Pasadena, the number of narcotic or alcohol-related arrests per year has generally decreased, with 4,136 arrests in 1990, 2,822 in 2000, an uptick to 3,014 in 2007, and most recently a decrease to 2,439 arrests in 2009.<sup>196</sup>

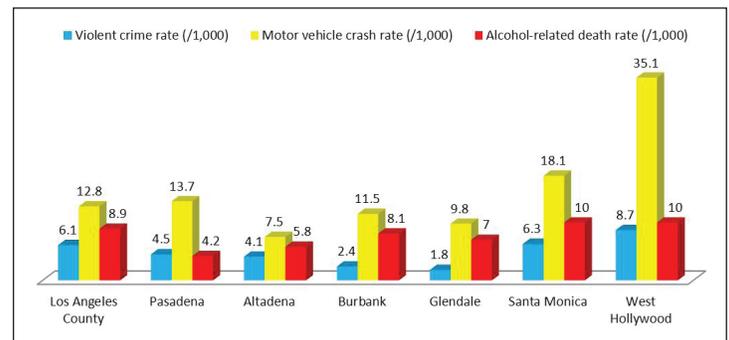
## SELECTED HIGHLIGHTS

In an effort to reduce tobacco use, Pasadena City Council unanimously approved amendments to the City's Tobacco Use Prevention Ordinance on July 11, 2011 to prohibit smoking in apartments and condominiums. According to the Pasadena Tobacco Control Program, this amendment aims to protect residents from drifting tobacco smoke. The first phase of this new law became effective on August 13, 2011.<sup>197</sup>

Among mental health services available in Pasadena, the Center of Grief and Loss for Children provides a supportive environment equipped with therapists, clinicians, and volunteers to bereaved families and hurting children. After death or separation from a loved one, the Center aims to re-establish stable and secure family relationships.<sup>198</sup>

Mental health services and substance abuse prevention require the City's dedication to safeguard the health of the community. Continued effort should be made to decrease rates of suicide and substance abuse and increase availability of mental health services.

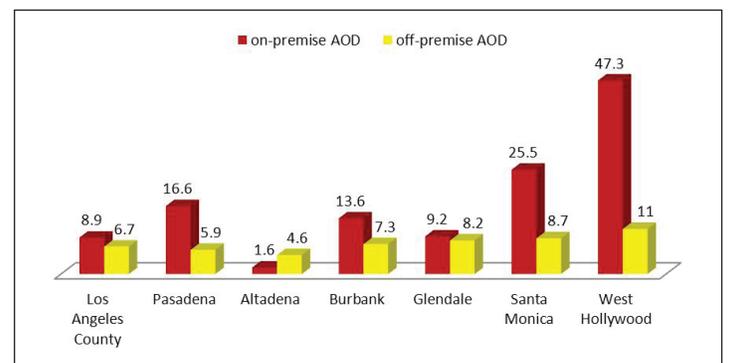
**FIGURE 3: RATES OF ALCOHOL-RELATED HARMS IN VARIOUS LOCALES (2006-2008)**



\* Rate per 1,000

*Pasadena and Altadena have the lowest alcohol-related death rates in comparison to nearby cities and Los Angeles County. However, Pasadena's motor vehicle crash rate due to alcohol is higher than Los Angeles County's.<sup>199</sup>*

**FIGURE 4: ALCOHOL OUTLET DENSITY IN VARIOUS LOCALES (2006-2008)**



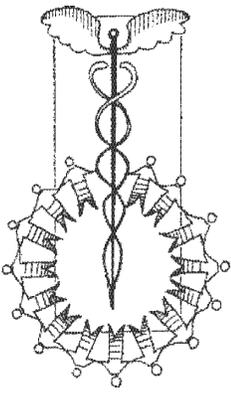
*Compared to nearby cities and to Los Angeles County, Pasadena and Altadena have the lowest off-premise alcohol outlet densities. Off-premise outlets are vendors selling alcohol for consumption off-premise like grocery stores and liquor stores. On-premise outlets include outlets where the alcohol purchased is consumed on-site. These include bars, restaurants, etc. Pasadena's on-premise outlet density is higher than Los Angeles County (16.6 compared to 8.9 respectively).<sup>199</sup>*

**healthy PASADENA**

**RELATED HEALTHYPASADENA.ORG DASHBOARDS:**

- Self-Reported General Health Assessment
- Adults Needing and Receiving Mental Health Care
- Adults who Binge Drink
- Adults who Smoke
- Age-Adjusted Death Rate due to Drug Use
- Hospitalization Rate due to Alcohol Abuse

# Community Health Improvement



A healthy community reflects a sense of mental, physical, and social well-being and is the foundation for achieving all other goals. It takes into account the extent to which community conditions interact to support equitable healthy choices

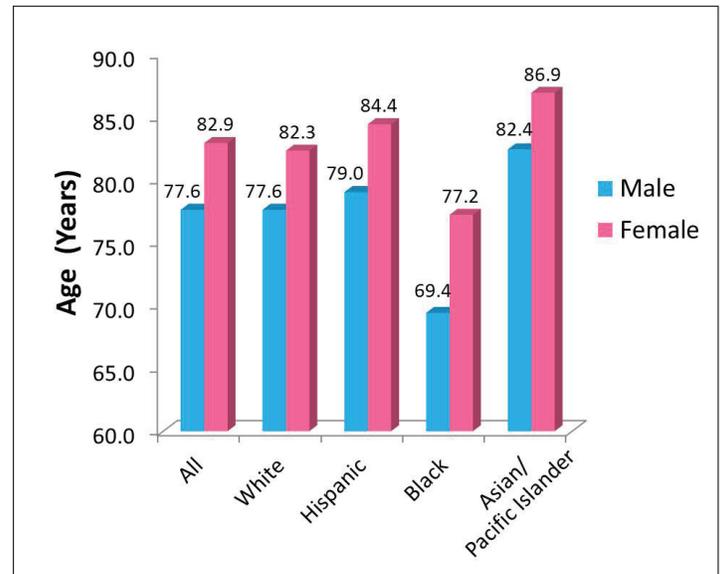
and behaviors. It is directly affected by environmental, social, and economic factors such as the availability of jobs, housing affordability, access to health care and education, and all the additional indices included in this document.

The advancement of community health is the result of a collaborative action by the government, area residents, nonprofits, local schools, faith-based organizations, and private businesses. Joint efforts can focus on a common vision for a healthy community. For example, joint efforts on behalf of cities and communities made major improvements in sewage, solid waste disposal, water treatment, food safety, housing, and community education on hygiene, which dramatically helped reduce deaths caused by infectious diseases. Community partners, health services providers, government agencies, advocacy groups, and referral agencies should continue to identify gaps in health equity, access, and the continuum of care for the general well-being of the people living in Pasadena and Altadena.

## LONGEVITY

Life expectancy is a measure of years that an individual can expect to live; the current life expectancy for those living in Pasadena and Los Angeles County is 81.2 and 80.3 years, respectively.<sup>201,202</sup> With increases in longevity, it is important to ensure that the quality of life is not offset by increased morbidity and disability.<sup>203</sup> Morbidity should be compressed and reduced into a concise period near the end of life to decrease lifetime disability and associated health care costs.<sup>203</sup> Racial and ethnic minorities experience disparities among a significant number of health outcomes, and are influenced by factors such as income, education, employment status, housing, and environmental factors.<sup>204</sup> For example, the average Black man is estimated to live 17.5 fewer years than the average Asian/Pacific Islander woman in Los Angeles County.<sup>202</sup> As advances in medicine and improvements in environmental conditions continue to extend life expectancy, it will be important to focus on such gaps to ensure individuals of all racial and ethnic groups experience an improved quality of life.

**FIGURE 1: LIFE EXPECTANCY AT BIRTH BY SEX AND RACE/ETHNICITY, LOS ANGELES COUNTY (2006)<sup>202</sup>**



## DISEASE SHIFT

Since the 1900s, life expectancy has increased an average of 30 years, and mortality due to infectious diseases has drastically declined.<sup>202</sup> In 1900, the three leading causes of death were pneumonia, tuberculosis, and diarrhea and enteritis; today, they are chronic diseases such as coronary heart disease (CHD), stroke, and diabetes.<sup>205</sup> Efforts to improve sanitation and hygiene, the discovery of antibiotics, and the implementation of vaccination programs have minimized the effects of infectious disease, but the shift to chronic diseases poses new problems. In fact, according to the Centers for Disease Control and Prevention (CDC), chronic diseases comprise seven of the 10 leading causes of death in the U.S., and approximately 50% of Americans are affected by at least one chronic disease, and subsequently experience reduced health, function, activity, and productivity due to that disease.<sup>206</sup>

## TOBACCO USE

Tobacco use remains the leading cause of preventable death and disability. In fact, tobacco use is a risk factor for almost all of the leading causes of death in the United States, including cardiovascular disease, stroke, lung cancer, and emphysema.<sup>207</sup> According to the CDC, California ranks 2<sup>nd</sup> in the nation with the lowest cigarette smoking prevalence among adults.<sup>208</sup> They estimate 14% of adults and 6.9% of youth in California are current smokers.<sup>208</sup> In 2007, smoking prevalence in Pasadena was estimated to be around 12%.<sup>81</sup> Tobacco use in Los Angeles County is directly responsible for 14.6% of coronary heart disease deaths, 9.3% of stroke, 77% of respiratory cancer, 14.7% of pneumonia, and 85.2% of the emphysema deaths. That translates to 8,500 deaths per year in Los Angeles County, or one out of seven, from tobacco-related diseases.<sup>207</sup> Smoke-free environments and improved access to tobacco quitting programs help reduce high rates of heart disease, stroke, respiratory diseases, and many cancers attributed to tobacco use.<sup>202</sup>

## VACCINE-PREVENTABLE DISEASES

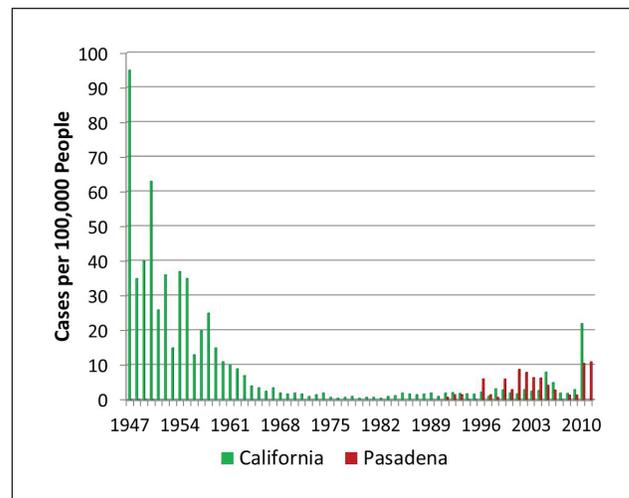
Vaccine-preventable diseases are diseases that may be effectively prevented via vaccination, and include diseases like chickenpox, measles, diphtheria, polio, and pertussis. Ensuring a large vaccinated population has been vital in keeping the incidence of these diseases low.<sup>209</sup> For example, lower rates in pertussis vaccination contributed to a peak in cases in 2010 (Figure 3). The California Department of Public Health reported 22.0 cases per 100,000 people at the State-level (Los Angeles: 13.61, Pasadena: 11.99), the most reported cases in 63 years.<sup>210</sup> To prevent remissions like this, lawmakers passed a law mandating all students entering 7<sup>th</sup> through 12<sup>th</sup> grades to be vaccinated against pertussis.<sup>212</sup> Individuals may sign a personal belief exemption (PBE) to waive vaccinations on religious or philosophic objections. In Pasadena, the PBE rate of students entering kindergarten is 2.5%, comparable to California's rate of 2.3%.<sup>212, 155</sup>

**FIGURE 2: TOP TEN CAUSES OF DEATH, 1900 VS. TODAY<sup>218-220</sup>**

	Top Causes of Death in United States (1900)	Top Causes of Death in United States (2010)	Death Rates* in Pasadena (2009)
1	Pneumonia & Influenza	Diseases of the Heart	221.7
2	Tuberculosis	Malignant Neoplasms	193.3
3	Diarrhea, Enteritis, Ulceration of Intestines	Chronic Lower Respiratory Diseases	51.8
4	Diseases of the Heart	Cerebrovascular Diseases	47.4
5	Intracranial Lesions of Vascular Origin	Accidents (Unintentional Injury)	22.6
6	Nephritis	Alzheimer's Disease	32.8
7	All Accidents	Diabetes Mellitus	10.9
8	Cancer & Other Malignant Cancers	Nephritis, Nephrotic Syndrome, Nephrosis	8.02
9	Senility	Pneumonia & Influenza	28.4
10	Diphtheria	Intentional Self-Harm (Suicide)	7.3

\* Pasadena's Death Rates for the Top Ten Causes of Death, reported as Crude Rates per 100,000.

**FIGURE 3: INCIDENCE OF PERTUSSIS (WHOOPING COUGH) IN CALIFORNIA AND PASADENA (1947-2010)**



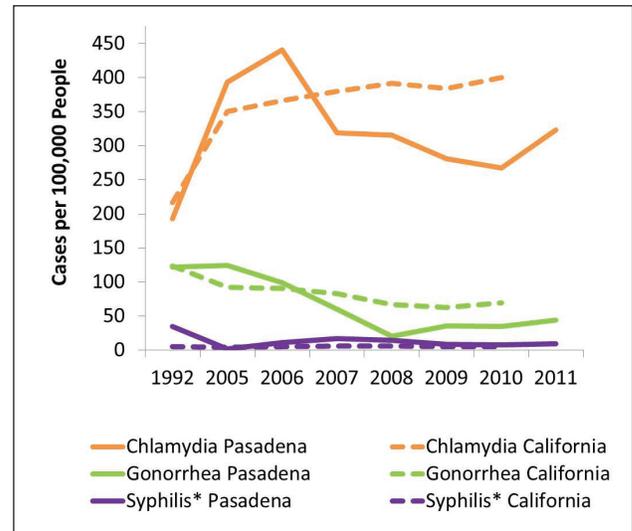
Following the introduction of the pertussis (whooping cough) vaccine, incidence of the disease dropped from low to almost non-existent numbers. In recent years, with decreasing vaccination rates, pertussis is back to numbers last seen more than half a century ago. The graph above shows California and the City of Pasadena are experiencing the same unnecessary climb in numbers.<sup>155, 210</sup>

## SEXUALLY TRANSMITTED DISEASES

Sexual activity is one of the most important health behaviors in dictating downstream health effects, and one of the most important consequences due to sexual activity is sexually transmitted diseases (STDs). STDs are diseases acquired by sexual contact, and are primarily caused by bacteria, parasites, or viruses.<sup>213</sup> There are more than 20 identified sexually transmitted diseases, including chlamydia, gonorrhea, genital herpes, HIV/AIDS, HPV, and syphilis.<sup>213</sup> STDs are a concern because they are associated with health problems and long-term consequences including pelvic inflammatory disease, infertility, ectopic pregnancy, cervical cancer, pre-term birth, and infection of the newborn during birth.<sup>213</sup>

While STDs have been persistent over the last century, like diseases as a whole, they are undergoing changes in presentation and control. For example, increasing public concern has been directed at emerging drug-resistant STDs. Gonorrhea, the second-most widespread STD, is becoming progressively resistant to the antibiotics used to treat it. Resistant strains significantly reduce the effectiveness of treatment, and increase the risk of population-wide transmission. With few well-studied, effective antibiotic options left, it is important that coordinated public health policies, and research and development of new treatment are developed.<sup>213</sup> HIV has also seen marked changes since its discovery in 1981. At the beginning of the HIV pandemic, HIV spread like a typical communicable disease without an effective treatment or cure, killing many who were infected and causing fear in the unaffected. Now, with anti-viral cocktails, people living with HIV/AIDS are living longer and changing the way HIV/AIDS is viewed. However, in 2007 the CDC estimated that one out of six HIV infections showed drug resistance.<sup>214</sup> Further, 2% of these were resistant to two or more current anti-viral treatments, posing a problem for newly-acquired HIV cases and their drug treatment and control programs. Though infectious disease prevalence has decreased, due to their ever-changing nature, continued efforts should be made to control or eradicate them.

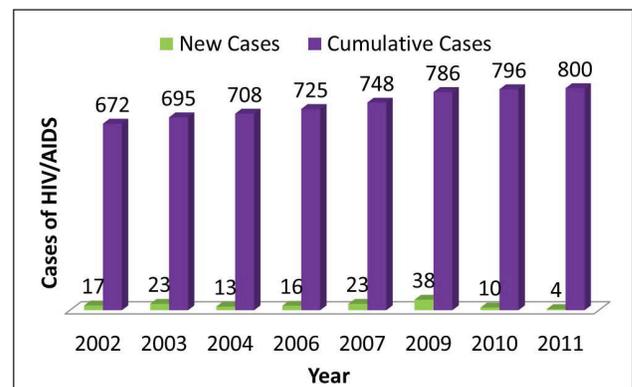
**FIGURE 4: SEXUALLY TRANSMITTED DISEASE RATES IN PASADENA AND CALIFORNIA (1992-2011)**



\* Primary and secondary syphilis

*In Pasadena, STDs have steadily decreased overall; however, there is a large amount of year to year variation. In general, the rates of STDs reflect their communicability. The ubiquitous nature makes it difficult to treat unless sexually-active residents participate in regular screening. Rising rates of chlamydia provide the opportunity for increased screening and early detection to help prevent chlamydia from spreading further. It is effectively treated with antibiotics, but if left untreated, can damage a woman's reproductive organs and lead to infertility.<sup>221, 155</sup>*

**FIGURE 5: NEW AND CUMULATIVE CASES OF HIV/AIDS IN PASADENA (2002-2011)**



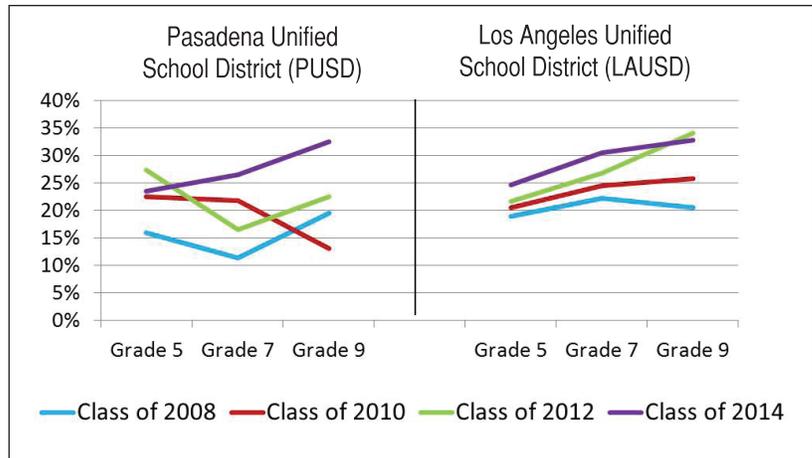
*Human Immunodeficiency Virus (HIV) and Acquired Immunodeficiency Syndrome (AIDS) are a major cause of death in Los Angeles County. It disproportionately affects African Americans, who comprise the most HIV/AIDS cases, and Latinos, who have the highest percentage of new AIDS diagnoses. An estimated 80% of new HIV/AIDS reports come from men who have sex with men.<sup>206</sup> In Pasadena, HIV/AIDS incidence has continued to decrease since 2009. The AIDS Service Center and the Pasadena Public Health Department's Andrew Escajeda Comprehensive Care Services work to mitigate the spread and severity of HIV by conducting outreaches, testing, and counseling.<sup>222</sup>*

## OBESITY AND DIABETES

The shift from infectious diseases to chronic diseases is best exemplified by the rising rates of obesity. Recent epidemics of chronic health conditions such as obesity and diabetes in both adults and children indicate that cardiovascular disease will likely remain the leading cause of morbidity and mortality in years to come.<sup>205</sup> In 2007 and 2008, 19.4% of adults and 20.7% of children in Pasadena were obese, respectively (Figure 7).<sup>205</sup> To compound the situation, obesity does not equally affect all races. For example, adult Latinos (29.4%) and African Americans (29.2%) have notably higher obesity rates than their White (17.6%) and Asian/Pacific Islander (8.9%) counterparts. Among school-aged children, Pacific Islanders (37.1%) and Latinos (27.5%) have the highest obesity rates.<sup>205</sup>

Rising obesity and diabetes rates threaten to halt or reverse gains in life expectancy. Communities can combat this by increasing access to and safety of places for physical activity; increasing accessibility of affordable fruits, vegetables, and healthy foods; increasing the number of grocery stores and farmers' markets; and decreasing the number of fast food outlets. For example, MyPlate is the current nutrition guide recommended by the U.S. Department of Agriculture, replacing the 19-year-old food pyramid. It encourages individuals to make healthy dietary choices by including grains, vegetables, fruits, low-fat dairy, and protein in meals and eating modest portions to maintain a healthy weight.<sup>215</sup>

### FIGURE 6: PERCENT OF STUDENTS WHO MEET MINIMUM PHYSICAL FITNESS REQUIREMENTS



The California State Physical Fitness Report measures physical fitness levels of children and youths. Students in grades 5, 7, and 9 are tested in six areas of fitness: aerobic capacity, body composition, abdominal strength, trunk extension strength, upper body strength and flexibility. While LAUSD has shown a consistent increasing trend of students who meet all six standards, PUSD is only recently beginning to reflect a similar pattern. Overall, there is an increasing number of students meeting state standards; however, this accounts only for approximately 30% of all students.<sup>216</sup>

While risk for obesity is a complex mixture of genetics, diet, and cultural influences, physical activity is still an important component to reducing or preventing obesity. An assessment done in 2007 estimated that almost 35% of adults in Pasadena, 18 years and older, were living a sedentary lifestyle.<sup>81</sup> Children did not fare much better. Their fitness levels are measured annually by the California Physical Fitness Test (PFT) (Figure 6).<sup>216</sup> Results show that less than 30% of the students meet the PFT's minimum requirements. These results illustrate opportunities for future interventions.

### FIGURE 7: ADULT AND CHILD OBESITY AND SELECT MORTALITY RATES FOR VARIOUS LOCALES<sup>201</sup>

	Adult Obesity Prevalence 2007 <sup>‡</sup>		Child Obesity Prevalence 2008 <sup>§</sup>		Diabetes Mortality 2004-2008		Stroke Mortality 2004-2008		Coronary Heart Disease Mortality	
	Percent	Rank	Percent	Rank	Death Rate per 100,000	Rank	Death Rate per 100,000	Rank	Death Rate per 100,000	Rank
Altadena	20.4%	49	25.8%*	71	17	12	40	58	147	55
Pasadena	19.4%	45	20.7%	48	14	5	33	18	143	48

Note: Rankings are out of 81 cities, 15 Los Angeles City Council Districts, and 32 unincorporated communities in Los Angeles County.

<sup>‡</sup> Adult obesity is defined as having a body mass index (BMI) of 30kg/m<sup>2</sup> or above.

<sup>§</sup> Child obesity is defined as having a gender-specific BMI-for-age of 95th percentile or above.

\* Estimate is based on a student group size less than 500.

## AGING

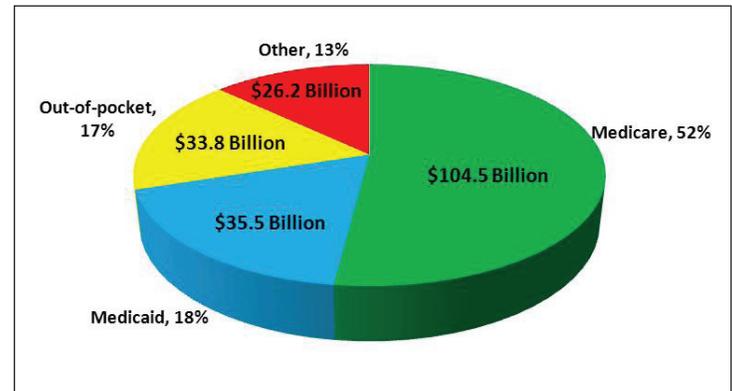
Longevity is increasing and a large number of Americans are surviving into their 80s and 90s. The oldest of the “Baby Boom” generation turned 65 in 2011, and the population is seeing more senior citizens than ever before. In fact, the population of Americans age 65 and older is expected to double by 2030, accounting for 20% of the total population.<sup>217</sup> Since age is a risk factor for almost every chronic disease, Pasadena should prepare for the effects the aging population will have on the public health system.

## ALZHEIMER’S DISEASE

As the population ages, rates of diseases like Alzheimer’s will continue to increase. In California, the number of Alzheimer’s cases increased 9% from 2000 to 2010, but is projected to increase 50% by 2025.<sup>217</sup> One in eight Californians who live to be 55 will develop Alzheimer’s and one in six will develop some form of dementia. In addition to being the fifth leading cause of death in the United States, Alzheimer’s is the only leading cause of death without a way to prevent, cure, or slow its progression.<sup>217</sup> When one in eight Californians who live to be 55 are expected to develop Alzheimer’s, and one in six will develop some form of dementia, the burden on their caregivers and the health care system will be great.

The overall aging of the population comes at a cost to the Nation financially and negatively impacts the health of the profound numbers of caregivers.<sup>217</sup> Most people with dementia live at home and 80% of care provided at home is delivered by family caregivers. As a result, 1.1 million Californians provide unpaid care for a person with either Alzheimer’s disease or dementia.<sup>217</sup> The amount of care provided by family and friends in 2011 in the United States may be valued at \$210.5 billion.<sup>217</sup> More than 60% of caregivers rate their level of emotional stress as high or very high, with one third reporting symptoms of depression. These physical and emotional burdens for Alzheimer’s and dementia caregivers translate into an additional \$8.7 billion in healthcare costs.<sup>217</sup> The numbers are already high, but as the population continues to age the United States will need an additional 3.5 million health care providers by 2030 in order to maintain the current ratio of health care workers to the population.<sup>217</sup>

**FIGURE 8: AGGREGATE COSTS OF CARE BY PAYER FOR AMERICANS OVER 65 WITH ALZHEIMER’S OR DEMENTIA (2012)<sup>217</sup>**

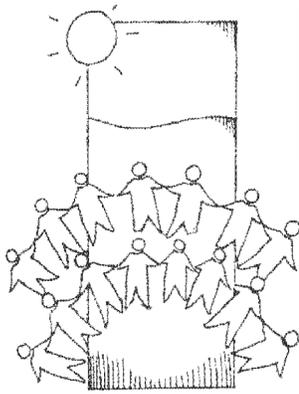


A community’s health is directly affected by the network of people and organizations continually striving to increase the overall quality of life. Preventing disease before it starts is crucial in helping individuals lead long, healthy lives, at manageable costs. Many of the strongest predictors of health and well-being arise from housing, education, transportation, work status, and the community environment. It is important that community partners, health services providers, government agencies, advocacy groups, business owners, and referral agencies continue to identify gaps in health equity, access, and the continuum of care for the general well-being for the people living in Pasadena and Altadena.

**healthy PASADENA**

**RELATED HEALTHYPASADENA.ORG DASHBOARDS:**

- Age-Adjusted Death Rates
- Cancer Incidence Rates
- Disease Prevalence Rates
- Emergency Room Rates for Certain Diseases
- Heart Disease and Stroke Related Rates
- Immunization and Infectious Disease Rates



# General Demographics

## 2010 Census Data

	Pasadena	Altadena	Los Angeles County
<b>Total Population</b>	137,122	42,777	9,818,605
<b>Sex</b>			
Male	66,854 (49.8%)	20,623 (48.2%)	4,839,654 (49.3%)
Female	70,268 (51.2%)	22,154 (51.8%)	4,978,951 (50.7%)
<b>Race</b>			
White	76,550 (55.8%)	22,569 (52.7%)	4,936,599 (50.3%)
African American	14,650 (10.6%)	10,136 (23.7%)	856,874 (8.7%)
American Indian and Alaska Native	827 (0.6%)	300 (0.7%)	72,828 (0.7%)
Asian	19,595 (14.2%)	2,307 (5.4%)	1,346,865 (13.7%)
Native Hawaiian or Other Pacific Islander	134 (0.1%)	71 (0.2%)	26,094 (0.3%)
Some other race	18,675 (13.6%)	4,852 (11.3%)	2,140,632 (21.8%)
Two or more races	6,691 (4.9%)	2,542 (5.9%)	438,713 (4.5%)
<b>Ethnicity</b>			
Hispanic or Latino	46,174 (33.7%)	11,502 (26.9%)	4,687,889 (47.7%)
Not Hispanic or Latino	90,948 (66.3%)	31,275 (73.1%)	5,130,716 (52.3%)
<b>Age</b>			
Under 18	26,507	9,507	2,402,208
18 and over	110,615	33,270	7,416,397
Ages 20-34	34,426	6,840	2,228,519
Ages 35-49	30,118	9,689	2,137,068
Ages 50-64	24,528	9,655	1,675,361
Ages 65 and over	18,562	6,064	1,065,699
<b>Languages Spoken at Home</b>			
Only English	55.1%	66.8%	43.2%
Language other than English	44.9%	33.2%	56.8%
Spanish or Creole	28.0%	22.7%	39.5%
Other Indo-European languages	6.7%	7.1%	5.4%
Asian and Pacific Island languages	9.0%	1.8%	10.9%
Other languages	1.2%	1.6%	1.1%
<b>Veteran Status (18+ yrs)</b>			
Veteran	5.3%	8.2%	4.8%
Non-Veteran	94.7%	91.8%	95.2%
<b>Total Households</b>	59,551	15,947	3,445,076
<b>Median Household Income</b>	\$58,402	\$72,008	\$54,755
<b>Average Spent on Health Care per Household</b>	\$4,007.55	\$4,436.40	\$3,508.09

# Acknowledgements

The level of community participation required to develop the *2012 Quality of Life Index* is extensive and encompassing. The Pasadena Public Health Department (PPHD) extends its appreciation to all the partner agencies and departments who contributed statistics, vignettes, or both, and those agencies whose published reports were invaluable in this process. On behalf of the PPHD staff, the Quality of Life Index Team would like to thank everyone who makes Pasadena and Altadena so rich in resources, and for making the 20-year anniversary edition of the *Quality of Life Index* the most comprehensive yet. Their hard work and dedication to the City of Pasadena and Altadena make the area a wonderful place to live.

The Quality of Life Index Team made every attempt to include all those who contributed, and apologizes if any names or agencies were inadvertently left off this list at the time the publication went to print.

## NONPROFITS AND COLLABORATIONS

AIDS Service Center  
Bill Moore Clinic  
California Budget Project  
California Health Literacy Initiative  
California Healthy Kids Survey  
CalRecycle  
Child Care Information Services  
Community Health Alliance of Pasadena (CHAP)  
County Health Rankings and Roadmap  
Day One of Pasadena  
Flintridge Institute  
Harambee Ministries  
HealthyPasadena.org  
Huntington Hospital  
Huntington Medical Foundation  
Loma Linda University  
Los Angeles Homeless Services Authority  
Pasadena Community Gardens  
Pasadena Education Foundation  
Pasadena Housing and Homeless Network  
Pasadena Humane Society and SPCA  
The Prevention Institute  
University of California, Los Angeles  
Urban Initiatives  
University of Southern California  
Young and Healthy

## PUBLIC AGENCIES

Altadena Sheriff's Station  
California Department of Beverage Control  
California Department of Education  
California Department of Public Health  
California Highway Patrol  
California State Library  
Centers for Disease Control and Prevention  
LAC Department of Children and Family Services  
LAC Department of Health Services  
LAC Department of Public Health  
Pasadena Unified School District

## CITY OF PASADENA

City Council  
City Mayor's Office  
City Manager's Office  
Finance Department  
Fire Department  
Housing Department  
Human Resources Department  
Human Services and Recreation Department  
Information Technology Department  
Planning Department  
Police Department  
Public Health Department  
Public Library Department  
Public Works Department  
Transportation Department  
Water and Power Department

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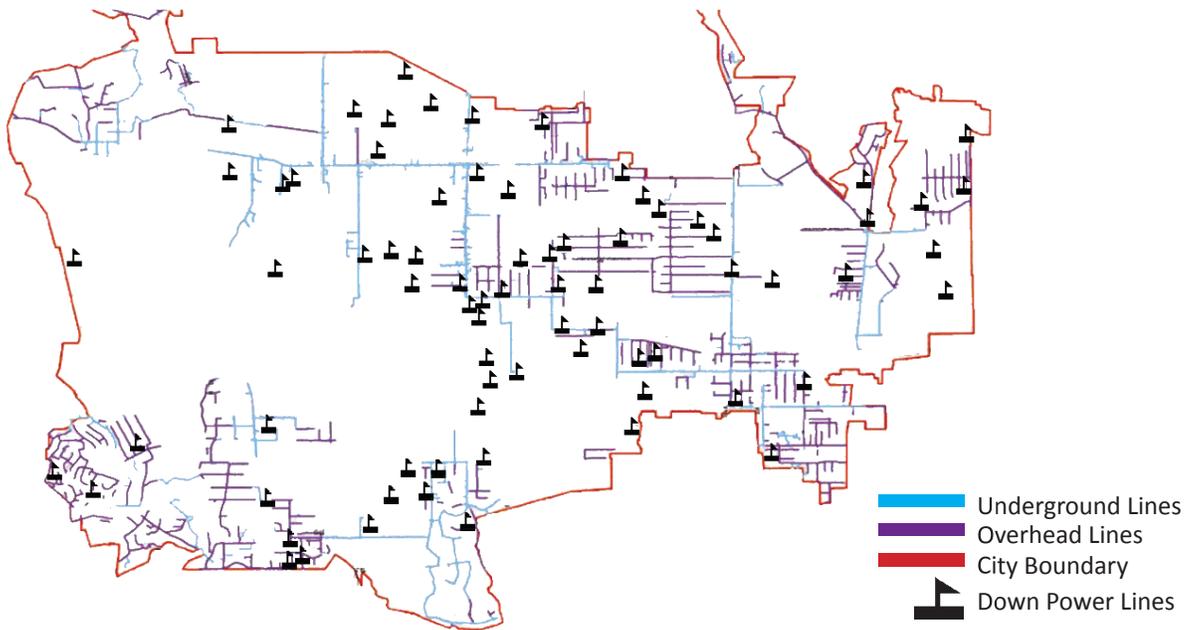
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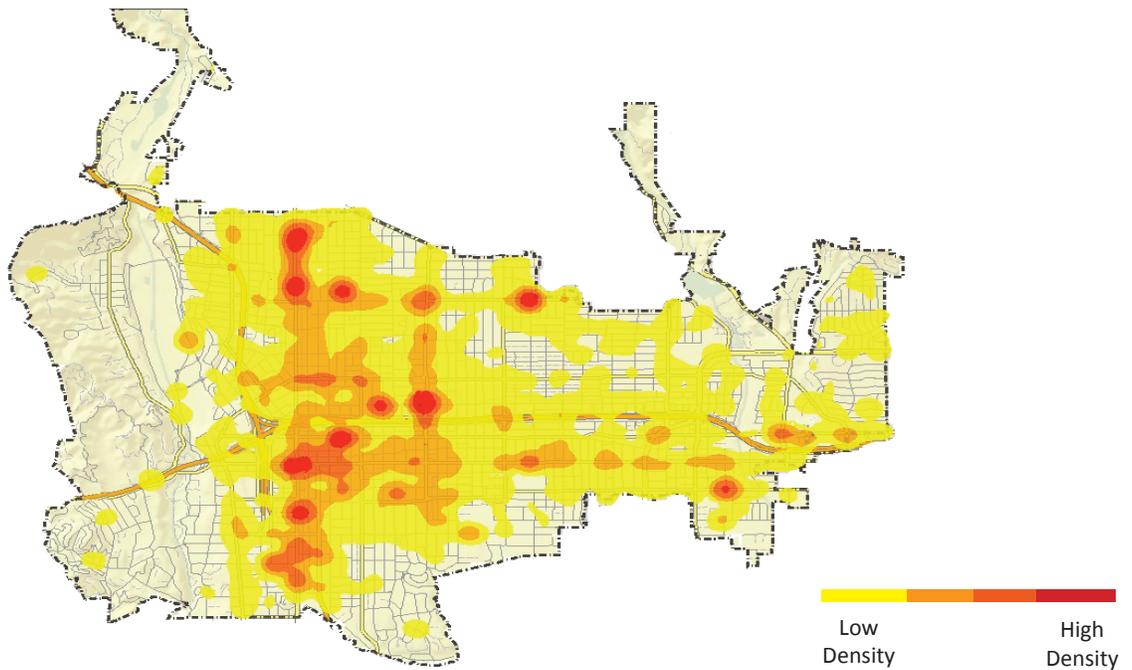
William Boyer

# Appendix

## MAP OF AFFECTED POWER LINES DURING WINDSTORM RESPONSE, DECEMBER 2011<sup>21</sup>

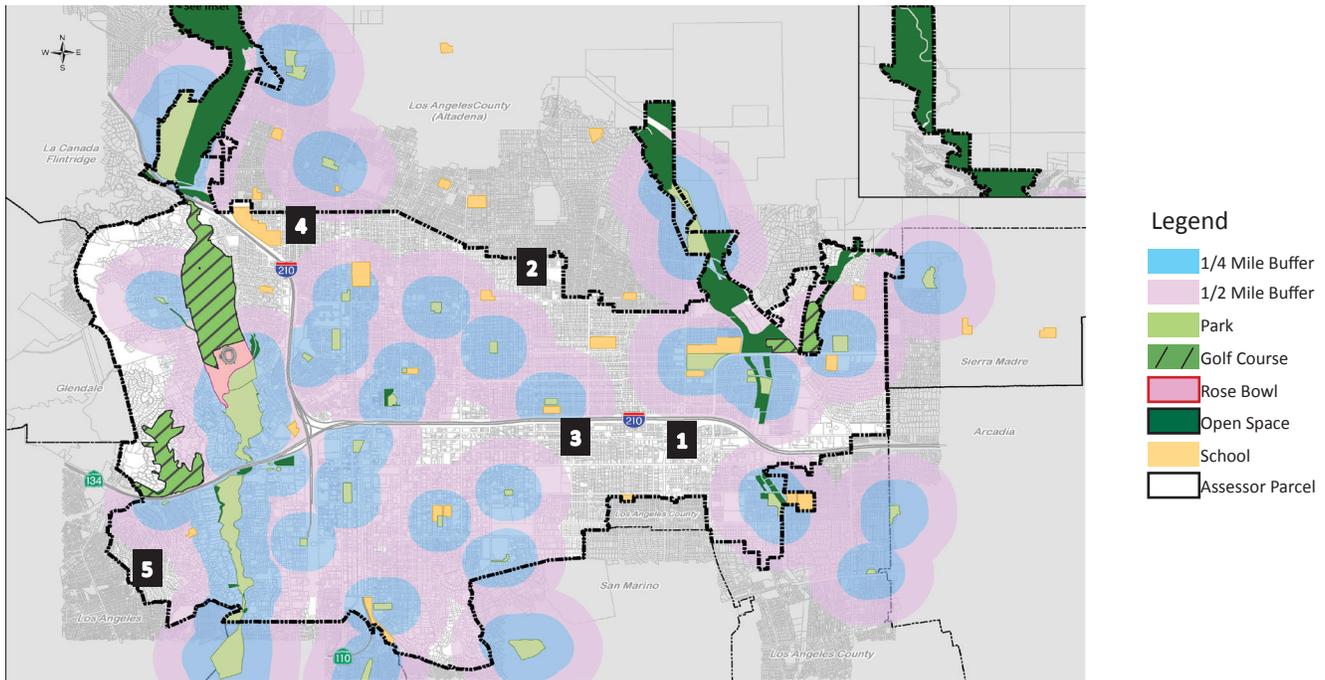


## HOT SPOT MAP FOR ALL EMERGENCY MEDICAL SERVICES AND RESCUE REQUESTS IN PASADENA (2008-2010)



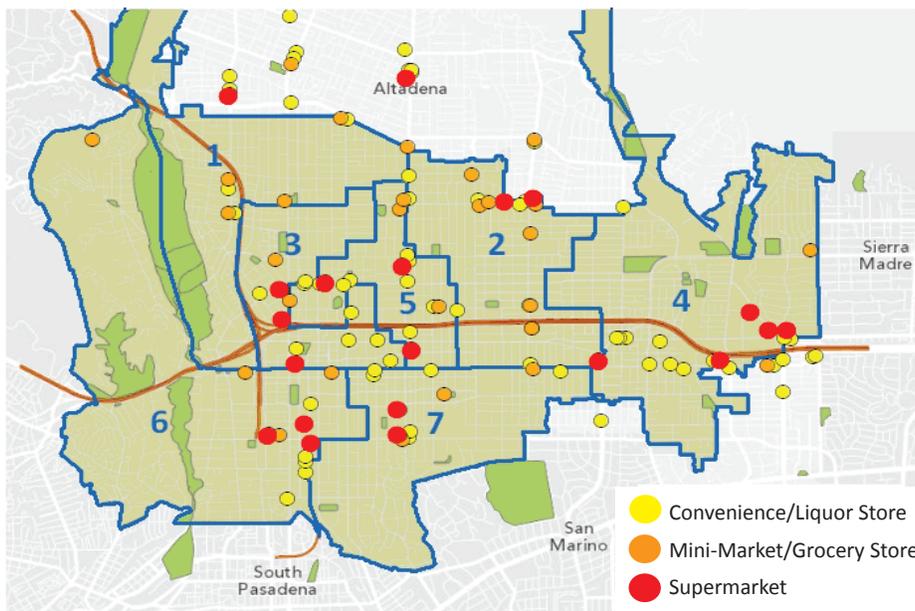
The map above shows the density of calls originating from different areas in the city. The areas in red represent those with the highest amounts of calls during the time period. For the most part, areas with the highest amount of calls were areas with long-term care facilities and convalescent centers, and areas with higher population densities.<sup>100</sup>

## MAP OF OPEN SPACE GAPS IN PASADENA (2012)



This map depicts both 1/4 mile and 1/2 mile radii or “walkable service areas” around Pasadena’s Neighborhood and Community Parks. A 1/2 mile is around a 10-20 minute walk for many, while a 1/4 mile represents a more appropriate distance for residents with limited walking abilities. In 2007, when the map was originally made, seven gaps existed; however, with additional access to Linda Vista and McKinley area parks, only five gaps remain. The five numbered areas above are listed as priority areas in the Pasadena Green Space, Recreation and Parks Master Plan.<sup>146</sup>

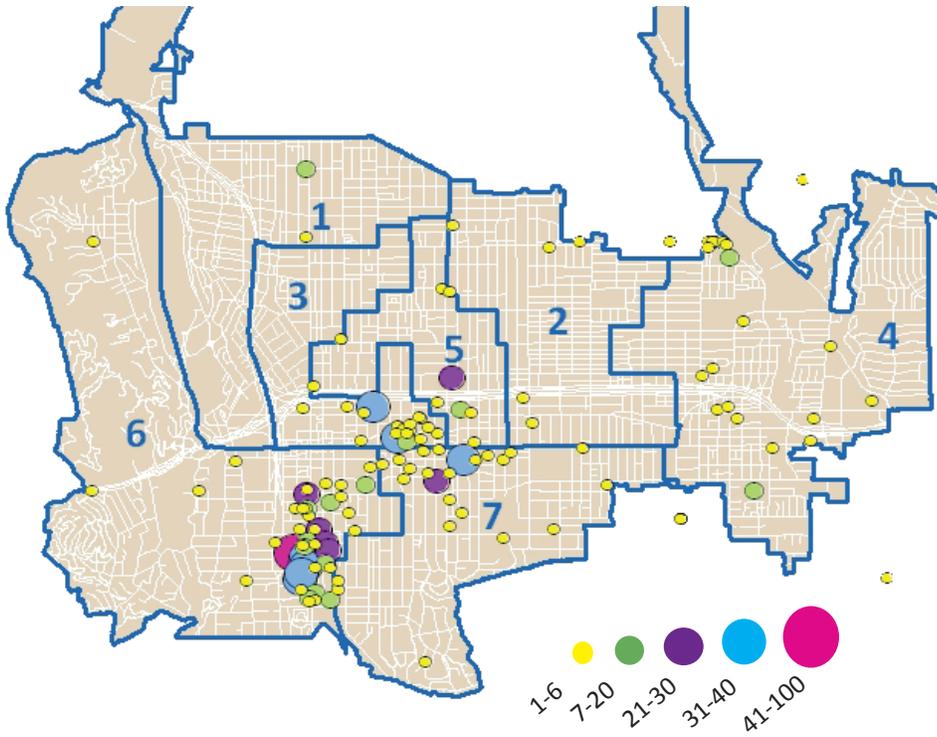
## DISTRIBUTION OF GROCERY, SUPERMARKET AND CONVENIENCE STORES IN ALTADENA AND PASADENA (2012)<sup>154</sup>



In Pasadena, there are approximately 47 grocery stores/markets, which amounts to about two grocery stores per square mile.<sup>155</sup> This map of Pasadena divided into its seven political districts also includes the stratification of grocery stores into local markets or mini-markets and large supermarkets.

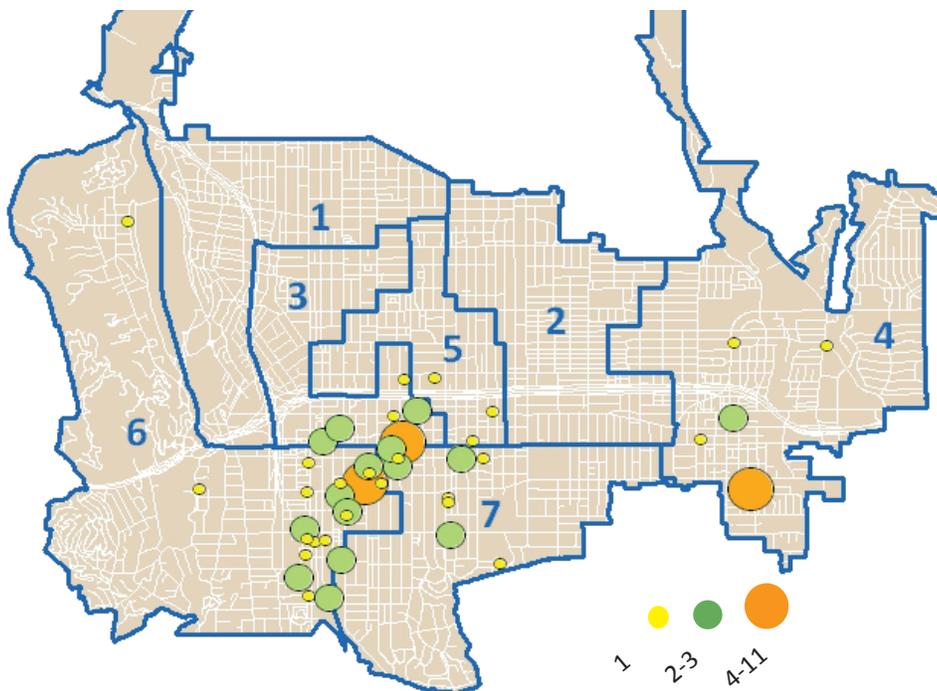
Ideally there would be an equal distribution of grocery stores in walking distance from every neighborhood, with a larger proportion of stores being supermarkets than convenience stores. Disproportionate distribution encourages the presence of food deserts in a community.<sup>148</sup>

## DISTRIBUTION OF MEDICAL PROVIDERS IN PASADENA (2011)



*This map shows the number of physicians by location within the 7 political districts within the City of Pasadena. Clearly, the area with the highest concentration of physicians is near the central and downtown areas and at Huntington Hospital. There is a barrier to access care for those wanting to visit a physician within walking distance especially in the Northwest region.<sup>169, 170</sup>*

## FIGURE 2: DISTRIBUTION OF PSYCHOLOGISTS & PSYCHIATRISTS IN PASADENA (2010)



*Similar to the map of medical providers above, the majority of psychologists and psychiatrists in Pasadena are mostly located in central, commercial areas.<sup>169, 200</sup>*

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## **PASADENA CITY COUNCIL**

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Bill Bogaard

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Margaret McAustin, District 2  
Chris Holden, District 3  
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Victor Gordo, District 5  
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Terry Tornak, District 7

### **City Manager:**

Michael Beck

## **PASADENA PUBLIC HEALTH DEPARTMENT**

### **Director/Health Officer:**

Dr. Eric G. Walsh, M.D., Dr.P.H.

### **Quality of Life Team Leader:**

Matthew Feaster, M.P.H.

### **Quality of Life Team Members:**

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Teiona Yoko, M.P.H.  
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