

APRIL 2014



Baldwin Park

Health and Sustainability Scan:
Current Initiatives & Best Practices



BALDWIN PARK
growing healthier • greener • stronger

City of Baldwin Park General Plan
Health and Sustainability Element

Health and Sustainability Scan: Current Initiatives and Best Practices



April 2014

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INTRODUCTION

Baldwin Park has embarked on a process to address and plan for two of the most pressing issues facing cities today: public health and sustainability. The City has begun to develop a General Plan Element that will define its path forward on health and sustainability issues. The project to develop this element is called “Baldwin Park: Growing Healthier, Greener, Stronger.” The City has chosen to address health and sustainability together because by pursuing one it will further the other. Health and sustainability are so intertwined that they may simply be two approaches to the same result.

This report seeks to understand the health and sustainability-related efforts already underway in Baldwin Park, and to evaluate statewide best practices for sustainability planning. It begins with a description of the interrelationship of health and sustainability, as well as what sustainability is in practice. This section is followed by a draft Healthy Community framework. This framework is then applied to planned and existing initiatives in Baldwin Park. The final section includes best practices for each framework element.

HEALTH AND THE ENVIRONMENT

As an increasing number of Americans suffer from chronic diseases such as obesity, diabetes, and asthma, research is showing that the built environment – the way American cities, towns and buildings are developed – contributes to the epidemic rates of these diseases. For example:

- Places built exclusively for automobiles, where walking and biking are not only challenging but frequently dangerous, increase the likelihood that residents will get insufficient exercise and therefore become obese and develop chronic health problems,
- Neighborhoods known as “food deserts” – because it is so difficult to buy fresh fruits and vegetables – encourage unhealthy eating patterns,
- Neglected, garbage-strewn streets contribute to violence and mental distress,
- Housing can promote asthma and other respiratory diseases when it has poor indoor air quality due to unhealthy materials and poor ventilation, is impacted by second-hand smoke by nearby residences, is poorly maintained or is located near freeways and other pollution sources.

Since 1980, the number of obese Americans has doubled to more than one-third of the population, and the prevalence of type 2 diabetes has doubled. The asthma rate among children has more than doubled. Based on current obesity trends, for the first time in American history, children are not predicted to live as long as their parents.¹ In the

¹ Change Lab Solutions, “How to Create and Implement Healthy General Plans: A Toolkit for Building Healthy, Vibrant Communities.”

face of these alarming statistics, an increasing number of cities have begun planning their cities to increase the health of residents by increasing opportunities to be physically active, reducing pollution exposure, providing access to healthy foods, and fostering strong community ties. These cities are also more environmentally sustainable.

The City of Baldwin Park has chosen to integrate its **Health** and **Sustainability** planning because of the close relationship between healthy people and a healthy environment.

WHAT IS SUSTAINABILITY?

Sustainable development is development that meets the needs of the current generation without compromising the ability of future generations to meet their needs.² How to meet this standard varies for different places, and places of different scales.

Across the United States communities, cities, regions, and states are implementing many different urban sustainability initiatives, many of which recognize that community health, ecological health, and economic health rely on each other and should be supported together.

The physical ways in which we organize our cities—our buildings, parks, and transportation corridors—have significant impacts on our communities' resource efficiency, public health, social networks, and economic vitality. For example, urbanized areas that are compact and have reliable and accessible transit options:

- Are energy efficient,
- Keep public infrastructure costs to a minimum,
- Encourage the development of close-knit, vibrant communities,
- Maximize open space, natural habitat, and recreation opportunities,
- And encourage outdoor activity and public health.

Regardless of development type, resource efficiency initiatives and urban design principles can increase sustainability and align with local values while having the additional benefit of creating green jobs.

Cities around the country have implemented sustainability practices that are relevant for them. For example, New York City has pledged to plant millions of new trees, noting that landscaping and soil absorb carbon dioxide, support stormwater infiltration, and provide shade and a comfortable street environment for walking and other activities. Chicago, and Boston require that new buildings meet the standards of the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) certification; California developed the CALGreen green building code that must be enforced by all jurisdictions. Baldwin Park has adopted these standards. Other cities are retrofitting aging

² Gro Harlem Brundtland and United Nations, "Report of the World Commission on Environment and Development: Our Common Future (The Brundtland Report)."

infrastructure systems to consume less energy and reduce greenhouse gas emissions, converting bus and truck fleets to low-carbon fuels, and retrofitting municipal buildings to conserve energy. Many cities also approach sustainability holistically, using a variety of complementary approaches.

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BALDWIN PARK HEALTHY COMMUNITY FRAMEWORK

To look effectively at statewide best practices for public health and sustainability, Baldwin Park has identified elements that are of particular importance to the City. These elements have been arranged into a draft framework, below.

OUR CITY

- Compact and Equitable Development
- Getting Around: Walking, Biking, and Using Transit
- Modern and Green Infrastructure
- Community Safety
- Building Smart Buildings

OUR ENVIRONMENT

- Reduce, Reuse, Recycle, and Compost
- Energy Conservation and Alternative Energy
- Using Water Wisely/Protecting Water Quality/Stormwater Management
- Appreciating and Enhancing the City's Natural Features (including urban forestry programs)
- Contributing to Improved Air Quality
- Addressing Climate Change
- Good Chemistry: Environmentally Friendly Products & Practices

OUR HEALTH

- Parks: Place to Play and Relax
- Move It! Recreation for All Life Stages
- Health Education: It Starts with Our Kids
- Access to Healthy Foods
- Eat Local: Community Gardens and Urban Agriculture
- Addressing Health Care Needs
- Healthy Buildings and

FRAMEWORK RELATIONSHIP TO THE GENERAL PLAN AND OTHER PLANS

Error! Reference source not found. shows the relationship between General Plan Elements and existing City plans and the factors of the Healthy Community Framework.

Table 1. General Plan Elements and Healthy Community Factors

Relationship Between the Health and Sustainability Element, the General Plan and Other City Documents

Health and Sustainability Elements	Existing General Plan Elements and City Documents												
	Land Use	Urban Design	Economic Development	Circulation	Housing	Open Space and Conservation	Public Safety	Noise	Air Quality	Draft Living Streets Manual	Complete Streets Policy	Parks Master Plan	Design Guidelines
Our City													
<i>Compact and Equitable Development</i>													
<i>Getting Around: Walking, Biking, and Using Transit</i>													
<i>Modern and Green Infrastructure</i>													
<i>Community Safety</i>													
<i>Building Smart Buildings</i>													
The Environment													
<i>Reduce, Reuse, Recycle</i>													
<i>Energy Conservation and Alternative Fuels</i>													
<i>Being Water Wise</i>													
<i>Appreciating and Enhancing the City's Natural Features</i>													
<i>Contributing to Improved Air Quality</i>													
<i>Addressing Climate Change</i>													
<i>Good Chemistry: Using Environmentally Friendly Products</i>													
Our Health													
<i>Parks: Places to Play and Relax</i>													
<i>Move It! Recreation for All Life Stages</i>													
<i>Health Education: It Starts with Our Kids</i>													
<i>Access to Healthy Foods</i>													
<i>Eat Local: Community Gardens and Urban Agriculture</i>													
<i>Addressing Health Care Needs</i>													
<i>Healthy Buildings and Places (e.g., anti-smoking campaigns, construction approaches)</i>													

 Primary Focus
 Secondary Focus

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HEALTH AND ENVIRONMENTAL QUALITY ANALYSIS

This section summarizes health and environmental quality conditions in Baldwin Park to provide a baseline for key areas of concern for health and sustainability planning. Sections include:

Health Outcomes: How healthy is Baldwin Park relative to local, county, state, and federal benchmarks? This section focuses on diseases that are tied to an unhealthy environment and unhealthy eating habits, including cancer, heart disease asthma, obesity, and diabetes.

Health Behaviors and Environmental Constraints: Is the physical environment conducive to making healthy activity choices, and do residents make healthy lifestyle choices?

Access to Healthcare: Do residents have access to preventative and primary care, which can lead to dramatically improved health outcomes?

CalEnviroScreen: How vulnerable is the Baldwin Park population to the negative health impacts of pollution? This section describes the pollution load in Baldwin Park, and key aspects about the human population that make residents more or less likely to suffer negative health outcomes due to their environment.

The data in this section have been compiled using the following primary sources:

- Kaiser Foundation Hospital: Community Health Needs Assessment 2010³
- Los Angeles County Department of Public Health: Key Health Indicators Report 2013⁴
- Los Angeles County Department of Public Health: Los Angeles County Health Survey 2011⁵
- California Office of Environmental Health Hazard Assessment: CalEnviroScreen 1.0⁶

³ Kaiser Foundation Hospital – Baldwin Park, “Community Health Needs Assessment.”

⁴ Los Angeles County of Public Health, “Key Indicators of Health.”

⁵ Los Angeles Department of Public Health, “Health Assessment Data.”

⁶ The California Office of Environmental Health Assessment and the California Environmental Protection Agency, “California Communities Environmental Health Screening Tool (CalEnviroScreen 1.0).”

The data available through these sources covers overlapping but not identical geographic areas. In all cases this report uses data that is as specific as possible to the city of Baldwin Park. Where the area is larger, that area will be specified. County, state, and regional data are presented for comparison. The areas covered by these sources are described below.

The Kaiser Foundation Hospital Community Health Needs Assessment provides health data for these cities and unincorporated areas, with "CDP" indicating an unincorporated Census Designated Place:

Avocado Heights (CDP)	Hacienda Heights (CDP)	Rowland Heights (CDP)
Azusa	Industry	San Dimas
Baldwin Park	Irwindale	San Gabriel
Bradbury	La Puente	South El Monte
Charter Oak (CDP)	La Verne	South San Jose Hills (CDP)
Citrus (CDP)	Mayflower Village (CDP)	Temple City
Covina	Monrovia	Valinda (CDP)
Diamond Bar	Montebello	Vincent (CDP)
Duarte	North El Monte (CDP)	Walnut
El Monte	Pico Rivera	West Covina
Glendora	Rosemead	West Puente Valley (CDP)

The Kaiser Assessment also provides city-level data in some cases.

The Los Angeles Department of Public Health (LADPH) provides health data for the County by eight Service Planning Areas (SPA) (Baldwin Park is in the San Gabriel SPA), and by 26 smaller Health Districts. Baldwin Park is in the El Monte Health District, which includes Baldwin Park, El Monte, South El Monte, Valinda, La Puente, Industry, Rowland Heights, and Hacienda Heights. By comparison, the Kaiser Assessment covers areas surrounding Baldwin Park that cover parts of four LADPH Health Districts.

CalEnviroScreen (CES) data are provided by ZIP code, which enables more flexibility for analysis. All CES data are given for Baldwin Park proper and, for the sake of comparison, a region equivalent to that covered by the Kaiser Assessment.

HEALTH OUTCOMES

This section outlines key health outcomes in Baldwin Park that provide a snapshot of public health in the City. The Kaiser Foundation Hospital (KPH) found in 2010 that when adjusted for age, the KFH Baldwin Park (BP) service area has a higher death rate (735.2 per 100,000 persons) than that of the county (713.2) and the state (650.1). Heart disease, cancer, and stroke are the three leading causes of death.⁷

Adult and child obesity is a major concern in Baldwin Park. Residents of Baldwin Park and the surrounding area also have high levels of diabetes and heart disease, and children

⁷ Kaiser Foundation Hospital – Baldwin Park, "Community Health Needs Assessment."

have high levels of asthma. However, Baldwin Park has better health outcomes than the regional or state average in some cases, including cancer mortality.⁸

Given the heavy pollution load and vulnerable population in Baldwin Park, health analysts might expect to see higher levels of disease and mortality. However, the health impacts of pollution in the city may be mitigated by the facts that Baldwin Park residents have a relatively low risk level due to age, because the population contains relatively few children and seniors,⁹ and many residents were also born outside the U.S.,¹⁰ which could have limited their lifetime exposure to pollution.

Cancer

Baldwin Park has a relatively low death rate from cancer. Between 2004-2008, the mortality rate in the city was 94.4/100,000 versus the state average 142/100,000. However, breast cancer is still the leading cause of premature death for women.¹¹

Heart Disease

Baldwin Park residents have a relatively low death rate from heart disease. Between 2004-2008, the mortality rate in the city was 112/100,000 versus the state average 166/100,000. However, heart disease is the leading cause of premature death for men and the second leading cause of premature death for women.¹²

Asthma

The El Monte Health District has a relatively low prevalence of asthma in children. Only 3.4% of children have been diagnosed and/or had an asthma attack in the last year. The county average is 9%.¹³

Obesity

Baldwin Park has a high rate of adult obesity, and many adults are overweight. In the El Monte Health District, 43.1% of adults are overweight and 24.7% are obese. 37.1% of adults in Los Angeles County are overweight, while the obesity rate is 23.6%.¹⁴

⁸ Ibid.

⁹ The California Office of Environmental Health Assessment and the California Environmental Protection Agency, "California Communities Environmental Health Screening Tool (CalEnviroScreen 1.0)."

¹⁰ Los Angeles County of Public Health, "Key Indicators of Health."

¹¹ Kaiser Foundation Hospital – Baldwin Park, "Community Health Needs Assessment."

¹² Ibid.

¹³ Los Angeles Department of Public Health, "Health Assessment Data."

¹⁴ Ibid.

Baldwin Park also has a high rate of childhood obesity. 28.3% of children are obese. The average for the county is 23.3%.¹⁵

Diabetes

Baldwin Park has a diabetes mortality rate that is comparable to the state average. Baldwin Park’s rate is 19.2 per 100,000 persons, while the state average is 19.5 per 100,000 persons.¹⁶

HEALTH BEHAVIORS AND ENVIRONMENTAL CONSTRAINTS

Both health behaviors, like exercise and eating well, and environmental constraints on activity have impacts on health outcomes. This section outlines health behaviors and environmental constraints in Baldwin Park.

Exercise

Residents of the El Monte Health District do not get a lot of exercise. To meet the Los Angeles County Physical Activity Guidelines for aerobic activity, at least one of the following criteria must be fulfilled: 1) vigorous activity for at least 75 minutes a week, 2) moderate activity for at least 150 minutes a week, or 3) a combination of vigorous and moderate activity for at least 150 minutes a week.¹⁷

	Meet Guidelines	Do Not meet Guidelines	No Activity
El Monte Health District	55%	32%	12%
Los Angeles County	61%	26%	12%

Places to Play

Residents of the El Monte Health District have reported an availability of recreational facilities and amount of use that is roughly equivalent to the average in Los Angeles County.¹⁸

¹⁵ Kaiser Foundation Hospital – Baldwin Park, “Community Health Needs Assessment.”

¹⁶ Ibid.

¹⁷ Los Angeles Department of Public Health, “Health Assessment Data.”

¹⁸ Ibid.

	Use Walking Paths and Playgrounds	Do Not Use Facilities	Facilities not Available
El Monte Health District	54%	31%	15%
Los Angeles County	51%	34%	14%

Safety and Violence

More residents of Baldwin Park perceive that they live in neighborhoods vulnerable to crime than is average for Los Angeles County. 78% reported their neighborhood felt safe from crime, while the County average is 84%.¹⁹ It is worth noting that there is a significant variation in feeling of safety in different areas of Los Angeles County. If residents do not feel safe in their neighborhoods, they are less likely to exercise outside, which leads to negative physical and social impacts.

Objectively, rates of violent crimes in the area are lower than in Los Angeles County as a whole, though rates of theft are slightly higher. These crime statistics represent numbers of crimes per 100,000 people in 2008.²⁰

	KFH-BP Service Area	Los Angeles County
Violent crimes	365.7	583.7
Property crimes	1617.1	1697.2
Theft	1505.3	1450.6
Arson	19	32.9

Food Choices

Baldwin Park is one of the cradles of the fast food industry, and 46% of residents in the El Monte Health District eat fast food at least once a week; 40% is the county average. Residents also drink more sodas than is average, with 38% drinking at least one soda a day, while the county average is 36%.²¹

¹⁹ Ibid.

²⁰ Kaiser Foundation Hospital – Baldwin Park, “Community Health Needs Assessment.”

²¹ Los Angeles Department of Public Health, “Health Assessment Data.”

Food Availability

Residents of the El Monte Health District report having relatively good access to fresh fruits and vegetables, eating fruits and vegetables at an above average rate, and being a bit less food insecure than average for residents county-wide.²²

	Accessing Fresh Fruit and Veg is Easy	Ate 5 Servings of Fruit/Veg in the Last Day	Food Insecure
El Monte Health District	96%	19%	16%
Los Angeles County	90%	16%	18%

Smoking and Alcohol Use

Alcohol use in Baldwin Park is slightly lower than the average for Los Angeles county. 38% of adults reported drinking alcohol in the last month in the El Monte Health District, while the county wide average is 51.9%.²³

11.8% of Baldwin Park residents smoke. The average for Los Angeles County is 14.3%. The U.S. Healthy People 2020 Objective is 12%, which Baldwin Park has already achieved.²⁴ This can be attributed to the City’s smoke-free policies.

ACCESS TO HEALTH CARE

According to the 2011 Los Angeles County Health Survey, among the adult population ages 18-64, 60%²⁵ have health insurance and 92.2% of children ages 0-17 are insured. 80.6%²⁶ of adults have a regular source of ongoing care; however, 40%²⁷ reported that receiving care was difficult.

Access to health care is generally addressed at the county, state, and federal level. The Affordable Care Act of 2010 is expected to dramatically improve access to health care and health insurance rates in the near future.²⁸ Covered California, the state’s insurance

²² Ibid.

²³ Ibid.

²⁴ Kaiser Foundation Hospital – Baldwin Park, “Community Health Needs Assessment.”

²⁵ Los Angeles County Department of Public Health, “Percent of Adults (18+ Years Old) Who Reported Having a Regular Source of Health Care (RSC).”

²⁶ Los Angeles County Department of Public Health, “Type of Insurance and Percent Uninsured for Non-Elderly Adults (18-64 Years Old).”

²⁷ Los Angeles County Department of Public Health, “Percent of Adults (18+ Years Old) Who Reported That Obtaining Needed Medical Care When Needed Is Somewhat or Very Difficult.”

²⁸ Covered California, “Covered California Fact Sheet.”

marketplace, opened for registration on October 1, 2012. Coverage available through the program will be effective January 2014.

CALENVIROSCREEN: VULNERABILITY TO POLLUTION

ABOUT CALENVIROSCREEN

CalEnviroScreen is an environmental justice tool developed by Cal/EPA.²⁹ This tool presents the nation's first comprehensive screening methodology to identify California communities that have vulnerable populations and are disproportionately burdened by multiple sources of pollution. The tool uses existing environmental, health, demographic, and socioeconomic data to create a screening score for communities across the state. An area with a high score would be expected to experience much higher impacts than areas with low scores. The CalEnviroScreen (CES) Report presents the statewide results of the analysis using the screening tool.³⁰

The CES methodology tracks pollution and vulnerability using a range of indicators. These indicators are grouped into four categories, including exposure, environmental effect, sensitive population, and socioeconomic factor indicators.

- Exposure indicators describe pollution that people may be directly exposed to, by breathing contaminated air, for example.
- Environmental effect indicators describe negative environmental conditions that are caused by pollution.
- Sensitive populations are those with biological traits that result in an increased vulnerability to pollution exposure.
- Socioeconomic factor indicators are characteristics of the community that result in an increased vulnerability to pollution.

Detailed information on the importance of each indicator, data sources, the rationale behind including the indicator, and the methodology behind the CES calculations can be found in the "California Communities Environmental Health Screening Tool, Version 1 Report (CalEnviroScreen 1.0)", available from the California Office of Environmental Health Hazard Assessment.³¹

²⁹ The California Office of Environmental Health Assessment and the California Environmental Protection Agency, "OEHHA CalEnviroScreen, Version 1."

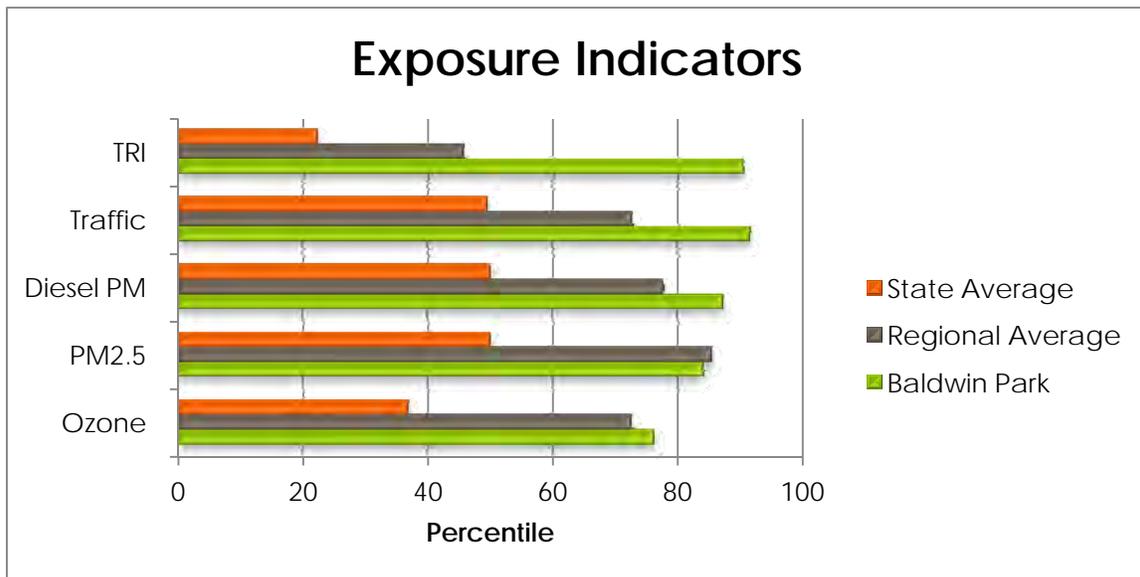
³⁰ John Faust et al., "California Communities Environmental Health Screening Tool (CalEnviroScreen 1.0)."

³¹ The California Office of Environmental Health Assessment and the California Environmental Protection Agency, "California Communities Environmental Health Screening Tool (CalEnviroScreen 1.0)."

BALDWIN PARK'S CALENVIROSCREEN RESULTS

Baldwin Park is in the top 5% of statewide CES scores, which means that city residents have a high level of vulnerability and exposure to pollution. The city's pollution burden is heavy, and many residents are particularly vulnerable to facing negative health impacts due to socioeconomic and population factors. This section describes Baldwin Park's key CES results for pollution burden, socioeconomic factors, and population indicators, and compares Baldwin Park with statewide and regional (equivalent to the Baldwin Park Kaiser Permanente service area) averages. All results are given as percentiles, that is what percentile the City is in terms of pollution burden or population vulnerability, or CES scores. Baldwin Park shows a higher level of pollution exposure, effects, and population vulnerability than its region and the state for almost every indicator. The notable exception is that the average age of Baldwin Park residents is a positive health indicator.

Figure 1. Exposure Indicators

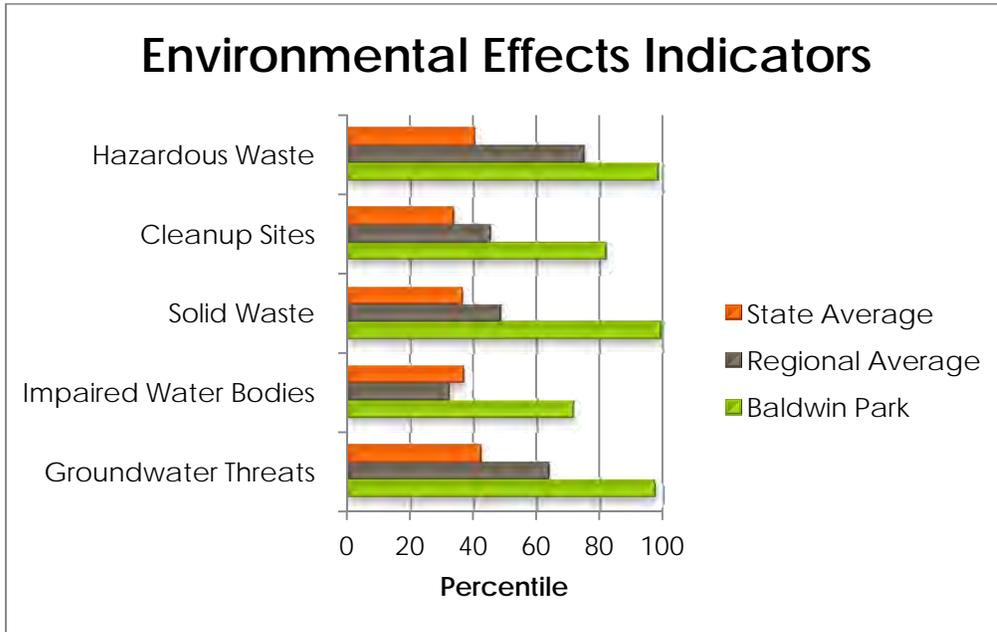


Source: California Communities Environmental Health Screening Tool (CalEnviroScreen 1.0), The California Office of Environmental Health Assessment and the California Environmental Protection Agency, 2013.

Abbreviations: TRI: Toxic Release Inventory (Toxic releases from facilities). PM: Particulate Matter. PM2.5: Particulate Matter particles with a diameter of 2.5 micrometers or less.

Baldwin Park has a higher level of pollution exposure than is average for its region and the State as indicated by toxic releases from facilities (TRI), traffic densities, diesel particulate matter, particulate matter pollution, and ozone levels, as shown in Figure 1. The City also bears more effects of pollution than is average for the state and region, as seen in Figure 2. The Environmental Effects Indicators covered by CalEnviroScreen are hazardous waste facilities and generators, environmental cleanup sites, solid waste sites and treatment facilities, impaired or polluted bodies of water, and threats to groundwater quality.

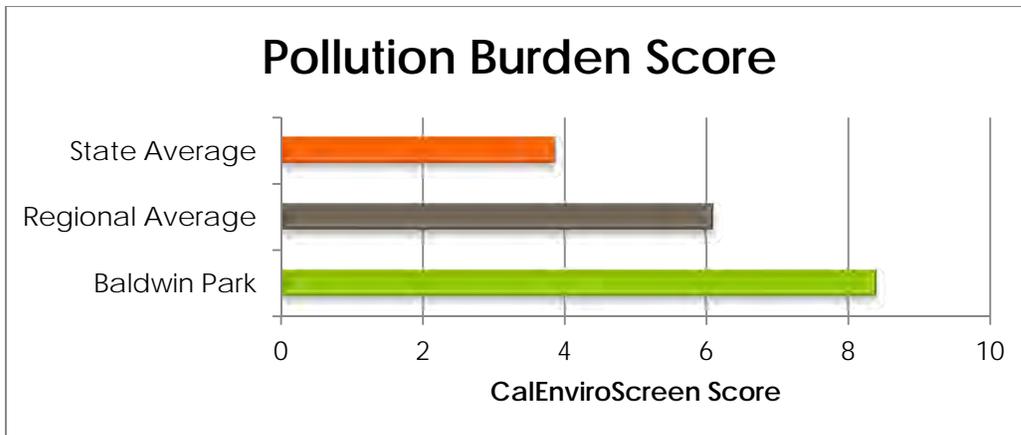
Figure 2. Environmental Effect Indicators



Source: California Communities Environmental Health Screening Tool (CalEnviroScreen 1.0), The California Office of Environmental Health Assessment and the California Environmental Protection Agency, 2013.

Figure 3 shows that Baldwin Park’s total CES Pollution Score is higher than the statewide score and its region. Baldwin Park has a score of 8.4. The maximum possible score is 10.

Figure 3. Pollution Burden Score

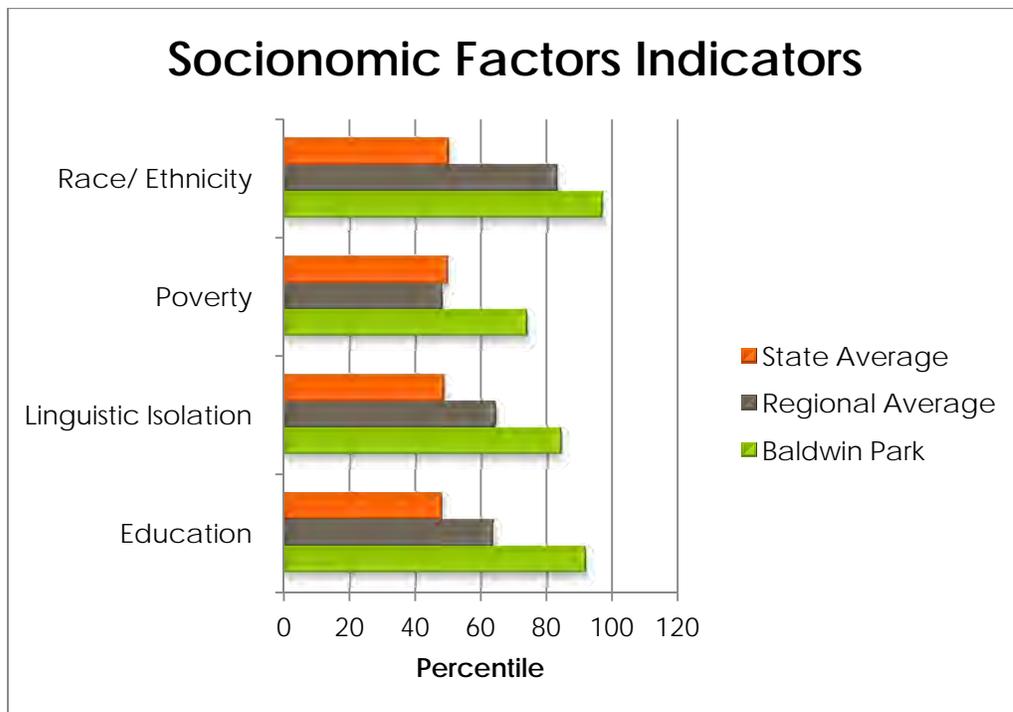


Source: California Communities Environmental Health Screening Tool (CalEnviroScreen 1.0), The California Office of Environmental Health Assessment and the California Environmental Protection Agency, 2013.

SOCIOECONOMIC FACTORS AND POPULATION INDICATORS IN BALDWIN PARK

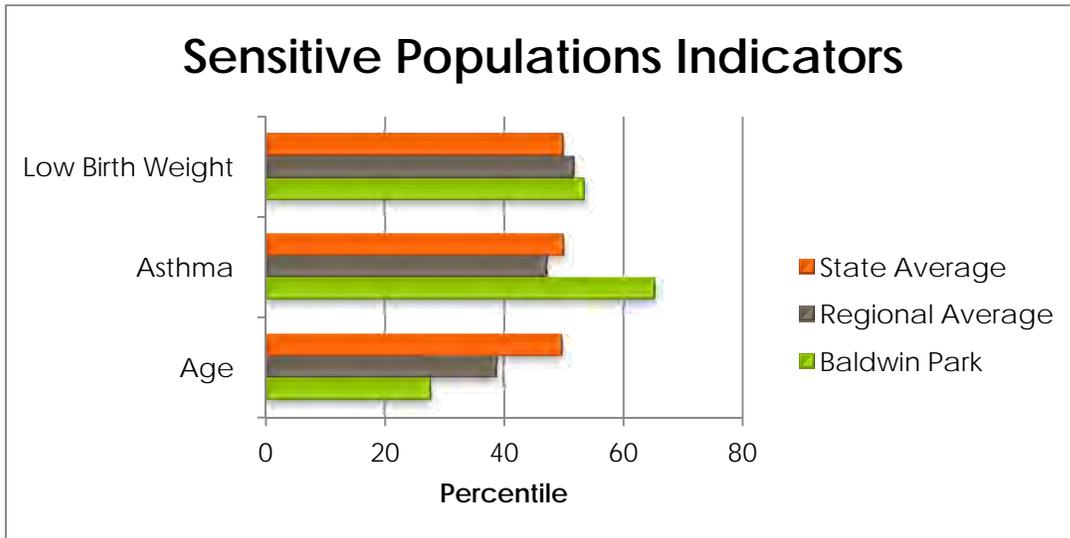
CalEnviroScreen shows that Baldwin Park has a high vulnerability to the negative impacts of pollution due to socioeconomic factors. Figure 4 shows Baldwin Park's relative scores for vulnerability tied to ethnicity, poverty, linguistic isolation, and education. CES results also show that Baldwin Park has health outcomes that indicate a population that may be under stress from pollution (low birth weight and high levels of asthma). However, the population does not have a large number of age-vulnerable (young children and seniors) members, as seen in Figure 5. Baldwin Park's relatively young population and high percentage of non-native members may obscure the health impacts of the pollution burden the city is facing.

Figure 4. Socioeconomic Factors



Source: California Communities Environmental Health Screening Tool (CalEnviroScreen 1.0), The California Office of Environmental Health Assessment and the California Environmental Protection Agency, 2013.

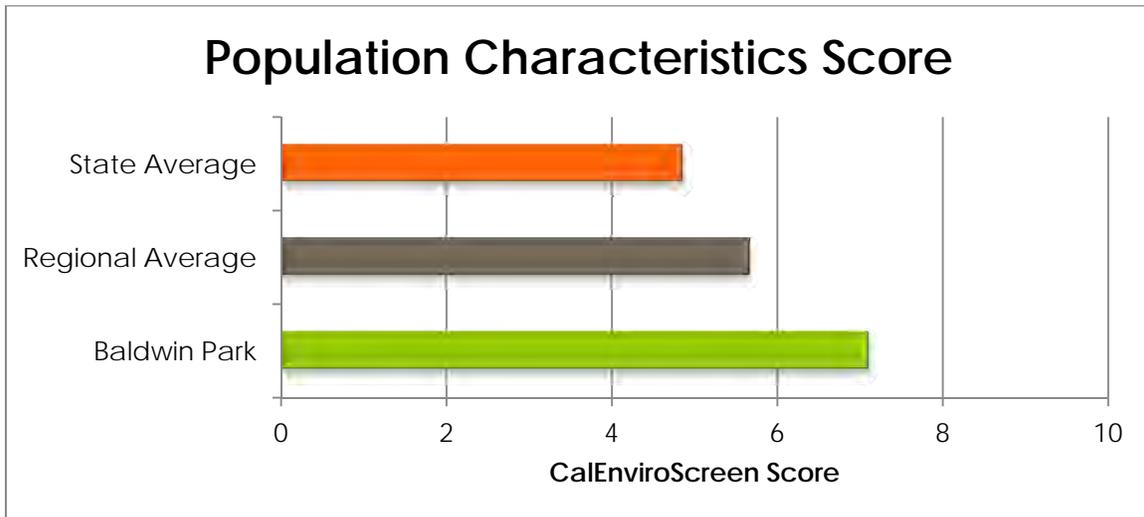
Figure 5. Sensitive Populations Indicators



Source: California Communities Environmental Health Screening Tool (CalEnviroScreen 1.0), The California Office of Environmental Health Assessment and the California Environmental Protection Agency, 2013.

Overall, Baldwin Park has a significantly more vulnerable population than its region or the state average due to socioeconomic and biological variables. Baldwin Park’s CES Population Characteristics Score is 7.1. The maximum possible score is 10.

Figure 6. Population Characteristics Score

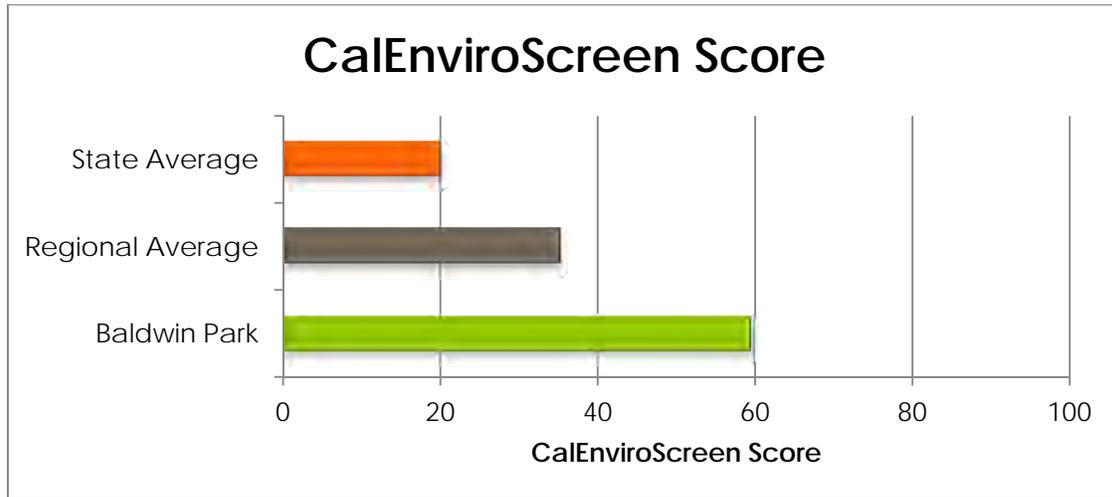


Source: California Communities Environmental Health Screening Tool (CalEnviroScreen 1.0), The California Office of Environmental Health Assessment and the California Environmental Protection Agency, 2013.

BALDWIN PARK'S CALENVIROSCREEN SCORE

Baldwin Park's final CES score is 59.6, out of a possible 100 points. The regional average is 35.2, and the state average is 20.1, as seen in Figure 7. Baldwin Park's CES Score puts the city in the top 5% of at-risk communities in California.

Figure 7. CalEnviroScreen Score



Source: California Communities Environmental Health Screening Tool (CalEnviroScreen 1.0), The California Office of Environmental Health Assessment and the California Environmental Protection Agency, 2013.

BALDWIN PARK ACHIEVEMENTS AND CURRENT INITIATIVES

Baldwin Park has been working to improve local health and environmental conditions for many years, although individual efforts have never been coordinated into a guiding policy framework. This section describes Baldwin Park's achievements and current initiatives. The achievements described in this section are a result of collaborative partnerships between the City of Baldwin Park and multiple partners, including public health departments, academic institutions, private institutions, and neighboring cities and counties. They are arranged by Health Community Framework topic: Our City, Our Environment, and Our Health.

OUR CITY

COMPACT AND EQUITABLE DEVELOPMENT

SCAG Compass Blueprint: Arrow Highway

The San Gabriel Valley Council of Governments selected an east-west corridor running from the City of San Dimas to the City of Irwindale known as the Arrow Highway Corridor for this project. At the edge of many jurisdictions, and often serving as a jurisdictional boundary, the north and south sides of Arrow Highway are often subject to different policies concerning zoning and streetscape design. The planning and development of properties along Arrow Highway are considered a low priority within each jurisdiction, including some of the unincorporated islands. This project sought to reprioritize and fully utilize the highway corridor in a manner that would provide broad benefits to all affected jurisdictions.

This project promoted collaborative planning between multiple jurisdictions situated along the Arrow Highway corridor. The project encouraged development of a consistent plan for connecting transportation and land use along the corridor.

Goals

- Establish and define a corridor role
- Improve the visual appearance
- Improve economic performance
- Improve traffic flow and links to transportation
- Establish multi-jurisdictional coordination

TOD Specific Plan (Metro Funded)

The City is considering adopting a TOD Specific Plan. In partnership with ROEM Development Corporation, the City is considering the development of 71 affordable residential units in the heart of Downtown, adjacent to City Hall and the Transit Station. This would be the first TOD project in Baldwin Park. These units would have between one and three bedrooms. The street level of the development would feature commercial space and eateries. This development would alleviate some of the pressure for affordable housing in Baldwin Park and the region, and will give residents exceptionally good access to transit.

2012 Zoning Code

The Zoning Code is the key device for implementing the General Plan. The General Plan, adopted in 2002, introduced a new mixed-use (Mixed-Use) category to allow for integrated retail, office, and residential uses in the City's downtown area and along selected corridors. To implement the General Plan, the City completed a comprehensive revision of the Zoning Code in 2012 to include two mixed-use zones (Mixed-Use 1 and Mixed-Use 2) that provide opportunities for medium- and high- density residential mixed-use developments, with limited commercial, institutional, office, and service uses. The updated Zoning Code implements higher densities in the Mixed-Use areas at up to 30 units per acre. The Zoning Code has been identified in the General Plan Housing Element to meet the City's regional housing needs by income level.

According to the U.S. Census, between 2000 and 2010, the housing stock in Baldwin Park increased from 17,430 to 17,736 units, an increase of two percent. Implementation of the General Plan Land Use Plan allows for development of an additional 1,452 dwelling units beyond the 2010 level.

GETTING AROUND

Complete Streets Policy

Baldwin Park passed a Complete Streets Policy in 2011. This policy was recognized as being one of the most robust in the country.³² The policy is designed to make streets safer and more accessible for all users, including bicyclists, pedestrians, and transit users. Streets will be more inviting and will encourage physical activity, thus improving residents' health, encouraging community building, and increasing safety in the community. More than 300 residents contributed their time and input to the formation of this policy.³³

³² Market Wire, "Baldwin Park Recognized for Strongest Complete Streets Policy in the Nation | Reuters."

³³ City of Baldwin Park, "Baldwin Park Complete Streets Policy."

Draft Manual for Living Streets Design

This exhaustive manual is designed to assist and guide the City of Baldwin Park in developing streets that increase the vitality of the city and complying with both the requirements of the California Complete Streets Act and the Los Angeles County requirements for reducing stormwater runoff. Once adopted, the City will use this manual as a starting point for street design and retrofits, and as a guide for developing streetscapes into multi-functional, lively, and enjoyable public spaces.

This manual was funded by the Los Angeles County Department of Public Health and the UCLA Luskin Center for Innovation. It is designed to be a regional or national model for modern street design that serves all members of the population using all forms of transportation, rather than over-emphasizing car and truck travel. Technical input and advisement was provided by a team of leading street designers, as well as land use planners, architects, landscape architects, sociologists, and public health professionals.

Related street design and traffic-calming projects the City is currently implementing include:

- A road diet on N. Maine Avenue (north from Los Angeles Street to Arrow Highway)
- A road diet on Olive Street, reducing four traffic lanes to two lanes and adding bike lanes, bulbouts, and refuge islands at intersections

A road diet, or roadway reconfiguration, involves reducing the traffic lanes on a street in order to slow traffic's rate of travel, increase safety on the roadway, and make room for other uses. Road diets have multiple safety and operational benefits, including:

- Decreasing vehicle travel lanes for pedestrians to cross, therefore reducing the multiple-threat crash (when one vehicle stops for a pedestrian in a travel lane on a multi-lane road, but the motorist in the next lane does not, resulting in a crash) for pedestrians,
- Providing room for a pedestrian crossing island,
- Improving safety for bicyclists when bike lanes are added (such lanes also create a buffer space between pedestrians and vehicles),
- Providing the opportunity for on-street parking (also a buffer between pedestrians and vehicles),
- Reducing rear-end and side-swipe crashes, and
- Improving speed limit compliance and decreasing crash severity when crashes do occur.³⁴

The City has many other opportunities for improving streetscapes across town, including planting medians with native and drought-resistant plants, increasing bike accessibility, allowing a variety of uses such as urban farming along the street, and retrofitting alleys to

³⁴ Federal Highway Administration, "Proven Safety Countermeasures - 'Road Diet'."

be attractive, green areas where stormwater will be allowed to seep into the earth rather than pooling after storms.

Transit Center

The Transit Center, a multi-modal transit facility completed in 2013, consists of a five-level parking structure which provides more than 500 parking spaces. Approximately 200 of these spaces are dedicated for rail and bus commuters. The Transit Center also includes a rest area for bus drivers, a police compound for storage, and an overhead pedestrian bridge to the Metrolink Station.

The Transit Center is served by Metro, Metrolink, Foothill Transit, and Baldwin Park Transit. In addition to providing parking for local commuters, it will have a significant impact on the environment by reducing carbon emissions, increasing transit ridership and decreasing the number of vehicle miles traveled.³⁵

Maine Avenue Redesign Plan

This project, located near City Hall, is a widening project to add two left-turn aisles for turning onto Ramona Boulevard. A bike lane or “sharrow” will also be added. A sharrow (a compound of “share arrow”) is a pavement marking symbol, usually of a bike rider and arrows indicating their direction of travel, which helps bicyclists and drivers understand where bikers should ride, and that all roadway users should safely share the road. The intersection is close to the Metrolink track, and this project will increase safety by preventing traffic from backing up into the track. Sidewalks will also be widened to allow wheelchair and stroller users to pass easily.

Nonmotorized Active Transportation Plan

This is a current city effort that is managed through the Public Works Department. Funded by the Transportation Community Safety Program, the City will develop a focused plan within the Pacific, Ramona, and Downey triangle that will link to Metrolink, and the Transit Center, and identify areas for road diets.

Bus Rapid Transit on Ramona Boulevard

Baldwin Park is considering a Bus Rapid Transit line along Ramona Boulevard for Foothill Transit buses. The City has secured funding to synchronize signals to allow quick passes for these fast commuter buses. The bus line will likely link San Dimas to El Monte, and begin service in 2015.

The City is also enhancing bus stops along Ramona Boulevard to increase their appeal to transit riders.

³⁵ Chen, “New Baldwin Park Transit Center Now Open for Service.”

Commuter Bikeways along Walnut Creek Wash and Ramona Boulevard

The San Gabriel Commuter Bikeway is planned for construction along Walnut Creek Wash. Access to Baldwin Park will be through the Walnut Creek Nature Center, and possibly a major employment center along Baldwin Park Boulevard. The City has contributed \$400,000 to the project. The City also plans to install a commuter bikeway along Ramona Boulevard.

San Gabriel Valley Bike Master Plan

Baldwin Park is participating in a regional bike master planning initiative lead by Bike SGV. The Los Angeles County Department of Public Health's PLACE Program funds the process. The planning process started in 2012, and will last for 3.5 years. The key goals of the plan are to:

- Promote bicycling as a means to decrease childhood and adult obesity resulting from lack of physical activity
- Develop a Bicycle Master Plan that creates an accessible network of bicycle infrastructure and connects the participating San Gabriel Valley cities to one another other and to greater Los Angeles County for the general benefit of all County residents
- Facilitate the implementation of Master Plan projects
- Foster the development of a youth-focused bicycle cooperative in the project area³⁶

COMMUNITY SAFETY

Safe Routes to School Plan

Baldwin Park initiated a Safe Routes to School (SRTS) program in mid-2012, with funding provided Caltrans. SRTS programs seek to improve the health and well being of children by enabling and encouraging them to walk or bike to school. Specific projects examine routes children take to schools and work to improve accessibility, safety, and attractiveness, and to reduce air pollution around schools.³⁷

³⁶ Bike San Gabriel Valley, "SGV Bicycle Master Plan."

³⁷ National Center for Safe Routes to School, "About Us | National Center for Safe Routes to School."

MODERN AND GREEN INFRASTRUCTURE

Green Building Code

Baldwin Park adopted the California Green Building Code in October 2013.

Sidewalk Retrofits

Some of the street trees in Baldwin Park, particularly *Ficus Nitida* or "Indian Laurel" trees like those found downtown, tend to lift up sidewalks with their roots, causing uneven and sometimes dangerous sidewalks. The Department of Public Works has initiated a sidewalk replacement project in impacted areas of the City. The new sidewalks will be more resistant to damage by street trees and safer for pedestrians. This project is funded by the Federal Transportation Development Act.

Handicapped Parking Stalls

The Department of Public Works is planning to update handicapped parking stalls throughout the City to comply with updated Americans with Disabilities Act (ADA) guidelines.

OUR ENVIRONMENT

REDUCE, REUSE, RECYCLE AND COMPOST

Baldwin Park operates a food oils recycling program. The City collects fats, oils and greases from restaurants and food processors free of charge and takes it to a recycler for conversion into biodiesel.

The City contracts with Waste Management for trash collection at residential and nonresidential properties. As of 2013, collection of recyclables was only available for single-family residences, although Waste Management is pursuing programs for multifamily properties and businesses. No composting program is yet in place.

ENERGY CONSERVATION AND ALTERNATIVE ENERGY

Energy Conservation

Baldwin Park has implemented many projects to save energy at City facilities. The City has completed energy audits of City Hall and the Community Center, and is working to complete energy audits of the City maintenance yard and Family Service Center. In

collaboration with the San Gabriel Council of Governments, Baldwin Park is currently developing an Energy Efficiency Plan³⁸.

As part of this effort, the City is working to reduce the amount of energy used to light public buildings. The City is installing more efficient lighting systems, including efficient fluorescent lighting, LED lights, and possibly fiber optic lighting as that technology matures. The City is looking to install additional solar panels on its rooftops as grant money is available [solar is not necessarily for the lighting-move sentence to Solar Power], and has installed skylights in some facilities. Vending machines are fitted with motion sensors so they are lit only when needed.

The City has replaced 12% of its streetlights with LED fixtures, retrofitted traffic lights, and retrofitted lighted street signs with LED bulbs, and converted some lighted signs to reflective models. The boiler and chiller at City Hall have also been updated.

Solar Power

Electric Car Charging Stations: The City has installed solar panels atop the Transit Center to provide power for electric car charging stations in the Transit Center adjacent to City Hall.

Baldwin Park Community Center: The City received a grant to install solar electric panels on the Baldwin Park Community Center. The panels produce 18 kilowatts of electricity, which has led to a 15% decrease in energy costs for the center. The center is an important amenity in Baldwin Park. It serves as a senior center as well as a sports and recreation center for both residents of Baldwin Park and people from surrounding cities.

Baldwin Park Unified School District: The School District has installed solar facilities on parking lot shade structures at both high schools in Baldwin Park and in the District office parking lot.

Go Green Baldwin Park

Baldwin Park and Southern California Edison are partnering to encourage energy efficiency and conservation through "Go Green Baldwin Park," a project to centralize information that will help residents adopt more sustainable technologies and behaviors. Topics include electricity, solar and wind power, water, and recycling. An Energy Efficiency and Climate Change Conference was held on September 27, 2012, and a website is available to offer basic information on saving electricity, renewable energy, water conservation, and recycling. The site guides users to the websites of public utilities and agencies that offer a variety of conservation and rebate programs.³⁹

³⁸ City of Baldwin Park, "Efficiency Chapter of a Climate Action Plan - City of Baldwin Park."

³⁹ City of Baldwin Park, "Go Green Baldwin Park: City of Baldwin Park's Energywise Solutions Site."

Compressed Natural Gas (CNG) Buses

This City operates a local circular bus and on-demand (Dial-a-Ride) bus service. The City is working to replace all of its buses with buses that run on compressed natural gas (CNG) rather than diesel. CNG has a lower carbon footprint than diesel, and produces less air pollution. The City has replaced four of the ten buses to date, and has been awarded a grant from the Los Angeles County Metropolitan Transportation Authority (Metro) to purchase four more new CNG buses.

USING WATER WISELY

Water Infiltration

Baldwin Park is built on soil that was migrated to its current location through millions of years of rainwater and streams running into the San Gabriel Valley. The soil has a high sand content, and has excellent drainage properties. The development of Baldwin Park has covered much of this soil with pavement and buildings, which keep water from seeping into the ground. The City plans to increase the infiltration of stormwater and urban runoff using Low Impact Development (LID) techniques, which is part of a collection of strategies known as Green Infrastructure.

For example, the Department of Public Works plans to address areas where water pools and is difficult to drain by allowing water to flow off of streets into surface-level or under-street infiltration areas.

For development projects that cost over \$25,000, Baldwin Park requires that developers install Low Impact Development (LID) technologies to treat, capture, and infiltrate stormwater and urban runoff on site, where it lands.

Superfund Cleanup

Baldwin Park is located in the San Gabriel Valley Basin, where groundwater was contaminated through decades of improper chemical handling and disposal practices by industries producing rocket fuel and solvents. This contamination created a polluted aquifer, which has been designated by the U.S. Environmental Agency (EPA) as a Superfund site. The City of Baldwin Park has worked closely with the EPA to establish a plan to clean up the site and provide clean drinking water to Baldwin Park residents. Baldwin Park is reliant on groundwater for its drinking water. There are now four pumping and treatment centers in the Baldwin Park area that are designed to provide clean water to 100,000 homes.⁴⁰

⁴⁰ U.S. Environmental Protection Agency, "San Gabriel Valley, Baldwin Park | Superfund | US EPA."

APPRECIATING AND ENHANCING THE CITY'S NATURAL FEATURES

Baldwin Park is a Tree City USA

The Arbor Day Foundation has certified Baldwin Park as a Tree City since 2011. The Tree City USA Program provides a framework for urban forestry programs for cities across the country. Communities achieve Tree City status by meeting four standards:

1. Sound urban forestry management
2. Maintaining a tree board or department
3. Having a tree ordinance
4. Spending at least \$2 per capita on urban forestry and celebrating Arbor Day⁴¹

There are many benefits to a healthy urban forest. Trees absorb greenhouse gases, treat and absorb stormwater, mitigate the heat island effect, promote biodiversity, and increase property values.⁴²

Urban Forest Program

Baldwin Park has a City Street Trees plan that was written in 1989. The City is planning to develop a new plan that addresses current needs and developments that have occurred since the last plan was completed. In the meantime, the City has obtained funding from the Valley County Water District and Air Quality Management District to plant street trees.

OUR HEALTH

PARKS: PLACES TO PLAY AND RELAX

Parks Master Plan Completed

The Baldwin Park Comprehensive Park and Recreation Plan, completed in 2005, establishes a community-supported road map for providing high-quality, well-managed parks and recreation facilities throughout the community. The master plan identifies current and future recreation needs. It establishes goals, standards, and guidelines to improve parks and recreation facilities. In addition, the master plan presents costs and strategies for implementing capital and non-capital projects that will provide the most benefit to the Baldwin Park community.

⁴¹ The Arbor Day Foundation, "What Is Tree City USA? at Arborday.org."

⁴² National League of Cities, "Sustainable Cities Institute: Benefits of Trees & the Urban Forest."

Baldwin Park envisions optimum health and wellness for all individuals and families in the community with an interconnected and accessible system of parks, facilities, and diverse recreational opportunities that support making active and passive recreation an integral part of every day.

Active Parks

Baldwin Park has installed fitness equipment in public parks, which are free for use. Exercise facilities and classes are also available at the Community Center.

Teen Center

Baldwin Park's Teen Center offers teens a fun, active place to spend time. The Center features a healthy kitchen, active family game room, rock climbing wall, and skate park.⁴³ However, some teens have indicated that they have difficulty getting to the Center because of transportation challenges.

Joint Use Agreement with School District

The City of Baldwin Park has a joint use agreement with the Baldwin Park Unified School District to use the fields at the Olive, Landis, Sierra Vista, and Baldwin Park Elementary Schools after school hours. These fields provide additional open and recreational space for all community members in the largely built-out city.

HEALTHY BUILDINGS AND PLACES

Tobacco Retail Licensing and No Smoking Policies

The City has aggressively sought to limit residents' exposure to second-hand smoke. Smoking is not allowed in: public parks; city-owned premises; restaurants; spaces within 20 feet from an entrance; exit or open window of any building open to the public; or in multi-family dwellings where the property owner opts to prohibit smoking. Owners of multi-family buildings are empowered to prohibit smoking on their properties.

All facilities that sell tobacco must be locally licensed, and are prohibited from selling single cigarettes, allowing self-service tobacco sales, and/or advertising tobacco products, and are required to check the identification of anyone who looks to be under 27 years old.⁴⁴

⁴³ City of Baldwin Park, "Teen Center - City of Baldwin Park."

⁴⁴ City of Baldwin Park, "Ordinance 1321 Tobacco Licensing," 13.

ADDRESSING HEALTH NEEDS

BASiC Program

The City offers a Before and After School Care (BASiC) program at every elementary school in the city. The program provides children with physical activity opportunities, as well as educational activities, rest periods, and healthy food.⁴⁵

Healthy Policy Yields Healthy Minds

In 2003, the City Council adopted the Healthy Policy Yields Active Minds Initiative. Through this initiative, the City became a strategic member of the Healthy Eating, Active Communities (HEAC) Initiative, which was funded through the California Endowment. Among other policy directions, the initiative provides for all vending machines at all City facilities to comply with the nutrition standards set by the state in Senate Bill 19 (2001). This bill directs that non-nutritious foods be removed from those vending machines, thus helping combat youth obesity and the chronic diseases tied to obesity.⁴⁶

Healthy Eating, Active Communities

Healthy Eating, Active Communities (HEAC) was a four-year strategic initiative funded by the California Endowment to reduce disparities in obesity and diabetes by improving food and physical activity environments for school-aged children in low-income neighborhoods.

In March 2005, Baldwin Park received \$1.8 million to work collaboratively to institute policy change and practices in such areas as schools, after-school programs, neighborhoods, media and advertising, and health care services to improve opportunities for healthy eating and physical activity. The HEAC initiative's strong emphasis on peer learning and youth involvement makes it a unique undertaking. The California Center for Public Health Advocacy (CCHPA) is working with People on the Move, the community's name for the HEAC initiative in Baldwin Park.

The mission of People on the Move is to foster an environment for school-aged children and their families conducive to healthy eating choices and behaviors, increased physical activity, and a reduction in obesity and diabetes through effective policy making and private, public, and nonprofit collaboration. This mission is being executed through two objectives:

- To implement and evaluate strategies to improve environments for healthy eating and physical activity

⁴⁵ City of Baldwin Park, "Before and After School Care (BASiC) Program - City of Baldwin Park."

⁴⁶ City Council of the City of Baldwin Park, "Healthy Policy Yields Healthy Minds—Resolution No. 2003-072."

- To create momentum for widespread changes in the policies and practices that contribute to the rising rates of childhood obesity

ACCESS TO HEALTHY FOODS

HEAL (Healthy Eating Active Living County Public Health Grant) Food Procurement Project

In 2013, Baldwin Park received a three-year Healthy Eating Active Living Grant for a food procurement project . Baldwin Park and its partners will develop a citywide healthy food corner market incentive program, piloted in three to five markets. The partners will develop strategies to promote, protect, and expand EBT acceptance at farmers' markets. The partners will expand training and curriculum delivery of Healthy Eating and Active Living (HEAL) coaches at 17 Baldwin Park Unified School District schools to include nutrition education.

Healthy Selection Program

In Baldwin Park, there are six corner stores for every supermarket, and the incidence of obesity is among the highest in San Gabriel Valley and Los Angeles counties. As a result, local residents from the Baldwin Park Resident Advisory Council (BPRAC) and teens from Healthy Teens on the Move are leading the way in improving healthy food selections in Baldwin Park corner stores. The effort led by the Healthy Eating Active Communities Initiative (HEAC) seeks to reduce marketing of unhealthy foods and beverages in Baldwin Park and increase healthy food and beverage offerings in corner stores near schools.

The "Healthy Selection" campaign was created by residents and teens in collaboration with the City of Baldwin Park, CCPHA, Kaiser Permanente, Citrus Valley Health Partners, Los Angeles Department of Public Health, and small corner store business owners to improve access to healthy food. The "Healthy Selection" logo was created by local teens. The logo is displayed in grocery store and market aisles to identify products with minimal salt, fat, and sugar content that comply with California Laws SB12 and SB 965, which set healthy requirements for snacks and beverages in schools. The campaign is intended to inspire community action and to help consumers make healthy food selections a part of their daily lives.⁴⁷ The slogan of the program was, "Make the healthy choice the easy choice."

BreastFeeding Policy

City Leaders have recognized that breast milk is the ideal, nutritional food for infants. Benefits of breastfeeding extend to the mother as well. The City adopted an

⁴⁷ City of Baldwin Park, "LOOK FOR THE 'HEALTHY SELECTIONS' LOGO - City of Baldwin Park."

organization-wide policy of supporting breastfeeding and being a breastfeeding-friendly workplace.⁴⁸

Drive-through Moratorium

Baldwin Park is home to many drive-through restaurants. Fast food has been shown to have a negative effect on obesity levels⁴⁹ and carry other negative health impacts.⁵⁰ The City has implemented a moratorium on the construction or expansion of drive-through businesses in the downtown area to promote the health of City residents and encourage a more vibrant urban form.⁵¹

Senior Lunch Program

The Baldwin Park Senior Center provides hot meals sponsored by Intervale Senior Services. The YWCA Interval Senior Services offers well-balanced meals at no cost to local seniors.

⁴⁸ City Council of the City of Baldwin Park, "Supporting Worksite Breastfeeding Accommodations for City Employees–Resolution No. 2008-015."

⁴⁹ CBS News, "Fast Food Linked To Child Obesity."

⁵⁰ Ivy Morris and San Francisco Chronicle, "How Fast Food Affects You Negatively | Healthy Eating | SF Gate."

⁵¹ City Council of the City of Baldwin Park, "Moratorium on Drive-Through Facilities/Establishments–Ordinance No. 1333."

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SUSTAINABILITY PLANNING: NATIONAL EXAMPLES

This section describes sustainability planning initiatives from across the country. These examples are designed to provide inspiration and context for Baldwin Park’s planning efforts. The examples include General Plan sustainability elements, stand-alone sustainability plans, and monitoring frameworks.

INSTITUTE FOR LOCAL GOVERNMENT: SUSTAINABILITY BEST PRACTICES FRAMEWORK

Scope: Potential options for local action in 10 focus areas

In 2013 the Institute for Local Government issued an update to its Sustainability Best Practices Framework.⁵² This practical document offers a framework for sustainability that is focused on environmental sustainability, and provides local officials and staff with a thorough but concise set of suggestions for actions in each of the 10 focus areas. Many of the activities can lead to multiple benefits, including: environmental benefits; cost, and resource savings; improved community health; and climate change resilience. The 10 focal areas in the framework are:

1. Energy efficiency and conservation
2. Water and wastewater systems
3. Green building
4. Waste reduction and recycling
5. Climate-friendly purchasing
6. Renewable energy and low-carbon fuels
7. Efficient transportation
8. Land use and community design
9. Open space and offsetting carbon emissions
10. Community and individual action

⁵² Institute for Local Government, “Sustainability Best Practices Framework.”

CHICO, CALIFORNIA: SUSTAINABILITY ELEMENT

Scope: General Plan Sustainability Element

Adopted: 2009

The City of Chico's Sustainability Plan is a General Plan Element. The element begins with a vision of Chico in 2030 as a sustainable city. The tools that Chico envisions using to arrive at sustainability include:

- Compact land use patterns
- Transportation systems
- Energy choices
- Green building practices
- Technological advances
- City policies

The City envisions its Sustainability Element supporting:

- Reduced environmental impacts
- Reduced greenhouse gas emissions
- Citywide economic development and ample local jobs
- Strong community food systems
- Community cohesion

Chico uses the "Three Es" (Environment, Economy, Equity) as a framework for sustainability [more commonly called the Triple Bottom Line]. Specific goals for sustainability that are not covered by the rest of the General Plan, which was developed simultaneously with the Sustainability Element, include:

- Balance the environment, economy, and social equity, as defined in the General Plan, to create a sustainable Chico.
- Increase effective citizen participation in local government.
- Lead the way to a sustainable Chico by reducing the environmental impacts of City operations.
- Promote green development.
- Increase energy efficiency and reduce non-renewable energy and resource consumption citywide.
- Reduce the level of greenhouse gas emissions citywide.
- Support local food systems in Chico.

Specific policies and action items accompany these goals. The Element describes ways that sustainable measures are integrated into other sections of the General Plan, including:

- Land use: compact and walkable, with open space, and a jobs/housing balance
- Circulation: Connected, and accommodating all modes of transportation

- Community Design: Supporting the character of place, historical resources, and infill development
- Parks: Reducing water and energy use, and improving accessibility
- Open Space: Protecting and enhancing natural resources, habitat, air, and water quality
- Safety: Providing equal protection for all community members
- Noise: Protecting community members from excessive noise

LA MESA, CALIFORNIA: CONSERVATION AND SUSTAINABILITY ELEMENT

Scope: General Plan Sustainability Element

Draft Published: 2012

Like many other cities, La Mesa developed its sustainability element concurrently with the rest of its general plan. Like Baldwin Park, La Mesa is largely developed, with 98% of its land area occupied by residential and commercial uses. La Mesa does not have many of the resources typically discussed in a conservation element, such as significant natural habitat areas, bodies of water, coastal zones, agriculture, or mineral resources. However, these resources are important to the City in a regional context, and City policies impact regional-scale systems.

La Mesa defines sustainability as: “The ability to meet the needs of the present without compromising the needs of future generations.” This is a widely used definition drawn from the United Nation’s Bruntland Commission’s report⁵³. The City further says that sustainable communities have:

- Local and regional development patterns that expand housing choice and employment opportunity for all persons
- A healthy environment and social climate that function in harmony with natural ecosystems and allow people to lead healthy, productive, and enjoyable lives
- Resilient, diverse, and self-sufficient local economies that meet the needs of residents and build on the unique characteristics of the community
- A transportation network that provides residents with connectivity and commuting options

This is a relatively comprehensive definition of sustainability. It does not directly refer to mitigating greenhouse gas emissions, though that issue is addressed in the Element.

⁵³ NGO Committee on Education, “Report of the World Commission on Environment and Development: Our Common Future - A/42/427 Annex - UN Documents: Gathering a Body of Global Agreements.”

The element focuses on La Mesa’s natural setting and quality of life, while describing briefly the sustainability issues that are found in other elements. The specific topic areas covered include: Resource Conservation; Environmental and Public Health; Economic Development; Transportation; and Waste Management. These topics and the other General Plan Elements they relate to are summarized as follows:

Conservation & Sustainability Topic Areas	Elements								
	Noise	Land Use & Urban Design	Health and Wellness	Housing	Circulation	Open Space/ Recreation	Historic Preservation	Public Services and Facilities	Safety
Resource Conservation		x		x	x	x	x	x	
Environmental and Public Health	x	x	x		x	x		x	x
Economic Development		x			x				x
Transportation	x	x	x	x	x	x		x	x
Waste Management			x					x	

La Mesa describes its plans to use the following best practices for sustainability:

- Resource Conservation
 - Open space and land use
 - Compact and infill development
 - Housing/job balances in neighborhoods to reduce vehicle miles traveled
 - Non-motorized transportation options, in addition to transit
 - Strong urban forestry program
 - Using Smart Growth principals
 - Water Resources
 - Water conservation
 - Low-impact development
 - Informational kiosks on runoff water across the city
 - Energy conservation
 - Auditing public facilities

- Retrofitting existing public facilities
 - Updated generators for emergency services
 - Retrofitted traffic and street lights
 - Energy efficient City vehicles
 - Encouraging property owners to adopt efficient practices
- Environmental and Public Health
 - Solid Waste Management
 - Increasing recycling programs
 - Requiring all properties to recycle waste
 - Improving recycling in multi-family buildings
 - Cooking fat and green waste recycling
 - Urban Agriculture
 - Organizing farmer's markets
 - Seeking a community garden site
 - Air Quality and Greenhouse Gases
 - Aligning with state and regional greenhouse gas targets by concentrating future mixed-use development around transit systems
 - Improving pedestrian and bike facilities in transit-rich neighborhoods
- Economic Development
 - Supporting a healthy economy
- Transportation
 - Sustainable Transportation
 - Coordinating with the SANDAG Regional Transportation Plan to reduce vehicle miles traveled and increase the use of transit and non-motorized transportation
 - Developing streets that are vibrant and lively, support all modes of transportation, and capture and infiltrate stormwater
 - Transportation Demand Management
 - Reducing single-passenger auto travel by promoting ridesharing, alternative work arrangements, and alternative transportation modes

La Mesa also signed the U.S. Mayors Climate Protection Agreement, which brings an additional, complementary set of commitments, including encouraging state and federal governments to act on greenhouse gas emissions, and meeting or exceeding Kyoto Protocol targets.

SANTA MONICA, CALIFORNIA: SUSTAINABLE CITY PLAN

Scope: City Sustainability Plan

Adopted: September 1994, most recently revised 2006, report cards on progress issued annually

Santa Monica's Sustainable City Plan is remarkable because of its accessibility, comprehensiveness, and staying power. The plan was first adopted in 1994, well before many cities or regions began considering sustainability. Since then, the plan has been revised and updated, and importantly, forms the basis for a yearly sustainability report card that evaluates progress towards a comprehensive set of sustainability goals. Both the plan itself and the yearly report cards are models of accessibility. The plan is a concise 30 pages, and each report card is published as a compelling fold-out brochure. Additional data for each indicator in the Sustainable City Plan is available online in a web-based data viewing tool.⁵⁴ The eight goal areas of the plan are:

- Resource conservation
- Environmental and public health
- Transportation
- Economic development
- Open space and land use
- Housing
- Community education and civic participation
- Human dignity

As an example, the City tracks resource conservation using the following metrics:

- Water demand and use
- Number of water saving devices installed
- Waste diversion rates
- Pounds of food waste composted
- Total energy used and percentage of change
- Percentage of renewable energy used in the community
- Megawatts of solar capacity in the city
- Percentage of energy used that comes from wind power

The City uses similarly detailed metrics for its other goal areas.

Although this plan is a self-declared "sustainability" plan, it covers many of the variables that are covered in a traditional comprehensive plan. This plan is an exemplar of the fact that "sustainability" is a flexible term that may be used in a variety of ways, and need not focus exclusively or primarily on environmental issues. The term "sustainability" could in

⁵⁴ Santa Monica Office of Sustainability and the Environment, "Sustainable City Progress Report."

fact be abandoned without damaging the conceptual basis or implementation of this plan. Community participation is an intrinsic part of this plan, and contributed not only to the writing of the plan, but is itself an indicator of sustainability as measured by the plan.⁵⁵

MONITORING SUSTAINABILITY: ARE WE THERE YET?

Scope: General Plan Elements and Sustainability Plans

Building a more sustainable community, responding to climate change, and addressing local challenges demand a concerted effort. To monitor progress and effectiveness, and change course as needed, it is helpful to develop monitoring systems that compare performance to specific baselines and goals. It is best that all of baseline measurements were established in the same year, and that all of the goals have a common target date. Many cities with sustainability plans, like Santa Monica⁵⁶ and Oakland⁵⁷, publish yearly reports on their progress towards sustainability goals. Reports may be published, available online, and/or delivered as interactive websites.

The City of San Rafael, California integrated sustainability monitoring into its General Plan Sustainability Element. The City details specific Sustainability Indicators that it will track, including:

1. Decrease miles travelled in single-occupant vehicles on local streets. Between 2005 and 2020 achieve:
 - a. A 10% reduction community-wide.
 - b. 20% of City employees using alternate modes of commuting.
 - c. 500 new housing units within 1/2 mile of high frequency transit.
2. Promote energy savings from transportation. Between 2005 and 2020 achieve:
 - a. A 20% reduction in annual per vehicle gallons of fuel purchased.
 - b. 100 electric vehicle-charging stations in public locations.
3. Reduce material consumption and achieve resource re- use. Between 2005 and 2025 achieve:
 - a. A 94% diversion of waste from landfills.
4. Reduce dependency on non-renewable resources. Between 2005 and 2020 achieve:
 - a. A 20% reduction community electricity and natural gas use.
 - b. A 30% reduction in household water use.

⁵⁵ City of Santa Monica, "2010 Santa Monica Sustainable City Report Card."

⁵⁶ City of Santa Monica, "2012 Santa Monica Sustainable City Report Card."

⁵⁷ City of Oakland, "Sustainable Oakland Reports ~ City of Oakland, California."

5. Enhance social equity among all segments of the community. Between 2005 and 2020 achieve: 560 new units of deed-restricted affordable housing.⁵⁸

Sustainable Community rating systems, like the STAR Community Rating System⁵⁹, also offer examples of metrics that cities can track to evaluate their progress towards sustainability.

STAR COMMUNITY RATING SYSTEM

Scope: Community sustainability rating system, national program (U.S.)

Implementation: The STAR Community Index was developed by the National League of Cities, ICLEI, the U.S. Green Building Council, the Center for American Progress, and many cities across the country. The rating system has been published and is being piloted.

Pilot Published: October 2012

The STAR Community Rating System has been developed by urban sustainability thought leaders throughout the United States over the course of the last decade. “STAR” stands for Sustainability Tools for Assessing & Rating communities. The system⁶⁰ details how local governments and the communities they serve can become STAR Communities, which plan for, measure, and report sustainability progress.

The rating system itself is useful to jurisdictions considering sustainability plans because it offers a comprehensive vision of sustainability, as well as concrete actions communities can take to advance sustainability in particular areas. Cities involved in sustainability planning can consult the rating system while determining which aspects of sustainability to focus on, and how they might address them. Cities consulting the rating system need not join the STAR network.

The major goal areas covered by the rating system include:

- Built Environment
- Climate and Energy
- Economy and Jobs
- Education, Arts and Community
- Equity and Empowerment
- Health and Safety
- Natural Systems

⁵⁸ City of San Rafael, “City of San Rafael General Plan Sustainability Element.”

⁵⁹ STAR Communities, “STAR Community Rating System.”

⁶⁰ Ibid.

Each of the goal areas is divided into five or more detailed objectives. For example, the objectives for the Built Environment goal area are:

- Ambient noise and light
- Community water systems
- Compact and complete communities
- Housing affordability
- Infill and redevelopment
- Public spaces
- And Transportation choices.

LEED FOR NEIGHBORHOOD DEVELOPMENT

Scope: Development sustainability certification and rating system

The U.S. Green Building Council, Congress for the New Urbanism, and Natural Resources Defense Council collaboratively developed the well-known Leadership in Energy and Environmental Design (LEED) certification and rating system for buildings, and in 2009 added a program for certifying neighborhoods. This program is called LEED for Neighborhood Development, or LEED ND.

LEED ND provides a structure for developing new neighborhoods that demonstrate a high level of environmental sustainability through their:

Location

- Close to existing development
- Sensitive to threatened species and ecological communities
- Preservation of agricultural and flood plain lands
- Reduced automobile dependence
- Housing and job balance

Neighborhood Design

- Walkable, compact development
- Mixed-use and mixed-income development
- Transit facilities
- Accessible civic and recreation spaces
- Facilities that adhere to universal design principals, which provide for users of all ages and abilities
- Neighborhood schools

Green Infrastructure and Buildings

- LEED certified green buildings
- Energy and water efficiency
- Water-efficient landscaping and stormwater management
- Use of existing buildings and historic preservation

- Sustainable building siting best practices
- District infrastructure efficiency
- Light pollution management⁶¹

Developers are awarded points for good performance in these areas. The program also offers points for innovation and exemplary performance in neighborhood design and development, and for building in regional priority areas. Regional priority areas are identified by USGBC regional councils and chapters, the Congress for the New Urbanism chapters, and representatives of Smart Growth America’s State and Local Caucus.

A key distinguishing factor of LEED ND is that a specific number of points are available in each credit area. This means that activities that are more important from a sustainability point of view receive more points. This weighting system helps developers prioritize high-impact actions. LEED ND is focused specifically on environmental, building, and design issues, which have a cascading effect through the experience and functioning of a development. Other community rating systems put more direct emphasis on community building and economic development. While LEED ND cannot be used to certify existing neighborhoods it can be used as an evaluation tool for existing neighborhoods, one which offers insight into increasing the sustainability of those neighborhoods.⁶²

SAN FRANCISCO, PORTLAND, SEATTLE, AND BROOKLYN: ECO-DISTRICTS

Scope: Neighborhood Plan

Several cities across the country are implementing eco-districts. Essentially, these are sustainability plans that operate at a neighborhood scale, or neighborhood plans that have a heavy focus on sustainability. Eco-districts can have an advantage over city-wide policies or zoning in some cases because they can concentrate sustainable development and investment in a smaller area, thereby maximizing the focus and value of limited resources, allowing for neighborhood-scale aggregation programs (like solar or a district energy system) and providing a practical example and proving ground for new types of development or retrofitting.⁶³ Eco-districts may take several forms, as identified by San Francisco:

1. **Blank Slate:** A large undeveloped or cleared parcel owned by one owner. These allow horizontal infrastructure development and can maximize the efficiency of innovative infrastructure.

⁶¹ U.S. Green Building Council, “LEED for Neighborhood Development V2009 - Current Version.”

⁶² National Resources Defense Council, “LEED for Neighborhood Development: NRDC’s Citizen’s Guide to LEED for Neighborhood Development Helps You Know When It’s Green.”

⁶³ Tam, “San Francisco Gets Its First Eco-district | Sustainable Industries.”

2. **Patchwork Quilt:** A mix of types of development owned by different property owners. These districts require close work with the community to build on existing character. Development activities must also be aligned.
3. **Strengthened Neighborhoods:** Existing neighborhoods, particularly commercial corridors, can use tactical urbanism (often quick, low-budget interventions, like parks or café seating that are built to temporarily occupy existing parking strips) to increase neighborhood identity and support eco-friendly behavior.
4. **Industrial Network:** A city can work with property owners in industrial areas to create stronger connections and synergies between production, distribution, and repair uses, sometimes turning one industry's waste into fuel for another industry.⁶⁴

⁶⁴ San Francisco Planning Department, "San Francisco Planning Department : Sustainable Development."

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HEALTH PLANNING EXAMPLES

Cities and counties in California have begun using their general plans as tools to improve public health. Some cities – including Anderson, Chino, Fullerton, Richmond, and San Pablo – have included a separate health element in their general plans, while others have integrated health concerns throughout the plans.⁶⁵ Table 2 shows commonly adopted measures to increase public health, and the types of results associated with each measure.

The common health conditions and diseases that Health Elements are designed to mitigate are:

- Obesity, which is closely connected with diabetes and heart disease
- Heart disease, which may lead to heart attacks
- High blood pressure, which may lead to stroke and heart attacks
- Cancer
- Respiratory diseases, like asthma
- Mental illnesses, like depression

These diseases and conditions may arise together and influence one another. However, many can be mitigated by physical activity, eating a healthy diet, and living in a pollution-free environment.

Physical Activity: Obesity, Type 2 diabetes, depression, heart disease, stroke, and certain cancers can be prevented or managed with regular physical activity.⁶⁶ Programs that encourage physical activity can reduce disease incidence in the population.

Healthy Diet: A healthy diet is another key piece critical to preventing and mitigating chronic diseases and conditions like those listed above. Many residents of low-income communities have less access to healthy foods than people in wealthier areas because healthy foods are not sold in their neighborhoods, where corner stores are much more common than grocery stores, and because healthy foods may be much more expensive. Food equity and nutrition programs are designed to combat this inequality and the disease it engenders.

⁶⁵ California Center of Public Health Advocacy, “General Plan Update | Healthy Eating Active Living Cities Campaign | Physical Activity and Nutrition Policy Adoption in CA Cities.”

⁶⁶ Mayo Clinic, “Exercise: 7 Benefits of Regular Physical Activity - MayoClinic.com.”

Table 2: Public Health Initiatives and Impacts

Measure	Results							
	Increased Transit Use	Shortened Trips	Increased Bike/Ped Travel	Increased Physical Activity	Reduced Pollution	Increased Community	Healthy Food Access	Increased Public Safety
Transit Oriented Development	⊙			⊙	⊙			
Job/Housing Balance	⊙	⊙	⊙	⊙	⊙	⊙		⊙
Infill Development	⊙	⊙	⊙	⊙	⊙	⊙		⊙
Park Access			⊙	⊙	⊙	⊙		
Trail Development			⊙	⊙	⊙	⊙		
Mixed-Use Development	⊙	⊙	⊙	⊙	⊙	⊙		
Street Design Standards	⊙		⊙	⊙	⊙	⊙		
Street Connectivity	⊙	⊙	⊙	⊙	⊙	⊙		⊙
Bike /Ped Plans			⊙	⊙	⊙	⊙		
Public Safety Plans			⊙	⊙		⊙		⊙
Civic Participation			⊙	⊙		⊙		⊙

Nutrition Programs			⊙
Community Gardens		⊙	⊙ ⊙
Convenience Store Partnerships			⊙ ⊙
Transit Access to Grocery Stores	⊙		⊙ ⊙
Farmer's Markets			⊙ ⊙

Pollution-Free Environments: Air pollution can irritate and damage lungs, lead to asthma and cancer, and aggravate cardiovascular diseases.⁶⁷ Many public health-focused urban interventions are designed to reduce pollution by decreasing vehicle miles travelled. Buffer zones and zoning are other ways to keep vulnerable populations away from sources of pollution.

Many of the measures used to promote public health have multiple benefits, as seen in The common health conditions and diseases that Health Elements are designed to mitigate are:

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These diseases and conditions may arise together and influence one another. However, many can be mitigated by physical activity, eating a healthy diet, and living in a pollution-free environment.

Physical Activity: Obesity, Type 2 diabetes, depression, heart disease, stroke, and certain cancers can be prevented or managed with regular physical activity. Programs that encourage physical activity can reduce disease incidence in the population.

⁶⁷ U.S. Environmental Protection Agency, "Air Quality Programs."

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SAN PABLO 2030 GENERAL PLAN

The City of San Pablo was one of the first in California to include a Health Element in its general plan. It was adopted in 2011. The element recognizes the connection between city planning and public health, and is organized into four key themes:

1. Healthy transportation and physical activity
2. Healthy food access and equity
3. Access to services and planning for people first
4. Crime reduction and perceptions of safety

The element is designed to fill in the gaps where health issues are not fully covered by other elements of the general plan.

The element describes public health in San Pablo at the time of publication, including indicators for vulnerability, in terms of education and income levels and health outcomes for Contra Costa County, where San Pablo is located, as well as San Pablo itself. The element lists health indicators that the City plans to use to track progress toward improved public health, which fall under the four key element themes. The Goals and Implementing Policies of the element are in line with the measures listed in

The following are noteworthy details:

- Transportation
 - Establishing a Safe Routes to School program
 - Partnering with large employers to implement Transportation Demand Management (TDM) programs
 - Partnering with the HEAL program
- Food
 - Establishing a Health Commission at the City, as well as a possible Food Policy Council
 - Seeking ways to partner with Community Supported Agriculture (CSA) programs for limited mobility or limited income residents
- Access to Services and Planning for People First
 - Focusing services on youth and formerly-incarcerated residents
 - Working to convert liquor stores into health neighborhood markets
 - Including “Universal Design” principals into building requirements
 - Ensuring residents are physically able to access care centers, in some cases by bringing care to their neighborhoods

- Crime Reduction and Perceptions of Safety
 - Decreasing the number of liquor stores
 - Increasing street light coverage
 - Incorporating “Crime Prevention Through Environmental Design” principles into the Zoning Ordinance

RICHMOND HEALTH AND WELLNESS ELEMENT 2030

The Richmond Community Health and Wellness Element was developed independently of the City’s general plan. It incorporates in-depth research on existing conditions and recommendations for future action. The Policies and Actions in the plan are wide-ranging, including land use and housing factors, partially due to its development as an independent Health Element. The following outlines the element content:

- Describes the status of health and wellness in Richmond, including a review of current conditions relative to specific healthy living determinants
- Highlights key findings and recommendations based on an existing conditions analysis
- Defines goals to promote healthy living
- Identifies policies and implementing actions to address challenges and articulate opportunities to foster health and wellness in Richmond
- Provides a summary table identifying lead responsibilities for each implementing action
- Reviews the existing regulatory framework that guides health and wellness planning efforts

The element focuses on the following determinants of healthy living environments:

- Parks and recreational facilities
- Healthy foods
- Medical services
- Walking, bicycling, and public transit;
- High-quality and affordable housing;
- Economic opportunities
- Walkable neighborhoods with access to services
- Safe neighborhoods and public spaces
- Environmental quality
- Sustainable development

The element describes the importance of each determinant, as well as baseline conditions in Richmond, then goes into key findings and recommendations for each. This is followed by goals, policies, and implementing actions that relate to each determinant. The City lists actions in other elements of the general plan that complement actions in the Community Health and Wellness Element. Responsibility for each action is assigned in a summary table, along with a list of supporting policies.

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HEALTH AND SUSTAINABILITY BEST PRACTICES

Although best practices related to different aspects of urban and community development have been around for decades, there is no one-size-fits-all solution to becoming a sustainable city. Different combinations of policies and practices are best suited to unique conditions. This section discusses the challenges associated with each element of the draft Sustainability Framework, and best practices for addressing those challenges. Some of these practices should be implemented at an agency level, like purchasing requirements, while others may be encouraged or required of residents. In many cases municipalities can serve as examples of sustainable best practices, for example with energy retrofits, and residential or business policy applications may follow.

OUR CITY

COMPACT AND EQUITABLE DEVELOPMENT

Land use refers to the way in which land is divided among different types of uses, ranging from urban to industrial to open space. Land uses include large-scale uses, like agriculture, buildings, infrastructure, and forestry, down to granular scales of use, including types of housing, industries, and infrastructure. Land use can be considered in two ways. First is the general type of use, land coverage, and relationship to other uses. Second is the level of impact for each use and the impacts a use causes in other areas.

Land uses in cities are distributed according to both incrementally developed historical uses and uses developed given the current general plan and zoning code. Our understanding of appropriate land uses and adjacencies has changed over time. For example, we now better understand the limitations of suburban-style development, which is commonly found in the San Gabriel Valley. These include:

- Increased commuting times
- Increased carbon emissions from transportation⁶⁸
- Inefficient public transit inefficient in many areas
- Consumption of a large amount of land area per person
- Larger, more expensive infrastructure systems
- Increased impermeable surface areas, worsening flood risks and heat island effects⁶⁹
- Decreased health and community ties⁷⁰

⁶⁸ Stanford University, "Commute Cost & Carbon Emissions Calculator."

⁶⁹ Hanlon, Short, and Vicino, *Cities and Suburbs*.

We also understand the negative health impacts of living near sources of pollution, like freeways and industrial uses.

Land uses and their distribution have significant health impacts, both because they influence lifestyles and activity levels and because they can have direct health effects. Land uses can affect lifestyle by influencing how people travel, as well as their social ties. If housing, jobs, commercial, and recreational areas are located near one another, people are more likely to walk or ride bikes between destinations, thereby increasing their fitness and improving general health. If people drive between destinations, their chances of suffering negative health outcomes increases. Social and community ties are also improved when people spend less time alone in their cars. Having a commute of more than 45 minutes could dramatically increase the incidence of divorce, for example.⁷¹ Land use directly impacts health by exposing people to toxic substances. This usually occurs when two incompatible land uses are next to each other, also called adjacencies. For example, pollution from a freeway that is adjacent to a residential area may harm residents.

Because of the negative impacts of sprawling development, many planning agencies have been implementing “Smart Growth” models of development.⁷² LEED ND is a Smart Growth-focused program.⁷³ Smart growth models emphasize infill development, neighborhood revitalization, mixed uses, and denser development. They aim to support health and climate change mitigation by making walking and biking viable transportation choices, and by making transit efficient and widely available. The State of California recommends that schools, housing, and other sensitive uses be situated at least 500 feet from freeways.⁷⁴

Examples:

- Contra Costa Centre Transit Village, Walnut Creek⁷⁵
- Fruitvale Village, Oakland⁷⁶
- Center for Transit-Oriented Development⁷⁷

⁷⁰ Consortium for Atlantic Regional Assessment, “Land Use and Health - Cities and Suburbs.”

⁷¹ Ninh, “Why Commuting Sucks the Life Out of You.”

⁷² U.S. Environmental Protection Agency, “Smart Growth Illustrated: The Crossings, Mountain View, California.”

⁷³ U.S. Green Building Council, “LEED for Neighborhood Development V2009 - Current Version.”

⁷⁴ County of Los Angeles Public Health, “Citing Housing and Other Sensitive Land-uses Near Freeways and Highly Traveled Roads - Air Quality in Freeways.”

⁷⁵ Centre Points, “Contra Costa Centre Transit Village |Transit Oriented Development|Contra Costa County|Redevelopment Agency.”

⁷⁶ The Unity Council, “Fruitvale Transit Village Overview & History.”

⁷⁷ Center for Transit-Oriented Development, “Center for Transit-Oriented Development : Center for Neighborhood Technology.”

- Retrofitting Suburbia (Book)⁷⁸

GETTING AROUND: WALKING, BIKING, AND USING TRANSIT

Transportation is a vital consideration for all cities. Transportation modes – automobiles, buses, trucks, trains, airplanes, boats, bicycles, and feet – each require particular kinds of infrastructure and have particular impacts. Impacts to consider include:

- Efficiency of travel
- City and neighborhood division
- Noise pollution
- Air pollution
- Carbon emissions
- Water pollution
- Health benefits and disadvantages
- Environmental, health, and social impacts of infrastructure

As we become more aware of the negative environmental impacts of private motorized transportation, the way busy streets disrupt and divide neighborhoods, and the positive health impacts of walking and biking, cities and urban regions have been emphasizing a transition that supports people getting around without cars. This can be done by:

- Creating pleasant, safe walk and bikeways, as recommended by Baldwin Park’s Living Streets Manual
- Encouraging the use of transit by making it quick, accessible, safe, and pleasant
- Building denser neighborhoods that shorten trip lengths, making it feasible for people to stay out of their cars and walk or bike
- Establishing bike share programs for the public or agency staff
- Developing residential and job centers near transit nodes. This approach is called Transit Oriented Development (TOD).

Related sections in this report

- Addressing Climate Change
- Energy Conservation and Alternative Fuels

Examples

- Baldwin Park Living Streets Manual
- Portland Bike Plan for 2030⁷⁹

⁷⁸ Ellen Dunahm-Jones and June Williamson, “Retrofitting Suburbia.”

⁷⁹ City of Portland, “Portland Bicycle Plan for 2030 | Bicycle Plan for 2030 | The City of Portland, Oregon.”

MODERN AND GREEN INFRASTRUCTURE

Infrastructure—including roads, utilities, and sewers—are systems that underpin our cities and support our way of life. They also impact the natural environment.

Vehicular transportation includes roads, transfer stations, sidewalks, bridges, driveways, parking lots, and parking structures.

On heavily trafficked, high-speed roads, like highways, roadways may be very broad and surrounded by barriers. These can roads cause surrounding property values to depreciate, and are major sources of air and noise pollution. Barren, tree-less or unsafe streets also discourage walking and biking, and can cause a decrease in physical fitness.

To encourage walking, an active street life, and a pleasant urban environment, many cities, like Baldwin Park, have been implementing “complete streets”⁸⁰ plans, which aim to harmoniously accommodate all uses. Complete streets include a variable blend of transit lanes and rails, travel lanes, bike lanes or paths, parking, plantings, ample sidewalks, places to rest, bike parking, and potentially commercial and restaurant space.

Paved surfaces – including roads, driveways, sidewalks, and parking lots – are often impermeable, and contribute to urban heat island effects. These impacts can be reduced through the use of permeable paving, and by reducing parking requirements for all types of development.⁸¹

Rail transportation tends to be much more efficient in terms of both energy use per ton transported and general environmental impact than road transportation. Rail travel may also be faster than traveling over roads because it allows riders to skip traffic jams. Average trains have an efficiency of 400 ton-miles per gallon, while trucks offer around 13- ton-miles per gallon.⁸² Some disadvantages of rail include potential high levels of noise near trains, dependence on a rigid rail system, and less flexibility than with vehicular transportation.

Examples

- Metrolink⁸³
- Bay Area Rapid Transit in the San Francisco area⁸⁴
- Amtrak⁸⁵

⁸⁰ National Complete Streets Coalition, “What Are Complete Streets? | Smart Growth America.”

⁸¹ United States Environmental Protection Agency, “Basic Information | Heat Island Effect | U.S. EPA.”

⁸² Maria Stamas, “Rail Versus Trucking: Who’s The Greenest Freight Carrier?: Tree Hugger.”

⁸³ Metrolink, “Baldwin Park Station | Metrolink.”

⁸⁴ San Francisco Bay Area Rapid Transit District, “Bay Area Rapid Transit.”

Hydrological infrastructure includes dams, reservoirs, engineered waterways, levees, dikes, gutters, drains, culverts, swales, retention ponds, water tanks and cisterns, aqueducts, canals, pumping stations, irrigation systems, water delivery systems and sewers.

We have a complex relationship with water. On the one hand, we are reliant on clean water to drink, nourish our crops, and provide habitat and support to plants and animals. On the other hand, water may be a nuisance, or be dangerous. We control water using a variety of techniques, including natural areas, constructed “grey infrastructure” and “green infrastructure”, which is a way of controlling water using the careful placement and engineering of natural materials. Green infrastructure, also called Low Impact Development (LID), has the benefit of conveying many of the advantages of both natural areas and grey infrastructure, and looking good at the same time.

To minimize our use of water and our negative impact on natural systems, cities often encourage water conservation.⁸⁶ New developments can be required to employ LID techniques to treat and retain stormwater on site, or to release it gradually into the watershed after storm events. LID interventions are most frequently required for residential projects.

Sewers include household, industrial, and stormwater sewers, which may or not be separated as well as water treatment centers of various types. Bio swales and water retention areas can be used to reduce, stagger, or prevent releases into stormwater systems. In best-case scenarios, water retention, treatment, and recycling can happen on building or neighborhood scales.

Examples

- Oros Green Street Project in the Elysian Valley, Los Angeles⁸⁷
- Philadelphia Green Infrastructure and combined sewer savings⁸⁸
- Green infrastructure demonstration projects in Chicago, IL⁸⁹

⁸⁵ Amtrak, “Amtrak - Defining Energy Efficiency.”

⁸⁶ U.S. Environmental Protection Agency, “How to Conserve Water and Use It Effectively | Polluted Runoff | US EPA.”

⁸⁷ North East Trees, “Watershed Rehab: Oros Street.”

⁸⁸ Water Environment Reserach Foundation, “Philadelphia, Pennsylvania: Implementing a Multi-Faceted Approach to Stormwater Management.”

⁸⁹ Center for Neighborhood Technology, “Chicago, IL: Green Infrastructure Demonstration Projects.”



Rain Garden



Large Infiltration System

COMMUNITY SAFETY

Community safety in Baldwin Park falls under the purview of the Police Department, which is supported by other City departments. The built environment has an important impact on community safety, which is tied to residents' health.

Streets, parks, and other public areas that feel or look unsafe may encourage crime, and are not attractive as places to walk or exercise. This can decrease public fitness in run-down or unsafe areas. Crime Prevention Through Environmental Design (CPTED) techniques can be used to increase public safety through:

- Natural surveillance
- Access management
- Defining territories
- Physical maintenance
- Maintenance of order⁹⁰

Neighborhoods with poor-quality housing, few resources, and unsafe conditions can have a negative effect on residents' mental health and community bonds by causing residents stress.⁹¹ This environmental stress can lead to mental and chronic illness.⁹²

⁹⁰ Center for Disease control, "CDC - Crime Prevention Through Environmental Design (CPTED) - Youth Violence - Violence Prevention - Injury."

⁹¹ Cutrona, Wallace, and Wesner, "Neighborhood Characteristics and Depression."

⁹² Carnegie Mellon, "Stress Contributes to Range of Chronic Diseases, Carnegie Mellon Psychologist Says."

BUILDING SMART BUILDINGS

Smart buildings are resource efficient and are healthy buildings to be in. Using sustainable building and retrofit practices, owners can reduce energy consumption, use water efficiently, save natural resources by using recycled-content materials, and reduce greenhouse gas emissions over the life of the building. Smart buildings also utilize non-toxic building materials, and incorporate natural systems to perform some of the tasks a building may otherwise perform artificially, like providing light. These features make the building healthier and more pleasant to inhabit. There are many approaches local agencies can take to embrace green building policies and programs, which are consistent with the characters of their communities. Local agencies can encourage green buildings in their communities by:

- Acting to make agency facilities smarter
- Educating their community on the benefits of smart buildings
- Providing construction and design support
- Providing incentives for smart buildings
- Requiring efficient features⁹³

Several comprehensive frameworks for smart buildings exist and can be incorporated into City policy. The California Green Building Code (CALGreen) contains requirements for all new construction, additions and major remodels in the State of California (it is enforced by Baldwin Park).⁹⁴ Build It Green offers the Green Point Rating System for low and mid-rise housing⁹⁵, the U.S. Green Building Council offers the well-known LEED Rating Systems that are applicable for most new and existing buildings and for neighborhood development.⁹⁶ and the American Society of Landscape Architects has Sustainable Sites is available for parks and other open space. Each of these systems offer guidance on focal areas a City might emphasize in its policies, such as energy and water efficiency and renewable energy, or they can be adopted in their entirety as requirements. Like this report, these systems offer a framework of relevant sustainability factors to consider, like energy and water efficiency. For example, the LEED building systems cover:

- Site
- Water
- Energy
- Materials
- Indoor environmental quality

⁹³ Institute for Local Government, “Sustainability Best Practices Framework.”

⁹⁴ California Building Standards Commission, “CALGreen.”

⁹⁵ Build It Green, “Green Point Rated.”

⁹⁶ U.S. Green Building Council, “LEED.”

These factors are covered individually in this report.

THE ENVIRONMENT

Look at an aerial photograph of Baldwin Park, and you will see an established urban environment, complete with all kinds of infrastructure, a mix of building types and uses, as well as parks and nearby natural areas. While Baldwin Park is largely developed, the natural systems it is a part of are still vital, and should be preserved and improved.

REDUCE, REUSE, RECYCLE, AND COMPOST

In 2011, there were 4.4 pounds of municipal waste generated in the U.S. per person, per day.⁹⁷ That equates to over 1,500 pounds per person per year. Thirty-five% of that waste was recycled, or about 1.5 pounds per day. California's AB 939 (Sher 1989) requires that municipalities divert a minimum of 50% of their solid waste. The deadline for this requirement was 2000. Some municipalities are still working towards that goal, and some have exceeded it. However, the statewide diversion rate is approximately 65%. The State has now increased the goal to 75% diversion by 2020 (AB 341, 2011)⁹⁸. San Francisco's diversion rate is currently 80%. Composting is required in San Francisco. Residents face fines of \$100 to \$1,000 if they fail to separate their garbage.⁹⁹

Waste production is inefficient in the long run because we make and destroy almost identical products again and again, which consumes energy and materials, and causes local and international pollution. Producing waste is also becoming increasingly expensive as landfills close, and waste has to be transported ever farther for disposal. When we reduce the amount of waste we produce and recycle as much as possible, we reduce pollution, reduce the energy used to make our goods, and may save money. In 2011, 87 million tons of material was recycled in the U.S., saving enough energy to power 10 million households for a year.¹⁰⁰

Every resident of the U.S. participates in the waste production process, and are aware of recycling programs, whether or not they are locally available. Waste programs are extremely visible. Because of this, and the high understanding of waste and recycling programs, these programs can be excellent vehicles for engaging the public to adopt sustainable behaviors. The following is a list of best practices for waste reduction and recycling promotion:

⁹⁷ U.S. Environmental Protection Agency, "Municipal Solid Waste | Wastes | US EPA."

⁹⁸ California Department of Resources Recycling and Recovery (CalRecycle), "California's 75 Percent Initiative: Defining the Future."

⁹⁹ PBS News Hour, "San Francisco on Track to Become Zero Waste City | PBS NewsHour | Jan. 25, 2013 | PBS."

¹⁰⁰ U.S. Environmental Protection Agency, "Municipal Solid Waste | Wastes | US EPA."

- Waste reduction programs
- Programs for reusing and distributing household items, furniture, business equipment, and supplies
- Recycling programs, either separated or single-stream
- Electronic waste and hazardous materials collection points and pick-up programs, which may also include recycling
- Agency policy requiring recycling¹⁰¹
- Programs targeted at multi-family, commercial, and industrial facilities
- Municipal composting, including in-home and yard bins
- Agency policy requiring composting
- Pay-as-you-throw waste or recycling programs¹⁰²
- Agency “Buy Recycled” policies
- Programs and/or requirements for recycling construction and demolition waste
- Grocery store food waste distribution to food bank and composting programs

Examples

- San Francisco, California Recycling Requirements¹⁰³
- Alameda County, StopWaste program¹⁰⁴
- City of Santa Monica construction and demolition waste ordinance¹⁰⁵

ENERGY CONSERVATION AND ALTERNATIVE ENERGY

We use a tremendous amount of energy to power our modern work and lifestyles for building, industrial facility, and transportation purposes. Energy is used in many forms, including liquid fuels for transportation, and electricity and natural gas for buildings and industry. Conserving energy and utilizing alternative or low-carbon fuels and power reduces the environmental impact of our energy use by reducing greenhouse gas emissions and minimizing negative environmental impacts.

Electricity: Approximately 83% of the energy consumed to produce electricity in the U.S. in 2010 came from fossil fuels. Renewable energy accounts for approximately 8% of electricity production, while nuclear represents 9%.¹⁰⁶ Fossil fuel-based power production generates air and water pollutants, including greenhouse gases, as by-products. There is a significant focus at all levels of government and in the private sector on reducing the

¹⁰¹ SF Environment, “Residential Recycling and Composting | Sfenvironment.org - Our Home. Our City. Our Planet.”

¹⁰² U.S. Environmental Protection Agency, “Pay-As-You-Throw Programs| Conservation Tools | US EPA.”

¹⁰³ SF Environment, “Residential Recycling and Composting | Sfenvironment.org - Our Home. Our City. Our Planet.”

¹⁰⁴ Alameda County, “Alameda County Waste Management Authority.”

¹⁰⁵ City of Santa Monica, “Santa Monica Public Works - Construction and Demolition.”

¹⁰⁶ U.S. Department of Energy, “EIA - Renewable Energy Consumption and Electricity Preliminary Statistics 2010.”

negative impact of producing the power we use. The most effective strategy is to first maximize energy efficiency. The next and parallel strategy is to use renewable energy. Renewable sources include:

- Solar energy
- Wind energy
- Biomass energy
- Biogas energy
- Geothermal energy
- Hydropower
- Offshore wind, wave and tidal power¹⁰⁷

Alternative or renewable energy has low or net-zero carbon emissions. While each of these production techniques has drawbacks, they offer low-carbon and clean power. These technologies are developing rapidly and are becoming more cost effective. Renewable energy may be available through local power providers [not sure what this means--green power through Edison or other vendors? How?], or can be produced locally using solar panels, small-scale windmills [wind is not feasible in Los Angeles basin, methane recovery, geothermal techniques or other appropriate methods. If communities desire local control over energy sources and pricing, they may establish Community Choice Aggregation organizations, which function as locally controlled electricity providers [this is one among many options--see Solar Santa Monica. It's misleading as written-it seems like the only choice.].¹⁰⁸

Vehicular Fuels: Vehicles of all types use energy to move, and can be both made more efficient and be designed to use alternative fuels, such as:

- Biodiesel
- Electricity
- Ethanol
- Hydrogen
- Natural Gas
- Propane¹⁰⁹

Each of these fuels have different production techniques and environmental impacts and, may be considered for fleet or consumer vehicle use. Vehicles are a major source of pollution and carbon output in the U.S. In 2011, 28% of our carbon emissions came from transportation.¹¹⁰ The federal Corporate Average Fuel Economy (CAFE) regulations require vehicle manufacturers to steadily increase the average fuel economy of their

¹⁰⁷ Natral Resources Defense Council, "What Is Renewable Energy, Types of Renewable Energy Sources | NRDC."

¹⁰⁸ U.S. Department of Energy, "Green Power Network: Community Choice Aggregation (CCA)."

¹⁰⁹ U.S. Department of Energy, "Alternative Fuels Data Center: Alternative Fuels and Advanced Vehicles."

¹¹⁰ United States Environmental Protection Agency, "Sources of Greenhouse Gas Emissions."

vehicles. CAFE standards are set by the U.S. Department of Transportation. Compared to the 2016 CAFE standards finalized in 2010, the National Highway Traffic Safety Authority (NHTSA) estimates that the recently released 2017-2025 standards will save approximately 4 billion barrels of oil and 1.8 billion metric tons of CO₂ emissions per vehicle. The NHTSA also estimates that fuel savings will far outweigh higher vehicle costs.¹¹¹

Natural Gas: Natural gas is a relatively inexpensive and clean burning domestically sourced fuel. As such, it can play a key role in transitioning away from coal and oil.¹¹² Residential and commercial uses account for 27 percent of the domestic natural gas consumption.¹¹³ Conserving natural gas by reducing use of gas-burning appliances and ensuring that those systems are efficient is a key factor in reducing building energy usage.

Buildings: Making buildings more energy efficient reduces energy usage and greenhouse gas emissions. Residential and commercial buildings account for approximately 39% of U.S. energy use and 38% of carbon dioxide emissions. Residential buildings alone account for 21% of our energy consumption, while commercial buildings account for 18%. There are four primary ways to reduce energy consumption in buildings. They are:

- Optimize the use of existing systems
- Retrofit existing systems
- Change behavior
- Utilize new systems¹¹⁴

Optimizing existing systems may be relatively simple, involving a basic evaluation of the systems in use and the implementation of energy-saving measures. For example, heating and cooling systems can be adjusted to allow for a greater range of indoor temperatures: slightly warmer in the summer and cooler in the winter. Lights may be turned to lower levels or lower-intensity lights may be installed. Routine maintenance of building equipment like heating and cooling systems, refrigerators, and so on, can also improve efficiency.

Retrofitting existing systems involves an evaluation of current systems, and rigorous optimization. The following is a list of standard, easily implemented building retrofits:

- Replace light bulbs with more efficient alternatives such as fluorescents or LEDs ¹¹⁵
- Insulate roofs, basement and walls
- Seal windows, doors, and cracks against drafts

¹¹¹ National Highway Traffic Safety Administration (NHTSA), "CAFE - Fuel Economy."

¹¹² Rocky Mountain Institute, "U.S. Natural Gas Consumption."

¹¹³ U.S. Energy Information Administration, "How Much Natural Gas Is Consumed (used) in the U.S.? - FAQ."

¹¹⁴ PG&E, "Community Choice Aggregation."

¹¹⁵ Institute for Local Government, "Sustainability Best Practices Framework."

- Install motion sensors and timers on indoor and outdoor lights, and photosensors on outdoor lights so they are only on at night.
- Set water heaters to heat water at particular times, rather than throughout the day
- Install low-flow showerheads and other fixtures
- Ensure efficient chimney flue function
- Insulate and seal hot and cold air ducts¹¹⁶

User Behavior: User behavior has a significant impact on energy usage. Municipalities have little control over these types of behaviors, but they can offer helpful suggestions. Utility bills offer a more direct, if delayed, form of feedback. Giving users information on their behavior and energy consumption can lead to dramatic usage decreases.

Building Controls and Feedback: Building sensors and controls can facilitate immediate user feedback, like Smart Meters and devices that provide in-building energy usage data in real time. Software can track and report electricity, gas, and water usage over time, and may in some cases be programmed to remotely or automatically control building systems. There are many technologies and materials available in today’s market that will increase the efficiency of existing buildings or render new buildings highly efficient, and can work in tandem with user behavior programs.

Government & Non-Profit Options: Government and non-profit agencies can promote energy efficiency in several ways. Energy efficiency incentives, like subsidized retrofits, rebates on efficient appliances, and programs aimed at collecting and replacing old appliances are effective, as is legislation requiring inventories and retrofits when buildings change hands. Governments can also invest in many in-building and public facility measures, like efficient streetlights, traffic lights, and other infrastructure. Examples include:

- Energy Upgrade California¹¹⁷
- San Francisco, California boiler replacement program¹¹⁸
- Oregon’s Clean Energy Works program¹¹⁹
- Marin Clean Energy (CCA), California¹²⁰
- Denver, Green Vehicle Fleet¹²¹
- Solar energy in Baldwin Park

¹¹⁶ American College & University Presidents’ Climate Commitment, “Energy Efficiency Building Retrofit Program | Presidents’ Climate Commitment.”

¹¹⁷ Energy Upgrade California, “Energy Upgrade California | Reduce Energy Use. Save Money. Create Jobs.”

¹¹⁸ U.S. Department of Energy, “San Francisco Turns Up The Heat In Push To Eliminate Old Boilers | Department of Energy.”

¹¹⁹ U.S. Department of Energy, “Oregon Program Aims to Create Jobs, Save Energy | Department of Energy.”

¹²⁰ Marin Clean Energy, “Welcome to MCE | MCE.”

¹²¹ City of Denver, “Greenprint Denver » Denver’s Green Fleet.”

- Wind energy in San Francisco¹²²
- Biomass energy in Ohio¹²³ "

BEING WATER WISE

Water is a precious resource, particularly in Los Angeles County, which is naturally dry and expects population growth. The primary concerns relate to water availability, quality, and use efficiency. Cities must be concerned with all of these factors for water that both arrives and departs naturally or artificially. Cities work to source water responsibly – in a way that doesn't harm ecosystems – to conserve water, and to ensure that the water coming into and leaving our communities is healthy for people and the environment.

The use of water and the use of energy are intricately intertwined. The withdrawal, treatment, distribution, use, and treatment of water require a lot of energy. Likewise, producing energy, particularly hydroelectric and thermometric power generation, requires a lot of water.¹²⁴ Water-related energy use in California consumes approximately 20 percent of the state's electricity, and 30 percent of the state's non-power plant natural gas (i.e. natural gas not used to produce electricity).¹²⁵

Conservation

Water conservation is a key factor in reducing water demands on the environment, controlling costs associated with water use and reducing environmental impacts of stormwater and sewer outflows. Water conservation measures can include:

Inside

- Installing or requiring low-flow faucets, toilets, urinals and showerheads
- Promoting individual conservation through simple means like taking shorter showers or turning off the water while brushing teeth
- Increasing water efficiency in agency buildings and operations
- Requiring drought-tolerant plantings
- Plumbing buildings to recover and reuse grey water, or convey it to a treatment center

¹²² National Resources Defense Council, "NRDC: Renewable Energy in Nebraska."

¹²³ National Resources Defense Council, "NRDC: Renewable Energy in Ohio."

¹²⁴ United States Environmental Protection Agency, "Water-Energy Connection| Region 9: | US EPA."

¹²⁵ California Resources Agency, Department of Water Resources, "Managing an Uncertain Future: Climate Change Adaptation Strategies for California's Water."

Outside

- Installing efficient irrigation systems that use efficient systems such as drip irrigation and smart controllers to efficiently deliver water and avoid watering when it rains and during hot periods when water will evaporate
- Installing drought-tolerant plant that require minimal irrigation
- Restricting days on which landscapes can be watered
- Reducing water use in public parks and landscaping
- Recycling water for irrigation or other uses or capturing and using runoff

Examples

- Save Our Water, California¹²⁶
- Berkeley, California Residential Energy Conservation Ordinance¹²⁷
- San Francisco's Residential Energy and Water Conservation Requirements¹²⁸
- CalGreen water conservation requirements¹²⁹

Urban and Stormwater Runoff

When water from rain, irrigation, washing cars, or other sources hits streets and sidewalks, it picks up pollutants and dirt and washes them into the stormwater sewer system and eventually the ocean. Stormwater can be captured and allowed to seep into the ground, where it will be treated naturally and recharge underground aquifers. With proper treatment, stormwater runoff can also be recycled and used for irrigation or for other uses, like flushing toilets.

The primary problem with urban runoff is that it can carry pollution. The State Water Resources Control Board estimates that Los Angeles County residents contribute to storm water pollution each month by:

- Dropping cigarette butts on the ground nearly 915,000 times
- Dropping litter on the ground or out a car window more than 830,000 times
- Allowing paper or trash to blow into the street more than 800,000 times
- Throwing something in the gutter or down a storm drain nearly 280,000 times
- Emptying a car ashtray into the street more than 40,000 times
- Hosing leaves or dirt off a driveway or sidewalk into the street nearly 420,000 times
- Washing off paint brushes under an outdoor faucet more than 130,000 times
- Spraying the garden or lawn with pesticide more than 210,000 times

¹²⁶ Save Our Water, "Welcome to Save Our Water | Save Our Water."

¹²⁷ City of Berkeley, "RECO Information - City of Berkeley, CA."

¹²⁸ City and County of San Francisco, "San Francisco's Residential Energy and Water Conservation Requirements."

¹²⁹ Department of Housing and Community Development - State of California, "CalGreen."

- Walking a dog without picking up the droppings more than 82,000 times¹³⁰

Like air pollution, water pollution has both public health and environmental effects. Pollutants may accumulate in living creatures, and cause both short and long-term effects. Public health and environmental effects of water pollution can include:

- Serious health risks to people swimming or fishing in the Santa Monica or San Pedro Bay, especially within 400 yards of storm drain outlets¹³¹
- Pathogen infection in humans and animals, illness, growth retardation, birth defects, nerve damage, death
- Biological disruption caused by pharmaceuticals¹³²
- Decreased water clarity¹³³

Storm water pollution and urban runoff are the leading sources of pollutants to Los Angeles County's inland rivers, creeks, the ocean and beaches along the area's coastline. The issue has prompted local, state and federal policymakers and regulatory agencies to enact more stringent storm water permit regulations, financial penalties and other compliance measures.¹³⁴

To avoid these negative effects, water may be cleaned through natural or artificial filtration systems, chemical treatment, oxidization, and other treatments. Water treatment systems that utilize natural processes to treat, convey and infiltrate water are called "green infrastructure" or "low-impact development" (LID). Completely human-made treatment and conveyance systems are called "grey infrastructure."

Best practices for avoiding and managing water pollution include:

- Installing LID or distributed natural filtration systems, like bio swales, retention areas, and wetlands
- Requiring that new developments and retrofits capture and treat stormwater onsite
- Full-cost pricing for water supply and treatment for all customers¹³⁵
- Education, monitoring and control of pharmaceuticals or active pharmaceutical ingredients released from industrial uses and municipal treatment plants
- Requiring high levels of purity in industrial runoff, up to drinking-water quality

¹³⁰ State Water Resources Control Board, "Erase the Waste: Storm Water Pollution."

¹³¹ Ibid.

¹³² A.L. Kennedy, "The Effects Of Soil Pollution On Humans | LIVESTRONG.COM."

¹³³ U.S. Environmental Protection Agency Great Lakes Commission, "TEACH: Water Pollution in the Great Lakes."

¹³⁴ State Water Resources Control Board, "Erase the Waste: Storm Water Pollution."

¹³⁵ CMAP, "GO TO 2040 -- Chicago Metropolitan Agency for Planning."

- Erosion control measures at construction, industrial, agricultural, mining, and forestry sites to prevent erosion and silt accumulation
- Oil capture systems for runoff from roads, parking lots, and similar areas
- Preventing human and animal sewage from entering waterways
- Monitoring water supplies for microorganism contamination
- Educating the public about the importance of stormwater pollution
- Developing stormwater treatment and reuse facilities

Examples

- Main Street School yard retrofit, Los Angeles¹³⁶
- Sun Valley Watershed Management Plan and Park¹³⁷
- EPA’s Green Infrastructure Case Studies¹³⁸
- Street Edge Alternatives, Seattle, Washington¹³⁹
- SMURRF: Santa Monica Urban Runoff Recycling Facility¹⁴⁰
- Los Angeles County watershed management¹⁴¹
- Los Angeles’ plastic bag ban¹⁴²

APPRECIATING AND ENHANCING THE CITY’S NATURAL FEATURES

Human beings love to enjoy the outdoors, including natural open spaces and landscaped areas. Spending time outdoors can reduce stress, increase concentration, encourage exercise and improve health. Natural areas and greenery also increase property values and make urban areas distinct from each other. Access to natural areas can be restricted in heavily developed urban areas. In this case, it is important to maximize the positive impacts of available open spaces and to create new opportunities for enjoying the outdoors.

In developed areas like Baldwin Park, where open space is limited, outdoor space can be made maximally beneficial in the following ways:

- Ensure that parks are well maintained, inviting, and safe places to visit

¹³⁶ Tree People, “TreePeople - Miracle at Main Street School - YouTube.”

¹³⁷ Tree People, “Sun Valley Watershed | Www.treepeople.org.”

¹³⁸ U.S. Environmental Protection Agency, “Green Infrastructure Case Studies: Municipal Policies for Managing Stormwater with Green Infrastructure.”

¹³⁹ City of Seattle, “Seattle Public Utilities -- Street Edge Alternatives.”

¹⁴⁰ City of Santa Monica, “Santa Monica Public Works - SMURRF: Santa Monica Urban Runoff Recycling Facility.”

¹⁴¹ Los Angeles County Department of Public Works, “Los Angeles County Watershed Management Division.”

¹⁴² Heal the Bay, “City of Los Angeles Bag Ban.”

- Require new developments or redevelopments to provide publicly accessible open space
- Accommodate community recreation, both active and passive, on private land, as possible
- Make streets into linear parks using plantings of trees and other plants; reduce hardscape
- Develop pocket parks and new public open spaces

Examples

- The Baldwin Park Living Streets Manual
- Pocket Parks in Los Angeles¹⁴³
- How Cities Use Parks to Create Safer Neighborhoods (Article)¹⁴⁴

CONTRIBUTING TO IMPROVED AIR QUALITY

Air quality reflects the amount of pollution emitted into the air by industry and other human activities, and is closely tied to issues of land use, climate, infrastructure, transportation, and public health. Air quality has significant impacts on public health, environmental health, and climate. Air pollution is of concern both indoors and out.

The average American adult spends approximately 90 percent of their time indoors. The EPA indicates that indoor air quality may be two to five times, and occasionally up to 100 times, worse than outdoor air quality in terms of pollutant levels. Indoor air pollutants are ranked amongst the top five risks to environmental health. Indoor air pollution is particularly problematic in buildings with closed air circulation systems (windows that don't open), and offices and buildings where inhabitants close all windows. Sources of indoor air pollution include: burning fuels, like gas, tobacco products, deteriorated insulation, mold, furniture made out of certain compressed wood products, cleaning products, and pollutants that enter from the outdoors.¹⁴⁵

Children are more susceptible to air pollution because they breathe a greater volume of air relative to their body weight and have faster metabolisms. Schools also tend to be at a higher risk of poor indoor air quality because they can have four times the occupants as a regular office building for the same amount of floor space and generally less maintenance. Air quality in schools is an area of a particular concern.¹⁴⁶

Outdoor air pollution generally comes from transportation sources and industrial processes and releases. Sources of outdoor air pollution include: particulates from

¹⁴³ All Things Considered, NPR, "Pocket Parks" Start Popping Up Over All Over L.A. : NPR.

¹⁴⁴ APA, "How Cities Use Parks to ... Create Safer Neighborhoods."

¹⁴⁵ United States Environmental Protection Agency, "Indoor Air | Communities | New England | US EPA."

¹⁴⁶ Ibid.

burning fuels, industrial by-products, greenhouse gases, acid rain, and chlorofluorocarbons. Common indoor air pollutants include: volatile organic compounds, chemical by-products, carbon monoxide, mold, and radon. The quality of polluted air can be improved by organic treatment provided by plants or by filtration.

High levels of air pollution are tied to the following effects on human health:

- Eye and respiratory irritation
- Respiratory infection
- Asthma
- Heart disease
- Lung cancer
- Stroke
- Brain, nerve, liver, and kidney damage¹⁴⁷

Environmentally, air pollution causes:

- Damage to plant leaves and root systems
- Soil acidification
- Erosion
- Paint and surface damage¹⁴⁸

Best practices for addressing air pollution focus on reducing and controlling the production of pollutants and reducing pollutant impacts. For outdoor air pollution, many types of restriction on pollution sources may be implemented. These include bans on burning at particular times of year,¹⁴⁹ or when pollution levels are high, restrictions on vehicle emissions implemented through smog testing, miles per gallon requirements, or the promotion of low-emissions vehicles, and particulate or greenhouse gas emission restrictions for industries. Indoor air pollution can be reduced by air filtration, construction practices or legislation that restrict the use of harmful chemicals, and the use of materials containing harmful chemicals, and control of household and commercial goods and furnishings to restrict harmful chemicals from entering homes and workplaces. Adequate ventilation helps to reduce pollution concentrations and effects. Ventilation can be controlled by users and building managers in indoor locations. Because indoor air pollution may be a result of inhabitant behavior, municipalities may focus indoor air pollution prevention programs on educating building occupants on keeping their indoor air clean.¹⁵⁰

¹⁴⁷ Butte County, California, "How Can Air Pollution Hurt My Health? - the Lawrence Berkeley National Laboratory."

¹⁴⁸ National Geographic, "Air Pollution Facts, Air Pollution Effects, Air Pollution Solutions, Air Pollution Causes."

¹⁴⁹ Georgia Department of Natural Resources, "Open Burning Ban - Georgia Air Protection Branch."

¹⁵⁰ World Health Organization, "Health Impacts of Indoor Air Pollution."

Examples

- “Spare the Air” program in the San Francisco Bay Area¹⁵¹
- Pollution monitoring, control, and reporting in Nashville, Tennessee¹⁵²

ADDRESSING CLIMATE CHANGE

According to the Intergovernmental Panel on Climate Change, established by the United Nations and the World Meteorological Organization, “Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased.”¹⁵³ The California Energy Commission and Cal-Adapt estimate that average temperatures in Baldwin Park will increase between 3.8 and 6.3 degrees by the end of the century.¹⁵⁴

High concentrations of greenhouse gases—including carbon dioxide, methane, nitrous oxide, and fluorinated gases—in the Earth’s atmosphere and oceans are contributing to climate change and overall warming.^{155, 156} Natural processes are responsible for some of these emissions; however, human activity is responsible for a much larger proportion, which result from such activities as fossil fuel combustion, industrial processes, land clearing, and the use of pesticides and fertilizer.¹⁵⁷

The State of California has taken strong steps to combat climate change by passing SB 375 , which requires land use and transportation planning to be tied together across the state. One of the goals of this legislation is to reduce single-occupant car travel and its associated greenhouse gas emissions.

The primary ways that individual cities and community members can address climate change are by limiting the fuel they use for transportation (directly or indirectly), and reducing their energy usage at home and at work. Cities can promote the use of low-carbon energy by facilitating the use of alternative power, and by enabling the installation of local power generation facilities, like solar panels. Solar panel installations can be customized to a high degree and have minimal impact on the urban form. In

¹⁵¹ Bay Area Air Quality Management District, “Spare the Air.”

¹⁵² Metro Government of Nashville & Davidson County Tennessee, “Nashville > Health Department.”

¹⁵³ IPCC - Intergovernmental Panel on Climate Change, “Climate Change 2013: The Physical Science Basis.”

¹⁵⁴ Cal-Adapt, California Energy Commission, “Local Climate Snapshots-- Exploring California’s Climate Change Research.”

¹⁵⁵ U.S. Environmental Protection Agency, “Home | Climate Change | US EPA.”

¹⁵⁶ Iowa Climate Change Impacts Committee, *Climate Change Impacts on Iowa 2010*.

¹⁵⁷ U.S. Environmental Protection Agency, “Basics | Climate Change | US EPA.”

some areas, wind energy systems may also be appropriate. Wind energy systems are available in many scales and designs, and can be an attractive and interesting part of a neighborhood.

The least climate-friendly mode of transportation is driving an inefficient, single-passenger vehicle. Climate-friendly modes of transportation include:

- Biking or other human-powered methods
- Walking
- Train travel
- Multi-passenger vehicles, like public transportation or carpools
- Fuel-efficient vehicles

Cities can promote climate-friendly transportation by such methods as:

- Establishing bike-sharing programs for the public or agency staff
- Providing facilities that enable human-powered transportation, like bike lockers and changing rooms
- Developing livable streets that accommodate a range of modes
- Promoting public transportation through education, incentives, bus shelters, comfortable busses, frequent, reliable service, and other measures
- Ensuring that City vehicles are fuel efficient and/or use alternative fuels
- Providing charging stations for electric cars and streamlining the process for installing charging stations on private land
- Promoting and establishing ride-share and carpool or vanpool programs
- Implementing policy measures, like congestion pricing.

There are many other more specific initiatives for increasing transportation efficiency available in the Institute for Local Government’s Sustainability Best Practices Framework.¹⁵⁸

Cities can also reduce both the need for auto travel and trip length by planning for dense, transit-oriented development, and jobs that are near housing. Individuals can reduce their greenhouse gas emissions by choosing climate-friendly modes of transportation and reducing trip lengths.

Increasing civic and individual building energy efficiency, as well as choosing more efficient behaviors, like turning lights and electronics off when they’re not needed, is another significant way to reduce greenhouse gas emissions. These topics are covered in the “Building Smart Buildings” and “Energy Conservation and Alternative Fuels” sections of this report.

Cities and individuals can also work to draw carbon out of the environment by planting trees and other vegetation, which absorb carbon dioxide.

¹⁵⁸ Institute for Local Government, “Sustainability Best Practices Framework.”

Measures that seek to slow climate change are called “climate change mitigation techniques.” As the climate changes and temperatures rise on average, populations across the globe will need to adopt climate *adaptation* techniques that are appropriate to their circumstances. The water supply in California is expected to decrease. The state is expected to lose 30 to 70 percent of its snowpack.¹⁵⁹ Californians rely on this water for drinking, irrigation, agriculture, power, supporting wildlife, and recreation. With climate change, weather patterns will be more extreme, wildfires and droughts may be common, and transportation options will change. Populations and agricultural production may shift due to sea level rise and other factors.¹⁶⁰

There are many actions individuals and municipalities may take to adapt to climate change and its impacts. Some means of adaptation are also effective for mitigation. We will need trees to shade us from the sun and cool the air, efficient transportation models, energy efficient buildings to stabilize indoor temperatures, and other measures.

Related Sections in this report

- Getting Around: Walking, Biking and Using Transit
- Energy Conservation and Alternative Fuels

Examples

- PlaNYC 2030, New York City¹⁶¹
- SANDAG 2050 Regional Transportation Plan¹⁶²
- SCAG Regional Transportation Plan 2012-2035¹⁶³

GOOD CHEMISTRY: ENVIRONMENTALLY FRIENDLY PRODUCTS

Cities and individual people have lots of choices when they select and purchase products. Every purchase, and many actions after purchase, has an environmental impact, both indoors and outdoors. Cities and individuals can choose to reduce their negative environmental impact by choosing environmentally friendly products. The following is a list of factors to consider when making purchasing decisions:

- **Product toxicity:** Are there harmful chemicals in this product that will be released into the environment during or after use? Many types of products can carry toxic

¹⁵⁹ Leonard Anderson, “Climate Change Threatens California Water Supply | Reuters.”

¹⁶⁰ The Economist, “Facing the Consequences: Global Action Is Not Going to Stop Climate Change. The World Needs to Look Harder at How to Live with It.”

¹⁶¹ The City of New York, “PlaNYC 2030.”

¹⁶² San Diego Association of Governments, “SANDAG :: PROJECTS :: San Diego’s Regional Planning Agency.”

¹⁶³ Southern California Association of Governments, “2012-2035 Regional Transportation Plan/ Sustainable Communities Strategy.”

chemicals. Household products, like cleansers, paints and lubricants may contain chemicals that are harmful when touched, exposed to air and inhaled or eaten. Solid products, like plastics and furniture, may also produce harmful gases and dust.¹⁶⁴

- **Packaging:** Does the product arrive with excess packaging that will become waste, and is essential packaging easily recyclable? Some products can be shipped with minimal packaging, or be packaged in recyclable or reusable packages.
- **Disposal:** Can this product be disposed of safely? Some products, like compact fluorescent bulbs, batteries and cans of paint need to be disposed of at hazardous waste facilities.
- **Sourcing:** Was this product sustainably sourced? Products may be sourced from sensitive environments, like old-growth forests, or may have been shipped long distances, which increases the carbon footprint of a product.
- **Production:** Were harmful chemicals or practices used to produce this product? Products that are made of non-renewable materials may have been mined, causing environmental degradation, or recycled. Products may also have been made using processes that create or use toxic by-products. Some conventional farming techniques, for example, use large amounts of pesticides and fertilizers, which can harm the environment.¹⁶⁵

Cities can reduce toxicity and negative environmental impact from products by educating residents and business people on indoor and outdoor pollution, providing a positive example through their own purchasing decisions, providing waste disposal programs that maximize recycling and minimize the harmful impacts of toxic chemicals and passing legislation that reduces negative environmental impacts from their city.

Examples

- City of Davis, Environmental Guide¹⁶⁶
- Santa Monica, Hazardous Materials Program¹⁶⁷
- Alameda County, Reusable Bag Ordinance¹⁶⁸
- New York City Environmentally Preferable Purchasing Laws and Standards¹⁶⁹

¹⁶⁴ Forbes, "California's Fire Code Update."

¹⁶⁵ World Resources Institute, "World Hypoxic and Eutrophic Coastal Areas | World Resources Institute."

¹⁶⁶ City of Davis, "City of Davis Environmental Guide."

¹⁶⁷ Santa Monica, "Santa Monica Office of Sustainability and the Environment: Hazardous Materials."

¹⁶⁸ Alameda County, "Reusable Bag Ordinance."

¹⁶⁹ New York City, "NYCWasteLess: Purchasing Standards for NYC Agencies."

OUR HEALTH

PARKS: PLACES TO PLAY AND RELAX

Parks offer cities and residents a wide range of benefits, including providing economic value, increasing personal and environmental health, and supporting community ties. Well-maintained parks increase nearby property values, provide ecological services like stormwater filtration, and may generate income through user fees. Many parks serve a vital community purpose because they are places people go to exercise and relax, which both increase health and reduce stress. They may also improve water quality, provide habitat, provide learning opportunities, and foster connections to the natural world. Parks are a reflection of the quality of life in a community, and provide a sense of identity as well as community gathering spaces.¹⁷⁰

While there are no requirements for amount of open space per resident in a city, there is a commonly accepted goal of three to ten acres of parkland or recreation areas for every 1,000 community members.¹⁷¹ Parks should be programmed to provide a range of activities for active and passive recreation, and should respond to cultural needs of the community. Parks should also be adaptable so that programming and activities may change as necessary or desired.

MOVE IT! RECREATION FOR ALL LIFE STAGES

Recreation is any activity that is done for fun (not for work), and can include passive recreation, like sitting and reading a book, or active recreation, like playing soccer. Cities provide their residents with opportunities for recreation in a multitude of ways. Recreation of all kinds can happen in parks, athletic facilities like pools, and recreation centers that provide a range of programming. Programs and classes can be free or available for a fee.

Importantly for cities like Baldwin Park that face negative health impacts from pollution, inactivity, and poor nutrition, recreation facilities provide residents with safe and convenient places to exercise and integrate themselves into a larger community.

Recreation facilities should be customized to the community they are serving, including people of various ages and abilities, with different interests and from particular backgrounds.¹⁷² Recreation desire surveys are a key method to determine the needs and desires of the local community, and can help define cultural needs that recreation

¹⁷⁰ Eastern Kentucky University, "Importance of Parks and Recreation."

¹⁷¹ American Planning Association, "Standards for Outdoor Recreational Areas."

¹⁷² Miller, Kimberly D., Schleien, Stuart J, and Lausier, Jennene, "Search For Best Practices In Inclusive Recreation: Programmatic Findings."

programmers may not be aware of. Many cities offer recreation programs to low-income residents either free of charge or at reduced rates.¹⁷³ This increases access for low-income residents, and may benefit the public sector by reducing crime¹⁷⁴ and by decreasing health care costs.

HEALTH EDUCATION: IT STARTS WITH OUR KIDS

Establishing a healthy lifestyle, including eating well and getting regular exercise, begins in childhood. Cities can assist residents in establishing healthy habits by partnering with local school districts and community organizations that provide services to children and families, and by offering supportive recreation and public health programs.

Baldwin Park is an exemplar of best practices for health education programs in several areas. The Baldwin Park Unified School District provides health services, educational resources to parents, fresh food to students, and physical education programs. The City has also partnered with community groups to support and improve programs provided by the City. Some students also have access to farm-to-fork nutrition lessons in a community garden, which is made possible by Kaiser Permanente. The City directly offers health education and recreation programs at the Community Center.

Maintaining funding and ensuring adequate outreach and accessibility is a central challenge for health education programs.

Examples

- Berkeley Unified School District Cooking and Garden Nutrition Program¹⁷⁵

ACCESS TO HEALTHY FOODS

Most of us buy our food in supermarkets, where it appears neatly packaged, processed, and wrapped, though our food actually comes from the Earth. In cities in particular, we are dependent on a reliable food production and supply system that we have little contact with. We depend on farmers, arable land, sunlight, water, and a pollution-free environment. Within urban areas, policy makers influence the location of grocery stores, urban agriculture, and farmers' markets, and implement nutrition and educational programs.

¹⁷³ Loveland, CO, "City of Loveland, CO : Low Income Fee Applications."

¹⁷⁴ Police Athletic League of St. Petersburg, "PAL | Crime Prevention through Athletics, Recreation and Education."

¹⁷⁵ Berkeley Unified School District, "Cooking and Garden Nutrition Program."

Food Desserts

Food desserts are getting an increased amount of attention from the public and policy makers. Food desserts are defined as “low-income census tract[s] where a substantial number or share of residents has low access to a supermarket or large grocery store.”¹⁷⁶ Because these residents are low income, they may not have access to transportation and may be hard-pressed to get to remote stores. Food desserts are not only an example of inequity; they are also indicators of health and wellness differentials. People who do not have access to healthy, affordable food have a much higher incidence of illness and chronic disease.

Policy makers are supporting businesses and non-profits working to increase access to healthy foods by supporting:

- Urban farming in impoverished neighborhoods
- Mobile supermarkets that bring fresh food to a variety of neighborhoods
- Encouraging convenience stores to offer more healthy fresh food
- Establishing of full-time grocery outlets in food-poor areas

Farmers’ Markets

Farmers’ markets are an excellent way to provide access to healthy foods at reasonable prices. They have the additional benefits of providing income to small, local farmers and building community by creating a safe, friendly place for neighbors to meet on a regular basis.

Nutrition

Closely associated with food production is food consumption. The imbalanced diets found across the country are facilitated by easily accessed processed foods, and a general decline in physical activity. Nutrition programs in schools and day care centers, stocking vending machines with healthy snacks, working with neighborhood stores to label and sell healthy foods, providing informative reading material, and requirements that food chains prominently post the caloric content of food as well as making healthy food choices more available are all ways to combat diet-related illness, and allow consumers to make educated decisions about their own consumption.

Examples

- Davis, California Farmers’ Market¹⁷⁷
- Food policy councils (Massachusetts, Connecticut, and more)¹⁷⁸

¹⁷⁶ United States Department of Agriculture, “USDA ERS - About the Food Desserts Locator.”

¹⁷⁷ Davis Farmers Market, “At the Market — Davis Farmers’ Market.”

¹⁷⁸ Massachusetts Food Policy Alliance, “Food Policy Council”, n.d., <http://mafoodpolicyalliance.org/FoodPolicyCouncil.aspx>.

- New York City, posting food calories on menus¹⁷⁹
- City Slicker Farms, Oakland¹⁸⁰

EAT LOCAL: COMMUNITY GARDENS AND URBAN AGRICULTURE

Private food production, community gardens, urban hydroponic facilities, and urban farms are all examples of urban agriculture. Historically, most families grew fruits and vegetables for private use when they had access to land, either adjacent to their homes or in allotment areas. This practice shifted with wide-scale industrialization, though it returned in the form of victory gardens during the First and Second World Wars.¹⁸¹ Contemporary concerns about sustainability, interests in slow food, economic hardships, and an interest in supporting local production have led to a resurgence in urban gardening and agriculture. In some low-income areas, food security is also a concern. Policy makers are currently working on best practices for urban farming on abandoned land, managing direct sales, and accommodating hydroponic and aquaponic facilities. Many areas already allow and support community gardens and urban farms. Urban agriculture facilities – which may also include school gardens – present excellent learning opportunities for children and adults alike.

Examples

- 90 Community Gardens in Los Angeles County¹⁸²
- City Slicker Farms, Oakland¹⁸³
- Edible home gardens¹⁸⁴

ADDRESSING HEALTH CARE NEEDS

Direct health care needs are generally addressed by governmental organizations at the county, state, and federal level. Community-based organizations like clinics, private health care providers, and educational institutions also work to provide care. Cities often provide emergency services, like police, fire, and paramedic services. Cities also promote resident health through preventative measures, which require and provide healthy living environments and encourage people to have healthy lifestyles. These measures are described throughout this report.

¹⁷⁹ Stephanie Rosenbloom, “Health Law Requires Chains to Post Calorie Counts - NYTimes.com.”

¹⁸⁰ City Slicker Farms, “Mission and History | City Slicker Farms.”

¹⁸¹ Cornell University Mann Library, “Harvest of Freedom: The History of Kitchen Gardening in America.”

¹⁸² University of California Cooperative Extension Los Angeles County, “Community Gardens - Los Angeles County.”

¹⁸³ City Slicker Farms, “Mission and History | City Slicker Farms.”

¹⁸⁴ Ivette Soler, “Edible Landscape Ideas - Sunset.com.”

The Federal Government's Affordable Care Act is expected to have a major impact on health care access across the country by ensuring that residents are insured, and that insurance is accessible to everyone, regardless of income or medical status. Coverage will be available in California through Covered California,¹⁸⁵ the State's insurance marketplace.

HEALTHY BUILDINGS AND PLACES

Most experts believe that, healthy and sustainable buildings are the same thing. Buildings that are healthy for the environment generally also promote the health of their inhabitants. Sustainable buildings, as exemplified by the LEED for New Construction rating system,¹⁸⁶ are constructed out of non-toxic products, control pollutants and provide clean, fresh air, provide access to daylight and views outside, and allow occupants to control lighting and temperature in the building. These measures directly promote the health of occupants by limiting their exposure to pollutants and providing a biologically lower stress environment.

Looking beyond physical buildings, the use and location of a building also have major impacts on the health of occupants. These other factors include:

- Indoor and outdoor air quality, including particulate pollution, and asthma triggers
- Chemicals and cleaning products in use in the school
- Asbestos pollution
- Clean drinking water
- Ergonomics
- Electromagnetic fields
- Access to recreation and community facilities, and natural areas¹⁸⁷

These factors are of particular concern in schools, which house a vulnerable population. Each of these factors is covered elsewhere in this report, with the exception of ergonomics and electromagnetic fields. Buildings and their furnishings should be designed and constructed in such a way that they do not put undue stress on the bodies of their users during use. Electromagnetic fields have been implicated in a variety of ailments including cancer, headache, dizziness, nausea, fatigue, cardiac problems, ringing in the ears (tinnitus), sleep disruption, memory and concentration problems, digestive problems, immune dysfunction, worsened asthma and allergy symptoms

¹⁸⁵ Covered California, "Covered California Fact Sheet."

¹⁸⁶ U.S. Green Building Council, "LEED NC V2009: LEED Credit Library."

¹⁸⁷ Healthy Schools Network, Inc. -, "Healthy Schools/Healthy Kids Clearinghouse."

including skin rashes and worsening of inflammatory conditions, joint and muscle pain, and disruptions of normal blood sugar levels.¹⁸⁸

Related Sections

- Being Water Wise
- Contributing to Improved Air Quality
- Good Chemistry: Environmentally Friendly Products
- Move it! Recreation for all Life Stages

Examples

- U.S. EPA's Healthy Buildings, Healthy People guidelines¹⁸⁹
- Collaborative for High Performance Schools best practices¹⁹⁰

¹⁸⁸ Cindy Sage, MA, and Nancy Evans, BS and for the CHE EMF Working Group, "Electromagnetic Fields."

¹⁸⁹ U.S. Environmental Protection Agency, "Healthy Buildings, Healthy People | Indoor Air Quality."

¹⁹⁰ Collaborative for High Performance Schools, "Best Practices Manual."

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