

FROM POLICY

TO

PAVEMENT

IMPLEMENTING COMPLETE STREETS IN THE SAN DIEGO REGION

PREPARED THROUGH COLLABORATION OF
THE COMPLETE STREETS TASK FORCE

JUNE 2012



American Planning Association
California Chapter
San Diego

Making Great Communities Happen



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CONTRIBUTORS

Asha Bleier, AICP, LEED AP BD+C, SDAPA/Dudek & Associates

Kathleen Ferrier, SDAPA/WalkSanDiego

Andy Hamilton, SDAPCD, SDAPA/WalkSanDiego

Greg Konar, AICP, SDAPA/ Konar Associates

Brooke Peterson, AICP, SDAPA-Past Section Director/ The Planning Center|DC&E

Dave Sorenson, PE, Kimley-Horn and Associates

Seth Torma, AICP, PTP, KOA Corporation

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EXECUTIVE SUMMARY

There is tremendous pent up demand for safe, comfortable facilities to walk and bicycle, and for better transit service. Complete Streets help provide these opportunities. This report is a collaborative effort by local planners and traffic engineers who want to encourage the region's local governments to go beyond the minimum level of implementation of Complete Streets, required by State law (AB 1358).

The document is structured around five key assumptions:

1. A city's streets are its largest landholding and one of its greatest assets. Complete Streets maximize the value of that asset.
2. The way streets look and function should represent a community's vision of itself, not simply an opportunity to move vehicles. Cities need to regularly update their understanding of what the community values.
3. When a street is being designed or retrofitted, representative user groups and partners in other departments or agencies should be thoroughly consulted. The Complete Streets approach is as much about the design process as the outcome.
4. Good street design must be combined with compatible land uses to take best advantage of a Complete Street treatment.
5. Complete Streets help induce compatible land uses, but land use changes, by themselves, rarely induce Complete Streets.

One Solution, Many Benefits

The benefits of Complete Street investments are numerous:

- » Designing streets primarily to reduce traffic delay has had numerous unintended consequences. Complete Streets treatments offer a way to keep traffic moving while providing for other modes and meeting other community values.
- » For the municipality, Complete Streets investments can increase tax collections and jobs, reduce road building and maintenance costs, reduce emergency response costs, and improve air and water quality.
- » "Green street" techniques such as bioswales and porous pavements can reduce the costs of constructing roads, managing stormwater, irrigating landscaped areas, and heating and cooling.
- » For the individual, Complete Streets provide cost effective health and mental health benefits, reduce transportation costs, provide safe travel for non-drivers, reduce all types of crashes, reduce noise-related stress, and create more opportunities for local shopping and entertainment.
- » The health and safety benefits of Complete Streets are especially noteworthy. Every \$1 spent on walking and bicycling facilities can yield between \$5-\$100 in benefits, depending on which benefits are counted.
- » New York City is among the most ambitious US municipalities implementing walking, bicycling, and traffic safety improvements. In just over a decade, the city's crashes have dropped over 40%, to the lowest level in 100 years.

Complete Streets Policy

Adopting a Complete Streets policy is an important step.

- » Various local standards, zoning requirements, and funding mechanisms discourage or even prohibit implementation of Complete Streets. To address these barriers, it is necessary to adopt policies establishing Complete Streets as a priority.
- » Policies at the federal, state, and regional level encourage or require Complete Street investments. All of the professional transportation organizations, such as AASHTO and ITE have endorsed Complete Streets and context-sensitive design, in which the local context and the needs of affected stakeholders take precedence over road classification.
- » Complete Street policies can be established in a variety of ways, but the most effective mechanism is through the Circulation Element of the General Plan. Where a General Plan update has been recently completed, a stand-alone Complete Street Policy or other mechanism can be used.
- » An effective Complete Street policy sets a vision for the community's streets, includes all modes, applies broadly, emphasizes connectivity, manages exceptions, recognizes neighborhood context, establishes performance standards, and includes implementation steps.
- » Two ways the General Plan can work against Complete Streets is by specifying roadway dimensions and Level of Service standards in the plan itself. It is recommended that broad goals for modal performance be specified, and that the plan identify which areas or corridors will emphasize which modes.

Level of Service and Complete Streets

Traffic delay concerns, especially Level of Service (LOS) standards, are often seen as a barrier to Complete Streets, but need not be:

- » In the past, preserving LOS has lead to streets that are less safe or impractical for walking, bicycling, and transit use.
- » Some cities (e.g., National City and San Jose) have designated districts, corridors, or intersections where walking, bicycling, and transit are prioritized, and further road expansion is prohibited. LOS F is considered acceptable in these locations.
- » Vehicle LOS can be supplemented by use of Multi-Modal LOS (MMLOS) methodologies, one of which is included in the 2010 Highway Capacity Manual. MMLOS is not yet widely used, but is designed to compare the trade-offs in the service quality for each mode when considering alternative designs, and requires additional data collection.
- » San Francisco is preparing to replace the LOS metric with "Auto Trips Generated," in order to incentivize developers to minimize new vehicle trips and to fund improvements for walking, bicycling, and transit. Other cities will likely follow suit if this system proves successful.
- » The traditional planning paradigm assumes traffic will grow steadily with time, but traffic volumes in the U.S. have leveled off in the last 10 years, and both young adults and retiring Baby Boomers exhibit a strong preference for walkable, transit-accessible neighborhoods.

- » Traffic planning also assumes traffic volumes are predictable based on land uses. However, evidence shows a large portion of trips are flexible, and traffic tends to equilibrate with available capacity. Therefore, it may make more sense to build streets serving all modes rather than trying to predict and meet vehicle traffic demand.
- » Transportation Demand Management (TDM) methods are often overlooked, but can be far more cost-effective than capacity improvements. Comprehensive TDM strategies reliably provide 15% reductions in trips and parking demand, which can solve most peak hour congestion problems. Complete Streets complement TDM investments.

Complete Streets under CEQA

Meeting the requirements of the California Environmental Quality Act (CEQA) is another potential barrier to Complete Streets, but there are strategies to overcome this barrier:

- » Complete Street projects which maintain the current right-of-way and modes served can qualify for a CEQA exemption. Examples can be found in San Marcos and La Mesa.
- » CEQA delays for more extensive Complete Street retrofit projects can be minimized or avoided by adopting appropriate General Plan policies or a freestanding Complete Streets program which has itself undergone CEQA review.
- » For development review, CEQA provides flexibility to local governments to establish their own significance thresholds, and to require project mitigation that improves walking, bicycling, or transit facilities rather than expanding roadway capacity for vehicles.
- » The 2010 revisions to the State's CEQA Guidelines emphasizes consideration of project impacts on all transportation modes, rather than prioritizing vehicle flow over all other modes. The Project Checklist allows the use of transportation measures other than Level of Service, if a jurisdiction so chooses.

The Implementation Toolbox

Many new guidance documents and other tools are available to ease implementation of Complete Streets:

- » Newly emerging planning tools include more effective multi-departmental planning processes, "living street" design guidelines, and a Complete Streets project checklist.
- » Although new planning processes are proving invaluable to implement Complete Streets, the standard planning toolbox, from general plans to zoning and design guidelines, should also be employed.
- » Newer street design manuals are becoming increasingly available to redesign streets to meet the needs of all users while meeting AASHTO and other conventional guidelines. "It's not in the manual" can now be replaced with "We really need to update our manual."
- » Cities leading the way to Complete Streets have found that Five-Year Transportation Action Plans are an essential tool to maintain progress implementing a long-term transportation vision.
- » Public involvement which includes all stakeholders in street design decisions is a cornerstone of the Context Sensitive Solutions approach championed by FHWA, AASHTO, and Caltrans, and helps ensure design decisions consider the needs of diverse community members.

Performance Measures

The use of performance measures is important in tracking progress implementing Complete Streets and other long-term transportation goals.

- » The chosen measures should reflect the general plan or other important policy documents, including in the following areas:

- Economic Development
- Mode Shares
- Crashes
- Public Perception
- Pedestrian Facilities
- Bike Facilities
- Safety
- Environment

- » Performance measures are meaningful only to the extent they are compiled in an annual report and distributed to city departments, to elected officials, and to the public. Annual progress reports are an excellent tool utilized by cities leading the way on Complete Streets implementation.
- » Performance measures should be established at the community level, and for particular projects. Community stakeholders should be involved in establishing performance measures, particularly at the project level.
- » Project-level performance measures may be a small subset of the community-level measures, but should meaningfully reflect project objectives, chosen with the input from the community.

Complete Street Treatments – Where? and What?

Prioritizing street segments for Complete Streets and choosing appropriate treatments are subjects that are beyond the scope of this report, but some useful approaches include as follows:

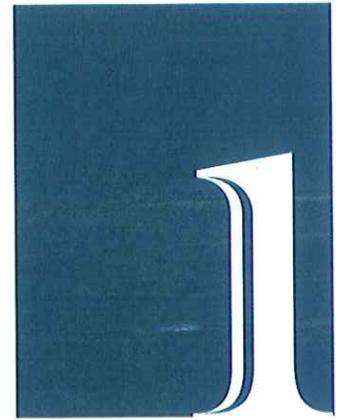
- » Tools for selecting street segments for Complete Street treatments include the
 - » Pedestrian Composite GIS Model
 - » SANDAG's Healthy Communities Atlas
 - » SANDAG's Smart Growth Opportunities Areas, submitted by each jurisdiction
 - » Regional Bike Plan routes
- » The Complete Streets Task Force estimates that, across the region, there are 1092 miles of street segments that may be good candidates for treatments. Of that total, 292 miles are in existing or planned Smart Growth Opportunity Areas.
- » Potential treatments exist for high-speed arterials, lower classification arterials, neighborhood collectors, and residential streets.
- » Some promising approaches are Multi-way Boulevards, road diets, traffic calming devices, various intersection treatments, buffered bike lanes, enhanced crosswalks, conversion of a small number of parking spaces to seating or bike corrals, new bicycle or pedestrian facilities, and "shared streets."

Overcoming Barriers to Complete Streets

State-wide and regional surveys of local transportation agency staff identified several barriers to Complete Street implementation. The full report provides potential solutions for each barrier.

- » Inadequate funding
- » Inconsistent city council direction
- » Uncoordinated transportation implementation
- » Initial public opposition
- » Lagging acceptance of changing professional standards
- » Lack of training in Complete Streets concepts
- » Out-of-sync environmental priorities
- » Suboptimal Complete Street implementation
- » Under-appreciation of the multiple benefits of Complete Streets

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ABOUT THIS REPORT

Background and Purpose

The San Diego Complete Streets Task Force (Task Force) was initiated jointly by the San Diego Section of the American Planning Association and WalkSanDiego in 2011. The principal goal of the Task Force is to transform city and neighborhood streets throughout the region into an interconnected multi-modal network that (1) places safe and convenient walking, bicycling, and public transit access on a more equitable footing with motor vehicles, and (2) uses street design to foster community places worthy of admiration.

The mission of the Complete Streets Task Force is to promote the implementation of Complete Streets by sharing best practices, encouraging dialogue, and recognizing innovative projects in the San Diego region.

To that end this report has been prepared to equip local governments with the road map to successfully transform their communities with Complete Streets. The content is solely the responsibility of the authors, and not the American Planning Association.

Process and Assumptions

This report is a collaborative effort by local planners and traffic engineers who see the enormous potential in the Complete Streets concept and want to encourage the region's local governments to go beyond the minimum level of implementation effort required by State law. At the same time we acknowledge the need to help fit new concepts and methodologies into the existing planning, funding, and regulatory framework. The document is structured around five key assumptions:

- » A city's streets are its largest landholding and one of its greatest assets. Complete Streets maximize the value of that asset.
- » The way streets look and function should represent a community's vision of itself, not simply an opportunity to move vehicles. Cities need to regularly update their understanding of what the community values.
- » When a street is being designed or retrofitted, representative user groups and partners in other departments or agencies should be thoroughly consulted. The Complete Streets approach is as much about the design process as the outcome.

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- » Good street design must be combined with compatible land uses to take best advantage of a Complete Street treatment.
- » Complete Streets help induce compatible land uses, but land use changes, by themselves, rarely induce Complete Streets.

Public Demand for Complete Streets

Local and national surveys and studies reveal a strong public preference for walkable neighborhoods and safe bicycling opportunities:¹

- » A 2010 survey of San Diegans found 79% of respondents support making neighborhoods more walkable as a greenhouse gas reduction strategy.²
- » A study of mid-city San Diego neighborhoods commissioned by WalkSanDiego and The California Endowment found that during the 2007-2009 recession, home values in less walkable areas declined 17% whereas nearby homes in walkable locations declined 12%.³
- » Nationally, homes in walkable neighborhoods command up to a 15% higher selling price than similar homes in less walkable neighborhoods, and a majority of Americans – particularly “Generation Y” and retiring Baby Boomers (the “Silver Tsunami”) – would prefer to live in a walkable neighborhood.⁴
- » The Portland, Oregon, Department of Transportation estimates that, counting current bicyclists, around 70% of residents would bicycle regularly for transportation if safe facilities were provided (see graphic). This number has been vetted nationally and most likely reflects the latent U.S. demand for better bicycling facilities.⁵ Portland's 2030 Bike Plan is designed to serve the 60% of residents considered “interested but concerned” for their safety.

Figure 1. Four Types of Transportation Cyclists in Portland (by Proportion of Population)



- » In a national survey conducted in May 2012, 80 percent of Republican respondents and 88 percent of Democratic respondents think Congress should maintain or increase federal funds for biking and walking.⁶
- » The Alliance for Biking & Walking, a national support organization for local advocacy groups, reports⁷ that since 1996, its membership has grown from 12 groups employing a combined 10 FTE staff, to 214 groups with 375 FTE staff. This represents a 1700% increase in groups and 5200% increase in combined staff.

Taken together, these data make a persuasive case that elected officials and agency staff who make Complete Streets a priority will receive strong support from residents and other stakeholders.

Questions Addressed by this Report

This report was organized to answer the “why” and “how” questions that usually arise when discussing the implementation of Complete Streets:

- » Changing our jurisdiction's approach to streets will divert resources from other priorities. Is it really worth the trouble? (Chapter 2. One Solution, Many Benefits)
- » Do we really need a Complete Streets policy? What are the options? (Chapter 3. Setting the Policy Direction)
- » How can Complete Streets be implemented given the existing framework of Level of Service (LOS) standards? How can the city require developers to fund transportation improvements if we don't use LOS to document inadequacies? (Chapter 4. Level of Service Standards and Complete Streets)
- » How can the costs, delays, and legal risks associated with CEQA (California Environmental Quality Act) be overcome? (Chapter 5. Complete Streets Under CEQA).
- » Does a jurisdiction need a new set of policy documents, regulatory tools, and design guidelines? (Chapter 6. The Implementation Toolbox)
- » How will we know when we've succeeded? How do we hold ourselves accountable? (Chapter 7. Measuring Progress)
- » Which streets are good candidates for Complete Street treatments? (Chapter 8. Where to Begin)
- » Even if we could afford another new program, how do we overcome the legal issues, uncertain Council and resident support, established engineering practice, and declining staffing levels? (Chapter 9. Overcoming Implementation Barriers). Hint: Complete Streets is not a “program,” but rather a new way of meeting all transportation needs.

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ONE SOLUTION, MANY BENEFITS

Given today's fiscal realities, a new mantra for local governance might be:

"Every project should solve multiple issues and avoid creating new ones."

Transforming single-purpose roadways to Complete Streets fits well with this idea. Indeed, the Complete Streets concept emerged from the realization that roadway design meant to reduce traffic delays has had numerous unintended consequences with explicit or hidden costs. As the organization Project for Public Spaces⁹ puts it:

- » Congestion is rampant.
- » Americans die on our roads at the rate of almost 3,000 a month.
- » Parents are afraid to let their children walk down the streets.
- » New communities have no soul.
- » Obesity and its related diseases are rampant.
- » Dependence on imported oil makes us vulnerable to the economics of oil price and climate change is not being sufficiently addressed.
- » Furthermore, streets are no longer viewed as places, which is a huge loss given that streets can take up as much as one-third of a community's land.

With these concerns in mind, designing streets to serve all users, in a sustainable manner, can have wide-ranging, comprehensive benefits.

Economic Development

Complete Streets represent a tangible public investment and commitment to stronger commercial centers and urban neighborhoods. Their contribution to place-making is essential and profound (see box for Lancaster, CA, example⁹). When combined with supportive zoning and increased land use efficiencies, Complete Streets create optimal conditions for infill development. Investment in Complete Streets is especially important for under-performing suburban corridors to redefine traditional auto dominance and catalyze economic growth.

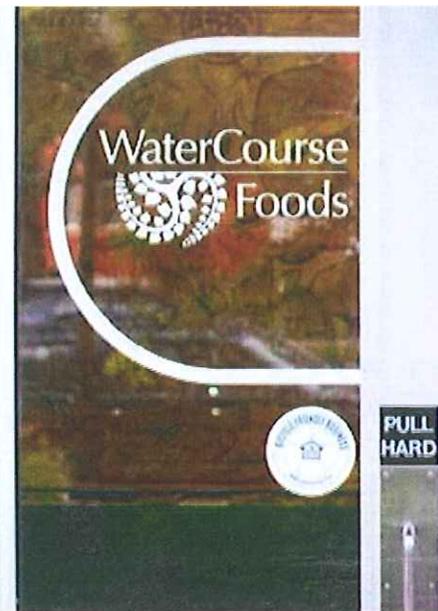
Revitalizing commercial streets or raising residential property values through Complete Streets investments is a thoroughly proven strategy. Case studies can be found on the National Complete Streets Coalition website.¹⁰ San Diego's most successful recent project, the transformation of La Jolla Boulevard in the Bird Rock area of La Jolla, is highlighted at the end of this chapter.

Commercial streets revitalized by Complete Street treatments can be promoted through community events, walking maps, Bike Friendly Business District¹¹ campaigns (see photo), and other promotions.

Fiscal Savings

Complete Streets cost less to build and maintain, and create more value in the long run because they serve non-drivers as well as drivers. Some examples are as follows: (Note that savings in avoided fuel use, crashes, healthcare costs, and other externalities are not included.)

- » In De Pere, Wisconsin, the county highway department saved \$347,515 (16.5%) on construction of a major street by reducing the number of lanes from four to two, replacing two planned signals with roundabouts, and adding bicycle facilities.¹²
- » In Lee County Florida, County staff looking for Complete Street candidates, saved \$58.5 million by reprogramming five road widening projects approved in the 2035 Long Range Transportation Plan. Each was slated for four lanes, but was scaled back to two lanes with median and turn lanes, and cycling and walking facilities.¹³
- » A study prepared by the City of Orlando found that re-striping Edgewater Drive from 4 lanes to 2 lanes, a center turn lane, and bicycle lanes reduced the frequency of crashes involving injuries from every nine days to once every 30 days while the number of people walking and bicycling rose 23% and 30% respectively.
- » In Vancouver, Washington, Fourth Plain Boulevard was converted from four lanes with poor provisions for people walking, biking or in wheelchairs into a street with two through lanes, a center turn lane, two bicycle lanes, curb ramps and improved sidewalks. After this inexpensive treatment, vehicle collisions dropped 52%, and the number of pedestrian crashes dropped from two per year to zero.
- » In 2012, the City of Carlsbad re-evaluated plans for a water line replacement and sidewalk construction project on Valley Street and Magnolia Avenue. To reduce vehicle speeds and avoid triggering expensive storm water treatment, staff found that narrowing the roadway from 40 to 34 feet would save the city over \$78,000 and increase safety for everyone.¹⁴ Future repaving costs would also be lower.



*A Bicycle Friendly Business in Denver, CO
Photo: Kate At Yr Own Risk via Flickr*

Health

By supporting active transportation, the Complete Streets approach is a key strategy to reduce chronic disease. According to the San Diego County Department of Health and Human Services, sedentary behavior is a primary or contributing cause of the top four chronic diseases in San Diego County: cancer, heart disease and stroke, type 2 diabetes, and pulmonary disease such as asthma. Considered together, these diseases cost \$4 billion in direct treatment expenditures in San Diego County in 2007,¹⁵ and a far greater total in indirect costs such as missed work days.

Complete Street Conversion Pays Off Big in Lancaster

The return on investment of a Complete Street treatment is dramatically illustrated by the nine-block redesign of 5-lane Lancaster Boulevard in Lancaster, CA. Prior to the project, the Boulevard was a blighted and crime-ridden business district. Within two years of the project's groundbreaking, the street and surrounding area were transformed into a vibrant regional destination for shopping, dining, entertainment and the arts. The economic development benefits during that period include: 1,100 construction jobs, 802 permanent commercial and retail jobs, 40 new businesses, and 807 new housing units constructed or rehabilitated. Project investments include \$41 million by the Lancaster Redevelopment Agency (\$11.1 million for the street improvements) and \$107 million in private investment. Total economic output to date is estimated at \$274 million with \$13.3 million in state and local revenues.



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The California Department of Public Health¹⁶ estimated in 2011 that, for San Francisco, a shift in active transportation from a median of 4.4 to 22 minutes a day (2% to 15% mode share) would save \$1.4 to \$22 billion in annual health costs and add 9.5 months of life expectancy by reducing:

- » Heart disease, stroke and diabetes by 14%
- » Dementia and depression by 6-7%
- » Breast and colon cancer by 5%

Health Savings

Research examining the health benefits of bicycling and walking point to the same conclusion: investments in active transportation pay enormous dividends. The literature suggests the largest share of benefits comes from the well-being and health outcomes associated with being physically active.¹⁷

- » Lincoln, Nebraska: Every \$1 spent on bicycle and pedestrian trails (including construction, maintenance, equipment, and travel) yields \$2.94 in direct medical benefits.¹⁸
- » Portland, Oregon: Every \$1 invested in bicycling yields \$3.40 in health care cost savings. When the statistical value of lives is considered, as is done for the evaluation of highway safety improvement projects, every \$1 invested yields nearly \$100 in benefits.¹⁹
- » Kansas City: Every dollar invested in bicycle and pedestrian projects yields \$11.80 in benefits, the greatest portion of which is the perceived health and recreation value of those biking and walking.²⁰
- » A summary of several studies in the U.S. and Europe found that every dollar invested in bicycle networks yields at least \$4 to \$5 in benefits, mostly related to health and safety.²¹

Safe Transportation for All

In the San Diego region, up to one-third of residents in low-income neighborhoods lack access to a car. This includes children, elderly and disabled residents, and those who cannot afford or choose not to own a car. Wide, high-volume streets are also more prevalent in low-income neighborhoods.²² Not surprisingly, these residents suffer far higher rates of vehicle, bicycling, and walking injuries and fatalities. Thus, Complete Street treatments can often provide the greatest benefits in low-income neighborhoods.



Photo: Dan Burden via PedBike Image Library

Greater Accessibility

“Mobility” measures the ease of physical movement, whereas accessibility measures the ease of reaching goods, services, or activities. Too often, transportation planning focuses on increasing mobility – reducing vehicle congestion – when accessibility is what creates lasting economic value, quality of life, health, and equal opportunity. Complete Streets, combined with compact mixed uses, maximize accessibility for all members of society – and tax returns to the municipality – while reducing environmental impacts.



“Green” Trolley corridor, Photo: Jim Stone



E Street, Chula Vista – Before/After photo simulation by Urban Advantage courtesy of SANDAG²³

Green Street Opportunities

Rebuilding a street for all users offers an opportunity to incorporate porous pavements, bioswales,²⁴ street trees, and other techniques that reduce heat load and pollution, and capture and treat stormwater on-site, rather than relying on the expensive and sometimes inadequate conveyance system. Some built examples include as follows:²⁵

- » Seattle’s Natural Drainage Projects saved an average of \$329 per square foot.
- » Chicago’s Green Alleys Program was found to be 3 to 6 times more cost-effective handling storm water than conventional infrastructure.²⁶
- » Portland’s Green Streets Program found that 80-85% of peak storm water flows could be managed on-site by two “green streets” it had installed, and at far lower cost than a conventional system.²⁷

San Diego County’s Low Impact Development Handbook is an excellent general resource for incorporating green street features. The Handbook notes:

Traffic circles, chicanes, chokers, and center islands, offer the opportunity for stormwater management through the use of bio-retention areas or infiltration within these areas while providing pedestrian safety. (p. 53)