Planning for Urban Trees

AN URBAN FOREST ADVOCATE'S GUIDE TO CALIFORNIA PLANNING

CALIFORNIA
ReLEAF

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About this Guide

The purpose of this educational guide is to provide resources for urban forest nonprofits to more successfully partner with urban planning and other urban design professionals. By better understanding their technical vocabulary, concerns, and priorities, we hope to equip you with resources and information needed to work closely with these important partners – professionals who control the parameters of where urban trees are planted and shape California's urban landscape.

The materials and information presented here are the product of research, surveys, and interviews conducted by California ReLeaf in a project funded by Cal Fire and the U.S. Forest Service. Information is also available online at www.californiareleaf.org/plan4urbantrees, a page which will continue to be updated.

ABOUT THE RESOURCES

Throughout this document you will find lists of resources. These are places to find additional information on the topic about which you are reading. They include a variety of sources and media types in following categories:

📖 Books

🖥️ Websites

✏️ Articles / Web pages

🎧 Podcasts / Audio

▶️ Videos / Webinars

Planning 101

Planning is the merging of two fields: architecture and the law. The practice emerged in response to dangerous tenement housing and sanitation issues, and was largely focused on subdividing and real estate speculation. The design of Central Park was a turning point in American planning, when Frederick Law Olmsted and Calvin Vaux prioritized the creation of places of respite in the midst of a busy urban space. This spurred a shift in the field of planning, setting the tone for many design traditions that influence planning to this day. Historian, author, and urbanist Lewis Mumford wrote, "all that is good about American city planning began with the design of Central Park."[1] In other words, planning and urban forests have long shared close ties and visions for the American city.

Planning also has a history of using zoning and other powers to segregate, disenfranchise, and divest from different communities. The field is now beginning to recognize that legacy, and use these same tools and power to address environmental and spatial justice, attempting to reverse the issues created by previous generations. In doing this work, urban forestry has the opportunity to join in collaborative efforts for the shared goal of creating safe, healthy, green communities for all.

Frank Lloyd Wright Foundation Archives

RESOURCES

📖 [Guide to California Planning](#) by William Fulton and Paul Shigley

💻 [The American Planning Association](#)

✏️ [The Evolution of Urban Planning in 10 Diagrams](#) (CityLab)

📖 [Walkable City Rules: 101 Steps to Making Better Places](#) by Jeff Speck

🎧 ["How to Plan a City"](#) by the How to Make a City podcast

✏️ [How Urban Design Perpetuates Racial Inequality–And What We Can Do About It](#) from The Fast Company

Acronyms:

APA: American Planning Association

APHA: American Public Health Association

Caltrans: California Department of Transportation

CARB: California Air Resources Board

CDF: California Department of Forestry and Fire Protection

CEQA: California Environmental Quality Act

DAC: Disadvantaged Community

DOT: U.S. Department of Transportation

DWR: California Department of Water Resources

EIR: Environmental Impact Report

EJ: Environmental Justice

GSA: General Services Administration

HCD: California Department of Housing and Community Development

HUD: U.S. Department of Housing and Urban Development

ICLEI: International Council on Local Environmental Initiatives

LAFCO: Local Agency Formation Commission

OPR: Governor's Office of Planning and Research

Survey Highlights

California ReLeaf partnered with the California Chapter of the American Planning Association to send a survey it's 7,000+ professional members. These were some of the highlights from the results.

PLANNER PRIORITIES & CONCERNS:

We asked planners what they value about urban trees. Their top three answers were:

BEAUTIFICATION (91%):
Planners have communities as their "clients" or stakeholders, and community members want beautiful neighborhoods with a sense of place.

URBAN HEAT MITIGATION (86%):
Climate change has brought a lot of attention to adaptation and resiliency, and mitigating UHI with trees is a cost-effective solution on many levels.

HUMAN HEALTH (83%):
Air quality, water quality, and the psycho-social benefits of trees are likely to become increasingly persuasive talking points.

We asked planners what they consider the primary barriers to urban trees. They answered:

MAINTENANCE FUNDING (76%)

INFRASTRUCTURE CONFLICTS (71%)

After those predominant two barriers, these three were the next most selected:
BUSINESS OWNER RESISTANCE (32%)
DROUGHT / WATER SHORTAGE (31%)
NO ROOM FOR TREES (28%)

"I don't see that trees are made a priority in planning documents. **They are treated as something nice to have rather than being required.** They need to be seen as critical to addressing local impacts from climate change, environmental pollution, active transportation, etc. Urban Forest professionals could proactively reach out to local government departments... to educate them and advocate for stronger policy and code to support a more abundant urban forest. They could do this in coordination with planning offices, and they could establish ongoing relationships with planning offices to know when they are working on relevant planning documents."

–PLANNER IN THE LA REGION

"Both sides need to be open to educating and being educated by the other. Understand what is important to each side with open communication and enjoying the solving of the puzzle."

–PROJECT MANAGER IN THE SAN DIEGO REGION

"It would be great to have [urban forestry nonprofits] team up on projects where urban forestry plays a role, even if it is small. Urban heat island projects, active transportation corridor plans, etc., could all have a role for [urban forestry] professionals."
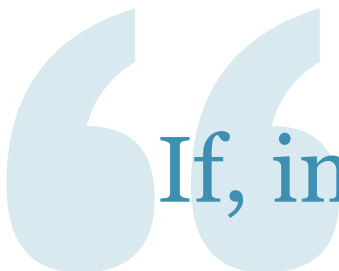
–PLANNER IN THE SACRAMENTO REGION

QUICK FACTS:

120 planning professionals filled out the survey, sharing their priorities and experiences

9 regions of California are represented by the respondents, spanning across the state

14+ different positions weighed in, including municipal planners, nonprofits, and the private sector

90% of respondents ranked shade trees as an "important" or "very important" consideration in plans

84% ranked community engagement as "important" or "very important" related to urban trees

"If, in an American city, you wanted to make a major positive impact on an existing street and had a limited budget, you might well recommend planting trees as the way to get the most impact for your money"

-ALLAN B. JACOBS, *IN DEFENSE OF STREET TREES*

2. Key Issue Areas

GENERAL PLANS

URBAN HEAT ISLAND EFFECT

COMPLETE STREETS

STORMWATER MANAGEMENT

OTHER AREAS OF INTEREST

General Plans

Every city and county must adopt "a comprehensive, long-term general plan" (Gov. Code § 65300). The purpose of a general plan is to guide land use planning decisions. Under state law, subdivisions, capital improvements, development agreements, and many other land use actions must be consistent with the adopted general plan. In counties and general law cities, zoning and specific plans are also required to conform to the general plan.

ELEMENTS: A general plan must contain at least seven elements: Land use, circulation (transportation), open space, conservation, noise, safety, and housing. A general plan may also include other topics of local interest, as chosen by the jurisdiction. Urban trees and green infrastructure are likely to appear in the circulation and land use elements, as well as any optional elements relating to the environment, health, and climate change.

TIMING: General plans are required to be updated "periodically." Some cities and counties update their general plans as often as every 5 years, while others update in portions over time (with the exception of the housing element, which the HDC mandates be updated every 5-8 years). Most jurisdictions have selected 20 years as the horizon for their general plan, providing context to guide shorter-term decisions.

OTHER PLANS: "Area plan" and "community plan" are terms for plans that focus on a particular region or community within the overall general plan area. "Specific plans" combine policy statements with development regulations (Gov. Code § 65450) and can be used to address the development requirements for a single project such as urban infill or a planned community. Specific plans must be consistent with all facets of the general plan, including the policy statements. In turn, zoning, subdivisions, and public works projects must be consistent with the specific plan.

Sacramento General Plan

GENERAL PLAN EXAMPLES

[City of Sacramento 2030 General Plan](#)
The first section provides an overview of the general plan process.

[City of Eureka 2040 General Plan](#)

[County of Sonoma 2020 General Plan](#)

[City of Los Angeles General Plan: OurLA2040](#)

[City of Victorville 2030 General Plan](#)

> "Day-to-day planning work is achieved mostly through the use of three well-established tools: the general plan, which is a comprehensive policy document, and two sets of implementing regulations, the zoning ordinance and the 'subdivision regulations.' ...no one can truly understand California's planning system without understanding what these tools are an how they work"
>
> **–FULTON & SHIGLEY, GUIDE TO CALIFORNIA PLANNING**

Recent General Plan Legislation

SB 1000: The California State Legislature passed Senate Bill 1000 in 2016, which requires cities and counties with disadvantaged communities (DACs) to incorporate environmental justice (EJ) policies into their general plans. This is triggered upon the next adoption or revision of two or more elements at the same time (starting in 2018).

These EJ general plan amendments must spell out objectives and policies that: (1) Reduce the health risks in disadvantaged communities by means including the reduction of pollution exposure, improving air quality, and the promoting of public facilities, food access, safe and sanitary homes, and physical activity, (2) Promote civic engagement in the public decision-making process, and (3) Prioritize improvements and programs that address the needs of disadvantaged communities. Under SB 1000, all general plans must identify DACs within their boundaries. The baseline requirement is to target areas already identified in CalEnviroScreen, but the legislation allows cities/counties to further define DACs using other tools or metrics

SB 379: In 2015 the legislature passed Senate Bill 379. It requires that, beginning in 2022, upon the next revision of a general plan climate adaptation and resiliency strategies are addressed in their the safety element. The review and update must include, (1) A vulnerability assessment that identifies the risks climate change poses to the local jurisdiction, (2) Set of adaptation and resilience goals, policies, and objectives, and (3) Set of feasible implementation measures designed to carry out those goals, policies, and objectives.

RESOURCES

[General Plan Guidelines](#) Governor's Office of Planning and Research (OPR)

[The Planner's Guide to Specific Plans](#) OPR

[Types of Plans that Planners Use](#) QK Inc.

[General Plans and Zoning Toolkit](#) Public Health Law & Policy

[SB 1000 Toolkit](#) California Environmental Justice Alliance

[SB 1000 Draft Policies](#) OPR

[Introducing SB 379](#) Alliance of Regional Collaboratives for Climate Adaptation

▶ **URBAN FOREST CONNECTION:**
Many cities and counties are still beginning the process of implementing SB 1000 and SB 379, and looking for community experts to advise. This could be an opportunity to engage with planners and share how supporting urban forests helps achieve their objectives.

Urban Heat Islands

The Urban Heat Island Effect is a phenomenon in which urban areas experience warmer temperatures due to increased infrastructure, people and waste heat, and decreased shade and evaporation. An urban heat island (UHI) is a metropolitan area that is significantly warmer compared to the surrounding rural area. According to the EPA, the "annual mean air temperature of a city with 1 million people or more can be 1.8–5.4°F warmer than its surroundings. In the evening, the difference can be as high as 22°F."[2] Due to the negative impacts on human health and the environment, addressing urban heat islands is a priority for planners and citizens.

ENERGY DEMAND AND GREENHOUSE GAS EMISSIONS: Elevated temperatures cause an increased demand for energy to provide cooling. Research suggests that UHIs cause a 5-10% increase in community-wide demand for electricity during the summer months.[3] Most energy companies still rely on fossil fuels to provide this electricity, leading to increased greenhouse gas emissions.

HEAT-RELATED ILLNESS AND MORTALITY: The CDC reports extreme heat as the leading cause of weather-related deaths in the United States.[4] Rather than daytime highs, it's the record-high nighttime lows that are most dangerous to human health. The extreme difference of a city evening temp versus the rural can be life-or-death.

AIR AND WATER QUALITY: Urban heat islands can have worse air and water quality than their rural neighbors. Lower air quality is due to (A) more pollutants pumping into the air and (B) the urban landscape (buildings, roads, sidewalks, parking lots) blocking these pollutants from scattering and becoming less toxic.

▶ URBAN FOREST CONNECTION:
The EPA lists "increasing tree and vegetation coverage" as one of the five primary strategies to combat heat islands.[5] Trees provide shade and evaoptranspiration, reducing heat retention and the need for air conditioning.

RESOURCES

- 🖥 [Heat Islands](#) (EPA)

- ▶ [Why It's Usually Hotter In A City](#) (NPR)

- ✏ [Our cities are getting hotter—and it's killing people](#) (Curbed)

- ✏ [Nights Can Be More Deadly Than the Daytime During a Heat Wave](#) (Weather.com)

- ✏ [Why 107-degree overnight temperatures should freak you out](#) (Grist)

- 🎧 [Urban Heat Island Webcast Series](#) (EPA)

- ✏ [Heat Island Effect Glossary](#) (EPA)

- ▶ [California ReLeaf UHI Webinar](#)

- ✏ [Urban Planning to Mitigate Urban Heat Island Effect](#) (Meeting of the Minds)

Complete Streets

"Complete Streets" is an approach to roadway planning which is multi-modal, providing options for safe travel by foot, bike, transit, and other transportation options. According to Smart Growth America, "by adopting a Complete Streets policy, communities direct their transportation planners and engineers to routinely design and operate the right of way to enable safe access for all users, regardless of age, ability, or mode of transportation."
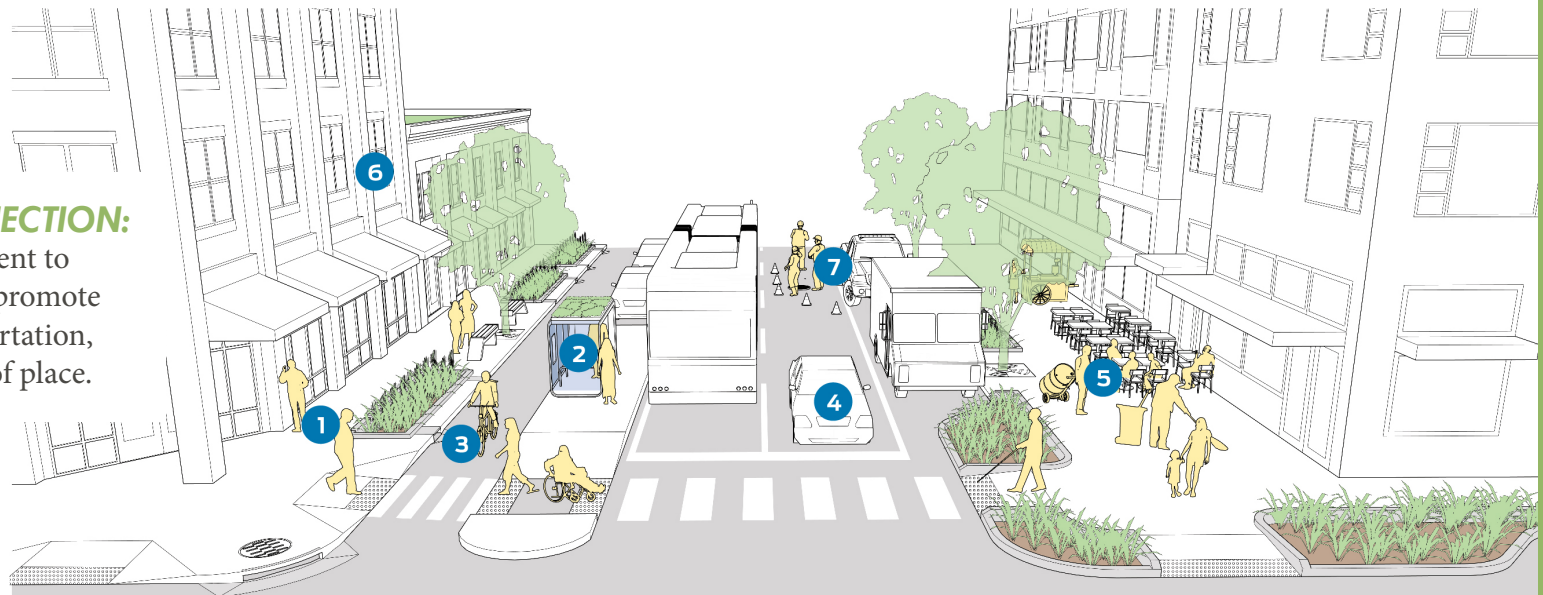
Complete streets planning also recognizes that roadways often serve an array of functions beyond just travel — including recreational walking, socializing, dining, vending, and nearby living — which must be considered in roadway design and management. The terms "Complete Communities" and "Complete Parks" are also used.

> "Complete streets mean equitable streets. The last half-century of transportation planning has created hundreds of miles of 'incomplete streets' – those without safe places to walk, bike, or take public transportation. Such streets are particularly dangerous for people of color, older adults, children, and those living in low income communities, who suffer disproportionately from poor street design in increase likelihood of illness, injury, and death."
>
> **–SMART GROWTH AMERICA**

▶ **URBAN FOREST CONNECTION:**
Street trees are a crucial element to complete streets. They make promote transit use and active transportation, slow cars, and foster a sense of place.

National Association of City Transportation Officials

Stormwater Management

Urbanization has fundamentally changed how water moves through the environment. Impervious surfaces like streets, sidewalks, parking lots, and structures prevent rainwater from soaking into the ground. The water instead runs along these surfaces, carrying pollutants into our rivers and streams, overwhelming local infrastructure, and causing flash flooding.

As climate change intensifies weather events, having systems in place to protect cities from flooding is critical. Green stormwater infrastructure offers a natural system for managing water while also providing other community benefits.

> "Retaining forest systems during construction and returning forest structure to the built environment can help mitigate stormwater runoff, improve water quality, and conserve stormwater as a natural resource.
>
> **–AARIN TEAGUE AND ERIC KUEHLER, FORESTER MEDIA**

Lynette Batt

RESOURCES

- [Urban Street Stormwater Guide](#) (National Association of City Transportation Officials)

- [More Than Good Looks: How Trees Influence Urban Stormwater Management in Green Infrastructure Practices](#) (U.S. Forest Service)

- [Give Me the Numbers: Stormwater Runoff Reduction Function of Trees](#) (Forester Media)

- [Green Infrastructure](#) (American Society of Landscape Architects)

- [Green Infrastructure](#) (EPA)

- [Parks as Green Infrastructure, Green Infrastructure as Parks: How Need, Design and Technology Are Coming Together to Make Better Cities](#) (The Nature of Cities)

▶ **URBAN FOREST CONNECTION:**
Trees help reduce the stormwater entering our grey infrastructure systems with rainfall retention and detention. Depending on the intensity of rainfall, urban trees have been shown to retain 20-80% of annual rainfall.[6]

National Association of City Transportation Officials

"Put street trees almost everywhere. There is no better use of public funds"

–JEFF SPECK, *WALKABLE CITY RULES*

An intersection redesigned for better pedestrian safety. From Walkable City Rules. Source: CNU.org

3. Engagement

TIPS FOR WORKING WITH PLANNERS

PLACES FOR CONTINUED LEARNING

Working with Planners

Planners are exactly the type of allies urban forests need. They think in terms of decades, frequently stay in their positions for long periods of time, and are motivated by health and environmental values. ReLeaf recognizes that nonprofits have time and money constraints, yet also believes local advocacy and working relationships with decision-makers like planners, landscape architects, public works and elected officials are critical for our collective success. Below are several straightforward strategies to work more closely with planners and other city professionals:

"*Come talk to us!*"
–PLANNER IN THE LA REGION

"*Be tenacious as heck*"
–NONPROFIT IN THE LA REGION

1 START EARLY: *Engage planners early in your project and collaborate with them along the way.*

2 BE POSITIVE: *Start on a good note. Remember your many shared values be quick to recognize their efforts and impact so far.*

3 BE SPECIFIC: *Come prepared with specific tree recommendations and data to support that choice.*

4 MAKE IT RELEVANT: *Leverage key planning concerns, like urban heat island, human health impacts, beautification, active transportation and shade. Provide research and resources.*

5 LEARN LOCAL POLITICS: *Ask a former planner to present to your team about how local planners and city politics work. This kind of local systems and advocacy training is invaluable for any nonprofit professional.*

6 DELEGATE: *Recruit board members who are active in working with their city or who wish to learn the ropes of doing so.*

7 SHOW UP: *Attend public meetings of planners and elected officials, and invite them to attend yours.*

8 NETWORK: *Attend one or two American Planning Association, Urban Land Institute, or American Society of Landscape Architecture meetings each year.*

9 CONNECT: *Reference new legislation, city plans and goals, recent news, etc. These specific topics can open the door to a bigger conversation about urban trees.*

10 MAKE IT EASY: *Planners are busy and have many competing priorities. When introducing a project, take as much of the work off their plate as possible.*

11 BUILD RELATIONSHIPS: *Start small. Set up a system each year to select just one city professional and get to know them better:*

- Could be a planner, landscape architect, city manager, sustainability manager, public works engineer, city councilmember.
- Attend their public meetings (or watch online) to get to know their favorite causes or hot issues
- Set up an introductory meeting or invite them out for coffee.
- Invite them to speak at a staff meeting or board meeting or community event.
- Invite them to sit on an advisory committee or a special ad hoc committee.
- Set up a quarterly or bi-annual meeting to "touch base" on projects related to urban trees.
- Become a resource to this professional. Send them research and case studies, help them connect with the community, and ask how you can help them.

Continued Learning

The world of planning crosses sectors, regions, and schools of thought. Stay connected to the field with current events, emerging ideas, and new case studies via the following sources:

WEBSITES

Explore these websites for news and emerging ideas in the world of planning:

- CityLab
- Congress for New Urbanism
- Planetzen
- Build a Better Burb
- APA California
- American Society of Landscape Architects
- The Dirt: ASLA Blog
- TheCityFix
- Top Planning Websites of 2018
- Next City: Inspiring Better Cities
- CityTalk: A blog by ICLEI

PODCASTS

Listen to these podcasts to dive deep into the issues:

- How to Make a City. Check out the "How Landscape Design Makes a City" and "How to Plan a City" episodes.
- People Behind the Plans: interviews from the American Planning Association
- Placemakers: By Slate, different stories related to Urban Planning
- Strong Towns. This group has three series of podcasts, discussing all different aspects of cities and planning
- Talking Headways: Highlights different urban planning projects, largely transportation-related, but also relating to health, housing and more.
- Shout Engine: One episode features a conversation with walkability expert Jeff Speck

TWITTER FEEDS

Follow these thought leaders for different perspectives in planning:

- Jeff Speck
- Kofi Boone
- Majora Carter
- Donald Shoup, UCLA
- Justin Garrett Moore
- UCLA Urban Planning Dept
- New Urbanism
- APA Planning
- American Association of Landscape Architects

4. Appendix

GLOSSARY OF TERMS

REFERENCES

FULL LIST OF RESOURCES

Glossary of Terms

BENEFIT ASSESSMENT DISTRICT: An area within a public agency's boundaries that receives a special benefit from the construction of one or more public facilities. A Benefit Assessment District has no independent life; it is strictly a financing mechanism for providing public infrastructure as allowed under various statutes. Bonds may be issued to finance the improvements, subject to repayment by assessments charged against the benefiting properties. Creation of a Benefit Assessment District enables property owners in a specific area to cause the construction of public facilities or to maintain them (for example, a downtown, or the grounds and landscaping of a specific area) by contributing their fair share of the construction and/or installation and operating costs.

CAPITAL IMPROVEMENTS PROGRAM (CIP): A program established by a city or county government and reviewed by its planning commission, which schedules permanent improvements, usually for a mini- mum of five years in the future, to fit the projected fiscal capability of the local jurisdiction. The program generally is reviewed annually, for conformance to and consistency with the general plan.

CHARTER CITY: Larger California cities, as well as older small cities, are "charter cities," meaning they have more discretion within their city charters to establish land use processes. Most smaller cities are "general law cities" meaning they do not have a city charter and must adhere to state law.[7] There are 481 incorporated cities in California, 86 of which are charter cities.

COMMUNITY FACILITIES DISTRICT: Under the Mello-Roos Community Facilities Act of 1982, a legislative body may create within its jurisdiction a special tax district that can finance tax-exempt bonds for the planning, design, acquisition, construction, and/or operation of public facilities, as well as public services for district residents. Special taxes levied solely within the district are used to repay the bonds.

DETERMINANTS OF HEALTH: The range of personal, social, economic, and environmental factors that influence health status are known as Determinants of Health. The Office of Disease Prevention and Health Promotion categorizes determinants of health five broad groups: (1) Policymaking, (2) Social factors, (3) Health services (4) Individual behavior, and (5) Biology and genetics.[8] The social determinants (SDOH) are further defined as (1) Economic Stability, (2)Education, (3) Social and Community Context, (4) Health and Health Care, and (5) Neighborhood and Built Environment This concept is significant to planning because it recognizes the need for creating health-promoting environments and policies, rather than the onus of health resting solely on individual behavior.

DESIGN CHARRETTE: Also called a planning charrette, design charrettes are interactive, visual, and time–intensive events where the public can participate with

interdisciplinary teams of planners, architects, engineers, artists, and fellow citizens. While charrettes are often used for specific plans, they can also help community members visualize what they want their community to look like. The process cultivates creativity, offers the advantage of giving the designers immediate feedback, and allows everyone who participates to be a mutual author of the plan.[9]

DEVELOPMENT AGREEMENT: A legislatively approved contract between a jurisdiction and a person having legal or equitable interest in real property within the jurisdiction that "freezes" certain rules, regulations, and policies applicable to development of a property for a specified period of time, usually in exchange for certain concessions by the owner.

DISADVANTAGED COMMUNITY (DAC): An area with higher cumulative environmental, health, and economic burdens (such as poverty and pollution).[10] The California EPA (CalEPA)

and California Air Resources Board (CARB) use CalEnviroScreen to designate DACs throughout the state, which are specifically targeted for the investment of funds generated by CARB's cap-and-trade program.

EASEMENT, CONSERVATION: A tool for acquiring open space with less than full-fee purchase, whereby a public agency buys only certain specific rights from the land owner. These may be positive rights (providing the public with the opportunity to hunt, fish, hike, or ride over the land) or they may be restrictive rights (limiting the uses to which the land owner may devote the land in the future.)

EASEMENT, SCENIC: A tool that allows a public agency to use an owner's land for scenic enhancement such as roadside landscaping or vista preservation.

EMINENT DOMAIN: The right of the government to take away property from its owner for public use. The property is purchased, but not always with a willing seller. Traditionally local governments used this power only for schools, roads, and other publicly-owned projects. However, a 1984 Supreme Court case ruled that eminent domain could be used in cases where the land would ultimately end up privately owned, paving the way for redevelopment projects.[11]

ENVIRONMENTAL IMPACT REPORT (EIR): A detailed informational document that describes and analyzes a project's significant environmental effects, and discusses ways to mitigate or avoid those effects. Required by CEQA.

ENVIRONMENTAL JUSTICE (EJ): The EPA defines EJ as: "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. This goal will be achieved when everyone enjoys (1) the same degree of protection from environmental and health hazards, and (2) equal access to the decision-making process to have a healthy environment in which to live, learn, and work."[12] California Environmental Justice Alliance (CEJA) defines EJ as: "the basic right of people to live, work, go to school, play and pray in a healthy and clean environment"

FIRE HAZARD ZONE: An area where, due to slope, fuel, weather, or other fire-related conditions, the potential loss of life and property from a fire necessitates special fire protection measures and planning before development occurs.

FORM-BASED CODE: A design code created "to physically define streets and public spaces as places of shared use, and to build complete neighborhoods that are compact, pedestrian-friendly, and mixed-use."[13] Form-Based Code was developed in response to the sprawl caused by conventional zoning. It focuses more on the public space and physical form, and less on land use and single-use zoning.

GENERAL PLAN: Every city and county must adopt "a comprehensive, long-term general plan" (Gov. Code § 65300). The purpose of a general plan is to guide land use planning decisions. Under state law, subdivisions, capital improvements, development agreements, and many other land use actions must be consistent with the adopted general plan. In counties and general law cities, zoning and specific plans are also required to conform to the general plan.

GENTRIFICATION/DISPLACEMENT: The way that a neighborhood's cost of living and social structure change as a result of an influx of wealthier people and prospective development. Green Gentrification, also called "environmental gentrification," is a term used to describe when the cleaning up of pollution or providing green amenities increases local property values spurs gentrification in a formerly disenfranchised neighborhood.[14]

GREEN INFRASTRUCTURE: A term commonly used to describe the use of natural systems for stormwater management (an alternative to man-made materials of Grey Infrastructure). The American Association of Landscape Architects describes green infrastructure as when "nature is harnessed by people and used as an infrastructural system" and that "while it's often closely associated with green stormwater management systems... it's really bigger than that," including wildlife protection, parks and urban forests, and transportation systems.[15]

GREY INFRASTRUCTURE: A term refers to the traditional methods of managing and treating water, using man-made assets such as channels, pipes, sewers and sewage treatment plants, ditches, and tunnels. Greywater refers to domestic wastewater.

IMPACT FEE: A fee, also called a development fee, levied on the developer of a project by a city, county, or other public agency as compensation for otherwise unmitigated impacts the project will produce. Government Code §66000 specifies that development fees shall not exceed the estimated reasonable cost

of providing the service for which the fee is charged. To lawfully impose a development fee, the public agency must verify its method of calculation and document proper restrictions on use of the fund. Impact/development fees may be used to pay for preparing and updating general plans and specific plans.

INCORPORATION: The process why which an area of a county or existing city becomes an independent city. Thus, many towns may be "unincorporated" and fall under the jurisdiction of a county's general plan. California law makes no distinction between "city" and "town," and municipalities may use either term in their official names.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA): An act passed in 1974 establishing federal legislation for national environmental policy, a council on environmental quality, and the requirements for environmental impact statements.

NIMBYism: Short for "not in my backyard," which refers to the attitude of residents who oppose a certain development due to its proximity to them. NIMBYism frequently occurs in situations with residents who agree the project is needed or beneficial (like a prison, power plant, or transit line), but simply don't want it nearby.[16] NIMBYism relates to Environmental Justice, as those with more clout can often advocate for such developments to be moved out of their area, pushing them to neighborhoods of those with less political power to object.

OPEN SPACE ELEMENT: Open-Space Land: Any parcel or area of land or water that is essentially unimproved and devoted to an open-space use for the purposes of (1) the preservation of natural resources, (2) the managed production of resources, (3) outdoor recreation, or (4) public health and safety.

PLANNING: The process by which public agencies determine the intensity and geographical arrangements of various land uses in a community. The planning process and field emerged from two traditions: (1) architecture and landscape architecture and (2) the tradition of the law.[17] William Fulton explains, "the plan provides the visionary guidance, while the law provides the power to implement that vision."[18]

PLANNING COMMISSION: a permanent committee made up of five or more individuals who have been appointed by the governing body (city council or board of supervisors) to review and act on matters related to planning and development.[19]

PUBLIC REALM: Public spaces where people interact, including the space between and within public buildings, streets, squares, parks and open spaces

REDLINING: The practice in which lenders denied home loans to certain mapped areas, largely based on demographics, from 1934 to 1977.[20] By denying people of color access homeownership, and thus the opportunity to build equity, redlining spurred racial wealth gaps for generations, affecting communities to this day. Greenlining is a term used for efforts aimed at increasing investment in neighborhoods which have been redlined or are otherwise disadvantaged.

SPECIFIC PLAN: A tool authorized by Government Code §65450 for the systematic implementation of the general plan for a defined portion of a community's planning area. A specific plan must specify in detail the land uses, public and private facilities needed to support the land uses, phasing of development, standards for the conservation, development, and use of natural resources, and a program of implementation measures, including financing measures.

SIDEWALK ZONES: A well-designed sidewalk has a series of zones. Starting from the building side, they are commonly defined as: (1) the Frontage zone, which connects pedestrians to the business inside and is the place for book tables, clothing racks, sidewalk dining, or benches, (2) the Clear Zone or Throughway Zone, which is for pedestrian travel, (3) the Furnishing Zone or Tree Zone,

Sidewalk Zones from www.sfbetterstreets.org

which is for trees, other landscaping, bike racks, street furniture, transit stops, and lighting, (4) the Edge Zone, for people getting in and out of cars, and finally (5) the Extension zone, where pedestrian space may extend into the parking area with elements like bulb-outs or parklets.[21] [22]

STREETSCAPE: The design and condition of a street, in recognition of the street as a public space and the promotion of greater sidewalks use. Streetscape elements include bike racks, benches (or "street furniture"), planters, decorative lighting, art, and even trash cans. Also referenced as street-scale features.[23]

STORMWATER RUNOFF: Precipitation that flows into a man-made drainage system, picking up pollutants along the way, rather than water that directly flows into a creek, stream, lake or ocean.

TRANSECT: Naturalists use a concept called "the transect" to describe the characteristics of ecosystems and the transition from one ecosystem to another. Planner Andres Duany applied this concept to human settlements, and the idea is common in New Urbanist thinking.[24] Yin explains, "the transect planning approach uses an idealized version of how entire cities and regions could be designed… This approach is being used by communities to help understand how their places fit into the broader area."[25] SmartCode is transect-based.

TRANSPORTATION/TRANSIT: Transportation encompasses all forms of traveling to and within a city, including auto, mass transit, and active transportation. Transit refers to public/mass transportation such as buses, light rail, subway, etc. Active Transportation refers to human-powered modes of transportation, such as walking and biking.

ZONING: The division of a city into districts and the application of different regulations in each district. Historically, single-use zoning practices have led to sprawl and environmental justice issues.[26] [27] Many planners are beginning to rethink how zoning polices can be improved to promote healthier communities for all.[28]
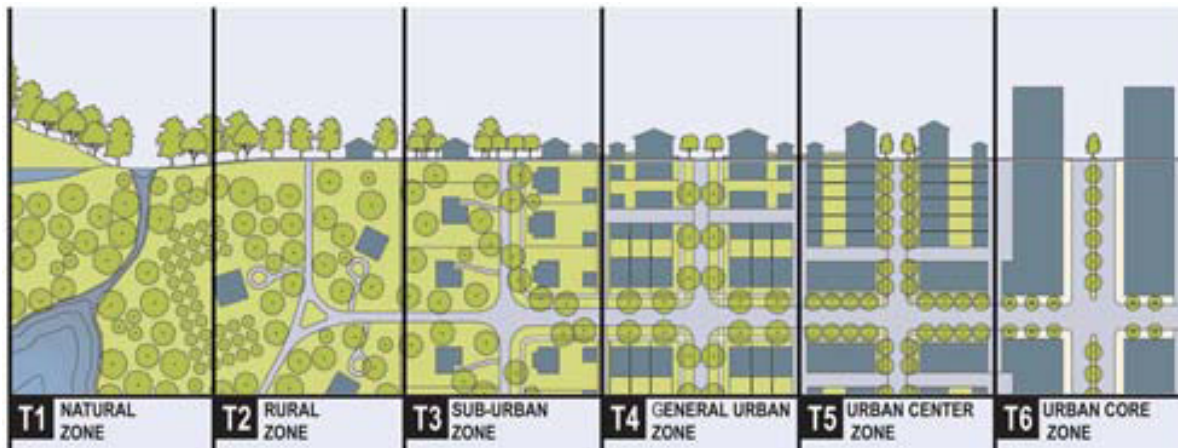
The Urban Transect, from Center for Applied Transect Studies

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Cities have the capability of providing something for everybody, only because, and only when, they are created by everybody."

–JANE JACOBS, *THE DEATH AND LIFE OF GREAT AMERICAN CITIES*

Complete List of Resources

AUDIO

"How to Plan a City" by the How to Make a City podcast

Urban Heat Island Webcast Series (EPA)

ARTICLES

The Evolution of Urban Planning in 10 Diagrams (CityLab)

Our cities are getting hotter—and it's killing people (Curbed)

The Benefits of Streetscale Features for Walking and Biking (APA)

Build Equitable Communities with Complete Streets (National Association of County & City Health Officials)

What Makes a Complete Street: A Brief Guide (TheCityFix)

Complete Parks (Change Lab Solutions)

More Than Good Looks: How Trees Influence Urban Stormwater Management in Green Infrastructure Practices (U.S. Forest Service)

Give Me the Numbers: Stormwater Runoff Reduction Function of Trees (Forester Media)

Green Infrastructure (American Society of Landscape Architects)

Parks as Green Infrastructure, Green Infrastructure as Parks (The Nature of Cities)

Nights Can Be More Deadly Than the Daytime During a Heat Wave (Weather.com)

Why 107-degree overnight temperatures should freak you out (Grist)

Op-Ed: Air-Conditioning Is a Luxury the World Can't Afford (The New York Times)

Heat Island Effect Glossary (EPA)

Urban Planning to Mitigate Urban Heat Island Effect (Meeting of the Minds)

How Urban Design Perpetuates Racial Inequality–And What We Can Do About It from The Fast Company

The Planner's Guide to Specific Plans OPR

Types of Plans that Planners Use QK Inc.

General Plans and Zoning Toolkit Public Health Law & Policy

SB 1000 Toolkit California Environmental Justice Alliance

SB 1000 Draft Policies OPR

Introducing SB 379 Alliance of Regional Collaboratives for Climate Adaptation

BOOKS

Guide to California Planning by William Fulton and Paul Shigley

Sidewalks by Anastasia Lou

Walkable City Rules: 101 Steps to Making Better Places by Jeff Speck

WEBSITES

The American Planning Association

General Plan Guidelines (OPR)

Heat Islands (EPA)

National Complete Streets Coalition (Smart Growth America)

Green Infrastructure (EPA)

Urban Street Stormwater Guide (National Association of City Transportation Officials)

VIDEOS

Why It's Usually Hotter In A City (NPR)

California ReLeaf UHI Webinar

Four Ways to make a city more walkable (Jeff Speck TEDTalk)

Implementation & Equity 201: The Path Forward to Complete Streets (Smart Growth America)

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