Update to the General Plan Guidelines: Complete Streets and the Circulation Element

December 15, 2010

STATE OF CALIFORNIA
Arnold Schwarzenegger,
Governor

GOVERNOR'S OFFICE
OF PLANNING AND
RESEARCH
Cathleen Cox,
Acting Director

1400 Tenth Street
Sacramento, CA 95814

P.O. Box 3044
Sacramento, CA 95812

(916) 322-2318

www.opr.ca.gov

This page intentionally left blank

State of California
Arnold Schwarzenegger, Governor

Governor's Office of Planning and Research
Cathleen Cox, Acting Director

Scott Morgan, Director, State Clearinghouse

Contributors:
Selena Gallagher, Project Manager- Graduate Planner Intern, State Clearinghouse
Cuauhtemoc Gonzalez, Associate Planner, State Clearinghouse
Julia Lave Johnston, OPR Deputy Director for Planning Policy, State Clearinghouse
Seth Litchney, Senior Planner, State Clearinghouse
Anna Marie Young, Assistant Planner, State Clearinghouse

This page intentionally left blank

DIRECTOR'S MESSAGE

December 2010

I am pleased to announce the publication of the Governor's Office of Planning and Research (OPR), *Update to the General Plan Guidelines: Complete Streets and the Circulation Element*. Assembly Bill 1358 (AB 1358, Chapter 657, Statutes of 2008), the California Complete Streets Act, required OPR to amend the *2003 General Plan Guidelines* to provide guidance to local jurisdictions on how to plan for multimodal transportation networks in general plan circulation elements. This document amends guidance on preparing circulation elements found on pages 55-62 of Chapter 4 of the *2003 General Plan Guidelines*. Local jurisdictions should use this *Update* in conjunction with the *2003 Guidelines* when they are updating their general plan circulation elements.

The OPR staff thanks the many organizations and stakeholders who generously shared their expertise during the development of this *Update*. OPR consulted with various state agencies, regional agencies, local jurisdictions, planning and transportation consultants, health organizations, pedestrian and bicycle advocacy groups, and members of the public. This document is another example of how partnerships and collaboration can support quality communities for all Californians.

Based upon this broad consultation, OPR issued a *Draft Update to the General Plan Guidelines: Complete Streets and the Circulation Element* on October 20, 2010 for 30 days of public review and comment. All comments received on the draft document were carefully considered for incorporation. We hope that you will find this update to be an informative guide and useful tool in the practice of local planning. OPR always welcomes suggestions on ways to improve the *General Plan Guidelines*, and other OPR guidance documents. OPR strives to provide quality planning guidance to city and county decision makers, staff and community residents.

Cathleen Cox,

Acting Director, OPR

This page intentionally left blank

Table of Contents

Director's Message v

Section I: Purpose and Background 1

Purpose 1

Background 2

Related Federal And State Policies 2

Multimodal Transportation Networks 5

Potential Benefits of Multimodal Transportation Networks 6

Regional Planning 7

Section II: Circulation Element Update 11

Circulation Element 11

Circulation Element Checklist 13

Mandatory Circulation Element Issues 13

Possible Policy Areas and Data Collection Technique Considerations 15

Technical Assistance 28

Useful Definitions 28

Case Law 32

State Agency Resources 35

Appendix A 36

Multimodal Transportation Network Examples 36

Appendix B 40

Additional Resources 40

SECTION I: PURPOSE AND BACKGROUND

PURPOSE

This update to the circulation element section of the *2003 General Plan Guidelines* meets the requirements of Assembly Bill 1358, The California Complete Streets Act. The Act requires the Governor's Office of Planning and Research (OPR) to amend the *General Plan Guidelines* to assist city and counties in integrating multimodal transportation network policies into the circulation elements of their general plans. Starting January 2011, all cities and counties, upon the next update of their circulation element, must plan for the development of multimodal transportation networks.[1]

To support cities and counties in meeting the requirements and objectives of AB 1358, this update provides guidance on general plan circulation element goals, policies, data collection techniques, and implementation measures related to multimodal transportation networks. The goal of this update is to provide information on how a city or county can plan for the development of a well-balanced, connected, safe, and convenient multimodal transportation network. This network should consist of complete streets which are designed and constructed to serve all users of streets, roads, and highways, regardless of their age or ability, or whether they are driving, walking, bicycling, or taking transit.

AB 1358 places the planning, designing, and building of complete streets into the larger planning framework of the general plan by requiring jurisdictions to amend their circulation elements to plan for multimodal transportation networks. These networks should allow for all users to effectively travel by motor vehicle, foot, bicycle, and transit to reach key destinations within their community and the larger region. OPR recommends that local jurisdictions view all transportation projects, new or retrofit, as opportunities to improve safety, access, and mobility for all travelers and recognize pedestrian, bicycle, and transit modes as integral elements of their transportation system. The standard practice should be to construct complete streets while prioritizing project selection and project funding so that jurisdictions accelerate development of a balanced, multimodal transportation network.

Understanding the existing resources, location, and design of a local jurisdiction is imperative to successfully implement a multimodal transportation network. The planning, design, construction, and operation of a multimodal transportation network will be different for each community. Complete streets will look different in rural, suburban, or urban communities. Cities and counties should focus on crafting a network of travel options that are reflective of a community's individual context. A list of selected references with more information on multimodal transportation networks is provided at the end of this document.

1 Assembly Bill 1358, Chapter 657, Statutes 2008.

BACKGROUND

The California Complete Streets Act (AB 1358)

On September 30, 2008 Governor Arnold Schwarzenegger signed Assembly Bill 1358, the California Complete Streets Act. The Act states: "In order to fulfill the commitment to reduce greenhouse gas emissions, make the most efficient use of urban land and transportation infrastructure, and improve public health by encouraging physical activity, transportation planners must find innovative ways to reduce vehicle miles traveled (VMT) and to shift from short trips in the automobile to biking, walking and use of public transit."[2]

The legislation impacts local general plans by adding the following language to Government Code Section 65302(b)(2)(A) and (B):

(A) Commencing January 1, 2011, upon any substantial revision of the circulation element, the legislative body shall modify the circulation element to plan for a balanced, multimodal transportation network that meets the needs of all users of the streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the general plan.

(B) For the purposes of this paragraph, "users of streets, roads, and highways" means bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors.

RELATED FEDERAL AND STATE POLICIES

U.S. Department of Transportation (DOT) Bicycle and Pedestrian Policy:

The *United States Department of Transportation Policy Statement on Bicycle and Pedestrian Transportation Accommodations Regulations and Recommendations* supports "fully integrated active transportation networks," that include accommodations for bicyclists and pedestrians.[3] The DOT's bicyclist and pedestrian accommodation regulations and recommendations are consistent with California's complete street policies and AB 1358. The DOT encourages all transportation agencies and local governments to adopt similar policies to ensure all users of streets, roads, and highways are taken into consideration when developing new or retrofitting existing transportation systems.

The *United States Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations* can be found at the following website:

http://www.fhwa.dot.gov/environment/bikeped/policy_accom.htm

2 Assembly Bill 1358, Chapter 657, Statutes 2008.

3 U.S. Department of Transportation Federal Highway Administration, *United States Department of Transportation Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations*, March 2010 http://www.fhwa.dot. gov/environment/bikeped/policy_accom.htm (accessed July 2010).

California Department of Transportation (Caltrans) Complete Streets Policy:

The *California Department of Transportation Deputy Directive 64-Revision #1: 'Complete Streets: Integrating the Transportation System'* (DD-64-R1) was released on October 2, 2008. DD-64-R1 directs Caltrans staff to support increased mobility and access for all Californians on Caltrans built and maintained roads.

DD-64-R1 states that Caltrans will:

- "Provide for the needs of travelers of all ages and abilities in all planning, programming, design construction, operations, and maintenance activities and products on the State Highway System;
- View transportation improvements (new and retrofit) as opportunities to improve safety, access, and mobility for all travelers and recognizes bicycle, pedestrian, and transit modes as integral elements of the transportation system;
- Develop integrated multimodal projects in balance with community goals, plans, and values; addressing the safety and mobility needs of bicyclists, pedestrians and transit users in all projects, regardless of funding;
- Facilitate bicycle, pedestrian, and transit travel by creating 'complete streets' beginning early in system planning and continuing through project delivery and maintenance and operations; and,
- Collaborate among all (Caltrans) department functional units and stakeholders to develop a network of complete streets." [4]

DD-64-R1 is limited to Caltrans owned and maintained streets, roads, and highways and focuses on the planning, construction, and maintenance of complete streets and when possible, on the creation of multimodal networks. The goals of DD-64-R1 provide important guidance for the design of streets that make up a local integrated multimodal transportation network.

Caltrans' *Complete Streets Implementation Action Plan* and other information on Caltrans' complete street policies can be found at the following website:

http://www.dot.ca.gov/hq/tpp/offices/ocp/complete_streets.html

Safe Routes to School:

In 2005 the United States Congress passed the Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users Act (SAFETEA-LU). This transportation reauthorization bill included funding for the Federal Safe Routes to School (SRTS) program. The objective of the SRTS program is to support the use of safe, active transportation modes (i.e. walking and bicycling) for children to and

4 California Department of Transportation, *Deputy Directive 64-R1*, (2008) http://www.dot.ca.gov/hq/tpp/offices/ ocp/complete_streets_files/dd_64_r1_signed.pdf (accessed June 2010).

from schools. The availability of active transportation modes can increase children's activity levels and decrease the likelihood of childhood diseases. This is especially important as childhood obesity rates and other illnesses related to inactivity are rapidly increasing both nationally and throughout California. [5]

The SRTS program is administered by the Federal Highway Administration, which distributes program funds to individual State Departments of Transportation. In California, Caltrans distributes the federal grant funding to eligible cities and counties for local SRTS projects. In addition, Caltrans administers its own Safe Routes to School program, known as SR2S, which includes high schools. The federal program opens eligibility only for K-8 schools. Funds for both programs are available on a competitive basis, with each Caltrans District having a fixed amount available for cities and counties.

Federal and State funding criteria vary slightly, but typically funds are allocated for:

(1) "The planning, design, and construction of infrastructure-related projects within approximately two miles of a primary or middle school (high schools per Caltrans funding) that will improve the ability of students to walk and bicycle to school;

(2) Non infrastructure-related activities that encourage walking and bicycling to school, including awareness campaigns and outreach to the press and community leaders, traffic education and enforcement, student training; and,

(3) SRTS program capacity building including training and hiring of state program volunteers, and managers." [6]

Eligible projects can include pedestrian facilities, traffic calming, traffic control devices, bicycle facilities, and public outreach and education.

Schools are an important node to include in the development of a local multimodal transportation network. Local multimodal transportation networks should address the needs of parents and children by providing safe active transportation options to and from schools. Doing so can reduce vehicle trips, reduce congestion, and improve road safety near schools, and increase children's activity rates. While the general plan itself is not eligible for funding, Safe Routes to School programs can help implement part of a connected, safe multimodal transportation network.

Additional information on SRTS and SR2S can be found at the following web sites:

http://www.saferoutesinfo.org
http://www.dot.ca.gov/hq/LocalPrograms/saferoutes/saferoutes.htm.

5 California Department of Health Services, *Prevalence of Obesity and Healthy Weight in California Counties, 2001*, June 2004 http://www.cdph.ca.gov/pubsforms/Pubs/OHIRobesityweightCA2001.pdf (accessed December 1, 2010).
6 Safe Routes to School, *Safe Routes to School Guide*, http://www.saferoutesinfo.org/guide/index.cfm (accessed August 2010).

MULTIMODAL TRANSPORTATION NETWORKS

What are Multimodal Transportation Networks?

Multimodal transportation networks allow for all modes of travel including walking, bicycling, and transit to be used to reach key destinations in a community and region safely and directly. Jurisdictions can use complete streets design to construct networks of safe streets that are accessible to all modes and all users no matter their age or ability. Complete streets are defined below:

The National Complete Streets Coalition defines complete streets as follows:

> Complete streets are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a complete street.
>
> Creating complete streets means transportation agencies must change their orientation toward building primarily for cars. Instituting a complete streets policy ensures that transportation agencies routinely design and operate the entire right of way to enable safe access for all users. [7]

The American Planning Association describes complete streets as follows:

> Complete streets serve everyone – pedestrians, bicyclists, transit riders, and drivers – and they take into account the needs of people with disabilities, older people, and children. The complete streets movement seeks to change the way transportation agencies and communities approach every street project and ensure safety, convenience, and accessibility for all. [8]

Caltrans defines complete streets as follows:

> A transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit vehicles, truckers, and motorists, appropriate to the function and context of the facility. Complete street concepts apply to rural, suburban, and urban areas.[9]

7 National Complete Streets Coalition, www.completestreets.org (accessed July 2010).
8 Barbara McCann and Suzanne Rynne, *Complete Streets: Best Policy and Implementation Practices*, American Planning Association, Report No. 559:1.
9 California Department of Transportation, *Complete Streets Implementation Action Plan*, Feb. 2010 http://www.dot.ca.gov/hq/tpp/offices/ocp/complete_streets_files/CompleteStreets_IP03-10-10.pdf (accessed July 2010).

POTENTIAL BENEFITS OF MULTIMODAL TRANSPORTATION NETWORKS

Safety

Multimodal transportation networks, using complete streets best practices, can lead to safer travel for all roadway users. Designing streets and travel routes that consider safe travel for all modes can reduce the occurrence and severity of vehicular collisions with pedestrian and bicyclists.[10] Streets and other transportation facility design considerations that accommodate a variety of modes and user abilities can contribute to a safer environment that makes all modes of travel more appealing.

Health

Multimodal transportation networks that allow people to walk or bicycle as a viable transportation option can promote an active lifestyle by encouraging travelers to walk or ride bicycles instead of driving. These active transportation modes increase physical activity rates. Frequent exercise is known to reduce obesity rates and lower the risk of heart disease and diabetes.[11] A comprehensive transportation network that allows safe walking and bicycling to multiple destinations, including transit, promotes better health.

Reducing the amount that people drive by increasing the opportunity for walking, bicycling, and transit also reduces vehicle emissions. Emissions from vehicles are a major contributor to poor air quality, which in turn, is a major contributor to health ailments such as asthma. Although poor air quality is not always the cause of asthma, vehicle emissions are a major contributor to asthma related illnesses.[12]

Multimodal transportation networks provide options and increase mobility for people who cannot or do not drive to stay connected to their communities. This is especially important for people with disabilities and for all people as they age. Without alternatives to the automobile, these individuals can easily become socially isolated; unable to access essential resources such as grocery stores, houses of worship, and medical care. Social isolation and a lack of access to essential resources can negatively impact people's physical and mental well-being.

Greenhouse Gas (GHG) Emission Reduction

Land use patterns and the existing transportation infrastructure play a direct role in the rate and growth of vehicle miles traveled (VMT); influencing the distance that people travel and the mode of travel they choose. The need to reduce transportation-related GHG emissions was highlighted in the

10 California Department of Transportation, *Complete Streets Implementation Action Plan*.
11 California Department of Public Health, *The Burden of Cardiovascular Disease in California, A Report of the California Heart Disease and Stroke Prevention Program*, 2007 http://www.cdph.ca.gov/programs/cvd/ Documents/CHDSP-BurdenReport-HighRes.pdf (accessed June 2010).
12 California Department of Health Services, *The Burden of Asthma in California: A Surveillance Report*, 2007 http://www.californiabreathing.org/images/stories/publications/asthmaburdenreport.pdf (accessed June 2010).

California Air Resources Board's (CARB) *2008 AB 32 Climate Change Scoping Plan*.[13] Transportation accounts for 38 percent of California's GHG emissions.[14] Studies show that even with aggressive state and federal vehicle efficiency standards and the use of alternative fuels, meeting the State's GHG reduction goals will require a reduction in how much the average Californian drives.[15] Reducing the number of automobile trips can reduce fuel consumption and GHG emissions.

Economic Development and Cost Savings

Creating multimodal transportation networks can improve economic conditions for both business owners and residents. A network of complete streets can be safer and more appealing to residents and visitors, which can benefit retail and commercial development. Multimodal transportation networks can improve conditions for existing businesses by helping revitalize an area and attracting new economic activity. Integrating the needs of all users can also be cost-effective, by reducing public and private costs. Accommodating all modes reduces the need for larger infrastructure projects, such as additional vehicle parking and road widening, which can be more costly than complete streets retrofits.

REGIONAL PLANNING

Assembly Bill 32 and Senate Bill 375

The Legislature passed Assembly Bill 32 (AB 32), The Global Warming Solutions Act of 2006.[16] AB 32 requires the State of California to reduce its GHG emissions to 1990 levels no later than 2020. Senate Bill 375 (SB 375) builds on the existing regional transportation planning process undertaken by the state's 18 Metropolitan Planning Organizations (MPOs) to connect the reduction of GHG emissions from cars and light trucks to regional land use and infrastructure planning.[17] According to the California Air Resources Board (CARB), passenger vehicles are the number one emitter of GHG emissions in California.[18] SB 375 asserts that "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32."[19]

---

13 California Air Resources Board, *AB 32 Climate Change Scoping Plan*, (2008): http://www.arb.ca.gov/cc/scopingplan/ document/scopingplandocument.htm (accessed September 2010).
14 California Climate Change Portal, "Greenhouse Gas Emissions Inventory," 2004 http://www.climatechange.ca.gov/inventory/index.html (accessed June 2010).
15 California Air Resources Board, *AB 32 Climate Change Scoping Plan*.
16 Assembly Bill 32, Chapter 488, Statutes 2006.
17 Senate Bill 375, Section 1(c), 2008.
18 California Air Resources Board, *California Greenhouse Gas Inventory for 2000-2008- by Category as Defined in the Scoping Plan*, (May 2010): http://www.arb.ca.gov/cc/inventory/data/tables/ghg_inventory_scopingplan_00-08_2010-05-12.pdf (accessed September 2010).
19 Senate Bill 375, Section 1(c), 2008.

The main objectives of SB 375 are:

(1) To use the regional transportation planning process to direct funding to transportation projects that reduce GHG emissions by coordinating land use and transportation planning;

(2) To use the California Environmental Quality Act (CEQA) streamlining as an incentive to encourage residential development projects which help achieve AB 32 GHG emission reduction goals; and,

(3) To coordinate the state's requirements for regional housing development and planning with the regional transportation planning process.

Regional Transportation Plans (RTPs)

Each regional transportation planning agency, including federally recognized MPOs and state recognized Regional Transportation Planning Agencies (RTPAs), is required to prepare and adopt a RTP. The RTP's goal is to achieve a coordinated and balanced regional transportation system. The plan should consider all transportation systems, as well as their users and associated facilities and services including, but not limited to: mass transit, highways, railroads, bicycle, walking, goods movement, maritime, and aviation. The plan is meant to be action-oriented and pragmatic and to consider both short-term and long-term system issues. An RTP establishes the region's priorities for funding transportation infrastructure projects and other transportation programs.

The *2010 Regional Transportation Plan Guidelines* (RTP Guidelines) approved by the California Transportation Commission and prepared by Caltrans, summarizes RTP requirements in both federal and state law. State law directs the RTP to "present clear, concise policy guidance to local and state officials" and to "consider and incorporate, as appropriate, the transportation plans of cities, counties, districts, private organizations, and state and federal agencies"[20] A RTP must be consistent with the *RTP Guidelines*.

Although it is not legislatively required, the *RTP Guidelines* suggest that MPOs and RTPAs include local multimodal transportation policies in their plans. The *RTP Guidelines* recommend that regional transportation agencies integrate multimodal transportation network policies into their RTPs, identify the financial resources necessary to accommodate such policies, and consider accelerating programming for projects that retrofit existing roads to provide safe and convenient travel by all users. The guidelines also encourage MPOs and RTPAs to work with jurisdictions and agencies within their region to ensure that general plan circulation elements and local street and road standards include the necessary planning, design, construction, operations, and maintenance procedures, to support all transportation system users.[21]

20 California Government Code §65080(a).
21 California Transportation Commission, 2010 *California Regional Transportation Plan Guidelines*, (April 2010): http://www.catc.ca.gov/programs/rtp/2010_RTP_Guidelines.pdf (accessed September 2010).

Federal transportation law emphasizes the need for the coordination of regional and local plans by requiring a RTP to be based on the most recent local planning assumptions including local general plans and other relevant factors. Any decisions about the allocation of transportation funds must be consistent with the RTP."[22]

Sustainable Communities Strategy

SB 375 requires each of the state's 18 MPOs to include a Sustainable Communities Strategy (SCS) in its RTP. RTPAs are not required to develop a SCS as part of their RTP. SB 375 also directs CARB, in consultation with MPOs, to develop regional GHG emission reduction targets for each MPO. MPO's must develop a SCS as part of its RTP that explains what feasible land use patterns and transportation system improvements would be necessary to meet CARB targets. An SCS must be adopted whether or not it meets CARB targets; however, if an MPO cannot meet these targets through its SCS, it must develop an alternative plan called an Alternative Planning Strategy (APS). An APS is not required to be part of the RTP and therefore does not impact RTP transportation funding decisions.

The SCS is expected to set forth a growth strategy that integrates land use, regional housing needs allocations, and the region's transportation infrastructure plan consistent with the goal of meeting CARB's regional GHG reduction targets. The SCS does not supersede a local general plan, specific plan, or zoning ordinance. SB 375 does not require that a local general plan, specific plan, or zoning ordinance be consistent with an SCS. However, a RTP must be internally consistent, so regional transportation funding and policy decisions need to be consistent with the SCS.

An SCS should perform the following tasks:

- Identify the general location of uses, residential densities, and building intensities within the region;
- Identify areas within the region sufficient to house all economic segments of the regional population, taking into account migration patterns, population growth, etc.;
- Identify areas within the region sufficient to house an eight-year projection of the regional housing need;
- Identify a transportation network to service the transportation needs of the region;
- Gather and consider the best available scientific information regarding the region's resource areas and farmland;
- When feasible, forecast a development pattern for the region, which when integrated with the transportation network, and other transportation

22 Part 450 of Title 23of, and Part 93 of Title 40 of, the Code of Federal.

measures and policies, reduces GHG emissions from passenger vehicles to achieve, the CARB GHG emissions reduction targets; and,

- Quantify the GHG emissions reduction projected by the SCS. If the SCS does not achieve the SB 375 targets, the SCS must identify the difference between its projected GHG emissions reduction and the CARB identified target for the region.[23]

To see a full description of what is required of an SCS please see G.C §65080(b)(2)(B).

SB 375 requires all regional counties not just MPOs to consider financial incentives for cities and counties that have resource areas or farmland, for the purpose of transportation investments. Such considerations include, but are not limited to:

- The preservation and safety of the city street or county road system;
- Farm-to-market transportation needs; and,
- Interconnectivity transportation needs.

Farm-to-market refers to the transportation facilities needed to provide connections between areas of agricultural production, processing, and storage facilities to agricultural distribution and sales activities.

The bill also requires that MPOs or county transportation agencies address financial assistance for counties to address countywide (transportation) service responsibilities, in counties that contribute towards the greenhouse gas emission reduction targets by implementing policies for growth to occur within their cities.

General plans should identify city and county resource areas and/or farmlands. County general plans may also identify policies targeting growth into the incorporated cities or towns within their limits.[24]

By updating general plans to include multimodal transportation network policies, cities and counties can support MPOs in developing an RTP and SCS and reaching regional GHG emission reduction targets. Once an SCS is adopted, establishing multimodal transportation network policies in the general plan that are consistent with the RTP and SCS can potentially increase the likelihood of funding for local priority projects through the RTP process. A city or county whose general plan is consistent with the regional SCS may be better situated to use the CEQA exemption and streamlining included in SB 375. The applicability of the SB 375 CEQA exemption is the sole realm of the city and county, MPOs cannot require a city or county to use an exemption or streamlining provisions for any particular site or project.

23 California Government Code §65080(b)(2)(B); Part 450 of Title 23 of, and Part 93 of Title 40 of, the Code of Federal.
24 California Government Code §65080(4)(C).

SECTION II: CIRCULATION ELEMENT UPDATE

This section is an update to the *2003 General Plan Guidelines* section on the circulation element (Chapter 4, pages 55-61). This amended and reformatted section of the *Guidelines* contains new information related to goals, policies, data collection, and implementation measures that will assist local governments in modifying the circulation element to plan for a balanced multimodal transportation network and the safe and convenient travel of all users of streets, roads, and highways.

CIRCULATION ELEMENT

The circulation element is not limited to transportation network issues. For the purpose of the circulation element, circulation includes all systems that move people, goods, energy, water, sewage, storm drainage, and communications. As a result, the circulation element should contain objectives, policies, and standards for transportation systems, including multimodal transportation networks, airports and ports, military facilities and operations, and utilities.

By statute, the circulation element must correlate directly with the land use element.[25] Land use patterns can have a significant impact on the effectiveness of a multimodal transportation network, since trip distance is a determinant of whether pedestrians and bicyclists, as well as transit users walking or bicycling to and from terminals, can reach a given destination. The land use plan and transportation network should be complementary. The close proximity of land uses can also facilitate effective transportation services and provide the ridership necessary to support high quality mass transit. Multimodal transportation policies should link transportation planning and land use planning to support effective multimodal transportation networks that connect people with desired destinations. This means that although AB 1358 only requires cities and counties to modify the circulation element to plan for a balanced, multimodal transportation network, jurisdictions will need to examine, and amend as necessary, the land use element. Jurisdictions should also consider the housing, open space, noise, conservation, and safety elements.

A key factor in creating a successful multimodal transportation network is making sure the planning objectives, policies, and standards reflect the rural, suburban, and/or urban context of a community within the planning area. Rural, suburban, and urban areas have different growth and development patterns and therefore face different opportunities and challenges when designing a multimodal transportation network.

A rural jurisdiction may require wide shoulders to accommodate pedestrian, bicycle, or equestrian travel. A jurisdiction with an suburban or urban context may accommodate

25 California Government Code §65302(b)(1).

pedestrian and bicycle travel with the inclusion of sidewalks and bicycle lanes along with controlled street crossings. Rural and suburban areas where there are greater distances between destinations may consider benches, covered resting areas, and other facilities that allow for people to successfully walk or ride a bicycle to frequently visited destinations. Jurisdictions that include all or a combination of rural, suburban, or urban areas should consider different policies, standards, and implementation measures specific for those areas when modifying the circulation element to plan for a well-balanced multimodal transportation network. When considering context issues such as needs of all users, needs of the community, traffic demand, impacts on alternate routes, impacts on safety, funding feasibility, and maintenance feasibility; relevant laws and regulations should be addressed.

The provisions of a circulation element can affect a community's environment as follows:

Physical—The circulation system is one of the chief determinants of physical settlement patterns and the system's location, design, accessibility, and mode varieties have major impacts on air, water, and soil quality, plant and animal habitats, environmental noise, energy use, community appearance, and the placement of land uses.

Social—The circulation system is a primary determinant of the pattern of human settlement. It has a major impact on the areas and activities it serves because of its potential to both provide accessibility and act as a barrier. The circulation system should be accessible to all segments of the population, including the disadvantaged, the young, the poor, the elderly, and the disabled. Transportation systems and facilities should not serve as barriers to community resources.

Health and Safety—The circulation system through design and accessibility of multiple modes of transportation can either promote or deter physical activity. Physical inactivity is linked to such health ailments as heart disease, diabetes, and obesity. The availability of multiple modes can also reduce automobile use and air pollution, reducing other negative health impacts. Circulation design can also influence travel safety by increasing or decreasing vehicle collision risks.

Economic—Economic activities normally require circulation of materials, products, ideas, and employees, so the efficiency of a community's circulation system has a direct effect on its economic productivity. The efficiency of a community's circulation system can either contribute to or adversely affect its economy and economic sustainability.

CIRCULATION ELEMENT CHECKLIST

The following is a checklist of statutory requirements for a general plan circulation element.

Requirements	*Statute*	*Check*
The general plan requires the inclusion of a circulation element.	*§65302(b)*	
A circulation element shall consist of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, any military airports and ports, and other local public utilities and facilities, all correlated with the land use element of the plan.	*§65302(b)*	
Commencing January 1, 2011, upon any substantive revision of the circulation element, the legislative body shall modify the circulation element to plan for a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the general plan.	*§65302(b)(2)(A)*	

MANDATORY CIRCULATION ELEMENT ISSUES

The circulation element shall contain objectives, policies, principles, plan proposals, and/or standards for planning the infrastructure to support the circulation of people, goods, energy, water, sewage, storm drainage, and communications. Mandatory circulation element issues as defined in statute include: major thoroughfares, transportation routes, terminals, any military airports and ports, and other local public utilities and facilities.[26] Additionally, the statute requires the circulation element be modified to plan for a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways. The statute defines "all users of streets, roads, and highways" as "bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation, and seniors."[27] Transportation networks should additionally consider pedestrian, bicycle, and transit routes, which may not always be located on or along streets, roads, and highways.

Circulation elements shall also take into consideration the provision of safe and convenient travel that is suitable to the rural, suburban, or urban context of a local jurisdictions general plan. This could include policies and implementation measures

26 California Government Code §65302(b).
27 California Government Code §65302(b)(2)(A).

for both retrofitting and developing streets to serve multiple modes and the development of multimodal transportation network design standards based on street types.

In addressing these mandatory issues, cities and counties may wish to consider the following:

No city or county can ignore its regional setting. Local planning agencies should coordinate their circulation element provisions with applicable state and regional transportation plans.[28] In addition, funding for new infrastructure and the maintenance of existing infrastructure can benefit from a regional approach. Likewise, the state must coordinate its plans with those of local governments.[29] The federal government is under similar obligations.[30]

Caltrans is particularly interested in the transportation planning roles of local general plans and suggests that the following areas should be considered:

- Coordination of planning efforts between local agencies and Caltrans districts;
- Preservation of transportation corridors for future multimodal system improvements;
- Development of coordinated transportation system management plans that include multimodal and transportation system demand strategies to achieve the optimal use of present and proposed infrastructure; and,
- Identification of complete streets and multimodal improvements on state highway routes.

These areas of emphasis are addressed through Caltrans' Intergovernmental Review (IGR), Regional Planning, and System Planning programs.[31] Caltrans goal is to resolve transportation problems early enough in the planning process so as to avoid costly delays to development. Coordinating state and local transportation planning is a key to the success of a circulation element.

28 California Government Code §65103(f) and §65080.
29 California Government Code §65080(a).
30 Title 23 USC 134.
31 California Department of Transportation, *Local Development-Intergovernmental Review (LD-IGR)*, (2007): http://www. dot.ca. gov/hq/tpp/offices/ocp/igr_ceqa.html (accessed September 2010).

POSSIBLE POLICY AREAS AND DATA COLLECTION TECHNIQUE CONSIDERATIONS

The following suggestions are examples of possible policy areas and data collection technique considerations that could be used to prepare or amend a circulation element. Suggestions are generally categorized based on the statutorily required portions of the circulation element as described in G.C. 65302(b). Not all of these suggestions will be relevant in every jurisdiction. Suggestions pertaining to multimodal transportation networks (i.e. complete streets) are marked with a ‡.

Major Thoroughfares

Streets, Roads, and Highways

Policies and data collection for streets, roads, highways should include the consideration of transit services within a roadway right-of-way, in either mixed flow lanes, high occupancy vehicle (HOV) lanes, and/or street-running light rail tracks.

Possible Policy Areas:

- The availability of a mix of transportation modes and the infrastructure to support those modes to meet community needs. ‡
- The development and improvement of major thoroughfares, including future acquisitions and dedications, based on proposed land use patterns and projected demand. This may include a street, road, and highway classification system.
- The consideration of street patterns; curvilinear, grid, modified grid, etc. ‡
- The design of streets (including, but not limited to, width, block size, etc.)
    - The consideration of sidewalks and curbs as a standard street design principle. ‡
    - The consideration of bicycle lanes and/or shared lanes as a standard street design principle. ‡
    - The consideration of transit accessibility and transit priority measures as a standard street design principle. ‡
    - The consideration of shade trees and planting strips as a standards street design principle. ‡
- The consideration of traffic calming measures (narrower travel lanes, roundabouts, raised medians, speed tables, planting strips, etc.). ‡
- The safety of the traveling public, including pedestrians and bicyclists. ‡
- The accessibility and accommodation of bicycle and pedestrian traffic, where appropriate, on and across major thoroughfares. ‡

- The design of intersections and public right-of-ways to include adequate and safe access for all users including pedestrians, bicyclists, and motorists of all ages and abilities. ‡
- The development of a connected system of streets, roads, and highways that provides continuous, safe, and convenient travel for all users. ‡
- The consideration of separate performance and level-of-service standards for bicycle and pedestrian traffic or integrated performance and level-of-service standards that include multiple modes. ‡
- The development and improvement of transit, including transit services within a roadway right-of-way.
- The consideration of bus HOV lanes or other exclusive right-of-way for transit vehicles.
- The consideration of transit priority measures such as single priority and queue jump lanes.

Data Collection Techniques:

- Identify existing and proposed modes of transportation. ‡
- Assess all thoroughfares to determine if they are providing sufficient multimodal transportation options. ‡
- Assess the number and distribution of households with and without an automobile. ‡
- Assess the transportation needs of special groups within the population and the extent to which such needs are being met by existing streets, roads, and highways. (e.g., children, persons with disabilities, and the elderly). ‡
- Project future modal split by estimating the percentage of trips by transit, passenger car, van pools, etc.
- Assess the adequacy of the existing streets, roads, and highway systems and the need for expansion, improvements, and/or transportation operations management based on projected traffic including that generated by planned land use changes. Consider that the need for expansion should recognize economic principles such as cost effectiveness and efficiency as well as environmental and social consequences. ‡
- Analyze existing street, road, and highway traffic conditions for all transportation modes to determine current levels of use throughout the entire day. Assess whether existing travel demand or transportation network supply could be better managed to limit the need for expansion of streets, roads, and highways. ‡
- Analyze existing performance and levels of service of existing streets, roads, and highways for all transportation modes. Compare projected with desired performance and level of service standards for all transportation modes. ‡
- Project future traffic volumes for all modes on existing and planned streets, roads, and highways by accounting for the effects of changes in the following built environment characteristics: ‡
    - Density of land uses;
    - Diversity of land uses;

    - Design of network;
    - Destinations (regional accessibility);
    - Distance to transit;
    - Demographics;
    - Development scale; and,
    - Demand management (i.e. pricing, etc.)
- Determine the effects of projected traffic volumes for all transportation modes on existing street, road, and highway capacities. ‡
- Identify physical barriers and other constraints that prevent or inhibit use or access by all modes. ‡
- Analyze historical data and trends with regard to collisions involving all modes of travel. ‡
- Review the CA Highway Patrol's Statewide Integral Traffic Record System to identify areas where safety could be addressed. ‡
- Identify problem locations by analyzing injury severity and determining collision frequency relative to exposure by conducting motor vehicle, pedestrian, and bicycle counts. ‡
- Review traffic projects pertinent to local planning that are proposed within neighboring jurisdictions.
- Review pertinent regional transportation plans and project funding priorities under the regional transportation improvement program.
- Analyze the potential effects of alternative plan proposals and implementation measures (related to transportation and/or land use) on desired projected performance and multimodal levels of service.
- Analyze the potential effects of alternative plan proposals and implementation measures (related to transportation and/or land use) on residential land uses.
- The identification of farm-to-market transportation needs on streets, roads, and highways. ‡

Transit and Railroads

Policies and data collection for transit and railroads should consider both passenger and freight rail, and light rail and bus rapid transit alignments.

Possible Policy Areas:

- The development and improvement of transit and paratransit services, including mass rapid transit services, commuter light rail and heavy rail metro/subway systems, in consultation with the appropriate transportation agencies. ‡

- The accessibility and accommodation of all transit users. ‡
- The review and/or development of paratransit plan proposals for jitneys, car pooling, van pooling, taxi service, dial-a-ride, etc. ‡
- The adoption of technology that creates a more effective usage of existing transit such as real time monitors and personalized automatic notification arrivals. ‡
- The development and improvement of railroad facilities and services.
- The preservation and repositioning of abandoned railroad right-of-ways for future transportation corridor use, including bicycle paths and trails, or new passenger rail or bus services. ‡

Data Collection Techniques:

- Analyze existing public transit demand on transit capacity and services. ‡
- Assess the adequacy of existing transit services and the need for expansion and improvements. ‡
- Examine trends in transit use and estimates of future demand. ‡
- Assess the needs of people who depend on public transit. ‡
- Determine the effects of projected public transit demand on transit capacity and services. ‡
- Determine existing and projected performance and levels-of-service standards for transit. ‡
- Evaluate the transportation needs that are or are not being met by public or private bus companies. ‡
- Examine private bus company plans to provide bus services in the future. ‡
- Inventory existing paratransit services, uses, and routes. ‡
- Inventory the existing and future needs served by paratransit. ‡
- Inventory rail lines and facilities and assess plans for expansion and improvements.
- Determine transportation needs that are not being met by railroads.
- Identify abandoned railroad right of ways which could be preserved for future transportation corridor use, including bicycle paths and trails, or new passenger rail or bus service. ‡
- The identification of farm-to-market transportation needs for rail services. ‡

Navigable Waterways

Possible Policy Areas:

- The maintenance and improvement of navigable waterways.

Data Collection Techniques:

- Assess the adequacy of navigable waterways, including the need for expansion and improvements.

- Assess current and future land uses and communities near navigable waterways, ports, and harbors.
- Project future needs for navigable waterways.
- The identification of farm-to-market transportation needs on navigable waterways and at ports and harbors. ‡

Transportation Operations Management

Possible Policy Areas:

- The development of transportation operations management policies, such as the consideration of reducing speeds, separating pedestrians and bicyclists from vehicle traffic, and adding or upgrading traffic control devices, etc. ‡
- The provision of adequate crossing times and detection for all users at signalized intersections, consistent with AB 1581 (Fuller, Statutes of 2007). ‡
- The appropriate balancing of needs of various users when establishing speed limits for motor vehicles, consistent with AB 2767 (Jackson, Statutes of 2000). ‡
- The scheduling and financing of circulation operations maintenance projects.

Data Collection Techniques:

- Review pertinent regional, state, and federal corridor plans.
- Analyze the projected effects on the transportation system of construction improvements versus the projected effects of transportation operation management.
- Compare the costs of construction improvements versus the costs of transportation operation management.

Transportation Routes

Truck Routes

Possible Policy Areas:

- The development of proposed truck routes and policies supporting truck route regulations. ‡
- The development and preservation of farm-to-market routes. ‡
- The accessibility and accommodation of pedestrian and bicycle traffic, where appropriate, on truck routes, including farm-to-market routes. ‡

Data Collection Techniques:

- Identify existing truck routes and determine needed improvements. ‡
- The identification of farm-to-market routes. ‡

Pedestrian and Bicycle Routes

Possible Policy Areas:

- The development of a comprehensive pedestrian and/or bicycle plan. See California Streets and Highways Codes Sec. 891.2 requirements for bicycle transportation plans. ‡
- The development and improvement of pedestrian and bicycle routes, on and off, streets, roads, and highways. Consider special accommodations such as car-free zones, bicycle boulevards, and paths. ‡
- The connectivity of pedestrian and bicycle routes between homes, job centers, schools and facilities, and other frequently visited destinations. ‡
- The development of Safe Routes to School programs that address pedestrian and bicycle safety for a two mile radius around all elementary, middle, and high school facilities. ‡
- The development of pedestrian and bicycle facilities along routes that support the use of these routes such as benches, shelters, trees, bicycle parking, etc. ‡
- The dedication and preservation of independent alignments (utility, abandoned waterways, or live rail right-of-ways) for the development of bicycle paths. ‡
- The development of performance and level-of-service standards for pedestrian and bicycle routes and intersections. ‡
- The development and use of marketing and incentive programs to promote the increase of walking and bicycling. ‡

Data Collection Techniques:

- Assess the adequacy of existing bicycle and pedestrian route access, accommodations, and the need for improvements or additional infrastructure, considering connectivity to other transportation modes. ‡
- Identify gaps in bicycle and pedestrian access routes and determine how future projects can improve pedestrian and bicycle circulation. ‡
- Assess the adequacy of existing bicycle and pedestrian routes to and from school facilities in regards to the accessibility and safety of children. ‡
- Assess the adequacy of existing pedestrian routes to determine if all routes meet *Americans with Disabilities Act (ADA) Accessibility Guidelines* and applicable ADA Transition Plans. ‡
- Examine trends in bicycle usage. ‡
- Study pedestrian activity and patterns. ‡
- Assess historical data and trends with regard to vehicle, bicycle, and pedestrian collisions. ‡

- Inventory availability and adequacy of bicycle parking at major land use destinations, along transit routes and at transit terminals. ‡

Transit Routes

Possible Policy Areas:

- The development and improvement of public and private transit routes. ‡
- The development and improvement of access to and from transit routes by walking and bicycling and by people with disabilities. ‡
- The development of performance and level-of-service standards for transit routes and intersections that consider all transportation modes. ‡

Data Collection Techniques:

- Assess the adequacy of existing transit routes and the need for expansion or improvements. ‡
- Identify public and private bus routes within the local jurisdiction and determine the need for expansion or improvements. ‡
- Assess the accessibility to transit stops by walking or bicycling and by people of all abilities. ‡

Emergency Routes

Possible Policy Areas:

- The identification, development, and maintenance of evacuation and emergency access routes.

Data Collection Techniques:

- Analyze the adequacy of emergency access and evacuation routes.

Terminals

General and Commercial Airports

Possible Policy Areas:

- The development and improvement of aviation facilities found in Airport Master Plans and/or Airport Layout Plans.
- The consistency of the general plan with the provisions of any applicable Airport Land Use Compatibility Plan (§65302.3).
- The mitigation of aviation-related hazards including hazards to aircraft and hazards posed by aircraft.

- The access to and from aviation facilities by all modes of transportation. ‡
- The inclusion of bicycle parking at airports. ‡

Data Collection Techniques:

- Assess the adequacy of and safety hazards associated with existing aviation facilities and the need for expansion and improvements.
- Inventory potential noise and safety hazards posed by airport activities to surrounding land uses.
- Inventory potential safety hazards to aircraft passengers posed by existing or proposed land uses near airports.
- Assess the provisions of any Airport Land Use Compatibility Plan prepared pursuant to Public Utilities Code §21675.
- Assess the adequacy of access by all transportation modes to and from airports, based on existing and projected passenger and cargo loads. ‡

Ports and Harbors

Policies and data collection for ports and harbors should consider the needs of both deep-draft and small boats.

Possible Policy Areas:

- The development and improvement of port, harbor, and waterway facilities.
- The provision of the movement of goods to and from ports and harbors. ‡
- The accessibility to and from ports and harbors by all modes of transportation. ‡

Data Collection Techniques:

- Assess the adequacy and accessibility of port and harbor facilities, by all modes of transportation, including the need for expansion and improvements. ‡
- Assess the adequacy and accessibility of goods movement to and from ports and harbors. ‡
- Assess current and future land uses and communities near ports and harbors.
- Project future needs for port and harbor facilities.
- Review plans for improvements by harbor and port districts.

Railroad Depots

Possible Policy Areas:

- The development and improvement of railroad depots.
- The provision of the movement of goods to and from railroad depots. ‡

Data Collection Techniques:

- Assess the adequacy of existing railroad depots including the need for expansion or improvements.
- Assess the adequacy and accessibility of goods movement to and from railroad depots. ‡

Public and Private Transit Terminals

Policies and data collection for both public and private transit terminals should consider public or private buses, light rail systems, rapid transit systems, commuter railroads, high-speed rail, ferryboats, etc.

Possible Policy Areas:

- The location and characteristics of transit terminals to maximize accessibility by all modes of transportation. ‡
- The development and improvement of both public and private transit terminals and stops. ‡
- The development of intermodal transfer facilities, such as bicycle parking and bus transfer stations. ‡
- The provision of adequate and safe transit facilities including covered shelters, lighting, safe crossings, and locations that support eyes on the street. ‡
- The provision of safe and efficient multimodal access to and within transit terminals, complying with ADA standards. ‡

Data Collection Techniques:

- Identify all public transit terminals. ‡
- Assess the adequacy and accessibility of all public transit terminals. Ensure that all terminals are accessible by and accommodate for all potential users. ‡
- Evaluate public and private bus company terminal services and facilities; conditions, locations, and capital improvement plans. ‡
- Identify transportation nodes suitable for future transit-oriented development, including passenger rail. ‡
- Inventory and assess the need for bicycle parking improvements at all terminal types. ‡

Freight Truck Terminals and Warehouses

Possible Policy Areas:

- The development and improvements of freight trucking terminals and warehouses. ‡

- The provision of the movement of goods to and from freight truck terminals and warehouses.‡
- The provision of the movement of goods from farms to storage facilities. ‡

Data Collection Techniques:

- Project future needs for future freight trucking terminals and warehouses. ‡
- Assess the adequacy and accessibility of goods movement to and from freight truck terminals and warehouses. ‡
- Assess the adequacy and accessibility of goods movement from farms to storage facilities. ‡

Military Facilities

Policies and data collection for military facilities should consider military airports, ports and harbors, and accessible routes to and from military operations.

Possible Policy Areas:

- The inclusion of all military transportation thoroughfares and infrastructure in the planning area as part of the overall circulation system.
- The consideration of the needs of military installations and training needs when planning transportation and infrastructure projects.
- The reassurance that community and military transportation corridors maintain viability.
- The consideration of all military terminals including airports, ports, and harbors.

Data Collection Techniques:

- Consult with neighboring military planners to ensure that military installations, infrastructure, and training activities are considered in the circulation system.
- Assess major streets, roads, and highways near or surrounding all military facilities, including the need for development and maintenance of adequate ingress and egress routes.
- Assess all military terminals in the same manner as general and commercial terminals.

Utilities

Policies and data collection for utilities should consider sewer, water and drainage lines and facilities, oil and natural gas pipelines, power plants, transmission lines and corridors, proposed or state identified transmission line corridors, renewable and non-renewable energy, and energy storage.

Possible Policy Areas:

- The acquisition of necessary public utility right-of-ways.
- The development of standards for transportation and utility-related exactions.
- The development, improvement, timing, and location of community sewer, water, and drainage lines and facilities.

- The development, improvement, timing, and current and future locations of:
  - Oil and natural gas pipelines;
  - Power plants;
  - Major electric transmission lines and corridors;
  - Utility scaled and distributed energy generation; and,
  - Telecommunication cables and equipment.
- The development of preferences for financing measures to expand and improve public facilities.
- The availability of assistance to those who cannot afford utility services.

Data Collection Techniques:

- Assess the adequacy and availability of existing community water, sewer, energy, and drainage facilities, and the need for expansion and improvements.
- Assess existing and projected capacity of treatment plants and trunk lines.
- Determine the location of existing and proposed power plants, oil and gas pipelines, and major electric transmission lines and corridors.
- Assess potential future development of power plants, transmission lines, and renewable and non renewable energy. Consider such factors as the demand for transmission facilities, the transport and storage of hazardous materials, and local transportation impacts of current and future power plant developments.
- Assess power line or other utility easements for future bicycle paths or multipurpose paths. ‡
- Determine the locations of utility infrastructure that may be blocking the pedestrian right-of-way such as utility poles. ‡
- Determine the locations of utility infrastructure that may create hazardous conditions for bicyclists. ‡

Other Issues

<u>Land Uses and Transportation Integration</u>

Possible Policy Areas:

- The development of transit-oriented development standards, including the appropriate mix of density and intensity of land uses near transit stations, parking requirements, and service and delivery requirements. ‡
- The creation of land use patterns, such as mixed-use overlay districts, that allow frequently visited destinations to be accessible by multiple transportation modes. ‡

- The availability of transportation infrastructure needed to accommodate increased density and transit-oriented development. ‡
- The consideration of flexible performance and level-of-service standards, in areas planned for increased density and mixed uses to increase walking, bicycling, and transit ridership. ‡

Data Collection Techniques:

- Assess needed land uses, facilities, and structures that will enhance pedestrian, bicycle, and transit travel. ‡

Parking Facilities

Possible Policy Areas:

- The provision of bicycle parking. ‡
- The development of strategies for the control of parking demand such as improved transit services, amenities for bicyclists, subsidized rideshare vehicles, and the consideration of eliminating minimum parking requirements. ‡
- The development of strategies for the management of vehicle parking supply such as increased parking fees, graduated parking fees, shared parking, metered on-street parking, staggered work schedules, etc.

Data Collection Techniques:

- Assess the supply, demand, and utilization of existing on- and off-street parking, particularly in urban and commercial areas.
- Assess the effects of parking policies (i.e. off-street parking standards, on-street parking restrictions, graduated parking fees, etc.) on congestion, energy use, air quality, and public transit ridership. ‡
- Assess the need for and types of bicycle parking. ‡
- Analyze existing bicycle parking standards or requirements including parking requirements for commercial buildings, retail complexes, schools, etc. ‡

Air Pollution

Possible Policy Areas:

- The development of measures that would reduce public, private, and commercial motor vehicle emissions, consistent with regional air quality and transportation plan policies. ‡

Data Collection Techniques:

- Assess existing air quality pursuant to air quality district plans.
- Analyze air quality trends.
- Estimate air quality impacts of motor vehicle trips generated by land use changes and new thoroughfares based on regional air quality and transportation plans.

- Identify and evaluate measures that will reduce the air quality impacts of motor vehicle trips that are consistent with regional air quality and transportation plans.

Electric and Non-Carbon Emitting Vehicles

Possible Policy Areas:

- The development of infrastructure implementation strategies focused on supporting the use of electric and other non-carbon emitting vehicles.

Data Collection Techniques:

- Analyze the demand for electric and non-carbon emitting supportive infrastructure along streets, roads, and highways.

Green Streets

Possible Policy Areas:

- The development of shade trees, green medians, and landscape standards for streets, roads, highways, and pedestrian and bicycle paths and trails. ‡
- The inclusion of trees, planting strips, and other landscaping as a street design standard. ‡

Data Collection Techniques:

- Assess current tree canopy conditions on existing streets, roads, and highways, as well as at existing transit terminals. ‡
- Assess future tree canopy conditions for proposed future streets, roads, and highways, as well as at proposed future transit terminal sites. ‡
- Assess the adequacy of budgets for maintaining shade trees and related landscaping along streets and paths. ‡

TECHNICAL ASSISTANCE

USEFUL DEFINITIONS

Air Installation Compatible Use Zone (AICUZ): A land use compatibility plan prepared by the U.S. Department of Defense for military airfields. AICUZ plans serve as recommendations to local government bodies having jurisdiction over land uses surrounding these facilities.

Airport: An area of land or water that is used or intended to be used for the landing and taking off of aircraft, and includes its building and facilities, if any.

Airport Land Use Compatibility Plan: A plan adopted by an Airport Land Use Commission, which sets forth policies for promoting compatibility between airports and the land uses which surround them.

All Users: Users of streets roads and highways including bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, users of public transportation and seniors.[32]

Arterial: A major street carrying the traffic of local and collector streets to and from freeways and other major streets, with controlled intersections and generally providing direct access to properties.

Bicycle Boulevard: The Bicycle Boulevard Design Guidebook defines a Bicycle Boulevard as "low-volume and low-speed streets that have been optimized for bicycle travel through treatments such as traffic calming and traffic reductions, signage and pavement markings, and intersection crossing treatments.

Bicycle Lane: According to Caltrans' Highway Design Manual, Chapter 1000, a bicycle lane is a Class II Bikeway and provides a striped lane for one-way bicycle travel on a street or highway,

Bicycle Path: According to Caltrans' Highway Design Manual, Chapter 1000, a bicycle path is a Class I Bikeway and provides a completely separated right of way for the exclusive use of bicycles and pedestrians with cross flow by motorists is minimized.

Bus Rapid Transit (BRT): The Federal Transit Administration defines BRT as a "combination of facility, systems, and vehicle investments that convert conventional bus services into a fixed-facility transit service, greatly increasing their efficiency and effectiveness to the end user."

Collector: A street for traffic moving between arterial and local streets, generally providing direct access to properties.

32 California Government Code §65302(b)(2)(B).

Complete Street: The National Complete Streets Coalition defines complete streets as follows:

> Complete streets are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a complete street.
>
> Creating complete streets means transportation agencies must change their orientation toward building primarily for cars. Instituting a complete streets policy ensures that transportation agencies routinely design and operate the entire right of way to enable safe access for all users.

The American Planning Association (APA) describes complete streets as follows:

> Complete streets serve everyone – pedestrians, bicyclists, transit riders, and drivers – and they take into account the needs of people with disabilities, older people, and children. The complete streets movement seeks to change the way transportation agencies and communities approach every street project and ensure safety, convenience, and accessibility for all.

The California Department of Transportation (Caltrans) defines complete streets as follows:

> A transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit vehicles, truckers, and motorists, appropriate to the function and context of the facility. Complete street concepts apply to rural, suburban, and urban areas.

Connectivity: A well connected circulation system with minimal physical barriers that provides continuous, safe, and convenient travel for all users of streets, roads, and highways.

Conventional Highway: According to the California Highway Manual, a conventional highway is, "a highway without control of access which may or may not be divided. Grade separations at intersections or access control may be used when justified at spot locations."

Expressway: A highway with full or partial control of access with some intersections at grade.

Farm-to-Market: Transportation facilities which provide connections between areas of agricultural production, processing, and storage facilities to agricultural distribution and sales activities.

Production: The growing of crops or livestock for the purpose of producing food, fiber, and nursery products

Processing: All activities which handle, refine, or prepare commercial food, fiber, and nursery products for sale and consumption, including, but not limited to, packing plants, agricultural storage facilities, wineries, and dairies.

Distribution: All facilities which have the primary function of receiving agricultural products and transmitting them to sales facilities.

Sales: Retail and wholesale sale of agricultural products.

Freeway: A highway serving high-speed traffic with no crossings interrupting the flow of traffic (i.e., no crossings at grade). Streets and Highways Code §23.5, in part, states that "Freeway means a highway in respect to which the owners of abutting lands have no right or easement of access to or from their abutting lands or in respect to which such owners have only limited or restricted right or easement of access."

Heliport: A facility used for operating, basing, housing, and maintaining helicopters.

Local Scenic Highway: A segment of a state or local highway or street that a city or county has designated as "scenic."

Local Street: A street providing direct access to properties and designed to discourage through traffic.

Level-of-Service: According to the Transportation Research Board's 2000 Highway Capacity Manual Special Report, Level-of-Service is a qualitative measure describing the efficiency of a traffic stream. It also describes the way such conditions are perceived by persons traveling in a traffic stream. Level-of-Service measurements describe variables such as speed and travel time, freedom to maneuver, traffic interruptions, traveler comfort and convenience, and safety. Measurements are graduated, ranging from level-of-Service A (representing free flow and excellent comfort for the motorist, passenger, or pedestrian) to Level-of-Service F (reflecting highly congested traffic conditions where traffic volumes exceed the capacities of streets, sidewalks, etc.). Level-of-Service can be determined for freeways, multi-lane highways, two-lane highways, signalized intersections, intersections that are not signalized arterials, and transit, bicycle, and pedestrian facilities.

Light Rail or Light Rail Transit (LRT): A form of urban rail public transportation which typically travels at a lower speed and capacity than heavy and metro rail systems, but typically travels at higher speeds and capacity than traditional tram systems. LRT operates mostly in private right-of-ways, but can also at times be incorporated into public right-of-ways.

Major Thoroughfare: A major passageway such as a street, highway, railroad line, or navigable waterway that serves high traffic volumes.

Multimodal Transportation Network: A well balanced circulation system that includes multiple modes of transportation that meets the needs of all users of streets, roads, and highways. §65302(b)(2)(A).

National Scenic Byway: A segment of a state or interstate highway route that the United States Forest Service has designated as a scenic byway or which another federal agency has designated as a national scenic and recreational highway.

Official County Scenic Highway: A segment of a county highway the Director of Caltrans has designated as "scenic."

Official State Scenic Highway: A segment of a state highway identified in the Master Plan of State Highways Eligible for Official Scenic Highway Designations and designated by the Director of Caltrans.

Paratransit: Transportation systems such as jitneys, car pooling, van pooling, taxi service, and dial-a-ride arrangements.

Railroad Depot: A railroad terminal where passengers and goods are loaded and unloaded.

Recreational Trails: Public areas that include pedestrian trails, bikeways, equestrian trails, boating routes, trails, and areas suitable for use by persons with disabilities, trails and areas for off-highway recreational vehicles, and cross-country skiing trails.

Route: A sequence of roadways, paths, and/or trails that allow people to travel from place to place.

Scenic Highway Corridor: The visible area outside the highway's right-of-way, generally described as "the view from the road."

Terminal: A station, stop, or other transportation infrastructure along or at the conclusion of a transportation route. Terminals typically serve transportation operators and passengers by air, rail, road, or sea (i.e., airports, railroad depots, transit stops and stations, and ports and harbors).

Transit-Oriented Development (TOD): A moderate- to high-density development located within an easy walk or bicycle of a major transit stop, generally with a mix of residential, employment, and shopping opportunities. TOD encourages walking, bicycling, and transit use without excluding the automobile.

Utilities: A set of services provided by local public utilities such as electricity, natural gas, water, and sewage.

Walkability: The measurement of how walkable a community is. Walkable communities typically include footpaths, sidewalks, street crossing, or other pedestrian oriented infrastructure.

CASE LAW

The following case law summaries, presented by date, are correlated with general plan circulation elements:

Californians for Disability Rights, Inc. v. California Dept. of Transportation (2006-08)

A class action lawsuit brought about by the Californians for Disability Rights Inc. against the California Department of Transportation (Caltrans) on the basis that Caltrans was in violation of the Americans with Disabilities Act (ADA). The said violation was due to the lack of accessibility for persons with mobility and/or vision disabilities along and at Caltrans owned and maintained sidewalks and park and ride facilities. The suits settlement included a Caltrans agreement to spend $1.1 billion over the next 30 years to retrofit existing state owned sidewalks and park and ride facilities for accessibility by persons of all abilities, including the retrofit and installation of ADA compliant curb ramps. In addition, all new and temporary Caltrans street and park and ride facilities are held to the same standards.

Darlene Bonanno v. Central Contra Costa Transit Authority (2003)

A liability suit brought about by Darlene Bonanno, a disabled resident of Contra Costa County injured while crossing a street at an unprotected crosswalk while attempting to access a bus terminal, against the Central Contra Costa Transit Authority (CCCTA) on the basis of hazardous pedestrian crossing conditions and lack of adequate access to and from a bus terminal. It is stated that a public entity is "liable for injury caused by a dangerous condition of its property if the plaintiff establishes that the property was in a dangerous condition at the time of injury, that the injury was proximately caused by the dangerous condition, that the dangerous condition created a reasonably foreseeable risk of the kind of injury which was incurred, and the public entity had actual or constructive notice of the dangerous condition under Section 835.2 a sufficient time prior to injury to have taken measures to protect against the dangerous condition." It was concluded that the CCCTA created a hazardous condition based on the placement and maintenance conditions of its bus terminal and therefore were held partially liable for incurred injuries.

Joan Barden et al. v. City of Sacramento (2002)

A class action law suit brought about by a group of various individuals with mobility and/or visual disabilities against the City of Sacramento on the basis that they believed the city had violated the Americans with Disabilities Act (ADA) by failing to install curb ramps in new and retrofitted sidewalks and additionally failed to maintain existing sidewalks to ensure accessibility for persons with disabilities. Title II of the ADA provides that "no qualified individual with a disability shall, by reason of such disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of a public entity, or be subjected to discrimination by any such entity." Since sidewalks are a normal function of a city it was decided that sidewalks are considered to be a "public service, program, or activity," as defined by the ADA and therefore are subjected to all ADA compliance standards.

Robert Rohn et al. v. City of Visalia (1989)

This case discusses the limits on road exactions related to the circulation element. In *Rohn*, the court overturned a street dedication requirement on the basis of inadequate nexus evidence, based on the U.S. Supreme Court's *Nollan* decision on regulatory "takings" (*Nollan v. California Coastal Commission (1987) 107 SCt. 3141*). The City required Rohn to dedicate additional street right-of-way despite the fact that the proposed project would not contribute any additional traffic to the street. Since the dedication requirement was supported in part by the city's general plan, but not by empirical evidence of a need for the required dedication, this case shows that the general plan by itself is not armor against a takings claim.

If the circulation element is to be an effective basis for exactions, it must be based upon traffic studies that are sufficiently detailed to link land uses and related demand to future dedications. Additionally, ad hoc road exactions must be roughly proportional to the project's specific impacts on the road system (*Erhlich v. City of Culver City (1996) 12 C4th 854 and Dolan v. City of Tigard (1994) 114 SCt. 2309*). The circulation element alone may be an insufficient basis for exactions otherwise.

Concerned Citizens of Calaveras County v. Board of Supervisors (1985)

The Calaveras County Board of Supervisors adopted a new general plan which included an update to the County's general plan land use and circulation elements. A petition for writ of mandate was filed by the Concerned Citizens of Calaveras County accusing the County's general plan to be legally inadequate since the land use and circulation elements were internally inconsistent. Specifically, the County's circulation element's plan to physically and financially maintain and construct new roads and highways did not reflect the County's projected growth designated in its land use element. California Government Code Section 65300.5 reads, "In construing the provisions of (article 5, on the scope of general plans), the legislature intends that the general plan and elements and parts thereof comprise an integrated, internally consistent and compatible statement of policies for the adopting agency." In addition, California Government Code Section 65302(b) reads that, "the circulation element-including existing and proposed major thoroughfares and transportation routes-be 'correlated' with the land use element." "'Correlated' means 'closely, systematically, or reciprocally related . . .' [Webster's Third New International Dictionary (1981) p. 511]."

It was concluded that the County's general plan could not identify future circulation problems or funding sources necessary for maintenance and improvements. The circulation element failed to provide feasible remedies for the predicted traffic congestion caused by the population increase. The county addressed this internal conflict by stating that it would lobby for funds to solve the future traffic problems. The court held that this vague response was insufficient to reconcile the conflicts in

the plan. The circulation element was deemed legally inadequate and the Calaveras County Board of Supervisors were asked to amend both the land use and circulation elements for adequacy and consistency prior to further adoption.

Twain Harte Homeowners Association v. Tuolumne County (1982)

The Twain Harte Homeowners Association filed for a writ of mandate and injunctive relief against Tuolumne County over the certification of an environmental impact report (EIR) prepared in connection with the adoption of the County's general plan. The association declared that the County's general plan land use, circulation, and housing elements were legally inconsistent and did not comply with California Government Code Section 65302. Specifically, the association said the circulation element addressed all factors required by subdivision (b) which states a circulation must consist of, "the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities;" however, the circulation element failed to correlate with the land use element. The circulation element's mentioned "facilities" were not reflected in the land use element. It was concluded that since the land use element was deficient in itself, that the circulation element too was deficient.

The *Twain Harte* case indicates that courts may look beyond the circulation element to supporting documents (e.g., other sections of the general plan) when such evidence is not readily apparent. Local governments should provide explicit evidence of correlation in both their circulation and land use elements. The *Twain Harte* case indicates that the courts will not automatically presume the existence of correlation simply because a local government has adopted both its circulation and land use elements. Although general plans, as legislative enactments of the police power, will be presumed valid by the courts (if they are reasonably related to promoting or protecting the health, safety, or welfare, and are not arbitrary and capricious), such plans must nevertheless be in substantial compliance with state law. In other words, the courts will review a plan for its actual compliance with the requirements of the state's general plan statutes. In this case, the court used the *General Plan Guidelines* to help determine compliance.

STATE AGENCY RESOURCES

Below is a non-exhaustive list of state agencies that can provide information and assistance to local governments in order to develop or update a circulation element.

California Air Resources Board
http://www.arb.ca.gov/homepage.htm

California Department of Transportation (Caltrans)
http://www.dot.ca.gov/

- Division of Aeronautics
  http://www.dot.ca.gov/hq/planning/aeronaut/
- Division of Local Assistance
  http://www.dot.ca.gov/hq/planning/Local Programs/
- Division of Mass Transportation
  http://www.dot.ca.gov/hq/MassTrans/
- Division of Transportation Planning
  http://www.dot.ca.gov/hq/tpp/

California Energy Commission
http://www.energy.ca.gov/

California Department of Public Health
http://www.cdph.ca.gov/

California Public Utilities Commission
http://www.cpuc.ca.gov/puc/

Governor's Office of Planning and Research
http://www.opr.ca.gov/

APPENDIX A

MULTIMODAL TRANSPORTATION NETWORK EXAMPLES

It is essential that each jurisdiction adopt goals, policies, and implementation measures that are suitable for their individual communities and general plan. This appendix includes various local and out of state examples of multimodal transportation goals, policies, and implementation measures adopted by local jurisdictions. **These are only examples** and may or may not address all components of multimodal transportation networks. This list is not exhaustive.

CALIFORNIA CITIES AND COUNTIES with Multimodal Transportation Goals and Policies in their General Plans	
CA Jurisdiction	Document Location
City of Arroyo Grande	http://www.arroyogrande.org/city-hall/city-departments/community-development/ planning/general-plan/circulation.pdf
City of Brisbane	http://www.ci.brisbane.ca.us/Upload/Document/D240001033/ChapterVITransportationAndCirculation.pdf
City of Calistoga	http://www.ci.calistoga.ca.us/Index.aspx?page=519
City of Cloverdale	http://cloverdale.net/DocumentView.aspx?DID=381
City of Encinitas	http://www.cityofencinitas.org/NR/rdonlyres/56B20F5C-9B4D-4126-BFF5-2206C09A547F/0/circulation.pdf
City of Fairfax	http://www.town-of-fairfax.org/html/gpac_progress.html
City of Highland	http://www.ci.highland.ca.us/GeneralPlan/PDFs/03-Circulation_Element.pdf
City of Hughson	http://hughson.org/files/Complete%20Final%20GP.pdf\
City of Lemon Grove	http://www.ci.lemon-grove.ca.us/DocumentCenterii.aspx?FID=33
City of Live Oak	http://www.liveoakcity.org/index.php?option=com_docman&Itemid=200
City of Napa	http://74.205.120.199/images/CDD/planningdivisiondocs/generalplan/2009/chapter%203%20-%20transportation.pdf
City of Oakland	http://www2.oaklandnet.com/Government/o/CEDA/o/PlanningZoning/s/GeneralPlan/DOWD009015
City of Oakley	http://www.ci.oakley.ca.us/UserFiles/file/GeneralPlan/03%20Circulation%20Element.pdf
City of Orland	http://cityoforland.com/govt/dept/planning/documents/CurrentGeneralPlanMarch2003.pdf
City of Rohnert Park	http://www.ci.rohnert-park.ca.us/index.aspx?page=86
City of Sacramento	http://www.sacgp.org/documents/04_Part2.04_Mobility.pdf
City of San Diego	http://www.sandiego.gov/planning/genplan/pdf/generalplan/adoptedmobilityelemfv.pdf

CALIFORNIA CITIES AND COUNTIES with Multimodal Transportation Goals and Policies in their General Plans (continued)	
CA Jurisdiction	Document Location
City of San Jacinto	http://www.ci.san-jacinto.ca.us/city-govt/development/general-plan/Circulation %20Element.pdf
City of San Leandro	http://www.sanleandro.org/civica/filebank/blobdload.asp?BlobID=3816
City of Sanger	http://www.ci.sanger.ca.us/devserv/planning/2025%20GENERAL%20PLAN.pdf
City of Santa Barbara	http://www.santabarbaraca.gov/Government/General_Plan/
City of Solano Beach	http://www.ci.solana-beach.ca.us/csite/cms/app_engine/assets/images/cd_circulation element.pdf
City of Turlock	http://www.ci.turlock.ca.us/pdflink.asp?pdf=documents/developmentservices/planning/generalplan/5-01.pdf?o=o&title=Turlock%20General%20Plan
Contra Costa County	http://contra.napanet.net/depart/cd/current/advance/GeneralPlan/General%20Plan.pdf
Inyo County	http://inyoplanning.org/general_plan/goals/ch7.pdf
Marin County	http://www.co.marin.ca.us/depts/cd/main/fm/cwpdocs/CWP_CD2.pdf
Napa County	http://countyofnapa.org/GeneralPlan/
Riverside County	http://www.rctlma.org/genplan/content/gp.aspx
Yolo County	http://www.yolocounty.org/Index.aspx?page=1528

CALIFORNIA CITIES AND COUNTIES with Multimodal Transportation Implementation Examples		
CA Jurisdiction	Document Tile	Document Location
City of Elk Grove	Rural Road Improvement Standards	http://www.egplanning.org/rural_roads/files/adopted_documents/Rural%20Road%20Improvement%20Standard_11.20.07.pdf
City of Sacramento Transportation & Air Quality Collaborative	Best Practices for Complete Streets	http://www.cityofsacramento.org/transportation/dot_media/engineer_media/pdf/bp-CompleteStreets.pdf
City of San Diego	Street Design Manual	http://www.sandiego.gov/planning/documents/pdf/trans/complete.pdf
City and County of San Francisco	Better Streets Plan	http://www.sacog.org/complete-streets/toolkit/files/docs/SF%20Controller_Better%20Streets%20Plan%20Recommendations%20for%20Improved%20Streetscape%20Project%20Planning,%20Design,%20Review%20and%20Approval.pdf

CALIFORNIA CITIES AND COUNTIES with Multimodal Transportation Implementation Examples (continued)		
CA Jurisdiction	Document Tile	Document Location
City of Sanger	Standard Details	http://www.ci.sanger.ca.us/Public%20works/standard%20details/Cover-Indexcmpt.pdf
City of Stockton	Pedestrian Safety and Crosswalk Installation Plan	http://www.stocktongov.com/publicworks/publications/PedGuidelines.pdf
Sacramento County	Street Improvement Standards	http://www.msa2.saccounty.net/ce/dss/ldsir/pages/improvementstandards.aspx

MULTIMODAL TRANSPORTAION EXAMPLES from outside California		
Jurisdiction	Document Title	Document Location
Fort Collins, CO	Master Street Plan	http://www.fcgov.com/transportationplanning/msp.php
Town of Basalt, CO	Complete Street Design	http://www.basalt.net/planningPdf/StreetsFinal.pdf
Decatur, GA	Community Transportation Plan	http://www.decaturga.com/cgs_citysvcs_dev_transportationplan.aspx
Louisville, KT	Complete Streets Manual	http://services.louisvilleky.gov/media/complete_streets/complete_streets_manual.pdf
Rochester, MN	Complete Streets Policy	http://www.co.olmsted.mn.us/departments/docs/CompleteStreetsResolution__2_.pdf
Oxford, MS	Creating a Walkable, Bikeable Community Through Complete Streets	http://oxfordms.net/docs/reports/pathwaysfinalreport.pdf
Charlotte, NC	Charlotte NC Urban Street Design Guidelines	http://www.charmeck.org/Departments/Transportation/Urban+Street+Design+Guidelines.htm
	Transit Station Area Principles	http://ww.charmeck.org/Planning/Land%20Use%20Planning/Transit_Station_Area_Plans/TransitStaionAreaPrinciples.pdf
Columbus, OH	Complete Streets	http://pubserv.ci.columbus.oh.us/transportation/NewsRelease/Complete_Streets.pdf

MULTIMODAL TRANSPORTAION EXAMPLES from outside California (continued)		
Jurisdiction	Document Title	Document Location
Eugene, OR	Multi Modal Street Design	http://www.eugene-or.gov/portal/server.pt/gateway/PTARGS_0_2_282993_0_0_18/Multi%20Modal%20Street%20Design.pdf
Kirkland, WA	2001 Kirkland Nonmotorized Transportation Plan	http://www.ci.kirkland.wa.us/Assets/Public+Works/Public+Works+PDFs/Transportation/Non-Motorized+Transportation+Plan.pdf
Seattle, WA	Seattle Complete Street Ordinance	http://clerk.ci.seattle.wa.us/~scripts/nph-brs.exe?d=CBOR&s1=115861.cbn.&Sect6=HITOFF&l=20&p=1&u=/~public/cbor2.htm&r=1&f=G

APPENDIX B

ADDITIONAL RESOURCES

LEGISLATION AND POLICIES

Assembly Bill 1358 California Complete Streets Act (Leno)
http://www.leginfo.ca.gov/pub/07-08/bill/asm/ab_1351-1400/ab_1358_bill_20080930_chaptered.pdf

Assembly Bill 32 California Global Warming Solutions Act of 2006 (Nunez)
http://www.climatechange.ca.gov/publications/legislation/ab_32_bill_20060927_chaptered.pdf

Senate Bill 375 Regional Targets (Steinberg)
http://info.sen.ca.gov/pub/07-08/bill/sen/sb_0351-0400/sb_375_bill_20080902_enrolled.pdf

Executive Order # S-3-05 Est. GHG Emissions Reduction Targets
http://gov.ca.gov/index.php?/executive-order/1861/

Caltrans Deputy Directive 64-R1
http://www.dot.ca.gov/hq/tpp/offices/ocp/complete_streets_files/dd_64_r1_signed.pdf

Caltrans' Complete Street Implementation Plan
http://www.dot.ca.gov/hq/tpp/offices/ocp/complete_streets_files/CompleteStreets_IP03-10-10.pdf

U.S. Department of Transportation Federal Highway Administration
Policy Statement on Bicycle and Pedestrian Accommodations, Regulations, and Recommendations
http://www.fhwa.dot.gov/environment/bikeped/policy_accom.htm

SUPPORTING ORGANIZATIONS

AARP
www.aarp.org

America Bikes
www.americabikes.org

America Walks
www.americawalks.org

American Planning Association
www.planning.org

American Public Transportation Association
www.apta.com

Association of Pedestrian and Bicycle Professionals
www.apbp.org

California Bicycle Coalition
www.calbike.org/completestreets.htm

Institute of Transportation Engineers
www.ite.org

National Center for Bicycling and Walking
www.bikewalk.org

National Complete Streets Coalition
www.completestreets.org

Pedestrian and Bicycling Information Center
www.walkinginfo.org

Safe Routes to School
http://www.saferoutesinfo.org/

Smart Growth America
www.smartgrowthamerica.org

RESOURCES FOR POLICY DEVELOPMENT

AARP Public Policy Institute

Planning Complete Streets for an Aging America
http://www.aarp.org/home-garden/livable-communities/info082009/Planning_Complete_Streets_for_an_ Aging_America.html

Alliance for Biking and Walking
Bicycling and Walking in the US 2010 Benchmarking Report
http://www.peoplepoweredmovement.org/site/index.php/site/memberservices/C529

American Association of State Highway and Transportation Officials (AASHTO)
A Policy on Geometric Design for Highways and Streets (Green Book)
https://bookstore.transportation.org/Item_details.aspx?id=110
(In print only)

American Disabilities Act
ADA Standards for Accessible Design
http://www.ada.gov/adastd94.pdf

American Planning Association
Complete Streets Best Policy and Implementation Practices
http://www.planning.org
(In print only)

Association of Pedestrian and Bicycle Professionals
Bicycle Parking Guidelines, Second Edition
http://www.apbp.org/?page=Publications
(In print only)

California Climate Change Portal
California's Resource for Global Climate Change Information
http://www.climatechange.ca.gov

California Department of Health Services
The Burden of Asthma in California: A Surveillance Report
http://www.californiabreathing.org/images/stories/publications/asthmaburdenreport.pdf

California Department of Public Health
The Burden of Cardiovascular Disease in California: A Report of The California Heart Disease and Stroke Prevention Program
http://www.cdph.ca.gov/programs/cvd/Documents/CHDSP-BurdenReport-HighRes.pdf

California Department of Transportation (Caltrans)
Bicycle Transportation Account
http://www.dot.ca.gov/hq/LocalPrograms/bta/btawebPage.htm

Bus Rapid Transit (BRT) Handbook
http://www.dot.ca.gov/hq/MassTrans/Brt.html

California Highway Design Manual, Chapter 1000
http://www.dot.ca.gov/hq/oppd/hdm/hdmtoc.htm

California Manual on Uniform Traffic Control Devices
http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/

California Safe Routes to School Program
http://www.dot.ca.gov/hq/LocalPrograms/saferoutes/saferoutes.htm

Design Information Bulletin (DIB) 80: Roundabouts
http://www.dot.ca.gov/hq/oppd/dib/dib80-01.htm

Design Information Bulletin (DIB) 82: Pedestrian Accessibility Guidelines for Highway Practices
http://www.dot.ca.gov/hq/oppd/dib/dibprg.htm

Local Assistance Procedure Manual
http://www.dot.ca.gov/hq/LocalPrograms/lam/lapm.htm

Smart Mobility Framework 2010: A Call to Action for the New Decade
http://www.dot.ca.gov/hq/tpp/offices/ocp/smf_files/SmMblty_v6-3.22.10_150DPI.pdf

California Highway Patrol
Statewide Integrated Traffic Records System
http://www.chp.ca.gov/switrs/

California Office of Traffic Safety
California Traffic Safety Report Card
http://www.ots.ca.gov/OTS_and_Traffic_Safety/Report_Card.asp

California School Boards Association

Safe Routes to School: Program and Policy Strategies
http://www.sacog.org/complete-streets/toolkit/files/docs/CSBA_SRTS%20Program%20and%20 Policy%20Strategies.pdf

Sample Safe Routes to School Board Policy and Administrative Regulation
http://www.sacog.org/complete-streets/toolkit/files/docs/CSBA_Sample%20Admin%20Regulation% 20and%20Board%20Policy.pdf

California Transportation Commission
2010 Regional Transportation Plan Guidelines
http://www.catc.ca.gov/programs/rtp/2010_RTP_Guidelines.pdf

Center for Clean Air Policy
Cost-Effectiveness Greenhouse Gas Reductions through Smart Growth and Improved Transportation Choices
http://www.ccap.org/docs/resources/677/CCAP%20Smart%20Growth%20-$%20per%20ton%20CO2%20(June%202009)%20FINAL%202.pdf

Chicagoland Bike Federation
Chicago's Bike Lane Design Manual
http://www.chicagobikes.org/pdf/bike_lane_design_guide.pdf

Initiative for Bicycle and Pedestrian Innovation
Fundamentals of Bicycle Boulevard Planning and Design
http://www.ibpi.usp.pdx.edu/media/BicycleBoulevardGuidebook.pdf

Institute for Transportation Engineers (ITE)
Designing Walkable Urban Thoroughfares: A Context Sensitive Approach
http://www.ite.org/css/

MassDOT
Project Development and Design Guide
http://www.mhd.state.ma.us/default.asp?pgid=content/designguide&sid=about

Metropolitan Transportation Commission
Complete Streets Checklist
http://www.mtc.ca.gov/planning/bicyclespedestrians/Routine_Accommodation_checklist.pdf

Routine Accommodation of Pedestrians and Bicyclists in the Bay Area
http://www.mtc.ca.gov/planning/bicyclespedestrians/Routine_Accommodation_Study.pdf

Midwest Research Institute
Relationships of Lane Width to Safety for Urban and Suburban Arterials
http://www.completestreets.org/webdocs/resources/lanewidth-safety.pdf

National Cooperative Highway Research Program – Transportation Research Board of the National Academies
Accessible Pedestrian Signals: A Guide to Best Practices
http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_w117a.pdf

Improving Pedestrian Safety at Unsignalized Crossings
http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_562.pdf

Report 616: Multimodal Level of Service Analysis for Urban Streets
http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_616.pdf

New York City DOT
Street Design Manual
http://www.nyc.gov/html/dot/html/about/streetdesignmanual.shtml

Penn DOT and New Jersey Department of Transportation
Smart Transportation Guidebook
http://www.smart-transportation.com/guidebook.html

Rails to Trails Conservancy
Active Transportation for America
http://www.railstotrails.org/resources/documents/whatwedo/atfa/ATFA_20081020.pdf

Sacramento Area Council of Governments (SACOG)
Complete Streets Resource Tool Kit
http://www.sacog.org/complete-streets/toolkit/START.html

Santa Clara Valley Transportation Authority
Bicycle Technical Guidelines
http://www.vta.org/bike_information/bicycle_technical_guidelines.html

Sprinkle Consulting

Bicycle Level of Service for Arterials
http://pubsindex.trb.org/view.aspx?id=801673

Bicycle Level of Service for the Roadway Segment
http://www.sprinkleconsulting.com/bp_downloads.html

Intersection Level of Service for Bicycling Through Movement
http://www.sprinkeconsulting.com/bp_downloads.html

Modeling the Roadside Walking Environment: A Pedestrian Level of Service
http://www.sprinkleconsulting.com/bp_downloads.html

Real-Time Human Perceptions: Toward a Bicycle Level of Service
http://trb.metapress.com/content/n118452647112qg6/fulltext.pdf

University of California Berkeley – Center for Resource Efficient Communities
Building Energy Efficient Communities: A Research Agenda for California
http://crec.berkeley.edu/crec.whitepaper.pdf

University of California Berkeley – Institute of Transportation Studies
A Technical Guide for Conducting Pedestrian Safety Assessments for California Cities
http://www.techtransfer.berkeley.edu/pedsafety/psa_handbook.pdf

U.S. Architectural and Transportation Barriers Compliance Board
Accessible Rights-of-Way: A Design Guide
http://www.access-board.gov/prowac/guide/PROWguide.pdf

U.S. Department of Transportation – Federal Highway Administration

ADA Standards for Transportation Facilities
http://www.access-board.gov/ada-aba/ada-standards-dot.cfm

Designing Roads for Multimodal Safety and Access
www.dot.ca.gov/hq/tpp/offices/ocp/complete_streets_files/Multimodal_01_Introduction_7-2007.ppt

Designing Sidewalks and Trails for Access
http://www.fhwa.dot.gov/environment/sidewalk2/index.htm

Detectable Warning in Transit Facilities: Safety and Negotiability
http://accessforblind.org/publications/ProjectAction/Detectable%20Warnings%20in%20Transit%20Facilities%20-%20Safety%20and%20Negotiability.pdf

Detectable Warning Surfaces: Color, Contrast, and Reflectance
http://accessforblind.org/publications/USDOT/dws-ccr.pdf

Manual on Uniform Traffic Control Devices
http://mutcd.fhwa.dot.gov/

Pedestrian Road Safety Audit Guidelines and Prompt Lists
http://drusilla.hsrc.unc.edu/cms/downloads/PedRSA.reduced.pdf

Roundabouts: An Informational Guide
http://www.tfhrc.gov/safety/00-067.pdf

Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations
http://www.fhwa.dot.gov/publications/research/safety/04100/04100.pdf

Visual Detection of Detectable Warning Materials by Pedestrians with Visual Impairments
http://www.access-board.gov/research/dw-fhwa/report.pdf

Washington State Department of Transportation

State Highways as Main Streets: A Study of Community Design and Visioning
http://www.wsdot.wa.gov/research/reports/fullreports/733.1.pdf