2017 Regional Transportation Plan Guidelines for Regional Transportation Planning Agencies

California Transportation Commission

2017
Regional Transportation Plan
Guidelines for
Regional Transportation Planning Agencies

Adopted by the California Transportation Commission
on January 18, 2017

Pursuant to California Government Code Section 14522

Commissioners
Bob Alvarado – Chair
Fran Inman – Vice Chair
Yvonne B. Burke
Lucetta Dunn
James Earp
James C. Ghielmetti
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Christine Kehoe
James Madaffer
Joseph Tavaglione

Senator Jim Beall – Ex Officio
Assembly Member Jim Frazier– Ex Officio
Susan Bransen – Executive Director

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INTRODUCTION

1.0 Applicability of the Regional Transportation Plan Guidelines

Every Regional Transportation Planning Agency (RTPA) is required by law to conduct long range planning to ensure that the region's vision and goals are clearly identified and to ensure effective decision making in furtherance of the vision and goals. The long range plan, known as the Regional Transportation Plan (RTP), is an important policy document that is based on the unique needs and characteristics of a region, helps shape the region's economy, environment and social future, and communicates regional and vision to the state and federal government. As fundamental building blocks of the State's transportation system, the RTP should also support state goals for transportation, environmental quality, economic growth, and social equity (California Government Code Section 65041.1).

The California Transportation Commission (Commission or CTC) is authorized to develop guidelines by Government Code Section 14522, which reads:

> *In cooperation with the regional transportation planning agencies, the commission may prescribe study areas for analysis and evaluation by such agencies and guidelines for the preparation of the regional transportation plans.*

These twenty six rural RTPAs, in alphabetical order, are:

Alpine County Transportation Commission (CTC), Amador CTC, Calaveras Council of Governments (COG), Colusa CTC, Del Norte Local Transportation Commission (LTC), El Dorado CTC, Glenn CTC, Humboldt County Association of Governments, Inyo LTC, Lake County/City Area Planning Council, Lassen CTC, Mariposa LTC, Mendocino COG, Modoc CTC, Mono LTC, Transportation Agency for Monterey County, Nevada CTC, Placer County Transportation Planning Agency, Plumas CTC, Council of San Benito County Governments, Santa Cruz County Regional Transportation Commission, Sierra LTC, Siskiyou CTC, Tehama CTC, Trinity CTC, and Tuolumne CTC.

While the guidelines include both state and federal requirements, RTPAs have the flexibility to be creative in selecting transportation planning options that best fit their regional needs. The guidelines recognize that "one size does not fit all." Solutions and techniques used by a larger RTPA will be different than those used by a smaller RTPA.

The 2017 RTP Guidelines continue to use the words "Shall" and "Should", a convention established by the previous RTP Guidelines. Where the RTP Guidelines reflect a state or federal statutory or regulatory requirement, the word "Shall" is used with a statutory or regulatory citation. The word "Should" is used where the Guidelines reflect a permissive or optional statutory reference such as "May" or "Should." Each section ends with federal and state requirements (Shalls), federal and state recommendations (Shoulds), and refers to Appendix H for Planning Practice Examples where appropriate. Planning practice examples are intended to highlight exemplary, state of the art planning practices that RTPAs can seek to emulate as financial and technical resources allow.

Changes to federal statute are implemented by the Code of Federal Regulations (CFRs) that are also known as the "final rules". On May 27, 2016, the Statewide and Nonmetropolitan Transportation Planning *and* Metropolitan Transportation Planning Final Rule was issued, with

an effective date of June 27, 20116, for Title 23 CFR Parts 450 and 771 and Title 49 CFR Part 613. The Federal Highway Administration (FHWA)/Federal Transit Administration (FTA) are still in the process of finalizing the remaining rules for implementation of the Moving Ahead for Progress in the 21st Century Act (MAP-21) and the Fixing America's Surface Transportation (FAST) Act. Unless otherwise noted, the RTP Guidelines will show the CFRs for MAP-21/FAST Act. The majority of citations in these guidelines refer to the implementing regulations, i.e., the CFR section.

Pursuant to 23 CFR 450.202, the CTC requires RTPAs to address federal planning regulations during the preparation of their RTPs. The federal planning regulations address metropolitan planning organizations (MPOs) and statewide/nonmetropolitan transportation planning for the State of California and the 26 rural RTPA areas of the State. The State of California addresses some of the federal statewide planning regulations through the California Transportation Plan (CTP) and the Federal State Transportation Improvement Program (FSTIP). In cases where the statewide/nonmetropolitan federal regulations do not have the same requirements as the MPO regulations, the CFR for MPOs is cited and is clearly identified as a recommendation or "should" for RTPAs.

As RTPA RTPs are updated every four or five years (including Regional Housing Needs Allocation - RHNA cycle adjustments), there is a continuous cycle of RTPs in the development and adoption stages. As RTP development is a continuous process, consideration is given to RTPAs that will be too far along in the planning process to conform their RTPs to the 2017 RTP Guidelines. All RTP updates started after the 2017 RTP Guidelines are adopted by the CTC must use the new RTP Guidelines. Furthermore, federal regulations outline the timeline for complying with MAP-21/FAST Act transportation planning requirements. Prior to May 27, 2018, an RTPA may adopt an RTP that has been developed using the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) requirements or the provisions of the Statewide and Nonmetropolitan Transportation Planning *and* Metropolitan Transportation Planning Final Rule (23 CFR Part 450 and 771 and 49 CFR Part 613). On or after May 27, 2018, an RTPA may not adopt an RTP that has not been developed according to the provisions of MAP-21/FAST Act as specified in the Planning Final Rule. RTPAs are encouraged to communicate with Caltrans to discuss schedules for RTP adoption.

1.1 Why Conduct Long-Range Transportation Planning?

The long range transportation planning process in regional areas is uniquely suited to address a number of federal, state, regional, and local goals, from supporting economic growth to achieving environmental goals and promoting public health and quality of life. Not only does the transportation system provide for the mobility of people and goods, it also influences patterns of growth and economic activity through accessibility to land. Furthermore, the performance of this system affects such public policy concerns as air quality, greenhouse gas (GHG) emissions, natural resources, environmental protection and conservation, social equity, smart growth, housing affordability, jobs/housing balance, economic development, safety, and security. Transportation planning recognizes the critical links between transportation and other societal goals. The planning process is more than merely a listing of multimodal capital investments; it requires developing strategies for operating, managing, maintaining, funding, and financing the area's transportation system in such a way as to advance the area's long-term goals.

Over the past ten years combating climate change has emerged as a key goal for the state of California. Starting with the passage of Assembly Bill (AB) 32, The California Global Warming

Solutions Act of 2006, the state has set aggressive goals to reduce GHG emissions responsible for climate change. AB 32 requires a reduction in state GHG emission by limiting state GHG emissions in 2020 to no more than the 1990 state emission levels. On September 8, 2016, the California Global Warming Act of 2006, was amended by SB 32 (Chapter 249, Statutes of 2016), to require a further reduction of GHG emissions to achieve a 40 percent reduction below 1990 levels by 2030. Governor Schwarzenegger's Executive Order S-3-05 and Governor Brown's Executive Order B-30-15 target a reduction of GHG emission to achieve at least a reduction of 80 percent below 1990 levels by 2050. Enacted legislation, SB 391 (Chapter 585, Statutes of 2009) directs the California Department of Transportation (Caltrans) to model how to achieve the 80 percent reduction in GHG emissions by 2050, and that modeling was included in the CTP 2040, which was released in June 2016. According to the California Air Resources Board (ARB) 2016 Mobile Source Strategy, the transportation sector accounts for nearly 50 percent of GHG emissions in California[1]. As such, the long-range transportation planning process in regional areas is evolving to address climate change goals.

In 2008, transportation planning and land use planning became further linked following the passage of Senate Bill 375 (SB 375, Chapter 728, Statutes of 2008). Even though RTPAs were not a primary focus of SB 375, RTPAs can and do contribute to the reduction of GHG. In 2013, the connection between higher density development and GHG was strengthened further yet with the passage of SB 743 (Chapter 386, Statutes of 2013) that required an update in the California Environmental Quality Act (CEQA) transportation metrics to align with climate and planning goals.

In addition, Executive Order B-30-15 directs State agencies to take climate change into account in planning and investment decisions, and employ full life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives. Planning and investment shall be guided by the following principles:

- Priority should be given to actions that both build climate preparedness and reduce GHG emissions;
- Where possible, flexible and adaptive approaches should be taken to prepare for uncertain climate impacts;
- Actions should protect the state's most vulnerable populations; and,
- Natural infrastructure solutions, as defined in Public resources code 71154(c)(3) (e.g., flood plain and wetlands restoration or preservation, combining levees with restored natural systems to reduce flood risk, and urban tree planning to reduce high heat days), should be prioritized.

The RTP, also called a Long-Range Transportation Plan is the mechanism used in California by RTPAs to conduct long-range (minimum of 20 years) transportation planning, integrated with local jurisdiction's land use planning, in their regions to achieve local and regional goals, in consideration of state and federal goals. Because transportation infrastructure investments have effects on travel patterns, smart investments play a key role in meeting climate targets. As

[1] This number reflects a wheel-to-well GHG estimate from aviation, construction and mining equipment, buses, heavy duty trucks, passenger vehicles, light duty trucks, rail, ships and commercial harbor craft, and the petroleum refining for transportation fuel. State law provides limited authority to RTPAs/MPOs. Collaborative planning between the state and RTPAs/MPOs is needed to meet the state's GHG reduction goals.

a result of state legislation, as well as executive orders, GHG emission reduction, transportation electrification, climate resilience, improving transportation mobility, addressing federal air quality criteria pollutants, and ensuring that the statewide regional transportation system addresses tribal, local, regional, and statewide mobility and economic needs are key priorities in the statewide and regional transportation planning process.

Equally important to consider in long-range transportation planning is how transportation can affect human health in many ways, for example: safety – reduction of collisions; air quality – reduction of vehicle emissions; physical activity – increasing biking and walking; access to goods, services, and opportunities – increasing livability in communities; and noise – designing road improvements to decrease sound exposure. A timely opportunity to address public health outcomes is early during the RTP development process. RTPAs can consider health priorities in selection of projects for the RTP. RTPAs also can play a significant role in engaging residents and stakeholders in the regional transportation planning process to ensure the improvement of health outcomes for all segments of the population.

As interest in the link between transportation and health has grown, much cross-sector coordination and collaboration between transportation professionals and health practitioners has occurred at all levels of government, with input from public health and equity advocates, as well as active transportation stakeholders. The optimal result of this process is to improve transportation decisions and thereby improve access to healthy and active lifestyles. Public health is further discussed in Section 2.3.

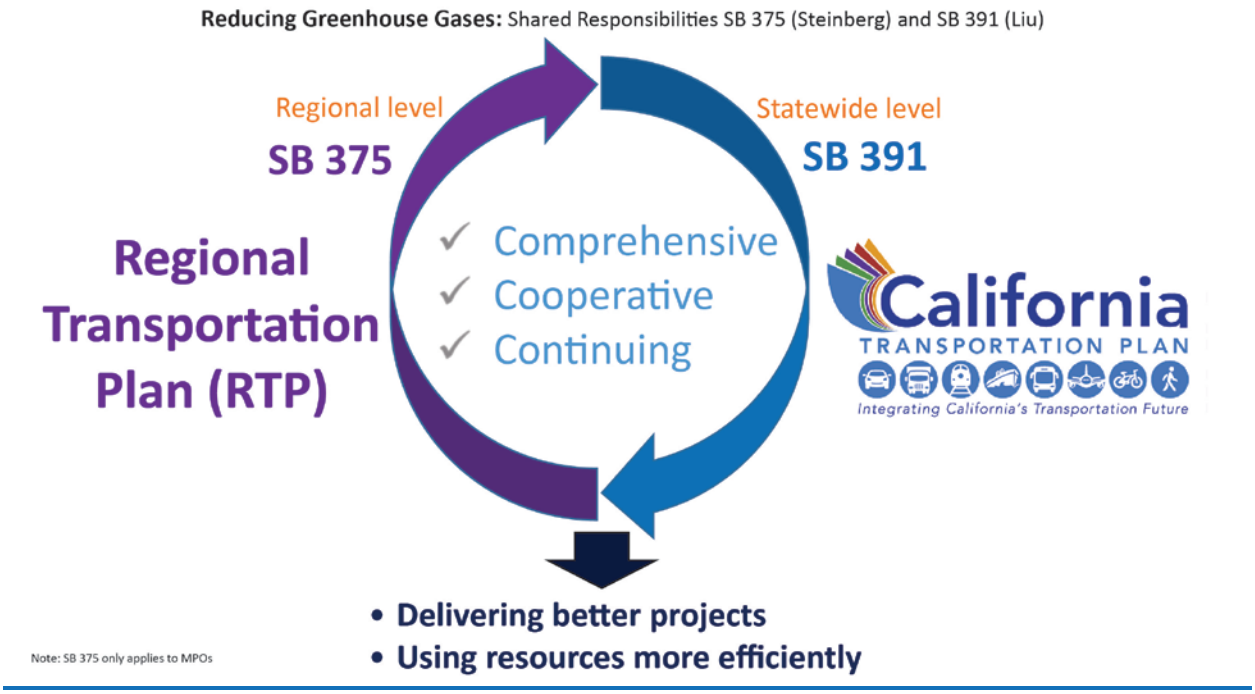
Lastly, long-range transportation planning provides the opportunity to compare alternative improvement strategies, track performance over time, and identify funding priorities. The CTP defines this as performance management that helps ensure efficient and effective investment of transportation funds by refocusing on established goals, increasing accountability and transparency, and improving project decision-making. To further reach this end, MAP-21/FAST Act requires the State, in collaboration with RTPAs, and MPOs to implement a performance-based approach in the scope of the statewide and nonmetropolitan *and* metropolitan transportation planning process. In addition to federal performance based planning, the State of California has articulated through statute, regulation, executive order, and legislative intent language, numerous state goals for the transportation system, the environment, the economy, and social equity. RTPs are developed to reflect regional and local priorities and goals, but they are also instruments that can be used by federal and state agencies to demonstrate how regional agency efforts contribute to those federal and state agencies meeting their own transportation system goals. Inclusion of goal setting in RTPs allows the federal and state governments to both understand regional goals, and track progress toward federal and state goals.

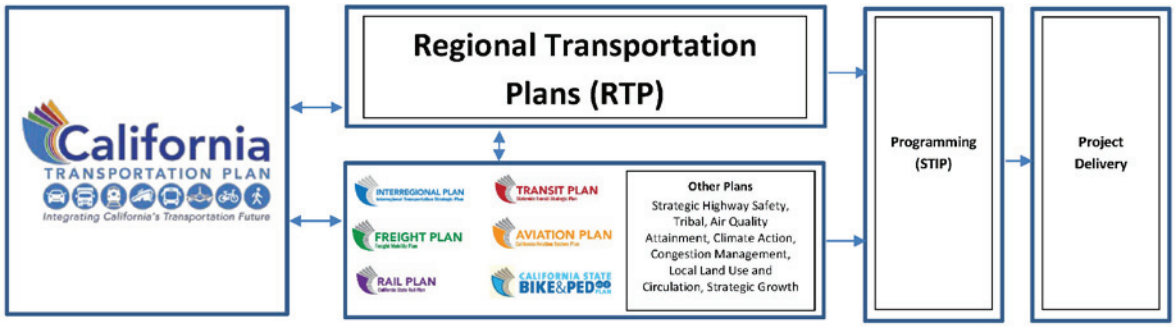
Performance-based planning is the application of performance management within the planning process to help the federal government, states and regional agencies achieve desired outcomes for the multimodal transportation system. The benefits of well-designed and appropriately used performance measures are transparency about the benefits of the RTP, not only for transportation system performance, but also for other regionally important priorities such as improved public health, housing affordability, farmland conservation, habitat preservation, and cost-effective infrastructure investment. As the performance-based approach is implemented at the federal and State levels, performance measures will continue to develop over the years to come. Transportation performance management and the performance-based approach are further discussed in Chapter 7.

1.2 RTPs & the California Transportation Plan

Similar to the SB 375 requirements for RTPs, SB 391 adds new requirements to the State's long-range transportation plan to meet California's climate change goals under AB 32. The bill requires the California Transportation Plan (CTP) to address how the state will achieve maximum feasible emissions reductions in order to attain a statewide reduction of GHG emissions to 1990 levels by 2020 and 80% below 1990 levels by 2050. The bill also requires the CTP to identify the statewide integrated multimodal transportation system needed to achieve these results and specifies that the plan take into consideration the use of alternative fuels, new vehicle technology, tail pipe emission reductions, and the expansion of public transit, commuter rail, intercity rail, bicycling, and walking. In addition, SB 391 required Caltrans to update the CTP by December 31, 2015, and every 5 years thereafter.

The CTP is a core document that addresses the applicable federal statewide and non-metropolitan transportation planning regulations and helps tie together several internal and external plans and programs to help define and plan transportation in California. Unlike the RTP, it is not project specific or subject to both federal air quality conformity regulations and CEQA, but it does look at how the implementation of the RTP/Sustainable Communities Strategy (SCS), prepared by MPOs only, and RTPs prepared by RTPAs will influence the statewide multimodal transportation system, as well as how the state will achieve sufficient emission reductions in order to meet AB 32 and SB 391. While the CTP is prepared by Caltrans, it is developed in collaboration with various stakeholders and public involvement. Furthermore, the CTP is a fiscally unconstrained aspirational policy document that integrates and builds upon six Caltrans modal plans (Interregional Plan, Freight Plan, Rail Plan, Aviation Plan, Transit Plan, and Bicycle and Pedestrian Plan) as well as the fiscally constrained RTPs prepared by the MPOs and the RTPAs. RTPAs and MPOs address transportation from a regional perspective, while the CTP, building on regional plans, addresses the connectivity and/or travel between regions and applies a statewide perspective for transportation system. Therefore, integration of CTP and RTP goals (where applicable and consistent with federal and state fiscal restraint requirements) may provide greater mobility choices for travelers not only within their regions but across the state. The CTP and the RTP can be developed in a cyclical pattern aligning one with another using comprehensive, cooperative and continuing planning. This should result in delivering better projects and using resources more efficiently. The following diagrams illustrate the relationship between the CTP and RTP.





1.3 Background & Purpose of the RTP Guidelines

The purposes of these Guidelines are to:

1. Promote an integrated, statewide, multimodal, regional transportation planning process and effective transportation investments;
2. Set forth a uniform transportation planning framework throughout California by identifying federal and state requirements and statutes impacting the development of RTPs;
3. Promote a continuous, comprehensive, and cooperative transportation planning process that facilitates the rapid and efficient development and implementation of projects that maintain California's commitment to public health and environmental quality; and,
4. Promote a planning process that considers the views of all stakeholders.

The purpose of RTPs is to encourage and promote the safe and efficient management, operation and development of a regional intermodal transportation system that, when linked with appropriate land use planning, will serve the mobility needs of goods and people. The RTP Guidelines are intended to provide guidance so that RTPAs will develop their RTPs to be consistent with federal and state transportation planning requirements. This is important because state and federal statutes require that RTPs serve as the foundation of the Federal State Transportation Improvement Program (FSTIP, which includes the State Transportation Improvement Program or STIP). The FSTIP is prepared by Caltrans in coordination with MPOs/RTPAs and identifies the next four years of transportation projects to be funded for construction. The CTC cannot program projects that are not identified in the RTP.

Since the mid-1970s, with the passage of AB 69 (Chapter 1253, Statutes of 1972), California state law has required the preparation of RTPs to address transportation issues and assist local and state decision-makers in shaping California's transportation infrastructure. The RTP Guidelines are to be developed pursuant to California Government Code Sections 14522 and 65080 which state:

"14522. In cooperation with the regional transportation planning agencies, the commission may prescribe study areas for analysis and evaluation by such agencies and guidelines for the preparation of the regional transportation plans."

"65080 (d) Except as otherwise provided in this subdivision, each transportation planning agency shall adopt and submit, every four years, an updated regional transportation plan to the CTC and the Department of Transportation. A transportation planning agency located in a federally designated air quality attainment area or that does not contain an urbanized area may at its option adopt and submit a regional transportation plan every five years. When applicable, the plan shall be consistent with federal planning and programming requirements and shall conform to the regional transportation plan guidelines adopted by the CTC. Prior to adoption of the regional transportation plan, a public hearing shall be held after the giving of notice of the hearing by publication in the affected county or counties pursuant to Section 6061."

The California RTP Guidelines were first adopted by the CTC in 1978 and subsequently revised in 1982, 1987, 1991, 1992, 1994, 1999, 2007, and 2010.

The 1999 revision of the Guidelines was prepared to achieve conformance with state and federal transportation planning legislation and was based on the Federal Transportation Equity Act for the 21st Century (TEA-21) and California SB 45 (Chapter 622, Statutes 1997). A 2003 Supplement was also prepared that was based on a 2003 RTP Evaluation Report completed for the CTC. The Federal surface transportation reauthorization bill called SAFETEA-LU was signed into law in 2005. The 2007 revision of the RTP Guidelines was prepared in order to address changes in the planning process resulting from SAFETEA-LU.

Subsequent to the passage of AB 32 (California Global Warming Solutions Act of 2006), an addendum to the 2007 RTP Guidelines was adopted by the CTC in May 2008 to address a request from the California Legislature to ensure climate change issues were incorporated in the RTP process. That addendum was adopted by the CTC prior to the September 2008 passage of SB 375.

The 2010 update was prepared to incorporate new planning requirements as a result of SB 375 and to incorporate the addendum to the 2007 RTP Guidelines. SB 375 requires the 18 MPOs in the state to identify a forecasted development pattern and transportation network

that, if implemented, will meet GHG emission reduction targets specified by the ARB through their RTP planning processes. These requirements do not pertain to the 26 rural RTPAs that also prepare RTPs.

Since the 2010 update, two federal surface transportation reauthorization bills have been signed into law. First, the two-year bill with numerous extensions, MAP-21, was signed on July 6, 2012. Most recently, a longer term five-year funding bill, FAST, was signed on December 4, 2015.

2015 MPO RTP Review Report

The 2017 update was prepared to incorporate Recommendations that were included in the December 2015 MPO RTP Review Report. This Report can be found at: http://www.dot.ca.gov/hq/tpp/offices/orip/rtp/index.html. One of these Recommendations called for an RTPA focused RTP Guidelines document addressing just the requirements for RTPAs when developing, completing, adopting and implementing an RTP.

1.4 RTPAs in California

In cooperation with the Governor, 26 state statutorily created RTPAs prepare RTPs in California. Pursuant to 23 CFR 450.202, the CTC requires RTPAs to address federal planning regulations during the preparation of their RTPs. California statutes and the RTP Guidelines identify the RTP requirements for RTPAs.

The majority of state designated RTPAs (specifically those responsible for preparing RTPs) are described under California Government Code Section 29532 et seq. One of the core functions of an RTPA is to develop an RTP through the planning process.

An RTPA has five core functions:

1. Maintain a setting for regional decision-making;
2. Prepare an Overall Work Program (OWP);
3. Involve the public in this decision-making;
4. Prepare an RTP; and,
5. Develop a Regional Transportation Improvement Program (RTIP) and a list of federally funded or regionally significant projects for inclusion in the FSTIP.

Twenty-six designated RTPAs receive annual state planning funds called rural planning assistance (RPA) to carry out their respective regional transportation planning requirements.

The map below identifies the 18 MPOs (in darker shade) and the 26 RTPAs that prepare RTPs (in lighter shade or dot pattern).


CALIFORNIA
Metropolitan Planning Organizations(MPOs)
and
Regional Transportation Planning Agencies (RTPAs)
AMBAG[1] Association of Monterey Bay Area Governments
BCAG Butte County Association of Governments
FCOG Fresno Council of Governments
KCAG Kings County Association of Governments
KCOG Kern Council of Governments
MCAG Merced County Association of Governments
MCTC Madera County Transportation Commission
MTC[2] Metropolitan Transportation Commission
SACOG[3] Sacramento Area Council of Governments
SANDAG San Diego Association of Governments
SJCOG San Joaquin Council of Governments
SLOCOG San Luis Obispo Council of Governments
SBCAG Santa Barbara County Association of Governments
SRTA Shasta Regional Transportation Agency
SCAG[4] Southern California Association of Governments
StanCOG Stanislaus Council of Governments
TCAG Tulare County Association of Governments
TMPO[5] Tahoe Metropolitan Planning Organization
[1]AMBAG includes SCCRTC, TAMC, and SBtCOG. All retain RTPA status.
[2]MTC covers a nine county region.
[3]SACOG is the RTPA for Sacramento, Sutter, Yolo, and Yuba Counties. It is the MPO for the federally designated ozone non-attainment area in Sacramento, Yolo, Yuba, Sutter, Placer, and El Dorado Counties. Placer and El Dorado Counties retain RTPA status up to the crest of the Sierras.
[4]SCAG covers a six county region that serve as County Transportation Commissions: ICTC, LAMTA, OCTA, RCTC, SANBAG, and VCTC.
[5]TMPO is a multi-state MPO created by federal law. It covers portions of El Dorado and Placer counties as well as Washoe and Douglas counties in Nevada, and shares board members with the TRPA.
Del Norte LTC
Siskiyou CLTC
Modoc CTC
Humboldt CAG
Trinity CTC
SRTA
Lassen CTC
Tehama CTC
Plumas CTC
Glenn CTC
BCAG
Sierra LTC
Mendocino COG
Nevada CTC
Colusa CTC
Yuba
TMPO
TRPA
Lake CCAPC
Placer CTPA
Sutter
Yolo
El Dorado CTC
Sonoma
Napa
SACOG
Alpine LTC
Sacramento
Amador CTC
MTC
Solano
Marin
Calaveras COG
Tuolumne TCTC
Mono LTC
Contra Costa
SJCOG
San Francisco
Alameda
StanCOG
Mariposa LTC
San Mateo
Santa Clara
MCAG
MCTC
Santa Cruz County Regional Transportation Commission (SCCRTC)
AMBAG
San Benito COG
FCOG
Inyo LTC
Transportation Agency for Monterey County
TCAG
KCAG
SLOCOG
KCOG
San Bernardino Associated Governments
SBCAG
Ventura CTC
Los Angeles County MTA
SCAG
Riverside CTC
Orange County Transportation Authority
SANDAG
Imperial County Transportation Commission
RTPAs within MPOs
MPO Areas
Non-MPO Rural RTPA Areas
California Department of Transportation
Division of Transportation Planning
March 2016

1.5 Purpose of the RTP

RTPs are planning documents developed by RTPAs in cooperation with Caltrans and other stakeholders, including system users. The purpose of the RTP is to establish regional goals, identify present and future needs, deficiencies and constraints, analyze potential solutions, estimate available funding, and propose investments.

California statute refers to these documents as "Regional Transportation Plans" or RTPs. In California planning circles, these long range planning documents normally use the term "RTP".

Pursuant to Title 23 CFR Part 450.324 et seq. FHWA describes the development and contents of RTPs as follows:

> *"The transportation plan is the Statement of the ways the region plans to invest in the transportation system. The plan shall "include both long-range and short-range program strategies/actions that lead to the development of an integrated intermodal transportation system that facilitates the efficient movement of people and goods." The plan has several elements, for example: Identify policies, strategies, and projects for the future; Determine project demand for transportation services over 20 years; Focus at the systems level, including roadways, transit, non-motorized transportation, and intermodal connections; Articulate regional land use, development, housing, and employment goals and plans; Estimate costs and identify reasonably available financial sources for operation, maintenance, and capital investments); Determine ways to preserve existing roads and facilities and make efficient use of the existing system; Be consistent with the Statewide transportation plan; Be updated every five years or four years in air quality nonattainment and maintenance areas; and, should make special efforts to engage interested parties in the development of the plan."*

The regional transportation planning led by RTPAs is a collaborative process that is widely participated by the federal, state, tribal governments/agencies, as well as other key stakeholders and the general public. The process is designed to foster involvement by all interested parties, such as the business community, California Tribal Governments, community groups, environmental organizations, the general public, and local jurisdictions through a proactive public participation process conducted by the RTPA in coordination with the state and transit operators. It is essential to extend public participation to include people who have been traditionally underserved by the transportation system and services in the region. Neglecting public involvement early in the planning stage can result in delays during the project stage.

While new federal MAP-21/FAST Act requirements are addressed in Section 1.7 of these guidelines, the traditional steps undertaken during the regional planning process include:

1. Providing a long-term (20 year) visioning framework;
2. Monitoring existing conditions;
3. Forecasting future population and employment growth;
4. Assessing projected land uses in the region and identifying major growth corridors;
5. Identifying alternatives and needs and analyzing, through detailed planning studies, various transportation improvements;
6. Developing alternative capital and operating strategies for people and goods;

7. Estimating the impact of the transportation system on air quality within the region; and,
8. Developing a financial plan that covers operating costs, maintenance of the system, system preservation costs, and new capital investments.

The RTPs are developed to provide a clear vision of the regional transportation goals, objectives and strategies. This vision must be realistic and within fiscal constraints. In addition to providing a vision, the RTPs have many specific functions, including:

1. Providing an assessment of the current modes of transportation and the potential of new travel options within the region;
2. Projecting/estimating the future needs for travel and goods movement;
3. Identification and documentation of specific actions necessary to address regional mobility and accessibility needs;
4. Identification of guidance and documentation of public policy decisions by local, regional, state and federal officials regarding transportation expenditures and financing;
5. Identification of needed transportation improvements, in sufficient detail, to serve as a foundation for the: (a) Development of the Federal State Transportation Improvement Program (FSTIP, which includes the STIP), (b) Facilitation of the National Environmental Policy Act (NEPA)/404 integration process and (c) Identification of project purpose and need;
6. Employing performance measures that demonstrate the effectiveness of the system of transportation improvement projects in meeting the intended goals;
7. Promotion of consistency between the CTP, the RTP and other plans developed by cities, counties, districts, California Tribal Governments, and state and federal agencies in responding to statewide and interregional transportation issues and needs;
8. Providing a forum for: (1) participation and cooperation and (2) facilitation of partnerships that reconcile transportation issues which transcend regional boundaries; and,
9. Involving community-based organizations as part of the public, Federal, State and local agencies, California Tribal Governments, as well as local elected officials, early in the transportation planning process so as to include them in discussions and decisions on the social, economic, air quality and environmental issues related to transportation.

1.6 California Transportation Planning & Programming Process

The State of California and federal transportation agencies allocate millions of dollars of planning funds annually to help support California's transportation planning process. The RTP establishes the basis for programming local, state, and federal funds for transportation projects within a region. State and federal planning and programming legislation has been initiated and is periodically revised to provide guidance in the use of these funds to plan, maintain and improve the transportation system.

The RTP Guidelines include recommendations and suggestions for providing documentation that is needed to meet the project eligibility requirements of the Federal State Transportation Improvement Program (FSTIP, which includes the STIP). The FSTIP is defined as a constrained four-year prioritized list of regionally significant transportation projects that are proposed for *federal, state and local* funding. The FSTIP is developed by Caltrans in coordination with MPOs/RTPAs and approved by the FHWA/FTA and is updated every four years. It is consistent with the RTP and it is required as a prerequisite for federal programming of funding.

The planning and programming process is the result of state and federal legislation to ensure that:

1. The process is as open and transparent as possible;
2. Environmental considerations are addressed; and,
3. Funds are allocated in an equitable manner to address transportation needs.

The chart in Appendix A attempts to provide a simple diagram of a complex process. Each entity in the chart reflects extensive staff support and legislative direction. The result is the planning and programming process that reflects the legislative and funding support of the California transportation system. Additional information regarding the programming process is available in Sections 2.5 and 6.15.

1.7 MAP-21/FAST Act Items Impacting the Development of RTPs

This section is intended to outline the new federal requirements resulting from MAP-21/FAST Act and the Final Rule issued May 27, 2016 with an effective date of June 27, 2016 for Statewide and Nonmetropolitan Transportation Planning *and* Metropolitan Transportation Planning. Pursuant to 23 CFR 450.202, RTPAs are required to address federal planning regulations during the preparation of their RTPs. Only the items that have a direct impact on RTP development are listed. Other sections may contain optional requirements that could have impacts to the overall regional transportation planning *process*.

As specified in 23 CFR 450.226(a), prior to May 27, 2018, an RTPA may adopt an RTP that has been developed using the SAFETEA-LU requirements or the provisions and requirements of 23 CFR 450. On or after May 27, 2018, an RTPA may not adopt an RTP that has not been developed according to the provisions of 23 CFR 450. RTPAs are encouraged to communicate with Caltrans to discuss schedules for RTP adoption.

Two New Planning Factors (Section 2.4) – RTPAs shall consider and implement two new planning factors added to the scope of the transportation planning process: Improve resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and enhance travel and tourism. 23 CFR 450.206 (b)(9) and (10)

Performance-Based Planning Approach (Section 7.2) – RTPAs are encouraged to collaborate with Caltrans to integrate the goals, objectives, performance measures, and targets described in other performance-based plans into their RTPs. The implementation timeline for States to satisfy the new requirements is two years from the effective date of each rule establishing performance measures under 23 U.S.C. 150(c), 49 U.S.C. 5326, and 49 U.S.C. 5329 FHWA/FTA. A future update of the RTP Guidelines will capture any “shoulds” or “shalls” resulting from the rulemaking process. 23 CFR 450.206; 23 CFR 450.216(f)(1) and (2)

Assessment of Capital Investment and Other Strategies (Section 6.21) – RTPAs are encouraged to include an assessment of capital investment and other strategies to: (1) preserve the existing and projected future transportation infrastructure, (2) provide for multimodal capacity increases based on regional needs and priorities, and (3) reduce vulnerability of the existing infrastructure to natural disasters. 23 CFR 450.324 (f)(7)

Consideration of Public Transportation Facilities and Intercity Bus Facilities (Section 6.10) – RTPs should also consider the role of intercity bus systems, including systems that are privately owned and operated, in reducing congestion, and including transportation alternatives. 23 CFR 450.216(b)

Interested Parties, Public Participation, and Consultation (Sections 4.4, 4.6, and 6.20) – In addition to the interested parties listed, RTPAs must also provide public ports with a reasonable opportunity to comment on the RTP. RTPAs may also consult with officials responsible for tourism and natural disaster risk reduction when developing RTPs and project lists. 23 CFR 450.210(a) and (b); 23 CFR 450.216(l)(2); 23 CFR 450.324(j)

Optional Scenario Planning – RTPAs may use scenario planning during the development of RTPs. Scenario planning is an analytical framework to inform decision-makers about the implications of various investments and policies on transportation system condition and performance during the development of their plan. 23 CFR 450.324(i)

1.8 Key Additions to the 2017 RTP Guidelines

Key Additions to the 2017 RTP Guidelines:

1. Separating RTP Guidelines, one for the MPOs and one for the RTPAs to better address the specific requirements for their RTPs.
2. Appendix C – Updates to the RTP Checklist statutory requirements for RTPAs, including a question for RTP/RHNA cycle alignments.
3. Appendix H, Planning Practice Examples – aggregates the former Appendix I, Land Use and Transportation Strategies to address Regional GHG Emissions, and the "Best Practices" component of RTP Guidelines as a new appendix, accessible by topic.
4. Updates for the MAP-21/FAST Act throughout the RTP Guidelines.
5. Section 1.0 – Provides guidance on applicability of the RTP Guidelines and defines "shalls" and "shoulds."
6. Section 1.2 – Defines the relationship between the RTP and the CTP.
7. Section 1.7 – Outlines MAP-21/FAST Act items with a direct impact on RTP development.
8. Section 2.2 – Includes updates to State Climate Change Legislation and Executive Orders.
9. Section 2.3 – Provides an overview of the role of transportation in public health and health equity.
10. Section 2.6 – Adds local, regional, and State prepared plans that RTPAs should consult with during RTP preparation.
11. Section 2.7 – Includes Planning and Environmental Linkages (PEL), updates Context Sensitive Solutions, and additional System Planning documents that are used in partnership with RTPAs in the transportation planning process.
12. Chapter 3 – Updates the Modeling Chapter from the 2010 version.
13. Chapter 4 – Includes new legislation highlighting the required Native American Tribal Government Consultation and Coordination process.
15. Section 4.2 – Describes Environmental Justice (EJ) & Title VI considerations in the RTP.
16. Section 4.4 – Includes Periodic Evaluation of the Public Involvement Process to evaluate the effectiveness of the procedures and strategies for developing the RTP.
17. Section 4.6 – Adds public ports to the list of interested parties.

18. Chapter 5 – Describes SB 743 (Chapter 386, Statutes of 2013) and the anticipated future change to transportation analysis for transit priority areas.
19. Section 5.4 – Adds Cultural Resources and Habitat Connectivity to the list of environmental resources that typically require avoidance alternative and mitigation.
20. Chapter 6 – Introduces the California Freight Mobility Plan and the California Sustainable Freight Action Plan.
21. Chapter 6 – Provides preliminary information on MAP-21/FAST Act impacts on Asset Management.
22. Section 6.10 – Adds first/last mile transit connectivity to the transit discussion of the RTP as well as the MAP-21/FAST Act recommendation to discuss the role of intercity buses in reducing congestion, pollution, and energy consumption.
23. Section 6.12 – Adds supporting the State's freight system efficiency target to the goods movement discussion of the RTP.
24. Section 6.18 – New Section 6.18 provides a summary of federal legislation to prepare for new technologies and innovations for the future of transportation.
25. Section 6.19 – Updates Transportation Safety for MAP-21/FAST Act.
26. Section 6.20 – Updates Transportation Security for the MAP-21/FAST Act recommendation for RTPAs to consult with agencies and officials responsible for natural disaster risk reduction.
27. Section 6.21 – Adds new RTP recommendation for RTPAs to include an Assessment of Capital Investment & Other Strategies.
28. Section 6.23 – Adds many transportation strategies to address regional GHG emissions, including employer-sponsored shuttle services, active transportation plans, and coordinating with school district plans and investments.
29. Section 6.25 – Updates for Climate Adaptation background, State legislation, executive orders, and planning resources for RTPAs.
30. Chapter 7 – A new chapter, Transportation Performance Management, provides the appropriate emphasis on the RTP as a performance-driven plan for which performance metrics may be developed and used by the RTPA for plan development, implementation, and monitoring. This chapter includes updates for MAP-21/FAST Act recommendations for RTPAs to implement the performance based approach into the scope of the statewide and nonmetropolitan planning process, including the RTP.

Chapter 2

RTP Process

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RTP PROCESS

2.1 State Requirements

California statute relating to the development of the RTP is primarily contained in Government Code Section 65080. State planning requirements apply to state designated RTPAs.

Just like federal legislation, Government Code Section 65080 requires that all RTPAs prepare RTPs to update their RTPs every four or five years (including RHNA adjustments).

When applicable, RTPs shall be consistent with federal planning and programming requirements and shall conform to the RTP Guidelines adopted by the CTC pursuant to Government Code Section 65080(d). In addition, the CTC cannot program projects in the State Transportation Improvement Program (STIP) that are not identified in an RTP.

Section 65080 states RTPs shall include the following:

1. Policy Element
2. Action Element
3. Financial Element

The following California Government Code Sections apply to the development of RTPs:

Government Code Section 65080.1 – Each RTPA whose jurisdiction includes a portion of the California Coastal Trail, or property designated for the trail shall coordinate with the State Coastal Conservancy, the California Coastal Commission and Caltrans regarding the development of the trail. The trail must be identified in the RTP.

Government Code Section 65080.3 - An RTPA with a population exceeding 200,000 persons may prepare at least one "alternative planning scenario" during the development of the RTP. The purpose of the alternative planning scenario is to address attempts to reduce growth in traffic congestion, make more efficient use of existing transportation infrastructure, and reduce the need for costly future public infrastructure.

Government Code Section 65080.5 - Prior to adoption of the RTP, a public hearing shall be held after publishing notice of the hearing. After the RTP is adopted by the RTPA, the plan shall be submitted to the CTC and Caltrans. One copy should be sent to the CTC. Two copies should be submitted to the appropriate Caltrans district office. The Caltrans district office will send one copy to the headquarters Division of Transportation Planning.

Government Code Section 65081.1 - Regions that contain a primary air carrier airport (defined by the Federal Aviation Administration as an airport having at least 10,000 annual scheduled passenger boardings) shall work collaboratively to include an airport ground access improvement program within the RTP. This program shall address airport access improvement projects, including major arterial and highway widening and extension projects, with special consideration given to mass transit.

Requirements (Shalls)
State: Government Code Sections 65080, 65080.1, 65081.1

2.2 Background on State Climate Change Legislation & Executive Orders

This section provides background for State climate change legislation and related executive orders. First, a description is provided for AB 32, SB 32, and SB 375 which have direct implications for MPOs only in the development of RTPs. Next, other state legislation that impacts State agencies is outlined to provide important context for RTPAs to consider in development of RTPs. Lastly, executive orders on climate change are discussed to provide a critical framework for RTPAs. While the executive orders are directed at State agencies, RTPAs are encouraged to integrate policies and strategies that support these state policies in the development of RTPs.

AB 32 – The California Global Warming Solutions Act of 2006

California established itself as a national leader in addressing climate change issues with the passage of Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006. As a result of AB 32, California statute specifies that by the year 2020, GHG emissions within the state must be at 1990 levels. The ARB is the primary state agency responsible for implementing the necessary regulatory and market mechanisms to achieve reductions in GHG emissions to comply with the requirements of AB 32.

AB 32 identifies GHGs as specific air pollutants that are responsible for global warming and climate change. This is particularly relevant to the RTP Guidelines because, according to the ARB Mobile Source Strategy, the transportation sector represents nearly 50 percent of GHG emissions in California[2]. California has focused on six GHGs (CO2, Methane, Nitrous Oxide, Hydro fluorocarbons, perfluorocarbons, and Sulfur Hexafluoride). CO2 is the most prevalent GHG. All other GHGs are referenced in terms of a CO2 equivalent.

AB 32 directed the ARB to develop actions to reduce GHGs, including the preparation of a scoping plan to identify how best to reach the 2020 goal. According to the scoping plan, the framework for achieving GHG emissions reductions from land use and transportation planning includes implementation of SB 375.

SB 32 – California Global Warming Solutions Act of 2006: Emissions Limit

In recognition that GHG reduction is critical for the protection of all areas of the state, but especially for the state's most disadvantaged communities, as those communities are most affected by the adverse impacts of climate change, SB 32 (Chapter 249, Statutes of 2016) was signed into law on September 8, 2016. The bill extends AB 32's required reductions of GHG emissions by requiring a GHG reduction of at least 40 percent of 1990 levels no later than December 31, 2030. Furthermore, SB 32 authorizes ARB to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. ARB shall carry out the process to achieve GHG emissions reductions in a manner that benefits

[2] This number reflects a wheel-to-well GHG estimate from aviation, construction and mining equipment, buses, heavy duty trucks, passenger vehicles, light duty trucks, rail, ships and commercial harbor craft, and the petroleum refining for transportation fuel. State law provides limited authority to RTPAs/MPOs. Collaborative planning between the state and RTPAs/MPOs is needed to meet the state's GHG reduction goals.

the state's most disadvantaged communities and is transparent and accountable to the public and Legislature.

SB 375 – The Sustainable Communities and Climate Protection Act of 2008

SB 375 was signed into law in September 2008. The bill addressed five primary areas:

1. Requires the ARB to develop regional GHG emission reduction targets for cars and light trucks for each of the 18 MPOs in California.
2. Through their respective planning processes, each of the MPOs is required to prepare a SCS that will specify how the GHG emissions reduction target set by ARB for 2020 and 2035 can be achieved for the region. If the target cannot be met through the SCS, then an Alternative Planning Strategy (APS) shall be prepared.
3. Provides streamlining of California Environmental Quality Act (CEQA) requirements for specific residential and mixed-use developments that are consistent with an SCS or APS that has been determined by ARB to achieve the regional GHG emissions reduction target.
4. Synchronizes the Regional Housing Needs Assessment (RHNA) process with the RTP process; requires local governments to update the housing element of their general plans and to rezone consistent with the updated housing element generally within three years of adoption; and provides that RHNA allocations must be consistent with the development pattern in the SCS. Housing element updates are moved from five year cycles to eight year cycles for member jurisdictions of all MPOs, classified as nonattainment or maintenance (required to adopt an updated RTP every four years) and for jurisdictions within other MPOs and RTPAs that elect to change the RTP adoption schedule from five years to every four years pursuant to Government Code Section 65080 (b)(2)(M). MPOs should carefully estimate a realistic RTP adoption date in providing the 12 month notice to HCD and not adopt a RTP at a later date. RTP adoption past the estimated adoption date relied on by HCD in determining new housing unit allocation for a specific planning period creates a conflict and shifts the housing element planning period to an ending period that lacks a requisite housing unit allocation.
5. Requires the CTC to maintain guidelines for the use of travel demand models used in the development of RTPs that, taking into consideration MPO resources, account for: 1.) the relationship between land use density, household vehicle ownership, and vehicle miles traveled (VMT), consistent with statistical research, 2.) the impact of enhanced transit service on household vehicle ownership and VMT, 3.) likely changes in travel and land development from highway or passenger rail expansion, 4.) mode splitting that allocates trips between automobile, transit, carpool, bicycle and pedestrian trips, and 5.) speed and frequency, days, and hours of operation of transit service. (Government Code Section 14522.1)

The following State legislation is directed at State agencies. RTPAs are encouraged to consider and incorporate, where applicable and appropriate, the policies and strategies that support requirements placed on the State.

AB 1482 – Climate Adaptation

AB 1482 (Chapter 603, Statutes of 2015) addresses two areas:

1. Requires the Natural Resources Agency to update the state's Climate Adaptation Strategy (CAS) by July 1, 2017, and every three years thereafter.

2. Requires the Strategic Growth Council to identify and review activities and funding programs of state agencies that may be coordinated, including those that:
    a. Increase the availability of affordable housing, improve transportation, encourage sustainable land use planning, and revitalize urban and community centers in a sustainable manner.
    b. Meet the goals of the California Global Warming Solutions Act of 2006 and the strategies and priorities developed in the Safeguarding California Plan, the state's climate adaptation strategy.
    c. At a minimum, review and comment on the five-year infrastructure plan.

SB 246 – Climate Change Adaptation

SB 246 (Chapter 606, Statutes of 2015) establishes the Integrated Climate Adaptation and Resiliency Program through the Office of Planning and Research (OPR) to coordinate regional and local adaptation efforts with state climate adaptation strategies.

SB 350 – Clean Energy and Pollution Reduction Act of 2015

SB 350 (Chapter 547, Statutes of 2015) describes the importance of widespread transportation electrification for meeting climate goals and federal air quality standards. SB 350 focuses on "widespread" transportation electrification. The term "widespread" is important because adhering to existing patterns of investment in wealthier communities relative to low- or moderate-income communities would result in underinvestment in low-income communities and overinvestment in wealthier communities. SB 350 notes that "widespread transportation electrification requires increased access for disadvantaged communities, low- and moderate-income communities, and other consumers of zero-emission and near-zero-emission vehicles."

Pursuant to PUC 740.12(a)(2), it is the policy of the state and the intent of the legislature to encourage transportation electrification as a means to achieve ambient air quality standards and the state's climate goals. Agencies designing and implementing regulation, guidelines, plans, and funding programs to reduce GHG emissions shall take the findings described in paragraph (1) of PUC Section 740.12 into account. RTPAs may incorporate the directives from SB 350 in their planning processes.

Executive Orders on Climate Change Issues

The executive orders on climate change below are discussed to provide a critical framework for RTPAs. While these Executive Orders are directed at State agencies, integration of climate change policies in the RTP supports the State's effort to reduce per capita GHG emissions and combat the effects of climate change.

Three Governor Executive Orders were issued from 2005-2008 to address climate change: S-3-05 (June 1, 2005) that calls for a coordinated approach to address the detrimental air quality effects of GHGs; S-20-06 (October 17, 2006) that requires State agencies to continue their cooperation to reduce GHG emissions and to have the Climate Action Team develop a plan to outline a number of actions to reduce GHG; and S-13-08 (November 14, 2008) that directs the Natural Resources Agency to develop the State's first Climate Adaptation Strategy (CAS) guide. Information on climate change and California climate change activities can be found at the following links:

http://www.climatechange.ca.gov/
http://www.arb.ca.gov/cc/facts/facts.htm

More recently, Governor Executive Orders were issued in 2012 and 2015. Executive Order B-16-12 sets a 2050 GHG emissions reduction goal for the transportation sector to achieve 80 percent less than 1990 levels. Executive Order B-32-15 works toward achieving GHG reduction targets with the California Sustainable Freight Action Plan, an integrated plan that establishes clear targets to improve freight efficiency, transition to zero-emission technologies, and increase competitiveness of California's freight system.

In addition, Executive Order B-30-15 established a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. All state agencies with jurisdiction over sources of GHG emissions shall implement measures, pursuant to statutory authority, to achieve reductions of GHG emissions to meet the 2030 and 2050 GHG emissions reductions targets. Furthermore, State agencies shall take climate change into account in their planning and investment decisions, and employ full life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives. State agencies' planning and investment shall be guided by the following principles:

- Priority should be given to actions that both build climate preparedness and reduce GHG emissions;
- Where possible, flexible and adaptive approaches should be taken to prepare for uncertain climate impacts;
- Actions should protect the states most vulnerable populations;
- Natural infrastructure solutions, as defined in Public resources code 71154(c)(3) (e.g., flood plain and wetlands restoration or preservation, combining levees with restored natural systems to reduce flood risk, and urban tree planning to reduce high heat days), should be prioritized; and,
- Lastly, the State Five-Year Infrastructure Plan will take current and future climate change impacts into account in all infrastructure projects.

These Executive Orders are available at:

B-16-12: https://www.gov.ca.gov/news.php?id=17472
B-30-15: https://www.gov.ca.gov/news.php?id=18938
B-32-15: https://www.gov.ca.gov/news.php?id=19046

2.3 Promoting Public Health & Health Equity

Health-promoting policies are found throughout Regional Transportation Plans (RTPs). RTPs often incorporate many or all of the following: safe routes to school programs; complete streets strategies; equity considerations; transportation safety; and policies to promote transit, bicycling and walking. These kinds of transportation-related policies and programs, and others as well, foster more accessible, more livable, and healthier communities. Explicitly identifying their public health benefits can reinforce the role of RTPs in building stronger communities and regions. In addition, local health departments and other public health stakeholders can be valuable partners in RTP development, to increase understanding of the relationship between transportation and health. Their participation can help to maximize the RTP's public health and equity benefits and ensure that the RTP is responsive to community needs.

The role of transportation in public health is increasingly recognized by health advocates and transportation providers alike. Federal, state, regional, and local transportation agencies have

long focused on improving both air quality and safety, which are very important to public health. More recently the understanding of the relationship of transportation and health has been expanding to include a much broader range of community needs. One fundamental example is the way in which transportation can encourage physical activity, such as walking and biking, often referred to as active transportation. There is a demonstrated relationship between increased physical activity and a wide range of health benefits. If a higher level of investment is made on active transportation, the walk and bike mode shares could be increased, which could help a community to lower its rates of obesity, hypertension, and other chronic diseases. However, local jurisdictions primarily lead the planning and implementing of active transportation infrastructure and supportive land uses, and land use patterns play at least as large a role in encouraging more active mode choices.

Transportation is also being seen not as an end in itself, but as a means of providing access to important destinations: access to jobs, education, healthy food, recreation, worship, community activities, healthcare, and more. Improved access to key destinations is especially critical for disadvantaged and underserved communities. The design of the transportation system, in combination with land use and housing decisions, also plays a role in public health. Coordinated planning of transportation and land use can promote public health through the development of livable, walkable, accessible communities. And as nations, states and regions shift away from fossil fuel dependent transportation modes, the benefits of reducing the effects of climate change will also help to reduce the public health risks from climate change effects such as extreme heat, storms, and drought. Transportation and public health providers can help one another to address all of these factors, learning from each other and joining their skills to improve transportation for better health outcomes for everyone.

Improving transportation infrastructure in ways that encourages walking and cycling is one of several effective ways to improve physical activity, decrease traffic collisions, and improve one's health status. But, transportation planning also has a tremendous impact on community health, safety, and neighborhood cohesion. For instance, health-focused transportation plans can help reduce the rate of injuries and fatalities from collisions. Some research suggests that there is a multiplier effect: when streets are designed to safely accommodate walking and biking, more people do so, and as more people walk and bike the rate of collisions actually goes down as pedestrians and bicyclists become more visible to motorists. In addition, more people out walking and biking in a neighborhood has an important public safety benefit, as it means there are more "eyes on the street" to deter criminal activity. Taking this a step further, studies have shown that people who live in neighborhoods with less traffic and higher rates of walking, bicycling, and transit use know more of their neighbors, visit their neighbor's homes more often, and are less fearful of their neighbors. When streets are inhospitable to pedestrians and bicyclists, residents don't feel safe walking or biking to nearby transit and their ability to access regional educational and employment opportunities is hampered. In short, improving traffic safety results in better public health beyond simply reduced injuries and fatalities.

Additional examples of how transportation planning can promote health include:

- Transportation planning can help residents reach jobs, education, social services, and medical care by walking, biking or public transportation in a timely manner.
- Reducing commute times and increasing public transportation reliability can reduce stress and improve mental health.
- Affordable transportation options enables low income households to invest in savings, education, and healthier food options—all factors that contribute to greater individual and community health.

2.4 Federal Requirements

Federal requirements for the development of RTPs are directed at States and RTPAs, as specified in 23 CFR 450.202. The primary federal requirements regarding RTPs are addressed in the statewide/nonmetropolitan transportation planning and metropolitan transportation planning rules – Title 23 CFR Part 450 and 771 and Title 49 CFR Part 613. These federal regulations incorporating both MAP-21/FAST Act changes were updated by FHWA and FTA and published in the May 27, 2016 Federal Register.

The final guidance is commonly referred to as the Final Rule. In the Final Rule, the statewide/nonmetropolitan transportation planning process provides for consideration of the following federal planning factors:

1. Support the economic vitality of the nonmetropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
2. Increase the safety of the transportation system for motorized and non-motorized users;
3. Increase the security of the transportation system for motorized and non-motorized users;
4. Increase accessibility and mobility of people and freight;
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between (regional) transportation improvements and State and local planned growth and economic development patterns;
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
7. Promote efficient system management and operation;
8. Emphasize the preservation of the existing transportation system;
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and
10. Enhance travel and tourism.

It is important to note that failure to consider any factor specified in 23 CFR 450.206 (a) or (c), shall not be reviewable by any court under Title 23 U.S.C., 49 U.S.C. Chapter 53, Subchapter II of Title 5 U.S.C. Chapter 5, or Title 5 U.S.C. Chapter 7 in any matter affecting an RTP, TIP, a project or strategy, or the certification of a metropolitan transportation planning process.

Federal Clean Air Act conformity requirements pursuant to the Amendments of 1990, apply in all nonattainment and maintenance areas. Section 176(c) of the Clean Air Act (CAA), as amended (42 U.S.C. 7506(c), and the related requirements of 23 U.S.C. 109(j), “transportation conformity” requirement ensures that federal funding and approval are given to transportation plans, programs and projects that are consistent with the air quality goals established by a State Implementation Plan (SIP).

Title VI of the Civil Rights Act of 1964 ensures that all people have equal access to the transportation planning process. It is important that RTPAs receiving federal funds comply with this federal civil rights requirement during the RTP development process. Title VI states that: all people regardless of their race, sexual orientation or income level, will be included in the decision-making process. Additional information regarding equal access to the transportation planning process is available in Sections 4.2 and 4.3.

Requirements (Shalls)
Federal: Title 23 CFR Part 450 and 771; 49 CFR Part 613; and Title 40 CFR Part 93 and Title VI of the Civil Rights Act of 1964

2.5 Relationship between the RTP, OWP, FTIP, STIP (RTIP & ITIP), & FSTIP

The key planning documents produced by the RTPAs, County Transportation Commissions (CTCs) and Caltrans are:

1. Regional Transportation Plan – Looks out over a 20 plus-year period providing a vision for future demand and transportation investment within the region.

2. Overall Work Program – The OWP lists the transportation planning studies and tasks to be performed by the RTPA or member agency during that fiscal year.

Federal Program -MPOs Only:

3. Federal Transportation Improvement Program – The FTIP is a financially constrained four-year program listing all federally funded and regionally significant projects in the region.

State Program – RTPAs, County Transportation Commissions (CTCs), and Caltrans:

4. State Transportation Improvement Program – The STIP is a biennial program adopted by the CTC. Each STIP covers a five year period and includes projects proposed by regional agencies in their regional transportation improvement programs (RTIPs) and by Caltrans in its interregional transportation improvement program (ITIP).
    a. Regional Transportation Improvement Program – The RTIP is a five year program of projects prepared by the RTPAs and County Transportation Commissions. Each RTIP should be based on the RTP and a region wide assessment of transportation needs and deficiencies.
    b. Interregional Transportation Improvement Program – The ITIP is a five year list of projects that is prepared by Caltrans, in consultation with RTPAs. Projects included in the interregional program shall be consistent with the Interregional Transportation Strategic Plan and relevant adopted RTP(s).

State & Federal Program – MPOs, RTPAs, and Caltrans:

5. State Federal Transportation Improvement Program (FSTIP) - The FSTIP is a constrained four-year prioritized list of regionally significant transportation projects that are proposed for *federal, state and local* funding. The FSTIP is updated every four-years and is developed by Caltrans in coordination with MPOs/RTPAs and approved by the FHWA/FTA. It is consistent with the RTP and it is required as a prerequisite for federal programming of funding.

Key Planning & Programming Documents Produced by MPOs/RTPAs & County Transportation Commissions/Caltrans

	Time/Horizon	*Contents*	*Update Requirements*
RTP	*20+ Years*	*Future Goals, Strategies & Projects*	*RTPAs – Every 5 Years (State law allows option to change from 5 to 4 years)*
OWP	*1 Year*	*Planning Studies and Tasks*	*Annually*
FTIP (MPOs Only)	*4 Years*	*Transportation Projects*	*At least every 4 Years*
RTIP (RTPAs/CTCs)	*5 Years*	*Transportation Projects*	*Every 2 Years*
ITIP (Caltrans)	*5 Years*	*Transportation Projects*	*Every 2 Years*
FSTIP	*4 years*	*Transportation Projects*	*At least every 4 years*

Requirements (Shalls)
State: California Government Code Sections 65082, 14526, 14527 and 14529 require the preparation of the STIP, RTIPs and ITIP.

2.6 Consistency with Other Planning Documents

It is very important that the RTP be consistent with other plans prepared by local, state, federal agencies and Native American Tribal Governments. Consistency can be described as a balance and reconciliation between different policies, programs, and plans. This consistency will ensure that no conflicts would impact future transportation projects. RTPAs depend upon the collaborative process described in Chapter 4 for the numerous plans below to be incorporated or consulted with. RTPAs also rely on the aforementioned stakeholders to contribute to RTP development, according to their plans and areas of expertise. While preparing an updated RTP, RTPAs should, as appropriate, incorporate or consult such local/regionally prepared documents as:

1. General Plans (especially the Circulation and Housing Elements);
2. Airport Land Use Compatibility Plans;
3. Air quality State Implementation Plans (SIPs);
4. Short- and Long-Range Transit Plans;
5. Habitat Conservation Plans/Natural Community Conservation Plan including an integrated regional mitigation strategy (if applicable);
6. Urban Water Management Plans;
7. Local Coastal Programs (if applicable);
8. Public Agency Trail Plans (if applicable);
9. Local Public Health Plans;
10. Regional Bicycle and Pedestrian Plans
11. Americans with Disabilities Act Transition Plans;
12. Master Plans, Specific Plans;
13. Impact Fee Nexus Plans;

14. Local Capital Improvement Programs;
15. Mitigation Monitoring Programs;
16. Countywide Long-Range Transportation Plans (if applicable); and,
17. Tribal Transportation Plans.

RTPAs also should consult State/Federal prepared transportation planning documents such as:

1. California Transportation Plan;
2. California Rail Plan;
3. Interregional Transportation Strategic Plan;
4. Transportation Concept Reports;
5. District System Management Plans;
6. California Aviation System Plan;
7. Goods Movement Action Plan;
8. Sustainable Freight Action Plan;
9. California Freight Mobility Plan;
10. Strategic Highway Safety Plan;
11. California Strategic Highway Safety Plan, and Corridor System Management Plans; and,
12. Federal Lands Management Plans.

RTPAs should also consult State prepared environmental planning documents such as:

1. Draft Environmental Goals and Policy Report;
2. State Wildlife Action Plan;
3. Vulnerability Assessments;
4. California Climate Adaptation Planning Guide;
5. Safeguarding California Plan; and,
6. Safeguarding California: Implementation Action Plans.

Federal regulations require consultation with resource agencies during the development of the RTP. This consultation should include the development of regional mitigation and identification of key documents prepared by those resource agencies that may impact future transportation plans or projects (See Chapter 5 RTP Environmental Considerations). RTPA staff should make a concerted effort to ensure any actions in the RTP do not conflict with conservation strategies and goals of the resource agencies.

2.7 Coordination with Other Planning Processes

RTPs are prepared within the context of many other planning processes conducted by federal, tribal, state, regional and local agencies. This section provides background information, along with planning practice examples in Appendix H, for how RTPAs can integrate the planning processes associated with the Smart Mobility Framework, Complete Streets, Context Sensitive Solutions, Planning and Environmental Linkages, and system planning documents specifically Transportation Concept Reports (TCRs), Corridor System Management Plans (CSMPs), District System Management Plans (DSMPs), the Interregional Transportation Strategic Plan (ITSP), and other transportation plans into development of the RTP. These initiatives and implementation tools work toward achieving the CTP goals. They also align with the principles of the federal Partnership for Sustainable Communities. As the RTP is bound to fiscal constraints, the strategies, actions, and improvements described in this section are intended to provide guidance and should be considered to the maximum extent feasible in the development of the RTP.

Smart Mobility Framework

The Caltrans Smart Mobility Framework[3] (SMF) is a key strategic tool for integrating transportation with land-use, to develop healthy and livable communities through multi-modal travel options, reliable travel times, and safety for all users of the transportation system. The SMF supports the goals of climate change intervention and energy security while supporting the goals of the CTP, and the federal Livability Principles for Sustainable Communities[4].

The SMF integrates transportation and land use by applying principles of location efficiency, complete streets, connected and integrated multimodal networks, housing near destinations for all income levels, and protection of parks and open space. This framework is designed to help keep California communities livable and supportive of healthy life styles while allowing each to maintain its unique community identify.

The CTP reflects the understanding that a full set of transportation strategies includes initiatives to address land use and development. The SMF provides a framework to plan for the challenges of increased demands on an aging transportation system, climate change, and current and future generations' demands for multi-modal transportation choices.

In addressing the need for access to destinations for people and goods, the SMF provides guidance to incorporate new concepts and tools alongside well-established ones. It calls for participation and partnership by agencies at all levels of government, as well as private sector and community involvement.

One method for supporting the implementation of SMF is the SMF Learning Network, a series of educational forums and webinars designed to extend the reach of SMF to internal and external partners. The networks serves as an opportunity to share examples of Smart Mobility applications and strengthen strategic partnerships between Caltrans and other agencies. The information sharing and feedback that results from these forums will shape the future integration of Smart Mobility principles into Caltrans processes.

Complete Streets

The term "Complete Streets" refers to a transportation network that is planned, designed, constructed, operated and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit and rail riders, commercial vehicles and motorists appropriate to the function and context of the facility.

The California Complete Streets Act of 2008 (AB 1358) ensures that the general plans of California cities and counties meet the needs of all users, including pedestrians, transit, bicyclists, the elderly, motorists, movers of commercial goods, and the disabled. AB 1358 requires cities and counties to identify how the jurisdiction will provide accommodation of all users of roadways during the revision of the circulation element of their general plan. The Governor's Office of Planning and Research amended guidelines for the development of the circulation element to accommodate all users. A comprehensive update of the General Plan Guidelines in 2016 includes guidance on how cities and counties can modify the circulation element to plan for a balanced, integrated, multimodal transportation network that meets the

[3] Smart Mobility Framework: http://www.dot.ca.gov/hq/tpp/offices/ocp/smf.html
[4] Livability Principles for Sustainable Communities: https://www.sustainablecommunities.gov/mission/livability-principles

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.

The benefits of Complete Streets can include: Safety; Health; GHG Emission Reduction; and Economic Development and Cost Savings.

Multimodal transportation networks, using complete streets planning practice examples, 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 pedestrians and bicyclists. Streets and other transportation facility design considerations that accommodate a variety of modes and users abilities can contribute to a safer environment that makes all modes of travel more appealing.

Planning for Complete Streets will enable local governments to provide healthier lives by encouraging physical activity. Public health studies have demonstrated that people are more likely to walk in their neighborhood if it has sidewalks. Also, studies have found that people with safe walking environments within a 10 minute walking radius are more likely to meet recommended physical activity levels. The integration of sidewalks, bike lanes, transit and rail amenities, and safe crossings into initial design of projects is more cost-effective than making costly retrofits later. Complete Streets is also a key strategy in the reduction of GHG emissions. Providing community residents with an option that gets them out of their cars is a proven strategy for improving communities, reducing air pollution, and generating local business. Similarly, Complete Streets consider Safe Routes to School, a public health strategy connecting communities to schools, includes but is not limited to child safety, reducing traffic congestion, sidewalks, crosswalks and bicycle lanes.

Creating integrated, 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 attracting new economic activity. Equally important to sustain economic vitality are commercial vehicles and their operational needs. Vibrant urban environments cannot function without commercial vehicles delivering goods that sustain the economic activities that take place.

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.

While AB 1358 provides no statutory requirement for RTPAs, integration of Complete Streets policies support local agencies' requirements to address Complete Streets in circulation elements of their general plan.

RTPAs should also integrate Complete Streets policies into their RTPs, to identify the financial resources necessary to accommodate such policies, and should consider accelerating programming for projects that retrofit existing roads to provide safe and convenient travel by all users.

RTPAs should encourage all jurisdictions and agencies within the region to ensure that their circulation elements and street and road standards, including planning, design, construction, operations, and maintenance procedures address the needs of all users. Streets, roads and

highways should also be safe for convenient travel in a manner that is suitable within the context of Complete Streets. To the maximum extent feasible, RTPA funded transportation system projects, corresponding Complete Street facilities, and improvements should meet the needs in project areas to maximize connectivity, convenience and safety for all users.

Along the shoreline of coastal counties, one element of the Complete Streets program should be the California Coastal Trail (CCT), for additional information regarding the CCT see Section 6.11.

Recommendations (Shoulds)
Federal: FAST Act Section 1442. Safety for users, encourages each State and Metropolitan Planning Organization to adopt standards for the design of Federal surface transportation projects that provide for the safe and adequate accommodation (as determined by the State) of all users of the surface transportation network, including motorized and non-motorized users, in all phases of project planning development and operation.

Development of Complete Streets policy guides assist member agencies in the adoption of Complete Streets policy for their jurisdictions. A policy guide can function as a template. It can provide flexibility and be revised to accommodate individual agency's needs.

Planning Practice Examples: Available in Appendix H

Context Sensitive Solutions

Context Sensitive Solutions (CSS) is the process of engaging stakeholders in addressing transportation goals with the community, economic, social and environmental context. It is an inclusive approach used during planning, designing, constructing, maintaining, and operating the transportation system. It integrates and balances community and stakeholder values with transportation safety, maintenance, and performance goals. Context sensitive solutions are reached through a collaborative, interdisciplinary process involving all stakeholders and requires careful, imaginative, and early planning, and continuous stakeholder involvement.

Goals, issues, and values of California Tribal Governments and tribal communities, if applicable, should also be defined identified and addressed through outreach, collaboration and consultation. This would assist with identification and protection of cultural resources, historic sites, and environmental justice issues as well as, transportation needs and strategies. The evolution of economic development for some California Tribes has created increased demand for improved transportation infrastructure (i.e. roads, traffic control, access, etc.) and increased need for collaboration and consensus building with these stakeholders to address these new demands.

In towns and cities across California, the State highway may also function as a community street. These communities may desire that their main street be an economic, social, and cultural asset as well as provide for the safe and efficient movement of people and goods. Addressing all these needs throughout the planning and development process will help ensure that transportation solutions meet more than transportation objectives.

More information is available at the following links:
http://www.dot.ca.gov/hq/LandArch/16_livability/css/index.htm

http://www.contextsensitivesolutions.org/

Planning and Environmental Linkages

Federal statute and regulations outline an optional process for incorporating transportation planning documents or other source material directly or by reference into subsequent environmental documents that are prepared in compliance with the National Environmental Policy Act (NEPA). Appendix A to Title 23 CFR Part 450 provides additional information to explain the linkage between the transportation planning and project development/NEPA processes; it supports congressional intent that statewide and metropolitan transportation planning should be the foundation for highway and transit project decisions. The results or decisions of transportation planning studies may be used as part of the overall project development process consistent with NEPA and associated implementing regulations. Federal law specifically states that this does not subject transportation plans and programs to NEPA.

Publicly available documents or other source material produced by, or in support of the transportation planning process, may be incorporated directly or by reference into subsequent NEPA documents in accordance with federal regulations. If an RTPA and its project delivery partner(s) decide to take advantage of this opportunity to streamline and simplify the overall project delivery process, they should coordinate regarding the conditions that must be met during regional transportation planning. Most of the conditions, though perhaps not all, are routinely met during preparation of the RTP.

Additional information to further explain the linkages between the transportation and project development/NEPA processes is provided in Section 5.3 and Appendix D.

NCHRP Report 541, Consideration of Environmental Factors in Transportation Systems Planning, is an additional resource, at:
http://environment.transportation.org/pdf/RT_1_RM_7.pdf.

The FHWA's Environmental Review Toolkit, Program Overview for Planning and Environmental Linkages, also provides information, available at:
https://www.environment.fhwa.dot.gov/integ/index.asp

Recommendations (Shoulds)
Federal: Title 23 U.S.C. 168 Integration of planning and environmental review; Title 23 CFR 450.318 Transportation planning studies and project development; Appendix A of Title 23 CFR Part 450 – Linking the Transportation Planning and NEPA Processes (Appendix D of this document).

System Planning Documents

District System Management Plans (DSMPs)

The DSMP is a long-range, 20-25 year, policy planning document that describes how the District envisions the transportation system will be maintained, preserved, managed, operated, and developed within the planning horizon. It provides a vehicle for the development of multimodal, intermodal, and multijurisdictional system strategies. These strategies are developed in partnership with related Caltrans functional units, Divisions, and Districts, as well as external partners, such as RTPAs, cities, counties, tribal governments, other partner agencies, and the public. The DSMP plays a major role in guiding the development of both the Transportation Concept Reports (TCRs) and the Corridor System Management Plans (CSMPs).

Interregional Transportation Strategic Plan (ITSP)

The ITSP is a Caltrans planning document that provides guidance for the identification and prioritization of interregional transportation projects identified on the State's Interregional Transportation System. The ITSP provides an overview of the interregional transportation system, including identification of the major Strategic Interregional Corridors and Priority Interregional Facilities, which are the corridors and transportation facilities that have the greatest impact on interregional travel. Concepts have been created for each Strategic Interregional Corridor that will be used by public agencies to plan and program transportation improvements.

Transportation Concept Reports (TCRs)

Caltrans prepares TCRs, long-range transportation planning documents that guide the development of California's State Highway System (SHS) as required by Government Code 65086, Title 23 CFR Part 450 Subpart B, and the transportation needs of the public, stakeholders, and SHS users. The comprehensive planning document for each highway route and the corresponding transportation corridor provides a focused look at the existing conditions and performance of the route, future transportation needs and demands, integrates and aligns with the State Wildlife Action Plan (SWAP), habitat conservation plans and regional green-prints (where applicable), and articulates improvements necessary to address those needs within the context of the communities and rural areas the highways traverse. Caltrans meets this need through the development of the TCRs. Each Caltrans District is delegated the responsibility to create a TCR for the SHS routes within their boundaries.

Corridor System Management Planning (CSMP)

A CSMP is a comprehensive, integrated management plan for optimizing efficient, effective multimodal system performance within a transportation corridor. A CSMP includes all travel modes in a defined corridor - highways and freeways, parallel and connecting roadways, public transit (bus, bus rapid transit, light rail, intercity rail) and bikeways and pedestrian facilities. A CSMP results in a listing and phasing plan of recommended operational improvements, Intelligent Transportation System (ITS) strategies, and system expansion projects to preserve or improve performance measures within the corridor. CSMPs are developed and implemented by Caltrans in partnership with regional and local transportation agencies and other partners.

A CSMP incorporates both capital and operational improvements and is developed through the following steps:

1) Corridor limits defined.
2) Corridor team established.
3) Performance objectives defined; preliminary assessment performed.
4) Comprehensive performance assessment performed; causation of performance issues identified.
5) Simulate and test improvement scenarios and alternatives for most effective mix of projects, strategies and actions.
6) Alternatives selected and CSMP prepared. The Plan should be accepted or adopted by Caltrans, the MPO/RTPA, cities and counties as a guide for corridor management.

Completed CSMPs and other Caltrans system planning documents can be viewed at:
http://www.dot.ca.gov/hq/tpp/corridor-mobility/

With regard to corridor system planning, the RTP may:

- Include by corridor all strategies, actions and improvements identified in system planning documents taking into consideration statewide and regional objectives which can include but are not limited to: multi-modal mobility, accessibility, environmental protection, and GHG reduction.
- Describe how the corridor will be managed across jurisdictions and modes to preserve corridor productivity based upon performance measurement.
- Describe roles and relationships among units of local government, modal agencies, Caltrans and related agencies for managing the corridor for highest mobility benefits and for measuring and evaluating performance.

2.8 Adoption - Update Cycles & Amendments

Regional transportation planning is a dynamic process requiring continuous monitoring and periodic updating. Updating an RTP ensures the planning process is valid and consistent with current and forecasted transportation and land use conditions and trends for at least a 20-year planning horizon.

RTPAs may revise the transportation plan at any time using the procedures in this section without a requirement to extend the horizon year. The transportation plan (and any revisions or amendments) shall be approved by the RTPA's Board and submitted for informational purposes to the CTC and Caltrans. Copies of any revised or amended transportation plans must be provided to the FHWA and the FTA, as appropriate.

California state law, (Government Code Section 65080(d)) mirrors the federal update requirement. An RTPA that is not within an MPO, that is required to adopt a RTP not less than every five years, may elect to adopt the plan not less than every four years in order that their member cities and counties can revise their housing elements every 8 years pursuant to Government Code Sections 65080 (b)(2)(M) and 65588(b).

Non-MPO RTPAs are required by State statute to update their RTPs at least every five years, regardless of whether they are located in an air quality nonattainment or maintenance area. However, some non-MPO RTPAs may elect to synchronize their update schedule with the MPO to align with housing elements. Failure of an RTPA to adhere to the required update period could result in a lack of state and federal funding as projects that are programmed for state or federal funding in the STIP and Federal STIP must be included in the approved RTP.

RTPs can be amended or modified. The U.S. DOT identified two types of revision methods for an RTP (1) A major revision that is an "amendment" and, (2) A minor revision that is an "administrative modification." The definitions in Title 23 CFR Part 450.104 clarify major and minor amendments to RTPs. It is recommended that RTPAs coordinate with Caltrans district regional planners on reviewing, commenting and at times facilitating the determination of what constitutes an RTP Amendment or Administrative modification.

RTP Amendment (major)

RTPs must be amended whenever a plan revision takes place such as the addition or deletion of a project or a major change in project scope, cost and schedule. Other potential triggers for an RTP Amendment could include changing programmed project phases or any major change

in design concept or design scope (e.g. changing project termini or the number of through traffic lanes). Amendments require public review for possible comments, and demonstration of fiscal constraint.

RTP Administrative Modification (minor)

Federal regulations define Administrative Modification as a minor revision to an RTP that includes minor changes to project/project phase costs, minor changes to funding sources of previously included projects, and other minor changes to projects/project phase initiation dates.

An RTP administrative modification is much more flexible and open to wide interpretation. An administrative modification is a revision that does not require public review and comment, re-demonstration of fiscal constraint, or a conformity determination (in nonattainment and maintenance areas).

Re-Adopting Existing RTPs

Re-adopting the existing RTP is an option if no significant factors have occurred within the region that would impact the existing RTP. However, this option would require close evaluation of the current status of the RTPs fiscal constraint, conformity determination and any changes to the project scope, cost and schedule of the RTPs. Re-adopting an RTP could mean that no new projects are presented in the document, nor will there be new projects in the current update cycle of the RTP.

Conformity Considerations

Isolated rural non-attainment and maintenance areas are not required to prepare a conformity determination on their RTP and must only conduct conformity analysis on non-exempt or regionally significant projects. For more information, see Section 5.6 Air Quality & Transportation Conformity.

Requirements (Shalls)
State: Government Code Section 65080(d), mandatory RTP update cycles for RTPAs

2.9 RTP Checklist

The RTP Checklist is contained in Appendix C of this document. The purpose of the RTP Checklist is to establish a minimum standard for developing the RTP. The checklist of transportation planning requirements has been updated in order to conform to federal and state RTP requirements.

RTPAs should include the page numbers indicating where the Checklist items are addressed in the region's RTP. This requirement of identifying page numbers will assist the general public, federal, state and local agencies to locate the information contained in the RTP.

The checklist should be completed by the RTPA and submitted to the CTC and Caltrans along with the **draft** and final RTP. This checklist is available electronically from Caltrans planning staff. Each RTPA is encouraged to complete the checklist electronically. Following its completion, the RTPA's Executive Director (or designated representative) must sign the checklist to indicate that the information is complete and correct.

Requirements (Shalls)
State: Pursuant to California Government Code Section 14032(a), which authorizes the CTC to request an evaluation of all RTPs statewide to be conducted by Caltrans. All RTPAs are required to submit an RTP Checklist with their **Draft** and **Final** RTP when the document is submitted to Caltrans and the CTC.

Chapter 3

RTP Analysis and Modeling

(Non-MPOs Only)

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RTP ANALYSIS AND MODELING

3.0 Introduction

While not required under federal or state law a number of RTPAs have developed travel demand models (TDM) to assist with their RTP analysis. The purpose of the guidance is to provide clear and relevant direction to those agencies and provide state, regional, and local agencies with consistent and transparent modeling methodology direction.

The majority of California's RTPAs are located outside of the boundaries of the federally designated MPOs. The RTPAs located within a federally designated MPO boundary may utilize the MPO's travel demand model to support their RTP analysis.

The California Transportation Commission (CTC) recognizes that RTPAs are not required to develop Sustainable Community Strategies as part of their RTP. Further, the California Department of Transportation is responsible (not the RTPAs) for performing project-level air quality conformity analysis on regionally significant federally funded projects in isolated rural nonattainment or maintenance areas. RTPAs are encouraged to follow the TDM guidelines (Gov. Code 14522.2(b)). This chapter reflects only RTPA planning practice examples, not federal/state statutory/regulatory requirements and recommendations and planning practice examples related to MPOs.

The 2017 RTP guidelines builds upon the 2010 guidelines, reflects changes in federal and state law, and encourages the best practices in transportation modeling. Achieving California's transportation, air quality, and climate objectives are in large part depend on effective modeling practices and consistency and coordination of modeling among state, regional and local agencies. This chapter reflects current modeling information.

Organization of this Chapter

- Sections 3.0 to 3.4 - Provides the background and context of regional transportation planning analysis as well as general descriptions of terminology, technical and policies tool, and planning practice examples.
- Section 3.5 – Lists federal and state statutory or regulatory requirements and recommendations.

Federal/State Requirements, Recommendations, and Planning Practice Examples Terminology

This chapter follows the convention for "Shalls," "Shoulds," and "Planning Practice Examples" as defined in Section 1.0.

"Shalls": reflect a federal or state statutory or regulatory requirement and are used with a statutory or regulatory citation.

"Shoulds": reflect a federal or state permissive, optional, or recommended statutory reference such as "may" or "should" and are used with a statutory or regulatory citation.

"Planning Practice Examples": reflect federal/state guidelines, the state of the practices, and good modeling practices. They are not federal or state statutory or regulatory requirements or recommendations. Where Chapter 3 reflects "planning practice examples," the words "encouraged to," "consider," and "can" are used.

3.1 Modeling in the RTP Development Process / Transportation and Land Use Models

Transportation planners and engineers utilize analytical tools to assist in the policy formation and decision-making process during the regional transportation planning process.

Policy Tools:

- Improve the decision-making process by assisting the public and decision-makers in evaluating and identifying strategies that best address the transportation needs of their jurisdiction.
- Used to present market strategies to the public/stakeholders. Some models such as Geographical Information Systems (GIS) have excellent graphical and animation displays that can show "what if" scenarios.

Technical Tools:

- Provide a clear explanation of the modeling and analytical techniques applied in assessing the implications of the land use scenarios or other alternatives studied as applicable.
- Demonstrate how various policy assumptions impact the forecast results. For example, they provide estimates of the elasticities and cross-elasticities of demand for various modes of travel with respect to critical variables such as access time, travel time, reliability, safety, and cost.
- Assist with the evaluation and prioritization of planning and operational alternatives.
- Assist in the operation and management of existing roadway capacity. Some models provide optimization capabilities, recommending the best design or control strategies to maximize the performance of a transportation facility.

3.2 Requirements for RTP Analysis

State law requires transportation agencies identified under California Government Code sections 29532 or 29532.1 to develop RTPs (Gov. Code, § 65080).

Travel Demand Model (TDM)

While not required by law, RTPA transportation planners and engineers can utilize a travel demand models to evaluate RTP strategies. A TDM utilizes a series of mathematical equations that forecast travel behavior and transportation services demand within a region. The inputs include but are not limited to population, employment, land use, and the transportation network. The outputs of a TDM are used to assist decision-makers in developing policies and strategies, to inform the public, and for the National Environmental Protection Act (NEPA) and the California Environmental Quality Act (CEQA) analysis.

California Statewide Travel Demand Model (CSTDM)

Interregional travel is the sum of the following:

1. Trips beginning outside a given RTPA's boundary and ending within it (X-I trip)
2. Trips beginning inside a given RTPA's boundary and ending outside it (I-X trip)
3. Trips beginning outside a given RTPA's boundary, traveling across some portion of the region and ending outside the boundary (X-X trip)

Regional transportation planning agencies may use this data if they do not have access to a TDM.

For more information see, http://www.dot.ca.gov/hq/tpp/offices/omsp/statewide_modeling/cstdm.html

Visualization Techniques and Sketch Modeling of Scenarios

RTPAs may utilize visualization techniques such as GIS-based information, maps charts, and other visual aids that are useable and understandable by the public.

3.3 TDM Quality Control & Consistency

Travel Demand Modeling consistency and quality control are essential for creating confidence in modeling results. Furthermore, it is essential that RTPAs, State Agencies, and technical experts, have a voice in developing and determining realistic, relevant, and transparent model input assumptions, variables and factors, and sensitivity.

Model Inputs and Assumptions

Model inputs and assumptions are a necessary part of running a TDM. The assumptions are derived from the most current estimates developed and approved by the RTPA or other agencies authorized to make the estimates.

Data

Modeling results are only as good as the data that goes into them. The CTC recognizes that obtaining data is especially difficult in the rural areas of California and that RTPAs may need assistance. If travel survey samples are limited to a given region, other available sources of data include the National Household Travel Survey, American Community Survey, and trip rates associated with a region that is similar in size such as demographic and socioeconomic characteristics. As new technology and data sources (i.e. "big data") become available, regional transportation agencies are encouraged to consider ways to incorporate them into their analysis and modeling practices.

Model Calibration and Validation

Calibration is used to adjust the model parameters until the model matches observed regional travel patterns and demand. Validation involves testing the model's predictive capabilities (ability to replicate observed conditions (within reason)) before it is used to produce forecasts. The outputs and observed or empirical travel data are compared, and the model's parameters are adjusted until the outputs fall within an acceptable range of error. Static validation tests compare the model's base year traffic volume estimates to traffic counts using statistical measures and threshold criteria.

Because emission estimates are sensitive to vehicle speed changes, U.S. EPA and U.S. DOT suggest that areas using network-based travel models compare the speeds estimated in the validation year with speeds empirically observed during the peak and off-peak periods. The significant sensitivity of emissions to highway speeds emphasizes the need to monitor and maintain the ability of the transportation model to provide accurate speed estimates.[5]

The U.S. EPA and U.S. DOT also suggest that every component of a model, as well as the entire model system, validated[6]. For conventional four-step travel models, may include the four major components – trip generation, trip distribution, mode choice, and mode-specific trip assignment.

[5] Guidance for the Use of Latest Planning Assumptions in Transportation Conformity Determinations, Revision to January 18, 2001 Guidance Memorandum, EAP, December 2008, page 9

[6] Travel Model Validation and Reasonableness Checking Manual second edition, page 1-6, September 24, 2010

Static Validation Criteria

- Volume-to-count ratio – is computed by dividing the volume assigned by the model by the actual traffic count for individual roadways model-wide. It provides a general context for the relationship (e.g., high or low) between model volumes and counts.
- Percent of links with volume-to-count within Caltrans deviation allowance – the deviation is the difference between the model volume and the actual count divided by the actual count. The Caltrans deviation thresholds recognize that allowances shrink as the count increases (i.e., lower tolerance for differences between the model volume estimates and counts).
- Correlation coefficient – estimates the correlation (strength and direction of the linear relationship) between the actual traffic counts and the estimated traffic volumes from the model.
- Percent root mean square error (RMSE) – is the square root of the model volume minus the actual count squared divided by the number of counts. It is a measure similar to standard deviation in that it assesses the accuracy of the entire model.

RTPAs that develop TDMs are encouraged to meet the static validation and transit assignment validation thresholds below. Where a model does not meet the thresholds the RTPA is encouraged to clearly document the impediments.

Recommended Static Validation Thresholds

Validation Metric	Thresholds
Percent of links with volume-to-count ratios within Caltrans deviation allowance	At Least 75%
Correlation Coefficient	At Least 0.88
Percent Root Mean Squared Error (RMSE)	Below 40%

The table below specifies possible transit assignment validation criteria.

Recommended Transit Assignment Validation

Validation Metric	Thresholds
Difference between actual counts to model results for a given year by route group (e.g., local bus, express bus, etc.)	+/- 20%
Difference between actual counts to model results for a given year by Transit Mode (e.g., light rail, bus, etc.)	+/- 10%

For additional guidance see the FHWA's The Travel Model Validation and Reasonableness Checking Manual II Second Edition, September 2010.

Model Sensitivity Analysis

Sensitivity testing is the application of the model and the model set using alternative input data or assumptions. Sensitivity analysis of individual model components can include the estimation of the elasticities and cross-elasticities of model coefficients. However, sensitivity analysis can also be applied to the entire set of models using alternative assumptions regarding the demographic and, socioeconomic input data, or changes in transportation system to determine if the model results are plausible and reasonable.

Sensitivity testing includes both disaggregate and aggregate checks. Disaggregate checks, such as the determination of model elasticities, are performed during model estimation. Aggregate sensitivity testing results from temporal validation. During sensitivity testing, reasonableness and logic checks can be performed. These checks also include the comparison

of estimated (or calibrated) model parameters against those estimated in other regions with similar models. "Reasonableness and logic checks can also include "components of change" analyses and an evaluation of whether or not the models "tell a coherent story" as recommended by the FTA for New Starts analysis*." (Travel Model Validation and Reasonableness Checking Manual Second Edition, September 2010, 1-7)*

The output of sensitivity tests can include total VMT, mode share, the number of the person and vehicle trips by purpose, average trip length by mode, and transit boardings. Each RTPA is encouraged to improve model sensitivity and accuracy. However, the application of these quality control criteria will vary based on the size of the RTPA, severity of its nonattainment status, the sophistication of transit system, the degree of model sophistication, among other characteristics.

The following inputs can be changed as part of sensitivity tests:

- Highway Network: Add or delete lanes to a link, change link speeds, and change link capacities
- Land use: Residential and employment density (the households and the number of jobs), proximity to transit, regional accessibility, and land use mix

(For additional guidance see Federal Highway Administration, The Travel Model Validation and Reasonableness Checking Manual,‖ Second Edition, 10.2 Sensitivity Testing September 2010)

Calculating Vehicle Miles Traveled (VMT)

Vehicle miles traveled (VMT) is key data for highway planning and management, and a common measure of roadway use and travel demand. Regional transportation agencies use VMT, along with other data, in estimating congestion, air quality, and potential gas-tax revenues. RTPAs also use VMT or VMT stratified by speed, as inputs in the development of NEPA and CEQA (SB 743) documents, and for purposes other than RTP development.

Documentation

Quality documentation is key to providing planners, engineers, and decision-makers with a better understanding of the reliability of the tools used to produce the forecast. In addition to documenting the key modeling processes (model estimation, calibration, and validation), it is also important to identify model limitations and document how they are addressed within the post-processing model if an off-model strategy is used.

Model Peer Review / Peer Advisory Committee

RTPAs (that have models) are encouraged to formally seek out peer reviews from Californian transportation modelers from other agencies of similar size during model development or after a major modeling enhancement.

In addition to the committee, transportation modeling agencies are also encouraged to participate in statewide, regional, and local modeling forums and user groups as a way to share ideas, review model inputs and methodologies, and coordinate modeling activities.

3.4 RTP Modeling Improvement Program (MIP) / Planning Practice Examples

Many techniques for travel demand forecasting exist and each of them differs in complexity, cost, and level of effort, sophistication, and accuracy. RTPAs select analysis methods that best meets the needs of the analysis, the availability of current and historical data, the degree of accuracy desired, the forecast time period, the time available to complete the forecast analysis, and the value (cost/benefit) of the forecast to the agency and the public.

Analysis, forecasting tools, and transportation technologies are not static; therefore, it is important that state, regional, local, and air quality agencies have an on-going model improvement program that supports model calibration and validation activities by focusing on increasing model accuracy, policy sensitivity, and data development and acquisition.

The RTP MIP includes planning practice examples that take into account factors such as the size and available resources of the regional transportation agencies and consider modeling capabilities for the referenced counties groupings below. See the next section (3.5 RTP Travel Analysis Groupings) for the delineation of federal and state law requirements and recommendation for RTPAs.

Category - 1 with attainment Air Quality (AQ), slow growth in population and jobs, little or no congestion, and no significant capacity-enhancing projects or limited transit expansion plans or areas of non-attainment due to transport.

These counties are not required under federal or state statute or regulation to develop network travel model. Road congestion is not increasing rapidly. Emission changes from higher miles per gallon vehicles can be factored or derived from the ARB inventory.

Category - 2 with attainment AQ, slow to moderate growth, small population, and no urbanized area or transit having more than a minimal potential impact on VMT, plus rural isolated non-attainment areas due to transport.

These counties are not required under federal or state statute or regulation to develop a network travel model.

Analysis Tools:

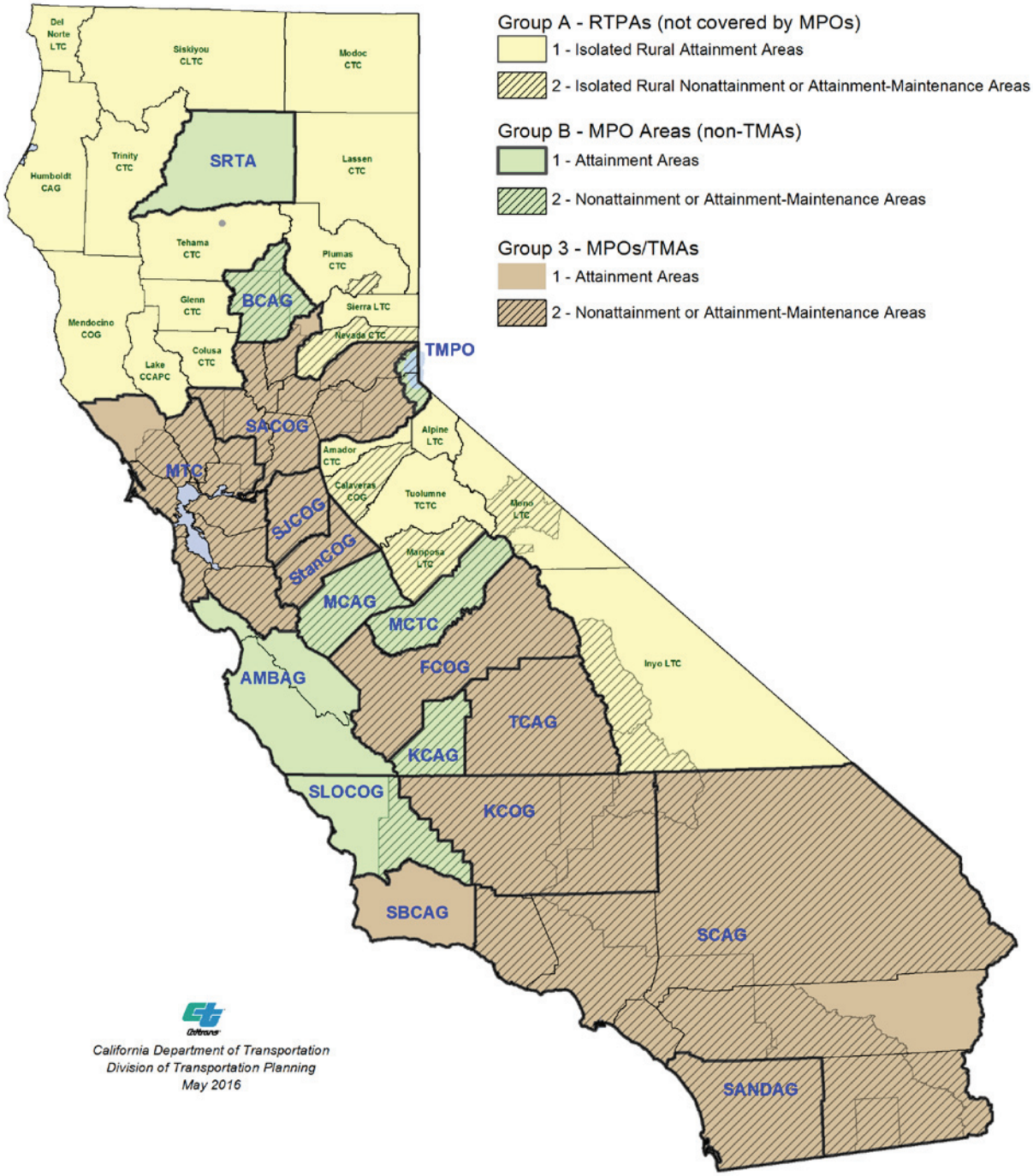
- If using a three-step model, consider running a reasonable convergence towards equilibrium.
- For models with a mode choice step, if the travel demand model is unable to forecast bicycle and pedestrian trips, consider another means to estimate those trips.
- Consider including speed and frequency, days, and hours of operation of service as inputs when modeling the transit mode.
- Consider using models that account for the effects of land use characteristics on travel, either by incorporating effects into the model process or by post-processing.

Visualization Techniques and Sketch Modeling of Scenarios

- Consider developing GIS capabilities that lead to simple land use models.
- Consider entering all natural resources data into the GIS.
- Consider developing parcel data and creating a land use data layer.
- Consider addressing changes in regional demographic patterns.

3.5 RTP Travel Analysis Groupings

MPOs, RTPAs, and congestion management agencies are organized into travel analysis groups based on federal and state laws (see map below). Group A includes Regional transportation planning agencies identified as Isolated Rural Attainment Areas (A1) and Isolated Rural Nonattainment or Maintenance Areas (A2). RTPAs that fall within the A grouping are not required to conduct federal air quality conformity analysis as part of their RTP development. Caltrans is required to perform project-level air quality conformity analysis for regionally significant federal funded projects.



Group B includes federally recognized MPOs not located within a metropolitan transportation area with a population over 200,000 and therefore, not designated transportation management areas (TMAs). This group includes two categories based on federal air quality conformity laws, (B1) Attainment Areas and (B2) Nonattainment or Maintenance Areas. Group C includes MPOs located within TMAs. This grouping includes (C1) Attainment Areas and (C2) Nonattainment or Maintenance Areas.

Group A1 Isolated Rural Attainment Areas -- Federal Requirements *(Shalls)*

None

Group A1: Isolated Rural Attainment Areas -- State Requirements *(Shalls)*

California Government Code

§65080(a) Each transportation planning agency designated under Section 29532 or 29532.1 shall prepare and adopt a regional transportation plan directed at achieving a coordinated and balanced regional transportation system, including, but not limited to, mass transportation, highway, railroad, maritime, bicycle, pedestrian, goods movement, and aviation facilities and services. The plan shall be action-oriented and pragmatic, considering both the short-term and long-term future, and shall present clear, concise policy guidance to local and state officials. The regional transportation plan shall consider factors specified in Section 134 of Title 23 of the United States Code. Each transportation planning agency shall consider and incorporate, as appropriate, the transportation plans of cities, counties, districts, private organizations, and state and federal agencies.

Group A1: Isolated Rural Attainment Areas -- Federal Recommendations *(Shoulds)*

None

Group A1: Isolated Rural Attainment Areas -- State Recommendations *(Shoulds)*

California Government Code

§14522.2(b) Transportation planning agencies other than those identified in paragraph (1) of subdivision (a) of Section 14522.1, cities, and counties are encouraged, but not required, to utilize travel demand models that are consistent with the guidelines in the development of their regional transportation plans.

§65080(c) Each transportation planning agency may also include other factors of local significance as an element of the regional transportation plan, including, but not limited to, issues of mobility for specific sectors of the community, including, but not limited to, senior citizens.

Group A2: Isolated Rural Nonattainment or Maintenance Areas -- Federal Requirements *(Shalls)*

Regional Transportation Planning Agencies are not required to perform federal air quality conformity analysis as part of their RTP development. Caltrans is the responsible agency for performing the project level air quality analysis requirements and recommendations listed in this grouping.

40 CFR §93

§93.109 Criteria and procedures for determining conformity of transportation plans, programs, and projects: General.

(g) Isolated rural nonattainment and maintenance areas. This paragraph applies to any nonattainment or maintenance area (or portion thereof) which does not have a metropolitan transportation plan or TIP and whose projects are not part of the emissions analysis of any MPO's metropolitan transportation plan or TIP. This paragraph does not apply to "donut" areas which are outside the metropolitan planning boundary and inside the nonattainment/maintenance area boundary.

(1) FHWA/FTA projects in all isolated rural nonattainment and maintenance areas must satisfy the requirements of §§93.110, 93.111, 93.112, 93.113(d), 93.116, and 93.117. Until EPA approves the control strategy implementation plan or maintenance plan for a rural CO nonattainment or maintenance area, FHWA/FTA projects must also satisfy the requirements of §93.116(b) ("Localized CO, PM10, and PM2.5 violations (hot spots)").

(2) Isolated rural nonattainment and maintenance areas are subject to the budget and/or interim emissions tests as described in paragraph (c) of this section, with the following modifications:

(i) When the requirements of §§93.106(d), 93.116, 93.118, and 93.119 apply to isolated rural nonattainment and maintenance areas, references to "transportation plan" or "TIP" should be taken to mean those projects in the statewide transportation plan or statewide TIP which are in the rural nonattainment or maintenance area. When the requirements of §93.106(d) apply to isolated rural nonattainment and maintenance areas, references to "MPO" should be taken to mean the state department of transportation.

(ii) In isolated rural nonattainment and maintenance areas that are subject to §93.118, FHWA/FTA projects must be consistent with motor vehicle emissions budget(s) for the years in the timeframe of the attainment demonstration or maintenance plan. For years after the attainment year (if a maintenance plan has not been submitted) or after the last year of the maintenance plan, FHWA/FTA projects must satisfy one of the following requirements:

(A) §93.118;

(B) §93.119 (including regional emissions analysis for NOX in all ozone nonattainment and maintenance areas, notwithstanding §93.119(f)(2)); or

(C) As demonstrated by the air quality dispersion model or other air quality modeling technique used in the attainment demonstration or maintenance plan, the FHWA/FTA project, in combination with all other regionally significant projects expected in the area in the timeframe of the statewide transportation plan, must not cause or contribute to any new violation of any standard in any areas; increase the frequency or severity of any existing violation of any standard in any area; or delay timely attainment of any standard or any required interim emission reductions or other milestones in any area. Control measures assumed in the analysis must be enforceable.

(iii) The choice of requirements in paragraph (g)(2)(ii) of this section and the methodology used to meet the requirements of paragraph (g)(2)(ii)(C) of this section must be determined through the interagency consultation process required in §93.105(c)(1)(vi) through which the relevant recipients of title 23 U.S.C. or Federal Transit Laws funds, the local air quality agency, the State air quality agency, and the State department of transportation should reach consensus about the option and methodology selected. EPA and DOT must be consulted through this process as well. In the event of unresolved disputes, conflicts may be escalated to the Governor consistent with the procedure in §93.105(d), which applies for any State air agency comments on a conformity determination.

Group A2: Isolated Rural Nonattainment or Maintenance Areas -- State Requirements *(Shalls)*

California Government Code

§65080(d) Except as otherwise provided in this subdivision, each transportation planning agency shall adopt and submit, every four years, an updated regional transportation plan to the California Transportation Commission and the Department of Transportation. A transportation planning agency located in a federally designated air quality attainment area or that does not contain an urbanized area may at its option adopt and submit a regional transportation plan every five years. When applicable, the plan shall be consistent with federal planning and programming requirements and shall conform to the regional transportation plan guidelines adopted by the California Transportation Commission. Prior to the adoption of the regional transportation plan, a public hearing shall be held after the giving of notice of the hearing by publication in the affected county or counties pursuant to Section 6061.

Group A2: Isolated Rural Nonattainment or Maintenance Areas -- Federal Recommendations *(Shoulds)*

None

Group A2: Isolated Rural Nonattainment or Maintenance Areas -- State Recommendations *(Shoulds)*

None

Chapter 4

RTP Consultation & Coordination

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RTP CONSULTATION & COORDINATION

4.1 Consultation & Coordination

Transportation planning is a collaborative process, led by the RTPA and other key stakeholders in the regional transportation system. Transportation planning activities include visioning, forecasting population/employment, identifying major growth corridors, projecting future land use in conjunction with local jurisdictions, assessing needs, developing capital and operating strategies to move people and goods, and developing a financial plan. The required planning processes are designed to foster involvement by all interested parties, such as the business community, community groups, walking and bicycling representatives, public health departments and public health non-governmental organizations, environmental organizations, the Native American community, neighboring RTPAs and the general public through a proactive public participation process. Review all sections of this chapter for detailed public participation requirements.

Coordination is the cooperative development of plans, programs and schedules among agencies and entities with legal standing in order to achieve general consistency. Consultation means that one or more parties confer with other identified parties in accordance with the established process and, prior to taking action(s), considers the views of the other parties and periodically informs them about action(s) taken. It is very important for the development of the RTP to be conducted both in coordination and consultation with interested parties.

In addition to having an extensive public participation process, each RTPA should coordinate its regional transportation planning activities with all transportation providers, facility operators such as airports, appropriate federal, state, local agencies, Native American Tribal Governments, environmental resource agencies, air districts, pedestrian and bicycle representatives and adjoining MPOs/RTPAs. The RTP shall (Title 23 CFR Part 450.216(j)) reflect consultation with resource and permit agencies to ensure early coordination with environmental resource protection and management plans, for additional information regarding consultation with resource agencies see Section 4.8. RTPAs that reside within MPO boundaries are encouraged to collaborate with their MPO to coordinate public involvement, as applicable and appropriate.

RTPs are required to be developed in coordination with local and regional air quality planning authorities and shall reflect specific consultation activities with air quality agencies on the development of the RTP (Title 40 CFR Part 93.105 (b)). RTPAs participate in air quality planning by providing travel activity data for emissions inventories. They may also implement Transportation Control Measures to reduce transportation related emissions. This participation helps lay the groundwork for future SIP conformity determinations.

Due to the importance of including a wide range of various parties in the development of the RTP, the 26 rural RTPAs will need to conform to the coordination and consultation requirements as outlined in 23 CFR 450.210 and 450.216(j). Development of the RTP shall include a documented public involvement process, consultation and coordination with all interested parties and shall, at a minimum, describe explicit procedures, strategies and desired outcomes. RTPAs that reside within MPO boundaries are encouraged to collaborate with their MPO to coordinate the consultation process.

In summary, the consultation process shall:

1. Provide adequate public notice and the opportunity to comment on proposed RTPs and public participation plans;
2. To the maximum extent practicable, employ visualization techniques to describe the RTP;
3. To the maximum extent practicable, make the RTP electronically accessible, such as placing it on the Internet;
4. To the maximum extent practicable, hold public hearings at convenient and accessible locations and times;
5. Demonstrate explicit consideration and response to public input on the RTP (documentation);
6. Seek out and consider the needs of those traditionally underserved by existing transportation systems, such as low income and minority households;
7. Provide additional opportunities to comment on the RTP, if the final version differs due to additional comments;
8. Coordinate with the state transportation planning and public involvement processes; and,
9. Periodically review intended RTP outcomes, products and/or services.

Requirements (Shalls)
Federal: Transportation Conformity Regulations of Title 40 CFR Part 93.105; 23 CFR 450.210 requires States to establish a documented public involvement process for development of the RTP. RTPAs shall comply as well.

Planning Practice Examples: Available in Appendix H

4.2 Title VI & Environmental Justice Considerations in the RTP

Evaluation of the entire range of a region's needs is a key element in the process of developing an RTP, and like consideration of public comment is required by both federal and state law. Providing more transportation and mobility choices such as increased transit, bicycle, and pedestrian facilities, as well as appropriate housing choices near job centers increases opportunities for all segments of the population at all income levels. Each region is required by federal regulation and state laws to plan for and implement transportation system improvements that will provide a fair share of benefits to all residents, regardless of race, ethnicity or income level. As discussed in Section 4.4, the public involvement process must provide for "Seeking out and considering the needs of those traditionally underserved by existing transportation systems, such as low-income and minority households as well as people with limited English proficiency, who may face challenges accessing employment and other services." This section discusses separate legal requirements that protect low-income and minority individuals: Title VI of the federal Civil Rights Act of 1964, Section 11135 of the California Government Code, and Presidential Executive Order 12898 on Environmental Justice (EJ) require RTPAs to be sensitive to how all residents, particularly low-income communities and minority communities, may be impacted by possible transportation and land use changes identified in the RTP. While Section 11135 of the California Government Code applies to all RTPAs, Title VI and EJ requirements apply to agencies that receive federal funds.

Title VI of the Civil Rights Act of 1964

Title VI of the Civil Rights Act of 1964 prohibits discrimination by recipients of federal funds on the basis of race, color or national origin. A similar prohibition applies to recipients of state funds under California Gov. Code section 11135, which prohibits discrimination on the basis of race, color or national origin, as well as ethnic group identification, religion, age, sex, sexual orientation, genetic information, or disability. When an RTPA receives federal funding for only a limited purpose, such as a specific service or project, it is still subject to Title VI in all of its "policies, programs or activities," whether or not they are directly supported with the federal funds.

The general prohibition of Title VI is far-reaching. While U.S. DOT's Title VI regulations (49 CFR § 21.5) enumerates specific prohibitions, they also state that "the enumeration of specific forms of prohibited discrimination in [the regulations] does not limit the generality of the prohibition." Among the numerous specific forms of discrimination the regulations call out are prohibitions on subjecting a person to segregation in any matter related to receipt of any benefit under the program; denying a person the opportunity to participate as a member of a planning, advisory, or similar body which is an integral part of the program; or utilizing any criteria or methods of administration that have the effect of subjecting persons to discrimination. Other discriminatory actions are specifically prohibited. Title VI and its implementing regulations (49 CFR § 21.5) state that the recipient of federal funds may not directly or through contractual or other arrangements, on the grounds of race, color, or national origin:

1. Deny a person any service, financial aid, or other benefit provided under the program;
2. Provide any service, financial aid, or other benefit to a person which is different, or is provided in a different manner, from that provided to others under the program;
3. Subject a person to segregation or separate treatment in any matter related to his receipt of any service, financial aid, or other benefit under the program;
4. Restrict a person in any way in the enjoyment of any advantage or privilege enjoyed by others receiving any service, financial aid, or other benefit under the program;
5. Treat a person differently from others in determining whether he satisfies any admission, enrollment, quota, eligibility, membership, or other requirement or condition which persons must meet in order to be provided any service, financial aid, or other benefit provided under the program;
6. Deny a person an opportunity to participate in the program through the provision of services or otherwise or afford him an opportunity to do so which is different from that afforded others under the program; or
7. Deny a person the opportunity to participate as a member of a planning, advisory, or similar body which is an integral part of the program.

Title VI Requirements

In addition to prohibiting discrimination, the Title VI regulation imposes affirmative obligations on recipients. Among other things, recipients are prohibited from denying a person an opportunity to participate in the program through the provision of services or otherwise afford him an opportunity to do so which is different from that afforded others under the program. The Title VI regulation also requires them to "take affirmative action to assure that no person is excluded from participation in or denied the benefits of the program or activity on the grounds of race, color, or national origin," and both as part of the Title VI report described below and more

generally, to "have available for the Secretary racial and ethnic data showing the extent to which members of minority groups are beneficiaries of programs receiving Federal financial assistance."

As described in FTA Circular 4702.1B, *"Title VI Requirements and Guidelines for FTA Recipients,"* the Title VI Plan (certifying compliance every three years) for RTPAs that receive federal funds includes the following information and is submitted to the State as the primary recipient of funding, separately from the RTP.

1. All general requirements set out in Chapter III of the Circular;
2. For agencies that provide fixed-route service, the service standards and policies contained in Chapter IV of the Circular must also be met. These standards and policies must address how service is distributed across the transit system and must ensure that the manner of the distribution affords users access to these assets.

The Circular includes the following related definitions:

1. Discrimination refers to any action or inaction, whether intentional or unintentional, in any program or activity of a Federal aid recipient, sub-recipient, or contractor that results in disparate treatment, disparate impact, or perpetuating the effects of prior discrimination based on race, color, or national origin.
2. Disparate impact refers to a facially neutral policy or practice that disproportionately affects members of a group identified by race, color, or national origin, where the recipient's policy or practice lacks a substantial legitimate justification and where there exists one or more alternatives that would serve the same legitimate objectives but with less disproportionate effect on the basis of race, color, or national origin.
3. Disproportionate burden refers to a neutral policy or practice that disproportionately affects low-income populations more than non-low-income populations. A finding of disproportionate burden requires the recipient to evaluate alternatives and mitigate burdens where practicable.
4. Disparate treatment refers to actions that result in circumstances where similarly situated persons are intentionally treated differently (i.e., less favorably) than others because of their race, color, or national origin….
5. Minority population means any readily identifiable group of minority persons who live in geographic proximity and, if circumstances warrant, geographically dispersed/transient populations (such as migrant workers or Native Americans) who will be similarly affected by a proposed DOT program, policy, or activity.

Environmental Justice

Presidential Executive Order 12898 requires that "each federal agency shall conduct its programs, policies, and activities that substantially affect human health or the environment, in a manner that ensures such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under, such programs, policies, and activities, because of their race, color, or national origin." It also requires federal executive agencies and the entities to which they extend financial support or project approval to "identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations."

The U.S. DOT Order 5610.2(a) on EJ defines "adverse effects" as "the totality of significant individual or cumulative human *health or environmental effects*." That phrase is defined broadly as extending to "interrelated social and economic effects, which may include, but are not limited to: bodily impairment, infirmity, illness or death; air, noise, and water pollution and soil contamination; destruction or disruption of man-made or natural resources; destruction or diminution of aesthetic values; destruction or disruption of community cohesion or a community's economic vitality; destruction or disruption of the availability of public and private facilities and services; vibration; adverse employment effects; displacement of persons, businesses, farms, or nonprofit organizations; increased traffic congestion, isolation, exclusion or separation of minority or low-income individuals within a given community or from the broader community." That phrase also includes "the denial of, reduction in, or *significant delay in the receipt of, benefits* of DOT programs, policies, or activities."

Environmental Justice at FHWA means "*identifying and addressing disproportionately high and adverse effects of the agency's programs, policies, and activities on minority and low-income populations to achieve an equitable distribution of benefits and burdens. This includes the full and fair participation by all potentially affected communities in the transportation decision-making process".*

The FTA EJ Circular 4703.1 describes an EJ analysis to determine whether the activity will result in a "[d]isproportionately high and adverse effect on human health and environment." The DOT order prohibits, if further mitigation measures or alternatives that would reduce the disproportionately high and adverse effects are feasible, any "[d]isproportionately high and adverse effect on minority and low-income populations," defined as "an adverse effect that: (l) is *predominately borne by* a minority population and/or a low-income population, or (2) will be suffered by the minority population and/or low-income population and is *appreciably more severe or greater in magnitude* than the adverse effect that will be suffered by the non-minority population and/or non-low-income population."

DOT EJ Order 5610.2(a) and FTA EJ Circular 4703.1 provide guidance on EJ related to the responsibilities of RTPAs that are federal fund recipients. There are three federally established guiding EJ principles, summarized in FTA Circular 4703.1, to consider throughout transportation planning, public outreach and participation efforts conducted in development of the RTP:

- "To avoid, minimize, or mitigate disproportionately *high and adverse human health and environmental effects, including social and economic effects*, on minority populations and low-income populations.
- To ensure the *full and fair participation* by all potentially affected communities in the transportation decision-making process.
- To prevent the *denial of, reduction in, or significant delay in the receipt of benefits* by minority and low-income populations."

While Title VI and EJ are closely related, FTA Circular 4703.1, "*Environmental Justice Policy Guidance for FTA Recipients,"* provides an understanding of the overlap and distinction between the two. Title VI prohibits discrimination by recipients of federal assistance on the basis of race, color, and national origin. By contrast, the Executive Order on EJ extends its protections not only to "minority populations" but also to "low-income populations."

DOT EJ Order 5610.2(a) defines "Minority Population" to mean "any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant,

geographically dispersed/transient persons (such as migrant workers or Native Americans) who will be similarly affected by a proposed DOT program, policy or activity." The U.S. DOT EJ Order similarly defines "Low-Income Population" as "any readily identifiable groups of low-income persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient person (such as migrant workers or Native Americans) who will be similarly affected by a proposed DOT program, policy or activity." FTA's EJ Circular 4703.1 and FTA's 2012 Title VI Circular 4702.1B include similar definitions.

Requirements (Shalls)
Federal: Title 23 CFR Part 450.210(a)(1); For federal fund recipients: portions of FTA Circular 4702.1B – Title VI Requirements and Guidelines for FTA Recipients; Presidential Executive Order 12898 on Environmental Justice (1994): portions of U.S. DOT Order 5610.2(a) (2012) and FHWA Order 6640.23A (2012)
State: Government Code Section 11135

Recommendations (Shoulds)
Federal: For federal fund recipients: FTA Circular 4703.1 – EJ Policy Guidance for FTA Recipients; U.S. DOT EJ Order 5610.2(a); portions of FTA Circular 4702.1B-Title VI Requirements and Guidance for FTA Recipients; portions of U.S. DOT EJ Order 5610.2(a), and FHWA Order 6640.23A (2012).

Planning Practice Examples: Available in Appendix H

4.3 Social Equity Factors

Social equity factors relevant to RTP development include, but are not limited to, housing and transportation affordability, access to transportation, displacement and gentrification, and the jobs/housing fit.

Title 23 CFR Part 450.210(a)(1)(viii) requires that a public involvement process describe explicit procedures, strategies and desired outcomes for seeking out and considering the needs of those traditionally underserved by existing transportation systems, such as low-income and minority households, who may face challenges accessing employment and other services.

RTPAs can encourage the involvement of low-income communities and communities of color by proactively seeking the input of these households and by making public meetings as accessible as possible. Public engagement strategies may include:

- Hold meetings at accessible locations and outside of traditional working hours (e.g. evenings and weekends);
- Locate meetings in low-income communities and communities of color;
- Locate meetings at sites accessible via affordable transit;
- Translate meeting materials for non-English speakers;
- Provide interpretation at meetings for non-English speakers; and,
- Ensure meetings are attended by RTPA decision makers in addition to RTPA staff.

In addition to the practices listed above, RTPAs are also encouraged, to the extent practicable, to develop partnerships with local, regional and state-wide organizations that can assist in achieving RTP participation goals.

Planning Practice Examples: Available in Appendix H

4.4 Public Involvement Process

Involving the public in planning and project development poses a major challenge as well as an opportunity. Many people are skeptical about whether they can truly influence the outcome of a transportation project. Others feel that transportation plans are too abstract and long-term to warrant attention.

The RTP is one of the key processes an RTPA undertakes. It is a primary avenue for public participation in the long-range transportation planning process. Title 23 CFR Part 450.210(a) states the following concerning participation and consultation (RTPAs shall comply as well):

"The State's public involvement process at a minimum shall establish early and continuous public involvement opportunities that provide timely information about transportation issues and decision-making processes to, affected public agencies, representatives of public transportation employees, public ports, freight shippers, private providers of transportation (including intercity bus operators), representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, providers of freight transportation services, and other interested parties with reasonable opportunities to be involved in the long-range statewide transportation plan and STIP."

Title 23 CFR Part 450. 210(a)(1) also requires that public involvement process be developed in consultation with all interested parties and describe explicit procedures, strategies, and desired outcomes for:
(ii) Providing timely notice and reasonable access to information about transportation issues and processes;
(iii) Providing adequate public notice of public participation activities and time for public review and comment at key decision points, including but not limited to a reasonable opportunity to comment on the proposed RTP;
(iv) Holding any public meetings at convenient and accessible locations and times;
(viii) Seeking out and considering the needs of those traditionally underserved by existing transportation systems, such as low-income and minority households, who may face challenges accessing employment and other services.

The purpose of the RTPA's documented public involvement process is to establish the process by which the public can participate in the development of regional transportation plans and programs. The documented public involvement process should be designed to assist RTPA staff in implementing an effective public participation process through a variety of strategies. It provides RTPA staff with a menu of techniques or activities from which they can tailor their specific program's input process. RTPAs should also refer to the CTP Public Participation Plan document, or the CTP/FSTIP Public Participation Plan, which can provide the most effective methods for engaging with the public. This document can be accessed through the following link: http://www.dot.ca.gov/hq/tpp/offices/osp/ppp_files/CTPE_PPP_Final_052913_dg_29.pdf. Which public participation methods the RTPA uses will require a careful analysis of what is desired to be accomplished as well as the scope of the particular transportation project(s). Plenty of flexibility is available to RTPAs in developing specific public involvement programs. Every given situation or region in California is different, and each approach to a specific public involvement challenge will be unique.

When significant written and oral comments are received on the draft RTP and as a result of the participation process or the interagency consultation process required under the EPA

transportation conformity regulations (Title 40 CFR Part 93), a summary, analysis, and report of the proposed comments should be made as part of the final RTP.

It is important to note that the documented public involvement process should be prepared prior to the development of the RTP. The documented public involvement procedures should have public input during its preparation and have a 45-day comment period before the RTPAs board adopts it. This enhanced documented public involvement process is a federal requirement.

Title 23 CFR Part 450.210(a)(1)(v) requires the documented public involvement process to use visualization techniques, to the maximum extent practicable, to describe the RTP. Visualization techniques range from a simple line drawing or hand written chart to technologically complex web cast public meetings, GIS modeling and computer generated maps. The specific type of visualization technique is determined by the RTPA.

The documented public involvement process, the draft and adopted RTP shall be posted on the RTPA's website to the maximum extent practicable and for the life of the RTP. It is also recommended that RTPAs place hard copies of the draft and adopted copies of RTPs in local libraries and other locations where the public would have access to these documents.

Public involvement programs for RTPs in California are required to follow state and federal requirements. If the minimum state and federal requirements are inadequate for the region, the RTPA may develop a more specialized public involvement program if that promises to be more effective.

In developing RTPs, the RTPA should consult with agencies and officials responsible for other planning activities within their region that are affected by transportation or at least coordinate the planning process to incorporate input. These areas include, but are not limited to, the listed examples:

1. State and local growth;
2. Public health;
3. Housing;
4. Economic development;
5. Environmental protection;
6. Tourism;
7. Natural disaster risk reduction;
8. Airport operations; and,
9. Goods Movement.

When the RTPA region includes California Indian Tribal Lands (reservations, Rancherias, and allotments) the RTPA shall appropriately involve the federally recognized Native American Tribal Government(s) in the development of the RTP. The RTPA should also seek input even from tribes that are not federally recognized or from other "interested parties" that may have a background and/or history of Native American culture within the region. In addition, AB 52 (Chapter 532, Statutes of 2014) mandates that agencies must consult with tribes regarding impacts to Tribal Cultural Resources as an impact under CEQA. See Section 4.7 Native American Tribal Government Consultation and Coordination for further discussion.

Similarly, when the RTPA region includes federal public lands, the RTPA shall appropriately involve the federal land management agencies in the development of RTP.

RTPA public participation efforts shall at minimum develop a documented process that outlines roles, responsibilities and provides outreach efforts to all sectors of the local community.

RTPAs may include a separate Public Participation Plan, however RTPAs shall at minimum include a detailed discussion of public participation efforts within the RTP. For example, public hearings, workshops, surveys, brochures and other methods that invite comments or input for the public participation efforts and RTP development.

RTPAs are also encouraged to involve the media, including ethnic media as appropriate, as a tool to promote public participation in the RTP development, review and commenting process.

Public participation and consultation for the development of the RTP remains an essential element of the overall RTP process. Mapping and visualization tools should be used, to the extent practicable, to create visual representations of proposed scenarios. A Public Participation Plan includes public outreach, public awareness, and public input beginning with the planning stage.

For additional information on the consultation process please refer to Sections 4.6, 4.7, and 4.8.

Periodic Evaluation of the Public Involvement Process

A periodic review of the public involvement process is important to evaluate the effectiveness of the procedures and strategies employed during the full and open participation process. This periodic review can help to ensure that the public involvement process, once adopted, is being implemented effectively and is achieving its goals of engaging low-income and minority residents in expressing and prioritizing their needs and their views on how the RTP can best meet those needs.

Requirements (Shalls)
Federal: Title 23 CFR Part 450.210
State: Public Resources Code Section 5097.94, and Sections 21073 through 21084.3.

Planning Practice Examples: Available in Appendix H

4.5 Private Sector Involvement

Private sector involvement relates to how the goods movement industry and other business or commercial interests are represented in the development of the RTP. Trucks, freight trains, taxis, limousines all use the transportation network and are an integral part of the regional transportation system. Other examples of private sector involvement in the development of the RTP include Transportation Management Associations, private transit operators, developers, and Chambers of Commerce. Their absence in the regional transportation planning process adversely impacts the efficiency of the transportation network.

In urbanized areas of California, the number of trucks on the highway system has substantially increased. This has had a direct impact on traffic congestion within these areas. An increased level of truck activity has also had an impact in rural areas of the state, although primarily on the principal routes in rural counties. For these reasons, an RTP that does not include the “Private Sector” in the planning process is not a viable plan. The impact of the private freight sector on

the transportation system is significant and must be included and documented in the RTP process.

Unfortunately, in many plans, the private sector is not identified as a planning partner. Where addressed, goods movement is discussed in the abstract with minimal long-range assumptions identified or assessed.

RTPAs should take necessary actions to ensure major trucking firms, large employers and business organizations are formally invited to participate in the preparation of the RTP. The RTPA should strive to include any major long-range plans of these organizations that may have an impact on the regional transportation system. The purpose is to provide private sector transportation providers a process of communication and involvement into the region's transportation planning process. The specific outreach techniques developed and ultimately used is dependent on the size and composition of the region. These efforts to solicit input into the long-range regional transportation planning process should be documented in the RTP.

Requirements (Shalls)
Federal: Federal regulations require private sector involvement as a component of the regional transportation planning process. Title 23 U.S.C. Part 134 (g)(4), Title 23 U.S.C. Section 135(e) and Title 23 CFR Part 450.210(a) require the transportation planning process include input from the goods movement industry and other transportation organizations.

Recommendations (Shoulds)
State: California Government Code Section 14000(d) recommends that a comprehensive multimodal transportation planning process should be established which involves all levels of government and the private sector in a cooperative process to develop coordinated transportation plans.

Planning Practice Examples: Available in Appendix H

4.6 Consultation with Interested Parties

The U.S. DOT defines consultation as when: "*one or more parties confer with other identified parties in accordance with an established process and, prior to taking action(s), considers the views of the other parties and periodically informs them about action(s) taken*." Some areas of consultation could include transportation, land use, employment, economic development, housing, community development and environmental issues.

The U.S. DOT definition of "interested parties" to be engaged in statewide/nonmetropolitan and metropolitan transportation planning has been expanded. The RTPA shall provide the following interested parties with reasonable opportunity to comment on the proposed RTP:

1. Individuals;
2. Affected public agencies;
3. Representatives of public transportation employees;
4. Public ports;
5. Freight shippers;
6. Private providers of transportation;
7. Representatives of users of public transportation;
8. Representatives of users of pedestrian walkways and bicycle transportation facilities;

9. Representatives of people with disabilities;
10. Providers of freight transportation services; and,
11. Other interested parties.

Requirements (Shalls)
Federal: Consulting with interested parties on plans, programs and projects shall include individuals or organizations that are mentioned in Title 23 CFR Part 450.210(a)(1)(i). Title 23 CFR Part 450.216(k) requires States to consult with federal land use management agencies, as appropriate during the development of RTP. RTPAs shall comply as well. Title 23 CFR Part 450.216(j) states that States shall consult as appropriate with state and local agencies responsible for land use management, natural resources, environmental protection, conservation and historic preservation during the development of their RTP. RTPAs shall comply with this as well.
State: None

Planning Practice Examples: Available in Appendix H

4.7 Native American Tribal Government Consultation & Coordination

During the development of the RTP, Tribal Government ***consultation*** can be described as the meaningful and timely process of seeking, discussing, and considering carefully the views of leaders of federally recognized Tribal Governments and, where feasible, seeking agreement on important matters. The RTPA can do this by sharing information and conducting meetings with leaders of the federally recognized Tribal Governments during the preparation of the RTP prior to taking action(s) on the plan and by making sure to consider input from the tribe as decisions are made. Consultation should be conducted in a way that is mutually respectful of each party's sovereignty. Tribal Government ***coordination*** is the comparison of the RTPAs transportation plans, programs, projects and schedules with similar documents prepared by the tribe. The RTPA needs to ensure consistency with tribal plans and the RTP.

Currently there are 109 federally recognized tribes in California. The federally recognized Tribal Governments hold inherent power of limited sovereignty and are charged with the same responsibility as other governmental authorities. In addition, California is home to the largest Native American population in the country, including non-federally recognized tribes, and urban Indian communities.

The RTPA should include a discussion of consultation, coordination and communication with federally recognized Tribal Governments when the tribes are located within the boundary of an RTPA. The RTPA should establish a government-to-government relationship with each tribe in the region. This refers to the protocol for communicating between the RTPAs and the Tribal Governments as sovereign nations. This consultation process should be documented in the RTP. The initial point of contact for Tribal Governments should be the Chairperson for the tribe.

The RTPA should develop protocol and communication methods for outreach and consultation with the Tribal Governments. However these protocol and communication methods should be re-evaluated if the agencies are un-successful in obtaining a response during the development of the RTP.

It is important to ensure that efforts in establishing channels of communication are documented in the RTP. For further information and assistance in the consultation process, contact the

California Department of Transportation Native American Liaison Branch (NALB) at: http://dot.ca.gov/hq/tpp/offices/ocp/nalb. The NALB webpage also provides contact information for the California Department of Transportation Districts' Native American Liaisons.

As mentioned above, California is home to many non-federally recognized tribes as well as Native Americans living in urban areas. RTPAs should involve the Native American communities in the public participation processes. Establishing and maintaining government-to-government relations with federally recognized Tribal Governments through consultation is separate from, and precedes the public participation process.

Requirements (Shalls)
Federal: Title 23 CFR part 450.216(j) requires States to involve the federally recognized Native American Tribal Government in the development of the RTP and project lists. RTPAs shall comply as well. The requirement of including interested parties in the development of the participation plan and the RTP would include federally recognized or non-federally recognized tribes.
State: Public Resources Code Section 5097.94, and Sections 21073 through 21084.3. AB 52 added Tribal Cultural Resources as an impact under CEQA and required consultation to mitigate those impacts with the California Native American tribes as defined in California Public Resources Code Section 21073. Because RTPs are subject to CEQA and a program EIR is prepared to analyze the impacts of implementing an RTP, AB 52 means that RTPAs must consult with tribes with regards to Tribal Cultural Resources as part of the CEQA process.

Planning Practice Examples: Available in Appendix H

4.8 Consultation with Resource Agencies

Consultation with resource agencies, State and local agencies responsible for land use management, environmental protection, conservation, and historic preservation is critical when concerning the development of the RTP.

The consultation efforts involve:

1. Comparing transportation plans with State conservation plans, maps and other data, if available; and,

2. Comparing transportation plans with inventories of natural and historic resources, if available.

Input/comments from resource agencies early in the planning process is critical. The reason for proactive consultation and engagement is to prevent project delays at a later time. In other words, coordinating and consulting with resources agencies early in the planning process, may lead to better coordination, minimal litigation, possible project cost savings and an upfront understanding of resource agency issues.

Some examples of resource agencies that could be included in a more seamless multi-agency process, but are not limited to California Environmental Protection Agency (CalEPA), California Coastal Commission, and U.S. Fish and Wildlife, U.S. Army Corp of Engineers, California Department of Fish and Wildlife and California Department of Parks and Recreation.

The FHWA Eco-Logical and Integrated Ecological Framework and the state Regional Advance Mitigation Planning model provides a process by which early consultation with resource agencies and conservation non-profit organizations to develop regional greenprints or conservation plans that identify of areas of conservation value can satisfy federal requirements for early consultation and result in benefits for both transportation agencies and environmental protection. Programmatic mitigation plans, Natural Communities Conservation Plans and Habitat Conservation Plans can provide early consultation and identification of natural resources that need to be avoided or minimized in order to reduce risk and streamline project delivery. For additional information related to coordination of regional mitigation activities with other planning processes, see Chapter 5.

An RTPA shall coordinate and consult with resource agencies on data or information sharing, if available. The following is a preliminary list of resource agencies that should be consulted in the development of the RTP:

1. Federal Highway Administration;
2. Federal Transit Administration;
3. U.S. Environmental Protection Agency;
4. U.S. Army Corps of Engineers;
5. NOAA Fisheries Services;
6. U.S. National Park Service;
7. U.S. National Marine and Fishery Service;
8. U.S. Fish and Wildlife Service;
9. California Coastal Commission;
10. California Ocean Protection Council;
11. California Energy Commission;
12. California Office of Planning and Research;
13. California Environmental Protection Agency;
14. California Natural Resources Agency;
15. California Water Resources Control Board;
16. California Regional Water Quality Control Board;
17. California Department of Fish and Wildlife;
18. California Department of Resources, Recycling, and Recovery;
19. California Air Resources Board;
20. California Department of Parks and Recreation;
21. California Department of Conservation;
22. California State Mining and Geology Board;
23. Any additional California environmental, energy, resource and permit agencies;
24. Bay Conservation and Development Commission (Bay Area);
25. Regional Air Quality Management Districts, and;
26. California Office of Historic Preservation.

It may be challenging to obtain timely responses and comments to the RTP, its programs and projects, when the commenting period is announced to the general public and stakeholders. It is understandable that these efforts will depend on the specific region.

Interagency Consultation for Transportation Conformity – The transportation conformity rule requires that State and local agencies establish formal procedures to ensure interagency coordination on critical transportation conformity issues. Nonattainment and maintenance areas have adopted consultation procedures to meet these requirements. These procedures are federally enforceable and should be followed for each conformity determination.

Additional guidance regarding federally required consultation with resource agencies during the RTP development process is available in Section 5.2 Federal Environmental Requirements.

Requirements (Shalls)
Federal: Title 23 CFR part 450.216(j) requires that the State shall consult, as appropriate, with State and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation concerning the development of the transportation plan. RTPAs shall comply as well. The consultation shall involve, as appropriate: (1) Comparison of transportation plans with State conservation plans or maps, if available; or (2) Comparison of transportation plans to inventories of natural or historic resources, if available. In addition, the discussion of mitigation activities required by 23 CFR 450.216(k) (and described more fully in Section 5.2) shall be developed in consultation with Federal, State, and Tribal land management, wildlife, and regulatory agencies.

State: California Environmental Quality Act (CEQA), requires consultation with agencies, governments or individuals that could potentially be impacted by transportation projects in the RTP.

Planning Practice Examples: Available in Appendix H

4.9 Coordinated Public Transit/Human Services Transportation Plans

The aim of the Coordinated Public Transit/Human Services Transportation Plan is to improve transportation services for persons with disabilities, older adults and individuals with lower incomes by ensuring that communities coordinate the available transit resources. Coordination enhances transportation access, minimizes duplication of services and facilitates the most appropriate cost-effective transportation system possible with available resources.

Federal transit law requires that projects selected for funding under the following FTA programs be derived from a coordinated plan: Enhanced Mobility of Seniors and Individuals with Disabilities Program (Title 49 U.S.C. Section 5310). Information on this program can be found at:

http://www.dot.ca.gov/hq/MassTrans

RTPAs are not required to be the lead agency in the development of the coordinated plan. Federal guidance states that the coordinated plan may be developed separately or as a part of the transportation planning process. In any case, RTPAs should ensure that the plan is coordinated and consistent with their regions' transportation planning process.

The coordinated plan must be developed through a process that includes representatives of public, private, and non-profit transportation and human services providers with participation by members of the public. The public participation requirements may be shared with those for the development of the RTP.

As with all FTA programs, transit projects selected for funding must be consistent with the RTP and FTIP.

Recommendations (Shoulds)

Federal: Title 23 CFR Part 450.206(h) states the statewide planning process should be coordinated and consistent with the preparation of the coordinated public transit-human services transportation plan as required by Title 49 U.S.C. Section 5310.

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Chapter 5

RTP Environmental Considerations

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RTP ENVIRONMENTAL CONSIDERATIONS

5.0 Introduction

This section will briefly discuss the context for environmental requirements, options for RTP environmental document preparation, federal requirements and recommendations outlined in the Statewide and Nonmetropolitan Transportation Planning *and* Metropolitan Transportation Planning Final Rule (FHWA/FTA Planning Final Rule), key resource areas for avoidance and mitigation and finally, a description of air quality and transportation conformity will be provided.

The federal government has shown its commitment to the environment through the passage of the National Environmental Policy Act (NEPA) in 1969, which requires federal agencies to consider the environmental impacts of their actions. In a similar vein, California passed the California Environmental Quality Act (CEQA) in 1970, which was designed to ensure that public agencies consider the environmental impacts of their decisions.

In California, the environmental review associated with the RTP and the subsequent project delivery process is two-fold. RTPAs are responsible for the planning contained in the RTP that precedes project delivery. Typically a local government, consultant or Caltrans is responsible for the actual construction of the project i.e. project delivery. CEQA applies to the planning document (RTP) while both NEPA and CEQA may apply to the individual projects that implement the RTP during the project delivery process. Likewise, all RTP CEQA Analysis and subsequent transportation project CEQA analysis assess all environmental issue areas identified in the CEQA Guidelines Environmental Checklist Form, Appendix G.

A change to transportation analysis in environmental review under CEQA occurred with the Governor's approval of SB 743 which requires an update in the metric of transportation impact used in CEQA from Level of Service and vehicle delay to one that promotes the reduction of GHG emissions, the development of multimodal transportation networks, and a diversity of land uses for transit priority areas. Per ARB Vision Model results, reductions in VMT growth are needed to achieve sufficient GHG emissions reduction for climate stabilization, as reflected in executive orders on 2030 and 2050 GHG targets. The regulatory language (CEQA Guidelines changes) to implement the law are pending, though VMT has been identified by the Governor's Office as a potential metric to determine significant impacts. A future update of the RTP Guidelines will capture any "shoulds" or "shalls" resulting from the formal rulemaking process. Lead agencies should refer to current CEQA statutes, regulations, and case law when performing CEQA analysis for their RTPs/SCSs.

Given that protection of the environment is an important public policy goal and it is an important aspect of public acceptance during project delivery, best regional planning practices would seek to plan and implement transportation projects that would avoid or minimize environmental impacts.

5.1 Environmental Documentation

The RTP planning document as well as the projects listed in it are considered to be projects for the purposes of CEQA. Subsequent RTP amendments or updates are discretionary actions that can also trigger CEQA compliance. As defined in CEQA statute section 21065, a project means "an activity which may cause either a direct physical change in the environment, or a

reasonably foreseeable indirect physical change in the environment, and which is any of the following: (a) An activity directly undertaken by any public agency or (b) An activity undertaken by a person which is supported, in whole or in part, through contracts, grants, subsidies, loans, or other forms of assistance from one or more public agencies".

To initiate CEQA compliance, the RTPA as the lead agency determines if the proposed action is a project and whether the project is statutorily or categorically exempt. If the project is not exempt from CEQA, an Initial Study or equivalent environmental assessment is completed. Based on the outcome of the Initial Study the appropriate type of environmental document is then prepared. The Initial Study can indicate the use of an Environmental Impact Report (EIR), a Mitigated Negative Declaration (MND) or a Negative Declaration (ND). Additionally, there are several types of EIRs such as a Master EIR, a Project EIR or a Program EIR. Information regarding the CEQA process and guidelines for implementation can be found at:

www.opr.ca.gov
http://opr.ca.gov/index.php?a=ceqa/index.html
http://resources.ca.gov/ceqa/
http://www.califaep.org/policy
http://ag.ca.gov/globalwarming/ceqa.php

California Air Pollution Control Officers Association (CAPCOA) White Paper on CEQA and Climate Change:
http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA-White-Paper.pdf

Program EIR

Many RTPAs prepare a program Environmental Impact Report to analyze the environmental impacts of implementing their RTP. The purpose of the program EIR is to enable the RTPA to examine the overall effects of the RTP i.e. broad policy alternatives, program wide mitigation, growth inducing impacts and cumulative impacts can be considered at a time when the agency has greater flexibility to avoid unnecessary adverse environmental effects. The program EIR is a device that was originally developed by federal agencies under NEPA. The County of Inyo v. Yorty court case established its use under CEQA.

Additionally, environmental documents subsequently prepared for the individual projects contained in the RTP can be tiered off of the Program EIR thus saving time and reducing duplicative analysis. Tiering refers to environmental review of sequential actions, where general matters and environmental effects are examined in a broad EIR for a decision such as adoption of a policy, plan, program, or ordinance, and subsequent narrower or site-specific EIRs are prepared that incorporate by reference the prior EIR and concentrate on environmental effects that can be mitigated or that were not analyzed in the prior EIR. In such instances, the later narrow EIR "tiers" off the prior broad EIR. If a project-specific EIR tiers off from a broader prior EIR such as the PEIR prepared for a RTP, it could help eliminate repetitive discussions of the same environmental issues; facilitate project-level impact analysis by focusing on issues specific to the later project; reduce the burdens from duplicative reconsiderations of a program, plan or policy with a certified EIR; and, reduce CEQA delay and paperwork at project level. (See Appendix G Glossary for a definition of 'tiering')

Changes to the RTP/Project Lists

When the RTPA modifies its RTP/project lists, it must determine whether the proposed changes have the potential to impact the environment and trigger CEQA review. Lead agencies under CEQA are responsible for analyzing the potential environmental affects that proposed changes of their RTP may have on the environment. This should be done by providing substantial evidence that proposed changes to the RTP would be "minor" or "technical" in nature, if there would be "new" or "more severe" significant environmental impacts, if "circumstances" of the project or "new environmental information" is discovered, or if "substantial" or "major changes" to the RTP are proposed. An abbreviated or focused type of CEQA document will usually suffice. The most common alternatives to an EIR, MND or ND are an Addendum, a Supplement, or a Subsequent environmental document.

Addendum

An Addendum may be prepared when minor technical changes or additions are made to the RTP. The Addendum makes the prior EIR, MND or ND adequate when the proposed changes to the RTP do not create any new or substantially more severe significant environmental impacts. An addendum does not require public circulation.

Supplement

A Supplement to the EIR need contain only the information necessary to make the previous EIR adequate for the project as revised. The supplement only needs to meet the circulation and public review requirements of a *draft* EIR.

Subsequent

A Subsequent EIR, MND or ND is used when there are substantial or major changes in the project, in the circumstances of the project or when new environmental information is discovered. A subsequent EIR, MND or ND is intended to be a complete environmental document and it requires the same full level of circulation and public review as the previous EIR, MND or ND.

NEPAs Applicability to the RTP

NEPA does not apply to the RTP. In the *Atlanta Coalition on the Transportation Crisis, Inc. v. Atlanta Regional Commission*, 559 F.2d 1333 (5th Cir. 1979) court case, federal judges found that “Congress did not intend NEPA to apply to state, local or private actions…” The courts recognized the development of the RTP and TIP as a matter of state and local sovereignty.

However, NEPA review does apply to the individual projects identified in the RTP during the project delivery process when the individual projects are federally funded and/or a federal approval is required (e.g. a permit for wetlands impacts). When NEPA review is required, implementing agencies should reference the Federal Council on Environmental Quality’s (CEQ) memorandum published on August 1, 2016 entitled, *Final Guidance for Federal Departments and Agencies on Consideration of GHG Emissions and the Effects of Climate Change in NEPA reviews.* Section 6.23 provides further guidance for GHG reduction and Section 6.25 provides guidance for addressing adaption of the regional transportation system to climate change.

The full CEQ guidance is available at:

https://ceq.doe.gov/current_developments/ceq_guidance_nepa-ghg-climate_final_guidance.html.

Requirements (Shall)
State: Public Resources Code 21000 et seq, Environmental Protection, and CEQA guidelines section 15000 et seq.

5.2 FHWA/FTA Planning Final Rule – Federal Environmental Requirements

Pursuant to Title 23 CFR Part 450.216(k), the RTP must provide a discussion of potential environmental mitigation activities and areas, including those mitigation activities that might maintain or restore the environment that is affected by the plan. This mitigation discussion must happen in consultation with Federal, State and Tribal land management and wildlife regulatory agencies. Additionally, federal regulations contain a planning process mandate that requires the State to compare the RTP with available state conservation plans or maps and inventories of natural or historic resources. RTPAs shall comply as well. This comparison is facilitated by the requirement to "consult as appropriate with state and local agencies responsible for land use management, natural resources, environmental protection, conservation and historic preservation".

Requirements (Shalls)
Federal:
23 CFR Part 450.216(k): Requires that the RTP shall include a discussion of types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the RTP. The discussion shall be developed in consultation with Federal, State, and Tribal land management, wildlife, and regulatory agencies.
23 CFR Part 450.216(j): Requires consultation, as appropriate, with State and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation concerning the development of the transportation plan. The consultation shall involve, as appropriate: (1) Comparison of transportation plans with State conservation plans or maps, if available; or (2) Comparison of transportation plans to inventories of natural or historic resources, if available.
23 CFR Part 450.206(a)(5): Requires that the transportation planning process shall be continuous, cooperative, and comprehensive, and provide for consideration and implementation of projects, strategies, and services that will address the following factors: Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns. See Section 5.4 for key resource areas for avoidance and mitigation as well as planning practice examples in Appendix H.

Planning Practice Examples: Available in Appendix H

5.3 FHWA/FTA Planning Final Rule – Federal Environmental Recommendations

Appendix A - Linking the Transportation Planning and NEPA processes

Appendix A of Title 23 CFR Part 450 encourages environmental information developed during the transportation planning process to be applied to the project delivery process. The goal is to make planning decisions more sustainable and to maximize the effectiveness of mitigation strategies. Appendix A is optional. It provides details on how the information and analysis from the RTP can be incorporated into and relied upon in the NEPA documents prepared for the individual projects that will implement the RTP in the future. Appendix A presents environmental review as a continuum of sequential study, refinement, and expansion of information. The actual text of Appendix A to Title 23 CFR Part 450 is contained in Appendix D of this document. More guidance is available in Appendix E, which addresses the legal aspects of integrating planning and project delivery. Implementation of the strategies contained in Appendix A of Title 23 CFR Part 450 is a state of the art practice.

Recommendations (Shoulds)
Federal: Title 23 CFR Part 450.212 and Appendix A to Part 450 "Linking Planning and NEPA" describes the steps for streamlining the project delivery process by providing environmental information in the RTP.

Programmatic Mitigation

Recently updated federal regulations governing the development of metropolitan transportation plans include an updated section on programmatic mitigation. In particular, Title 23 CFR Sections 450.214 (State) and 450.320 (MPO), on the development of programmatic mitigation plans, indicate that "a State/MPO may utilize the optional framework to develop programmatic mitigation plans as part of the statewide transportation planning process to address the potential environmental impacts of future transportation projects." The FHWA supports an ecological approach to planning infrastructure and transportation projects and provides guidance on establishing a Regional Ecological Framework (REF). *Eco-logical* is a nine-step, voluntary framework that identifies an ecosystem approach to developing infrastructure projects. It outlines a framework for partners to integrate their planning processes, share data, and prioritize areas of ecological significance in order to harmonize economic, environmental, and social needs and objectives. Regionally significant resources like fish passage, terrestrial and aquatic habitat connectivity, migration corridors, and coastal trails can be incorporated into the regional transportation planning process. In addition, regional and local planning stakeholders can coordinate on mitigation strategies and conservation priorities as part of the regional transportation planning process. If the region elects to include the preparation of a REF or programmatic mitigation plan as part of the RTP update, the region can notify other stakeholders to allow for a more collaborative partnering and planning effort. This environmental review toolkit is available at:

https://www.environment.fhwa.dot.gov/ecological/ImplementingEcoLogicalApproach/

5.4 Key Resource Areas for Avoidance & Mitigation

Taking these environmental resources and laws into account during the transportation planning process can expedite the delivery of the projects that are contained in the RTP. The transportation planning process and the NEPA environmental analysis required during project delivery can work in tandem with the results of the transportation planning process informing the NEPA process. The RTP can identify plan-level environmental constraints and consider potential impacts that could allow projects in the plan to be modified to avoid or minimize impacts. Additional information regarding environmental planning considerations can be found in Section 2.7 and Appendix H. For a more in-depth discussion of potential environmental impact and resource areas, please see Volume 1 of the Standard Environmental Reference at:

http://www.dot.ca.gov/ser/vol1/vol1.htm

During project delivery SAFETEA-LU Section 6002 (23 U.S.C. Section 139, Efficient Environmental Reviews for Project Decision-making) set forth a new environmental review process. MAP-21/FAST Act made revisions to 23 U.S.C. 139 although the revisions are minor. The first step under Efficient Environmental Reviews for Project Decision-making is to initiate the environmental review process by notifying FHWA's Secretary of the type of work, termini, length, general location of the project, and a listing of anticipated federal permits. One means of initiating the process is to include the required information in the discussion of each EIS-level project that is contained in the RTP. The resource areas of concern are enumerated below.

Wetlands

Wetlands and other waters are protected under a number of laws and regulations, including the federal Clean Water Act, federal Executive Order for the Protection of Wetlands (E.O. 11990), and state Porter-Cologne Water Quality Control Act and parts of the state Fish and Game Code. Section 404 of the Clean Water Act establishes a permit program that prohibits any discharge of dredged or fill material into wetlands or other "waters of the United States" if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the U.S. Army Corps of Engineers (ACOE) with oversight by the U.S. Environmental Protection Agency (U.S. EPA).

The Executive Order for the Protection of Wetlands (E.O. 11990) states that a federal agency, such as the FHWA, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds that there is no practicable alternative to the construction and the proposed project includes all practicable measures to minimize harm. Strategic retreat or relocation shall be one alternative to be considered.

At the state level, primarily the Department of Fish and Wildlife (CDFW) and the Regional Water Quality Control Boards (RWQCB) regulate wetlands and waters. (In certain circumstances, the California Coastal Commission or Bay Conservation and Development Commission may also be involved.) Impacts on wetlands, lakes, streams or rivers may require a Lake or Streambed Alteration agreement with CDFW. The RWQCB issues water quality certifications in compliance with Section 401 of the Clean Water Act.

Parks, Refuges, Historic Sites

Section 4(f) of the Department of Transportation Act (Title 49 U.S.C. Section 303) states that FHWA and FTA may not approve the use of land from a significant publicly-owned park, recreation area, wildlife and waterfowl refuge, or any significant historic site unless a determination is made that there is no other feasible and prudent alternative to the use of that land. Section 4(f) evaluations require the development of an avoidance alternative, however, if no feasible choices exist, extensive planning must be done to minimize harm to the property resulting from such use.

http://www.parks.ca.gov/

Cultural Resources

Cultural Resources are protected under a number of laws and regulations, including the National Historic Preservation Act (Section 106) and CEQA and the California Public Resources Code (PRC) 5024 et seq. Under Section 106 of the NHPA, federal agencies are mandated to take into account the effect of federal undertakings on historic properties affected by federally funded or federally approved undertakings. If avoidance is not an option, then minimization of impacts and mitigation of the effects are required. Under CEQA, a project which may cause a substantial adverse change in the significance of a historical resource would require mitigation of the project effects by the project's lead CEQA agency.

California Coastal Trail (CCT)

The CCT is a state-mandated trail system pursuant to the passage of SB 908 in 2001. AB 1396 in 2007 added Section 65080.1 to the Government Code, which mandates that provision for the CCT be provided in each RTP for those MPOs/RTPAs located along the coast. More information and guidance relative to the CCT can be found in Section 6.11 and at:

http://www.scc.ca.gov/

www.coastal.ca.gov

http://www.scc.ca.gov/webmaster/pdfs/CCT_Siting_Design.pdf

Floodplains

Executive Order 11988 (Floodplain Management) directs all federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative.

Threatened and Endangered Species

The primary federal law protecting threatened and endangered species is the federal Endangered Species Act (ESA) (Title 16 U.S.C. Section 1531 et seq.). This act provides for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, federal agencies, such as the FHWA, are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries

Service (NOAA Fisheries) to ensure that they are not taking actions likely to jeopardize the continued existence of listed species or destroy or adversely modify critical habitat.

California has enacted a similar law at the state level, the California Endangered Species Act (CESA) (Fish and Game Code, 2050, et seq.). CESA emphasizes early consultation to avoid potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project caused losses of listed species populations and their essential habitats.

http://www.dfg.ca.gov/

http://bios.dfg.ca.gov/

Cumulative Impacts

As defined in CEQA, cumulative impacts refer to "two or more individual impacts that, when considered together, are considerable or that compound or increase other environmental impacts". Because the RTP addresses long-range future transportation improvements, cumulative impacts are inherent and need to be fully discussed within the environmental document. Guidance on preparing cumulative impact analysis is available at:

http://www.dot.ca.gov/ser/cumulative_guidance/approach.htm.

Habitat Connectivity

Section 1797.5 of the California Fish and Game Code expresses the State's policy to promote the voluntary protection of wildlife corridors and habitat strongholds in order to enhance the resiliency of wildlife and their habitats to climate change, protect biodiversity, and allow for the migration and movement of species by providing connectivity between habitat lands. In order to further these goals, it is the policy of the State to encourage voluntary steps to protect the functioning of wildlife corridors through various means, such as the acquisition or protection of wildlife corridors as open space through conservation easements; the installation of wildlife-friendly or directional fencing; siting of mitigation and conservation banks in areas that provide habitat connectivity for affected fish and wildlife resources; and the provision of roadway undercrossings, overpasses, oversized culverts, or bridges to allow for fish passage and the movement of wildlife between habitat areas. Transportation facilities should be designed, engineered, planned, and programmed with habitat connectivity in mind in keeping with these State goals in order to maintain healthy ecological function and climate change resiliency in and between habitat areas. Below are tools that can help speed along habitat corridor projects in a cost-effective way during the initial phases of project planning and design:

California Water Action Plan: 2016 Update:
http://resources.ca.gov/docs/california_water_action_plan/Final_California_Water_Action_Plan.pdf

California Essential Habitat Connectivity Project:
https://www.wildlife.ca.gov/conservation/planning/connectivity/CEHC

Western Governors Association's Crucial Habitat Assessment Tool:
http://www.wafwachat.org/map

California State Wildlife Action Plan: https://www.wildlife.ca.gov/SWAP/Final

Growth-Related Indirect Impacts

Growth-related indirect impacts are those impacts associated with a project or plan that would encourage or facilitate development or would change the location, rate, or type, or amount of growth. RTPs typically contain proposed actions that will be built along a new alignment and/or provide new access and those are the types of projects that will typically require a growth-related impact analysis. Where such impacts are identified, appropriate and reasonable steps to avoid or minimize indirect impacts can be considered early in the process, and incorporated into the RTP and its associated environmental document. Additional guidance on growth-related indirect impacts is available at:

www.dot.ca.gov/ser/Growth-related_IndirectImpactAnalysis/gri_guidance.htm

Requirements (Shalls)
Federal: Title 23 CFR Part 450.206(a)(5) requires that the planning process addresses protection and enhancement of the environment, among other planning factors. RTPAs shall comply as well.

Recommendations (Shoulds)
Federal: Title 23 CFR 450.318 and Appendix A to Part 450 "Linking Planning and NEPA" describe the steps for streamlining the project delivery process by providing environmental information in the RTP.

Planning Practice Examples: Available in Appendix H

5.5 Project Intent Statements/Plan Level Purpose & Need Statements

The 2003 RTP Guidelines Supplement referred to "**Project Intent Statements**" which were defined as **Plan Level Statements of Purpose and Need**. A Plan Level Statement of Purpose and Need is a short statement, which serves as a justification for a project or a group of projects. These brief plan level justifications would be contained in the RTP. An example of a Plan Level Statement of Purpose and Need would be the problem of reducing congestion on a specific route. The Plan Level Statements of Purpose and Need briefly identify the transportation needs or problems and describe the intended outcome of the project(s) that would meet these needs or solve the identified problems.

A more detailed, project specific **Project level Purpose and Need Statement** is written during the project delivery process and is contained in the project initiation document (Project Study Report) and the subsequent environmental document.

RTPAs may wish to prepare Plan Level Statements of Purpose and Need during the development of the RTP for the following reasons:

1. To provide justification for the lead agency's projects in the RTP
2. To justify expenditure of transportation funds to the public and the CTC
3. During project selection, to provide the rationale for selecting specific projects over other projects

4. To provide the foundation for Project Level Purpose and Need information in the environmental documents.
5. To provide consistent project justification from planning through project Implementation.

Recommendations (Shoulds)
State: The 2003 RTP Guidelines Supplement states that the RTP should include a project justification that identifies the specific need for the project and describes how these needs or problems will be addressed.

5.6 Air Quality & Transportation Conformity

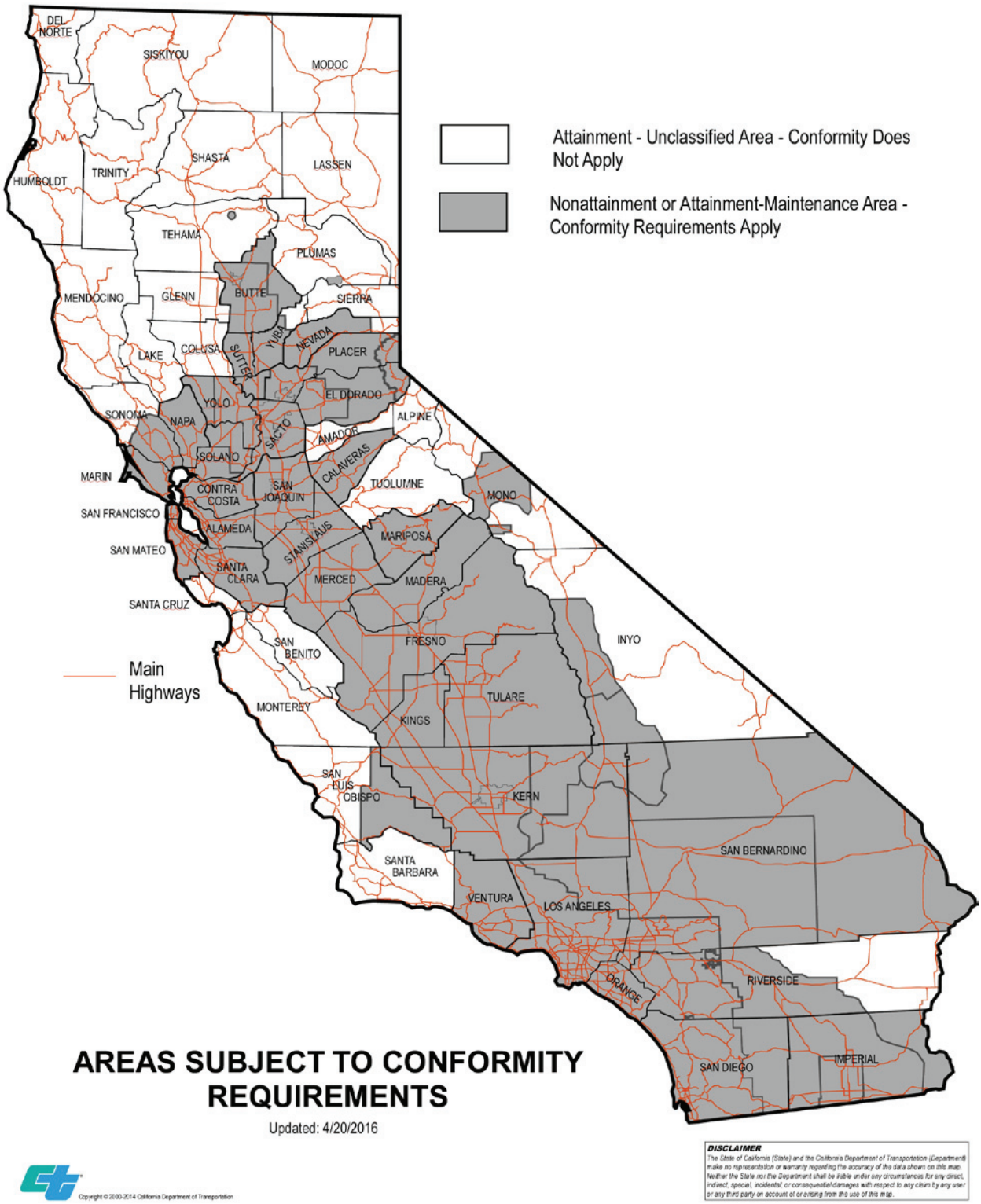
Federal and State Clean Air Act

The Clean Air Act as amended in 1990 is the primary federal law that governs air quality. This law mandates the U.S. Environmental Protection Agency (EPA) to establish the standards for the quantity of pollutants that can be in the air. The U.S. EPA must review the standards every five years and revise them as necessary to protect public health and welfare. These standards are called National Ambient Air Quality Standards (NAAQS). Standards have been established for six criteria pollutants that have been linked to health concerns; the criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), lead (Pb), and sulfur dioxide (SO_2). The State Implementation Plan (SIP) is the statewide plan for achieving the goals of the Clean Air Act and describes how the NAAQS will be met. The SIP has both statewide and regional components. The ARB is responsible for submitting the SIP to the U.S. EPA, and for developing and implementing statewide control measures such as those related to on-road mobile sources (vehicle emission controls). Local air pollution control and air quality management districts (APCD or AQMD) are responsible for regional control measures, which may also include measures that affect mobile sources (e.g., fleet rules, indirect source review requirements).

There is a California Clean Air Act in the Health and Safety Code that is generally similar in concept to the Federal Clean Air Act. Under the California Clean Air Act, the ARB sets and updates State air quality standards. The State air quality standards are usually more stringent than the Federal, but the State air quality planning structure does not include the fixed attainment deadlines and conformity process found in the Federal program.

APCD or AQMDs perform regional air quality planning in consultation with the RTPA, including development of on-road mobile source emission budgets that are part of the SIP required by the Federal Clean Air Act. APCDs and AQMDs are the main implementation agencies for stationary source emission control programs.

The U.S. EPA designates an area as “attainment” if the area meets the national ambient air quality standards (NAAQS) mandated by the Clean Air Act. If the area does not meet the NAAQS, it is designated as a non-attainment area. The area must then submit an attainment plan showing how the area will meet the NAAQs. Once a non-attainment area attains a NAAQS, the area may develop a maintenance SIP and submits a re-designation request, the U.S. EPA can re-designate the area as a “maintenance” area. The shaded areas on the map below illustrate the areas of the State that have not attained, or have attained with a maintenance SIP, the National Ambient Air Quality Standards. All of California except Lake County fails to attain one or more of the State ambient air quality standards.


DEL NORTE
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ALPINE
SOLANO
CALAVERAS
MARIN
CONTRA COSTA
SAN JOAQUIN
TUOLUMNE
MONO
SAN FRANCISCO
ALAMEDA
STANISLAUS
MARIPOSA
SAN MATEO
SANTA CLARA
MERCED
MADERA
SANTA CRUZ
SAN BENITO
FRESNO
INYO
Main Highways
MONTEREY
TULARE
KINGS
SAN LUIS OBISPO
KERN
SAN BERNARDINO
SANTA BARBARA
VENTURA
LOS ANGELES
ORANGE
RIVERSIDE
SAN DIEGO
IMPERIAL
Attainment - Unclassified Area - Conformity Does Not Apply
Nonattainment or Attainment-Maintenance Area - Conformity Requirements Apply
AREAS SUBJECT TO CONFORMITY REQUIREMENTS
Updated: 4/20/2016
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SIP Transportation Conformity Requirement

In nonattainment and maintenance areas, federal regulations require that RTPs, FTIPs and Federally funded or approved highway and transit activities demonstrate transportation conformity. Under the 1990 Federal Clean Air Act Amendments, the U.S. DOT cannot fund, authorize, or approve Federal actions to support programs or projects that are not first found to conform to the SIP (Clean Air Act Section 176 (c), codified in 42 U.S.C. 7506(c)). The U.S. EPA has issued extensive regulations covering how conformity is determined for transportation planning, programming, and projects in 40 CFR 93 Subpart A. Under the EPA regulations, the RTP's regional transportation conformity analysis must include all regionally significant transportation (road and transit) activities regardless of funding source.

RTP Conformity

Transportation conformity is intended to ensure that Federal funding and approval are given to those transportation activities that support the purpose and goals of the SIP. Conformity ensures that these transportation activities do not degrade air quality and that they support attainment of the NAAQS. For an RTPA within the boundary of an MPO, the MPO and the U.S. DOT (FHWA/FTA) have a responsibility to ensure that the RTP conforms to the SIP.

Transportation conformity requirements apply to all U.S. EPA designated non-attainment and maintenance areas. When areas are designated as non-attainment for the first time, or for a new NAAQS, a conformity determination must be made within one year of the effective date of the designation for non-attainment areas. This is done at the regional (RTP) level and at the project level, for federally funded non-exempt transportation projects. Some projects (e.g., safety projects) are exempt from conformity altogether, and some are exempt from regional emissions analyses (See 40 CFR 93.126 – 93.128).

Isolated rural nonattainment and maintenance areas (non-MPO) are not required to do a conformity analysis on the RTP; however, a project-level conformity determination must be done only when a non-exempt federal transportation project needs approval. Unlike MPO areas, there are no requirements to update conformity determinations for projects in isolated rural nonattainment and maintenance areas on a 4-year cycle, or to meet other conformity triggers as required in 40 CFR §93.104.

For more detailed information about transportation conformity please see the following key websites:

http://www.dot.ca.gov/hq/env/air/index.htm
http://www.epa.gov/otaq/stateresources/transconf/index.htm

Transportation Control Measures

The RTP shall discuss ways in which activities in the plan will conform to the SIP, if applicable, including TCM implementation.

The RTP shall describe both completed TCMs and TCMs that are underway, if applicable. TCMs that are included in the SIP must be implemented in a timely fashion. Implementation of the TCMs must be coordinated with the SIP implementation schedule. When there is a delay in TCM implementation, the conformity analysis document must describe the measure and the

steps that the RTPA is taking to address the delay. TCM projects must receive priority for funding.

Requirements (Shalls)

State: None. There is no conformity process in the California Clean Air Act. However, air quality is normally addressed as part of the CEQA environmental documentation for the RTP.

Recommendations (Shoulds)

Federal: Title 42 U.S.C. Section 7506(c)(7)(A) and Title 40 CFR Part 93.106 provide an option for reducing the time period addressed by conformity determinations. Normally, a regional conformity analysis must cover at least 20 years, but under certain circumstances the time period covered may be reduced to not less than 10 years.

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Chapter 6

RTP Contents

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RTP CONTENTS

6.1 Summary of RTP Components

The development of the RTP is based on state and federal statutory and regulatory requirements in addition to CTC policy direction. As per Government Code 65080, each RTPA shall prepare and adopt an RTP directed at achieving a coordinated and balanced regional transportation system including, but not limited to, mass transportation, highway, railroad, maritime, bicycle, pedestrian, goods movement and aviation. In addition, the RTP shall be action oriented and pragmatic, considering both short-term (0-10 years) and long-term (10-20 years) periods. The RTP shall be an internally consistent document and shall include all of the following:

The Policy Element

The purpose of the Policy Element is to identify legislative, planning, financial and institutional issues and requirements, as well as any areas of regional consensus. Consider referring to the CTP policy framework which provides goals and policies that can help with development of policies and strategies at the most regional level. The Policy Element presents guidance to decision-makers of the implications, impacts, opportunities, and foreclosed options that will result from implementation of the RTP. Moreover, the Policy Element is a resource for providing input and promoting consistency of action among state, regional and local agencies including; transit agencies, congestion management agencies, employment development departments, the California Highway Patrol, private and public groups, tribal governments, etc. California statutes state that each RTP shall (Government Code Section 65080 (b)) include a Policy Element that:

1. Describes the transportation issues in the region;
2. Identifies and quantifies regional needs expressed within both short and long-range planning horizons (Government Code Section 65080 (b)(1)); and,
3. Maintains internal consistency with the Financial Element and fund estimates.

State law requires that the objectives shall (Government Code Section 65080 (b)(1)) be linked to short-range and long-range transportation implementation goals or horizons. Each objective should be consistent with the needs identified in the RTP as a means of strengthening the linkage between statewide system planning and ultimate project implementation. The RTP shall consider factors specified in Section 134 of Title 23 of the United States Code.

The Policy Element should clearly convey the region's transportation policies. As part of this Element, the discussion should: (1) relay how these policies were developed, (2) identify any significant changes in the policies from the previous plans and (3) provide the reason for any changes in policies from previous plans.

In addition, the RTP should identify the criteria that the RTPA/CTC used to select the transportation projects on the constrained and unconstrained project lists.

The Action Element

The second major component as required in Government Code Section 65080 states that RTPs shall have an Action Element. The Action Element of the RTP must describe the programs and actions necessary to implement the RTP and assigns implementation responsibilities. The action element may describe the transportation projects proposed to be completed during the RTP plan horizon, and must consider congestion management activities within the region. All transportation modes (highways, local streets and roads, mass transportation, rail, maritime, bicycle, pedestrian and aviation facilities and services) are addressed. The action element is critical to providing clear direction about the roles and responsibilities of the RTPA and other agencies to follow through on the RTP's policies and projects. It consists of short and long-term activities that address regional transportation issues and needs. In addition, the Action Element should also identify investment strategies, alternatives and project priorities beyond what is already programmed.

The Financial Element

The Financial Element is also statutorily required. The Financial Element is fundamental to the development and implementation of the RTP. It identifies the current and anticipated revenue sources and financing techniques available to fund the planned transportation investments described in the Action Element. The intent of the Financial Element is to define realistic financing constraints and opportunities. Finally, with this financing information, alternatives are developed and used by State and local decision-makers to determine which projects should be planned for funding.

There are six major components that constitute the Financial Element:

1. Summary of costs to operate and maintain the current transportation system;
2. Estimate of costs and revenues to implement the projects identified in the Action Plan;
3. Inventory of existing and potential transportation funding sources;
4. List of candidate projects if funding becomes available;
5. Potential funding shortfalls; and,
6. Identification of alternative policy directions that affect the funding of projects.

It is very important that RTPs reflect the transportation needs of the specific region. There are State statutory content requirements for the Policy, Action and Financial Elements of the RTP; however, there is flexibility in choosing a format for the presentation of this information. Most MPOs/RTPAs use the categories of Policy, Action and Financial to organize their RTP.

Other RTP Contents

The RTP should also include the following:

1. Executive Summary – An Executive Summary of the RTP as an introductory chapter. The Executive Summary should provide a regional perspective, and identify the challenges and transportation objectives to be achieved.
2. Reference to regional environmental issues and air quality documentation needs.
3. Discussion of types of potential environmental mitigation activities that might maintain or restore the environment that is affected by the RTP (refer to Section 5.2 for Federal Environmental Requirements)

Requirements (Shalls)
Federal: Title 23 CFR Part 450.216
State: California Government Code Section 65080

Recommendations (Shoulds)
Federal: Title 23 CFR Part 450.324

6.2 Financial Overview

Federal statute and regulations and California State statute requires RTPs to contain an estimate of funds available for the 20-year planning horizon. This discussion of financial information is fundamental to the development and implementation of the RTP. The financial portions of the RTP identify the current and anticipated revenue sources and financing techniques available to fund the planned transportation investments described in other portions of the RTP. The intent is to define realistic financing constraints and opportunities. All projects, except illustrative projects i.e. unconstrained projects, must be fully funded in order to be included in the RTP. With this financing information, alternatives are developed and used by the RTPA, local agencies and State decision-makers in funding transportation projects. During programming and project implementation the total cost of the project is refined and broken out by cost per phase.

Federal law requires each transportation plan prepared by the RTPA to include a financial plan that demonstrates how the adopted Plan can be implemented. The Financial Plan should also indicate resources from public and private sources that are reasonably expected to be made available to carry out the transportation plan, identify innovative financing techniques to finance projects, programs and strategies, and recommend any additional financing strategies for needed projects and programs. The Federal statutory requirements are codified in Title 23 U.S.C. Section 134(i)(2)(C) and 134(j)(2)(B). Federal regulations pertaining to financial planning and constraint for statewide/nonmetropolitan and metropolitan transportation plans and programs are codified in Title 23 CFR Part 450.

There are six major components that should be addressed in the financial portion of the RTP:

1. Projected Available Funds – The RTPA, public transit operators and the State shall cooperatively develop estimates of funds that will reasonably be available to support RTP implementation. All anticipated public and private financial resources available over the next 20 years, including estimated highway, local streets and roads, bicycle and pedestrian and transit funds, shall be identified. The financial plan shall include recommendations for additional financing strategies. New funding sources and strategies shall also be identified. Beginning December 11, 2007, all revenue estimates for the financial plan must use an inflation rate that reflects the “year of expenditure dollars” developed cooperatively by the RTPA, State and transit operators.

2. Projected Costs – Takes into account all projects and strategies proposed for funding with Federal, State, local and private fund sources in developing the financial plan. Estimate of costs to implement the projects identified in the RTP must be included. Beginning December 11, 2007, both the revenue and construction cost estimates must use inflation rates to reflect “year of expenditure dollars” based on reasonable financial

principles and information developed cooperatively by the RTPA, State and public transportation operators.

3. Projected Operation and Maintenance Costs – The financial plan shall contain system level estimates of costs and revenue sources that are reasonably expected to be available to adequately operate and maintain Federal-aid highways and public transportation. Planning practice examples in developing the RTP financial plan would also include revenue sources for the operation and maintenance of local streets and roads as well as bicycle and pedestrian facilities. A summary of costs to operate and maintain the current transportation system should be included. This should be identified by mode and include the cumulative cost of deferred maintenance on the existing infrastructure. Financial plans that support the RTP process must assess capital investment and other measures necessary to ensure the preservation of:

    A) The existing transportation system, including requirements for operational improvements;
    B) Resurfacing, restoration, and rehabilitation of existing and future major roadways, as well as operations, maintenance, modernization, and rehabilitation of existing and future transit facilities.

4. Constrained RTP - Financially constrained list of candidate projects with the available funding (short and long-term).

5. Un-Constrained (Illustrative) List of Projects - Un-constrained (Illustrative) list of candidate projects if additional funding becomes available (short and long-term). The financial plan may include additional projects that would be included in the adopted transportation plan if additional resources were to become available.

6. Potential Funding Shortfall. The short and long-term needs for system operation, preservation, and maintenance can be enormous. Simply maintaining the existing system can demand a huge investment, while system expansion demands investments of a similar scale. At times, the combination of these competing demands can cause temporary shortfalls to an RTPA's budget. To the extent there appear to be shortfalls, the RTPA should identify a strategy to address these gaps in funding prior to the adoption of a new RTP - or the amendment of an existing RTP. The strategy should include an action plan that describes the steps to be taken that will make funding available within the time frame shown in the financial plan and needed to implement the projects in the long-range transportation plan. There should be, among other things, a range of options to address projected shortfalls. The strategy may rely upon the RTPA's or transit operators' past record of obtaining funding. If it relies on new funding sources, the RTPA must demonstrate that these funds are reasonably expected to be available.

Requirements (Shalls)
State: California Government Code Section 65080(b)

Recommendations (Shoulds)
Federal: Title 23 CFR Part 450.216(m) and 450.324(f)(11)

Planning Practice Examples: Available in Appendix H

6.3 Fiscal Constraint

Fiscal constraint is the demonstration of sufficient funding (Federal, State, local and private) to operate and maintain transportation facilities and services and to implement planned and programmed transportation system improvements. Fiscal constraint can also be thought of as the description of fully funded projects in the RTP based on the projected available revenues during the 20 plus year planning horizon.

Title 23 CFR Part 450.104 provides the following definition of fiscal constraint or fiscally constrained: "(it) means that the metropolitan transportation plan, TIP, and STIP includes sufficient financial information for demonstrating that projects in the metropolitan transportation plan, TIP and STIP can be implemented using committed, available or reasonably available revenue sources, with reasonable assurance that the federally supported transportation system is being adequately operated and maintained. For the TIP and the STIP, financial constraint/fiscal constraint applies to each programming year. Additionally, projects in air quality nonattainment and maintenance areas can be included in the first two years of the TIP or STIP only if funds are 'available' or 'committed'."

To support air quality planning under the 1990 Clean Air Act Amendments, a special requirement has been placed on air quality nonattainment and maintenance areas, as designated by the U.S. Environmental Protection Agency (EPA). Specifically, projects in air quality nonattainment and maintenance areas can be included in the first two years of the FTIP only if funds are "available or committed" (Title 23 CFR Part 450.324(e)). Available funds include those derived from an existing source of funds dedicated to or historically used for transportation purposes. For Federal funds, authorized and/or appropriated funds and the extrapolation of formula and discretionary funds at historic rates of increase are considered "available." Committed funds include funds that have been bound or obligated for transportation purposes. For State funds that are not dedicated to or historically used for transportation purposes, only those funds over which the Governor has control may be considered as "committed." For local and private sources not dedicated to or historically used for transportation purposes, a commitment in writing/letter of intent by the responsible official or body having control of the funds constitutes a "commitment." Additionally, EPA's transportation conformity regulations specify that an air quality conformity determination can only be made on a fiscally constrained RTP and FTIP (Title 40 CFR Part 93.108). New funding for RTP projects from a proposed gas tax increase, a proposed regional sales tax, or a major funding increase still under consideration would not qualify as "available or committed" until it has been enacted by legislation or referendum i.e., the period of time between the sunset date of the current regional sales tax and before the next legislative or referendum action to restore or increase funding. Therefore, nonattainment and maintenance areas may rely on existing revenue, newly approved tax revenue, or other newly approved revenue sources for the first two years of the FTIP.

Requirements (Shalls)
State: California Government Code Section 65080(b)

Recommendations (Shoulds)
Federal: Title 23 CFR Part 450.206(m) and 450.324(f)(11)

Planning Practice Examples: Available in Appendix H

6.4 Listing of Constrained & Un-constrained Projects

In addition to the current list of financially constrained projects identified in the RTP, each Plan should contain a list of needed unconstrained projects (Illustrative projects). Illustrative projects are additional transportation projects that may (but is not required to) be included in the RTP if reasonable additional resources were to become available. This unconstrained list will identify projects that are recommended by the RTPA without a funding source identified. The list should be included separately from the financially constrained project list. It is also preferred that projects on the unconstrained list be identified by transportation corridor within the region.

The following is accomplished by including a list of regionally desired un-funded (Illustrative) transportation projects in the RTP:

1. Identifies projects that could be funded, should additional funding become available.
2. Allows for a more accurate determination of overall transportation needs.

Requirements (Shalls)
State: Government Code 65080(b)(4)(a)

Recommendations (Shoulds)
Federal: Title 23 CFR part 450.216(m), for illustrative purposes, the list of projects may include additional projects if an additional source of funds is located; and Title 23 CFR part 450.324(f)(11)

Planning Practice Examples: Available in Appendix H

6.5 Revenue Identification & Forecasting

Revenue forecasts for RTPs can take into account new funding sources that are "reasonably expected to be available." New funding sources are revenues that do not currently exist or that may require additional steps before the RTPA or transit agency can commit such funding to transportation projects. As codified in federal regulations strategies for ensuring the availability of these planned new revenue sources must be clearly identified. Future revenues may be projected based on historical trends, including consideration of past legislative or executive actions. The level of uncertainty in projections based on historical trends is generally greatest for revenues in the "outer years" (10 years or more) of an RTP.

According to Title 23 CFR Part 450.216(m), the RTP may take into account all projects and strategies proposed for funding under Title 23 U.S.C.; Title 49 U.S.C. Chapter 53; other Federal funds; State transportation funds; local funding sources and private sources of funds for transportation projects. Beginning December 11, 2007, funding estimates contained in the RTP must use an inflation rate to reflect “year of expenditure dollars”.

The estimated revenue by existing revenue source (local, State, Federal and private) available for transportation projects may be determined and any shortfalls identified. Proposed new revenues and/or revenue sources to cover shortfalls may be identified, including strategies for ensuring their availability for proposed investments. Existing and proposed revenues may cover all forecasted capital, operating, and maintenance costs. All cost and revenue projections may be based on the data reflecting the existing situation and historical trends. For nonattainment

and maintenance areas, the financial plan element may address the specific financial strategies required to ensure the implementation of projects and programs (TCMs) to reach air quality compliance.

Requirements (Shalls)
State: California Government Code Section 65080(b)

Recommendations (Shoulds)
Federal: Title 23 CFR Part 450.216(m) and 450.324(f)(11)

Planning Practice Examples: Available in Appendix H

6.6 Estimating Future Transportation Costs

Federal regulations require that (Title 23 CFR Part 450.324(f)(11)(iv)), costs of future transportation projects must use "year of expenditure dollars" rather than "constant dollars" in cost and revenue estimates to better reflect the time-based value of money. This is an MPO requirement; however, RTPAs are encouraged to ensure project costs identified in the RTP are in year of expenditure dollars. This is particularly crucial for large-scale projects with construction/implementation dates stretching into the future.

Reporting the costs in year of expenditure dollars will provide the proper context to express a more realistic estimate of future construction costs. After cost estimates are prepared for the RTP, the costs should be expressed in year of expenditure dollars. This can be done by assigning an inflation rate per year to the proposed midpoint of construction. Make certain that the selected year of expenditure reflects a realistic scenario, taking into account project planning and development durations, as well as construction. Inflation rates may be different for specific cost elements (e.g. construction vs. right-of-way). The RTP should clearly specify how inflation is considered in the estimate and clearly State that the estimate is expressed in year of expenditure dollars. Consider multiple sources for determining the inflation rate, including nationwide and local references. Include consideration of any locality-specific cost factors that may reflect a growth rate significantly in excess of the inflation rate, such as land acquisition costs in highly active markets. The inflation rate(s) should be based on sound, reasonable financial principles and information, developed cooperatively by the RTPA and transit agencies. To ensure consistency, similar financial forecasting approaches ideally should be used for both the RTP and RTIP. In addition, the financial forecast approaches, assumptions, and results should be clear and well documented.

Revenues and related cost estimates for operations and maintenance should be based on a reasonable, documented process. Some accepted practices include:

Trend analysis - A functional analysis based on expenditures over a given duration, in which costs or revenues are increased by inflation, as well as a growth percentage based on historic levels. This analysis could be linear or exponential. When using this approach, however, it is important to be aware of new facilities or improvements to existing facilities. Transit operations and maintenance costs will vary with the average age of the bus or rail car fleet.

Cost per unit of service – Examples include: lane-mile costs; centerline mile costs; traffic signal cost; transit peak vehicles by vehicle type; revenue hours; and vehicle-miles by vehicle type.

Regardless of the methodology employed, the assumptions should be adequately documented by the RTPA and transit agency. Estimating current and reasonably available new revenues and required operations and maintenance costs over a 20-year planning horizon is not an exact science. To provide discipline and rigor, RTPAs and transit operators should attempt to be as realistic as possible, as well as ensure that all costs assumptions are publicly documented.

Requirements (Shalls)
State: California Government Code Section 65080(b)

Recommendations (Shoulds)
Federal: Title 23 CFR Part 450.324(f)(11); 450.324(f)(v) authorizes the option to use aggregate cost ranges or bands in the outer years of the RTP.
State: None

Planning Practice Examples: Available in Appendix H

6.7 Asset Management

The transportation system in California continues to experience substantial wear and tear from increased vehicle miles traveled, growing population, and greater congestion to aging infrastructure and escalating operating costs. These challenging circumstances put greater demands than ever on the transportation system. The goal of asset management is to minimize the life-cycle costs for managing and maintaining transportation assets, including roads, transit, bridges, tunnels, runways, rails, and roadside features.

As the state becomes more multimodal, consideration of policies from the CTP regarding the importance of evaluating the multimodal life cycle cost can help preserve and maintain transportation facilities. These policies can also assist in developing a strategic approach to assess and prioritize transit assets helping to select projects most in need of funding.

The American Association of State Highway and Transportation Officials (AASHTO) define asset management as:

> *"A strategic and systematic process of operating, maintaining, upgrading, and expanding physical assets effectively through their life cycle. It focuses on business and engineering practices for resource allocation and utilization, with the objective of better decision making based upon quality information and well defined objectives."*

Through the use of asset management systems, engineering and economic analysis, and other tools, RTPAs and transit operators can more comprehensively view the big picture and evaluate collected data before making decisions as to how specific resources should be deployed. Asset management principles and techniques should be applied throughout the planning process, from initial goal setting and long-range planning to development of the TIP and then through operations, preservation, and maintenance.

RTPAs should ensure the transportation system is managed to meet both current and future condition and performance demands and that expenditures are optimal. Asset management principles and techniques are valuable tools that can be applied by an RTPA and result in more effective decision making. The RTPA role in a successful asset management program includes

defining performance measures for assets through public involvement, serving as a repository for asset data, and promoting standard data collection technology applications, and making investment decisions based on measured performance relative to established goals. RTPAs can also educate the public and decision makers and work cooperatively with stakeholders across transportation modes.

RTPAs should consider including asset management principles in the development of their RTPs. The following are the benefits of applying transportation asset management during the planning process:

1. Maximize transportation system performance.
2. Improve customer satisfaction.
3. Minimize life-cycle costs.
4. Mitigate system vulnerabilities.
5. Match service provided to public expectations.
6. Make more informed, cost-effective program decisions and
7. Better use of existing transportation assets.

Additional information is available from the FHWA at:

http://www.fhwa.dot.gov/infrastructure/asstmgmt/tpamb.cfm

Requirements (Shalls)
Federal: The Moving Ahead for Progress in the 21st Century (MAP 21) and Fixing America's Surface Transportation (FAST) Act establishes limitations on federal funding flexibility if the aggregate bridge condition in California does not meet certain minimum conditions for National Highway System (NHS) bridges being structurally deficient.
State: None

Recommendations (Shoulds)
Federal: Title 23 CFR Part 450.306(e) - States, and public transportation operators may apply asset management principles and techniques in establishing planning goals, defining TIP priorities, and assessing transportation investment decisions.

Planning Practice Examples: Available in Appendix H

Modal Discussion

The RTP is the key document prepared by the RTPA that reflects future plans of the transportation system for the region. This future vision includes all modes of transportation and is one of the key functions of the RTP.

Both federal regulations and state statute require RTPs to address each transportation mode individually. Title 23 CFR Part 450.324(b) states: "*the transportation plan shall include strategies/actions that lead to the development of an integrated multimodal transportation system to facilitate the safe and efficient movement of people and goods in addressing current and future transportation demand*."

It is also important for RTPAs to integrate modal considerations to enable the development of a complete and connected multimodal transportation system. As modes often overlap (e.g. transit vehicles and private vehicles use the same modes, and people and goods use multiple modes), consider how all transportation modes interact with one another, and how improvements in one mode can benefit the entire transportation system.

Title 23 CFR Part 450.324(f)(2) requires that RTPs address both existing and proposed transportation facilities such as major roadways, transit lines (both rail and primary bus routes), multimodal and intermodal connector facilities, pedestrian walkways and bicycle facilities.

California Government Code Section 65080(a) states that transportation planning agencies shall prepare and adopt an RTP directed at achieving a coordinated and balanced regional transportation system that includes mass transportation, highway, railroad, maritime, bicycle, pedestrian, goods movement, and aviation facilities.

6.8 Highways

The section of the RTP discussing highways should consider the following:

1. An overview of the primary highway and arterial road system within the region;
2. National and State highway system, and regionally significant streets and roads;
3. Any corridor preservation processes for possible future transportation projects (i.e. right of way, historic highways, abandoned highways or rails);
4. Maintenance of State highways;
5. Data collection and other infrastructure requirement for ITS;
6. Unmet highway needs.
7. Consider CTP policy suggesting strategic investing to optimize performance; and
8. Consider CTP policy suggesting for the application of sustainable preventative maintenance and rehabilitation strategies.

Requirements (Shalls)
Federal: Title 23 CFR Part 450.216 requires the CTP to provide for the development and implementation of the multimodal transportation system for the State; RTPAs shall comply as well.
State: Government Code Section 65080(a) the RTP shall be directed at achieving a coordinated and balanced regional transportation system.

Recommendations (Shoulds)
Federal: 450.324(b) requires MPO RTPs to include short and long-range strategies for an integrated multimodal transportation system. RTPAs may comply as well.

6.9 Local Streets & Roads

Local streets and roads are critical to provide an interconnected, multi-modal transportation system where every trip begins and ends. Investment in local streets and roads is an investment in public safety, economic growth, goods movement and farm to market needs. According to 2013 California Public Road Data compiled by Caltrans Division of Research, Innovation & System Information, counties and cities maintain 81 percent of the maintained

miles within the State of California and carry 45 percent of the total annual miles of vehicle travel. The condition of local streets and roads continue to deteriorate due to the funding shortfalls and will be further challenged by the escalating repair costs in future years. Adequately investing in the local system is critical to protect the public's current investment. The local system will become ever more important in supporting the goals of climate change and building sustainable communities, as local streets and roads serve as the right-of-way for transit, bicycle and pedestrian travel.

The section of the RTP discussing local streets and roads should consider the following:

1. The preservation needs for the local road system, including but not limited to pavement and essential components to support travel by bicycle, bus, pedestrian, or automobile (including the unmet need for maintaining and preserving the existing local streets and road, public transit, bicycling and pedestrian transportation system);
2. Bi-annual Data collection and periodic collaborative efforts to update system-wide local streets and road preservation needs (including deferred maintenance);
3. Encouraging all agencies to utilize Pavement Management Software (PMS) in their data collection efforts;
4. The benefits of achieving Best Management Practices (BMPs) for the local streets and roads and maintaining them at that level;
5. The issue of declining local streets and roads maintenance revenues in connection with rising maintenance costs and achieving SB 375 goals;
6. System preservation assessments such as bridges, safety, traffic signals, transit stop, signage, lane and crosswalk striping, sidewalks, curb ramps, lighting, drainage, landscaping, and other elements within the road right-of-way to support a functioning and integrated multi-modal system.

References

1. 2013 California Public Road Data – Statistical Information derived from the Highway Performance Monitoring System. Prepared by Caltrans Division of Research, Innovation & System Information. Available online at:

   http://www.dot.ca.gov/hq/tsip/hpms/datalibrary.php

Requirements (Shalls)

Federal: Title 23 CFR Part 450.216 requires the CTP to provide for the development and implementation of the multimodal transportation system for the State; RTPAs shall comply as well.

State: Government Code Section 65080(a) the RTP shall be directed at achieving a coordinated and balanced regional transportation system.

Recommendations (Shoulds)

Federal: 450.324(b) requires MPO RTPs to include short and long-range strategies for an integrated multimodal transportation system. RTPAs may comply as well.

6.10 Transit

Transit plays a key role in the regional effort to reduce traffic congestion, VMT and vehicle emissions particularly in urbanized areas. The increased use of transit is a key element to meeting legislative requirements such as AB 32 and SB 375 that aim to reduce GHG emissions that contribute to global warming. Transit systems also play an important role in the mobility for those who are unable to drive, including youth and the elderly, as well as low-income individuals, and people with disabilities. Given these reasons, it is crucial for RTPAs to engage in a continual and comprehensive dialogue with the transit operators within their region. The CTP highlights the positive impacts of public transportation and suggests the integration of multimodal transportation and land use development which can help establish areas within regions that can be possible locations for Transit Oriented Developments (TODs).

The section of the RTP addressing mass transportation issues (including regional transit services and urban rail systems) should address:

1. Identification of passenger transit modes within the region (bus, light and heavy rail, etc.);
2. Integration with transit, highway, street and road projects (including identification of priorities);
3. Implementation plans, operational strategies and schedule for future service (including construction and procurement);
4. Operational integration between transit fleets, and other modes (passenger rail, aviation, taxis, etc.);
5. First/last mile transit connectivity considerations;
6. Summation of the short and long range transit plans along with the capital finance plans for the 20-year period of the RTP;
7. Short and long-range transit plans and capital finance plans for the 20-year RTP period;
8. Inventory of bus fleets by fuel type (diesel, natural gas, and other alternative fuels);
9. Unmet transit needs;
10. Urban and commuter rail project priorities;
11. ITS elements to increase efficiency, safety and level of service;
12. Integration with local land use plans that could increase ridership; and,
13. A measure of transit capacity utilization for peak and off-peak service to evaluate service effectiveness.

In addition, MAP-21/FAST Act added a new recommendation for RTPs to also include transportation and transit enhancement activities, including consideration of the role that intercity buses may play in reducing congestion, pollution, and energy consumption in a cost-effective manner and strategies and investments that preserve and enhance intercity bus systems, including systems that are privately owned and operated, including transportation alternatives, as defined in 23 U.S.C. 101(a), and associated transit improvements, as described in 49 U.S.C. 5302(1), as appropriate. The timeline for implementation of this MAP-21/FAST Act planning requirement is outlined in 23 CFR Part 450.340. Prior to May 27, 2018, an RTPA may adopt an RTP that has been developed using the SAFETEA-LU requirements or the provisions of the Statewide and Nonmetropolitan Transportation Planning *and* Metropolitan Transportation Planning Final Rule (23 CFR Part 450 and 771 and 49 CFR Part 613). On or after May 27, 2018, an RTPA may not adopt an RTP that has not been developed according to the provisions of MAP-21/FAST Act as specified in the Planning Final Rule. RTPAs are encouraged to communicate with Caltrans and FHWA/FTA to discuss schedules for RTP adoption.

Requirements (Shalls)
State: Government Code Section 65080(a) the RTP shall be directed at achieving a coordinated and balanced regional transportation system.

Recommendations (Shoulds)
Federal: Title 23 CFR Part 450.216 recommends that the CTP consider the role of intercity busses as outlined above; 450.324(b) requires MPO RTPs to include short and long-range strategies for an integrated multimodal transportation system. RTPAs may comply as well.

6.11 Bicycle & Pedestrian – Including AB 1396 California Coastal Trail

The use of bicycles and walking as a means of transportation has increased dramatically in California over the last 20 years. Both modes of transportation promote a healthy lifestyle and reduce environmental impacts. Higher levels of physical activity are associated with well-connected transportation networks. The CTP acknowledges that viable and equitable multimodal choices are created through Complete Streets and high quality transit access in communities. The CTP can be a helpful resource for RTPAs to refer to during their RTP development. Additional information regarding the Complete Streets planning process which emphasizes bicycle and pedestrian access and circulation is available in Section 2.7. The RTP section discussing bicycle and pedestrian issues should identify the following:

1. A well-connected transportation network within the region that includes routes with all types of bicycle and pedestrian facilities on local streets which provide trips to destinations;
2. Policies, plans and programs used to promote the usage of bikes and walking;
3. Transit and rail interface with bicyclists and pedestrians;
4. Unmet bicycle and pedestrian needs; and,
5. Existing and potential California Coastal Trail (CCT) network segments and linkages, as well as gaps and related coastal access trail needs.

AB 1396 – California Coastal Trail

Enacted in 2007, AB 1396 added Section 65080.1 to the Government Code which requires transportation planning agencies whose jurisdictions include a portion of the CCT (or property designated for the coastal trail) to coordinate with specified agencies regarding development of the coastal trail. The law also requires that RTPs include provisions for the coastal trail. As RTPs are updated, the CCT provisions from each respective certified Local Coastal Program Land Use Plan's policies, programs and maps should be integrated into the RTP update.

Provisions for the CCT should include identification of existing and potential trail network segments and linkages as well as gaps and related coastal access trail needs. Coastal access trail needs could include identification of accommodations for non-motorized modes, critical linkages to parking, bicycle racks, bathrooms and other support facilities, and connections to CCT trailheads. Any necessary trail alignment near motorized traffic should provide for adequate separation. Prioritization of projects within RTPs could include consideration of connecting the CCT across identified critical gaps in the coastal trail system.

Additional information and maps regarding the California Coastal Trail is available from the State Coastal Conservancy and the California Coastal Commission at:

www.yourcoast.org

http://scc.ca.gov/2010/01/07/the-california-coastal-trail/

http://coastal.ca.gov/access/ctrail-access.html

http://www.coastal.ca.gov/access/accndx.html

http://www.coastal.ca.gov/access/coastal-trail-map.pdf

Requirements (Shalls)
State: Government Code Section 65080(a) requires that the RTP shall be directed at achieving a coordinated and balanced regional transportation system. Government Code Section 65080.1 requires that transportation planning agencies whose boundaries include a portion of the CCT or property designated for the trail, coordinate with appropriate agencies including the State Coastal Conservancy, the California Coastal Commission and the Department of Transportation regarding development of the California Coastal Trail, and include provisions for the CCT in their RTP.

Recommendations (Shoulds)
Federal: Title 23 CFR Part 450.216(a)

Planning Practice Examples: Available in Appendix H

6.12 Goods Movement (Maritime/Rail/Trucking/Aviation)

Developing, operating and maintaining a robust goods movement transportation system is vital to California's economy. For many reasons, including its proximity to Asian markets, its strong agricultural economy, and its large population, high volumes of goods are moved within and through California. With the diversity of products being moved, and the complexity of origins and destinations, the transportation system that supports goods movement within California must be multimodal. The system spans the entire state, and the needs for urban and rural goods movement infrastructure can differ between, and within, regions. However, throughout the state, goods movement has both positive and negative impacts. Through the regional planning process, RTPAs can create strategies for improving the regional goods movement transportation system so positive impacts (e.g. job creation, access to goods) are maximized and negative impacts (e.g. land use conflicts, air pollution and disproportionately high and adverse impact on low income or disadvantaged groups) are minimized.

RTPAs must plan for the goods movement infrastructure in the same way they plan the transportation infrastructure for the movement of people to support projected population growth and economic development. Goods movement planning is in the public interest because of the potential benefits to the regional economy, environment, public health, and community well-being. Improvements to the goods movement transportation system can result in co-benefits to the overall system when California's economic, equity, and environmental goals are simultaneously considered. For example, as a rail improvement project could ideally take trucks off the highway, congestion could be reduced and potentially reduce GHG emissions. The CTP recognizes the importance of enhancing freight mobility, reliability, efficiency, and global competitiveness, which is why RTPAs should consider deploying, as appropriate and feasible,

cost-effective technologies that can help expedite goods movement and reduce congestion at our ports. A seamless, efficient, low-emitting and well-maintained, multi-modal transportation system is paramount to the state's economic strength and its citizens' quality of life. Planning this system involves a broad base of stakeholders, including affected community representatives, local organizations, agencies in charge of seaports and airports, trucking associations, Class I and short line railroads, and freight carriers and shippers, local air districts, electric and gas utilities, and multiple state agencies (e.g., ARB, California Energy Commission, Caltrans, California Public Utilities Commission).

The RTP section discussing goods movement should include the following:

1. A discussion of the role of goods movement within the region (the types and the magnitudes of goods moved through the region and their economic importance);
2. An inventory of all major highway and roadway routes consistent with the National Highway Freight Network, including critical urban freight corridors;
3. An inventory of seaport facilities, air cargo facilities, freight rail lines, and major warehouses and freight transfer facilities within the region;
4. An analysis of the efficiency of existing goods movement transportation infrastructure (e.g. bottlenecks, gaps, etc.) and identification of expansion or improvement needs at seaport and airport facilities that handle cargo and issues regarding land side access to these facilities;
5. Discussion of how the region's projected population growth will affect the demand for goods movement, and identification of land areas where goods movement facilities (such as intermodal facilities and warehouses) necessary to support this demand can and should be located;
6. Specific projections, by mode, of future freight demand;
7. Identification of freight-related highway and roadway improvement needs;
8. Identification of expansion or improvement needs for freight rail lines within the region;
9. Identification of intermodal connection issues between different modes (e.g. freight, rail and seaport facilities), as applicable;
10. Discussion of ITS and advanced technology opportunities for goods movement, with the aim of maximizing operational efficiencies and minimizing emissions.
11. Identification of opportunities or innovations that improve freight efficiency and support the State's freight system efficiency target as established in the California Sustainable Freight Action Plan.

California Sustainable Freight Action Plan

In July 2015, Governor Brown issued Executive Order B-32-15 which prioritizes California's transition to a more efficient and less polluting freight transportation system. This transition of California's freight transportation system is essential to supporting the State's economic competitiveness in the coming decades while reducing GHG emissions and air quality impacts. The Executive Order directed State agencies to develop an integrated action plan by July 2016 that established clear targets to improve freight efficiency, transition to zero-emission technologies, and increase the competitiveness of California's freight system. It is suggested that regional transportation agencies consult the California Sustainable Freight Action Plan when developing the freight related strategies in their respective RTPs.

California Freight Mobility Plan

The state's California Freight Mobility Plan (CFMP) is a policy and action agenda document that supports the improvement of California's goods movement infrastructure while preserving the environment. RTPAs are encouraged to review the CFMP for guidance, and ensure consistency while addressing goods movement within their RTPs. The RTPs and the CFMP will ideally function in a feedback loop, as the goods movement strategies and projects identified in RTPs will be incorporated into the next update of the CFMP.

Requirements (Shalls)
State: Government Code Section 65080(a) requires that the RTP shall be directed at achieving a coordinated and balanced regional transportation system.

Recommendations (Shoulds)
Federal: Title 23 CFR Part 450.216, the CTP may include short and long-range strategies for an integrated multimodal transportation system to facilitate the safe and efficient movement of people and goods. Title 23 CFR Part 450.324(f)(3) states that the MPO RTP shall include operational and management strategies to improve the performance of existing transportation facilities to relieve vehicular congestion and maximize the safety and mobility of people and goods. RTPAs are encouraged to comply, as feasible and appropriate.

The FAST Act directs the Department of Transportation to establish a National Multimodal Freight Network to:

- Assist States in strategically directing resources toward improved system performance for the efficient movement of freight on the Network;
- Inform freight transportation planning;
- Assist in the prioritization of Federal investment; and,
- Assess and support Federal investments to achieve the goals of the National Multimodal Freight Policy established in 49 U.S.C. 70101 and of the National Highway Freight Program described in 23 U.S.C. 167.

The FAST Act established a National Highway Freight Network (NHFN). The NHFN includes the following subsystems of roadways:

- **Primary Highway Freight System (PHFS):** This is a network of highways identified as the most critical highway portions of the U.S. freight transportation system determined by measurable and objective national data. The network consist of 41,518 centerlines miles, including 37,436 centerline miles of Interstate and 4,082 centerline miles of non-Interstate roads.
- **Other Interstate portions not on the PHFS:** These highways consist of the remaining portion of Interstate roads not included in the PHFS. These routes provide important continuity and access to freight transportation facilities. These portions amount to an estimated 9,511 centerline miles of Interstate, nationwide, and will fluctuate with additions and deletions to the Interstate Highway System.
- **Identification and Designation of Critical Rural Freight Corridors (CRFCs):** These are public roads **not** in an urbanized area which provide access and connection to the Primary Highway Freight System (PHFS), and the Interstate with other important ports, public transportation facilities, or other intermodal freight facilities.

Planning Practice Examples: Available in Appendix H

6.13 Regional Aviation System

Aviation contributes to California's triple bottom line (people, prosperity, and planet) at all levels from local to global. Aviation gives the State's multimodal transportation system access, range, and speed. California's aviation system consists of 246 public-use airports made up of both commercial and general aviation airports, 68 special-use airports, 8 sea plane bases, 356 hospital and/or corporate, police, fire, or private heliports, 22 military/NASA bases, and 1 joint-use facility. (Division of Aeronautics Aviation in California: Fact Sheet (MAY 2016))

Aviation improves mobility options, generates tax revenue, saves lives through emergency response, medical, and firefighting services, produces over $170 billion in air cargo revenues annually, and generates over $14 billion to the State's tourism industry. The Division of Aeronautics Economic Study, *Aviation in California: Benefits to Our Economy and Way of Life* (2003), reports that aviation creates almost 9 percent to the State's jobs (1.7 million jobs), and generates revenues totaling ($110.7 billion). The report is available on line at: http://dot.ca.gov/hq/planning/aeronaut/publication.htmhttp://dot.ca.gov/hq/planning/aeronaut/publication.htm

The 2014 Caltrans Airport Forecasting Study, T*he Role of California Airports in Smart Growth and Economic Vitality* created tools for communities and regions to use for developing their local airports to their full economic potential. Airports can be used to help locate new business opportunities for a region, and improve quality of life by providing a unique access opportunity. The study includes planning practice examples, available at: http://www.dot.ca.gov/aeronaut/index.htm

To preserve the economic and access benefits aviation contributes to California, airports must be protected through comprehensive planning practices at all levels of government. A large part of protecting airports comes from policies that protect airports from encroachment from incompatible land uses. Every county in California having an airport that is "operated for the benefit of the general public" described in Public Utilities Code (PUC) Section 21670(b) must have an Airport Land Use Commission (ALUC) who's function is accomplish proper airport land use compatibility planning. The PUC recognizes six types of ALUC. Counties are free to select the type of ALUC that works best for their needs. The PUC further specifies the types of powers and duties reserved for ALUC (PUC Section 21674). ALUCs do not have jurisdiction over airports, but their airport land use compatibility plans (ALUCP) are developed from an airport's layout plan or master plan. And, general plans shall be consistent with ALUCPs, (PUC Sections 21674(c) and 21675).

Federal laws (Title 23 CFR Part 450.216(j)) requires RTPAs to consult with stakeholders responsible for land use management, as appropriate. Although not specifically named in statute, airports and ALUCs meet this criteria, and should be included in the consultation process during the RTP development. See Chapter 4 for guidance on the consultation process. State law (California Government Code Section 65080(a) and California Government Code Section 65080(a)) requires a coordinated and balanced regional transportation system. State law further requires RTPAs that have a primary air carrier airport (i.e. an airport with over 10,000 annual enplanements) within their jurisdiction shall have an Airport Ground Access Improvement Program (AGAIP). Annual passenger enplanement and air cargo reports are available from either the Caltrans Division of Aeronautics or from the Federal Aviation Administration (FAA), Airports Office: Passenger Boarding (Enplanement) and All-Cargo Data for U.S. Airports. See the Division of Aeronautics web site for annual reports of both enplanement and cargo data at:

http://dot.ca.gov/hq/planning/aeronaut/documents/statistics/paxstats.htm

Requirements (Shalls)
Federal: Title 23 CFR Part 450.216(j) states that States shall consult as appropriate with stakeholders and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation during the development of the RTPs. RTPAs shall comply with this as well. Title 23 CFR Part 450.210(a)(1) also requires that public involvement process developed in consultation with all interested parties and describe explicit procedures, strategies, and desired outcomes.

State: California Government Code Section 65080(a) states that "Each transportation planning agency…shall prepare and adopt a regional transportation plan directed at achieving a coordinated and balanced regional transportation system, including…aviation facilities and services." California Government Code Section 65081.1(a) requires each RTPA with a primary air-carrier airport to have an Airport Ground Access Improvement Program (AGAIP). Government Code Section 65081.1(b) requires consideration of highway, rail, and mass transportation and states that, "The program shall address the development and extension of mass transit systems, including passenger rail service, major arterial, and highway widening and extension projects, and any other ground access improvement projects the planning agency deems appropriate." The Transportation Research Board Airport Cooperative Research Program Report 146 provides resources and guidance regarding the development of the AGAIP. It can be found on the web at: http://www.trb.org/Main/Blurbs/173350.aspx. An additional ACRP web only ground access guide is also available at: http://www.trb.org/Publications/Blurbs/173351.aspx

Recommendations (Shoulds)
State: RTPAs should consider the needs of all commercial and general aviation public-use airports, heliports and military airfields and installations when planning transportation and infrastructure projects (i.e. by consulting with the sponsors) to further sustainable and compatible land uses around these anchor locations and circulation patterns.

Planning Practice Examples: Available in Appendix H

Military Airfields and Installations

California's military installations are vital to America's national security, and the State is home to some of the Department of Defense's (DOD) most important military installations globally. All five of the services (Army, Navy, Air Force, Marines, and Coast Guard) have a major presence in the State. They are major contributors to the State's triple bottom line (people, prosperity, place), and users of the transportation system. In 2009 California's DOD installations employed over 354,769 civilian and military personnel, with a payroll of over $56 billion. Military expenditures and contracts awarded to California companies totaled almost $99 billion. Source: DOD in California brochure. Military installations are subject to strict environmental regulation, and vulnerable to climate change impacts, and sea leave rise. Each installation has plans that address environmental and sustainability needs for their installation and practices in place that protect the environment and ensure the Service's ability to execute their mission.

Military transportation needs can be broken down into three broad categories, troop transport, military cargo, and installation employees commuter needs. These needs include surge capabilities as needed. Military facilities are spread throughout California, in all sizes of communities from rural locations to heavily urbanized areas. They share the same

transportation needs as their neighboring communities. Although not specifically named in planning statue and codes, the requirement to consult with all users of the transportation system apply to the military as well, see Chapter 4 RTP Consultation and Coordination for detailed discussion of users and the consultation process. In addition to transportation needs, military installations also need protection from encroachment of incompatible land uses that could hamper the facilities ability to meet its mission needs. Military installations with airfields are required by DOD to prepare Air Installation Compatible Use Zone Plan (AICUZ) that address their compatibility needs. ALUC are required to develop an ALUCP for the airfield that is consistent with the AICUZ. The federal government, Transportation Research Board, and some states (Texas, Colorado, North Carolina, New Jersey, and Virginia) offer guidance and planning practice examples regarding how to address land use compatibility issues for military installations. General plans must be consistent with the AICUZ and ALUCP for the military airfields in their jurisdiction. California's Office of Planning and Research (OPR) publishes a guide for how to incorporate land use compatibility planning for military installations in the State. https://www.opr.ca.gov/docs/Military_GPG_Supplement.pdf.

Requirements (Shalls)

Federal: Consulting with interested parties on plans, programs, and projects shall include individuals or organizations that are mentioned in Title 23 CFR Part 450.210(a). Title 23 CFR Part 450.216(j) requires States to consult with federal land use management agencies as appropriate during the development of RTP. RTPAs shall comply as well. Title 23 CFR Part 450.210(a)(1) also requires that public involvement process be developed in consultation with all interested parties and describe explicit procedures, strategies, and desired outcomes.

Recommendations (Shoulds)
State: RTPAs should consider the needs of public-use airports, and heliports and military airfields when planning transportation and infrastructure projects (i.e. by consulting with the sponsors) to further encourage sustainable and compatible land use and circulation patterns.

Planning Practice Examples: Available in Appendix H

Programming/Operations

6.14 Transportation System Management & Operations

The RTP shall address management and operations strategies aimed at improving the performance of the existing regional transportation system in order to reduce transportation congestion issues and maximize the safety and mobility of people and goods. Examples of operational and management include: (a) Traffic incident management (b) Travel information services(c) Roadway weather information (d) Freeway management (e) Traffic signal coordination and (f) Bicycle and transit trip planning.

Although operational and management strategies may be implemented on a regional, area-wide, or project-specific basis, those strategies included in an RTP should typically be those that have importance on a regional level.

RTPs shall include existing and proposed transportation facilities (including major roadways, transit, multimodal and intermodal facilities, pedestrian walkways and bicycle facilities and

connectors) that should function as an integrated regional transportation system with emphasis on those facilities that serve important national and regional needs.
If applicable, the locally preferred alternative selected from an Alternative Analysis under the FTA's Capital Investment Grant Program (Section 5309) needs to be adopted as part of the RTP as a condition for funding under Title 49 U.S.C. Section 5309.

Requirements (Should)
Federal: Title 23 U.S.C. Section 134 and Title 23 CFR Part 450.324(f)(5) requires MPO RTP strategies for improving the regional transportation system and reducing congestion. RTPAs are encouraged to comply as well, as feasible and appropriate.

Planning Practice Examples: Available in Appendix H

6.15 Coordination with Programming Documents

The Federal Transportation Improvement Program (FTIP) is a four-year prioritized listing of federally funded and non-federally funded regionally significant transportation projects that is developed and formally adopted by an MPO as part of the metropolitan transportation planning process. MPOs work cooperatively with public transportation agencies as well as other local, state, and federal agencies to propose projects for inclusion in the FTIP. Each project or project phase in the FTIP must be consistent with the approved RTP. The FTIP must be updated at least every four years.

Projects included in the FTIP may include projects from two other State programming documents: (1) The purpose of the SHOPP program is to maintain safety, operational integrity and rehabilitation of the State Highway System. (2) The STIP is a five-year capital improvement program of transportation projects on and off the State Highway System funded with revenues from the State Highway Account and other sources. Caltrans manages the SHOPP program, while the CTC manages the STIP. The STIP is a five-year document and is updated every other year. The SHOPP is a ten-year document and is adopted by the CTC in August of each odd numbered year. These two programs are major components of the FTIP.

The Federal Statewide Transportation Improvement Program (FSTIP) is a compilation of the FTIPs prepared by the 18 MPOs. It also includes projects in rural areas of the state not represented by an MPO (the Department programs projects in the FSTIP for the rural areas). The FSTIP is prepared by Caltrans and submitted to the FHWA and FTA for approval. The FSTIP covers a four-year period and must be updated at least every four years. States have the option to update more frequently, if desired. Federally funded projects or non-federally funded regionally significant projects cannot be added to the FSTIP unless they are included in the RTP. Specific requirements for the development and content of the FSTIP are contained in Title 23 CFR Part 450.218.

The diagram in Appendix B illustrates the federal/state programming process.

Requirements (Shalls)
Federal: Title 23 CFR Part 450.218(k) states that each project or project phase included in the STIP shall be consistent with the long range statewide transportation plan developed under Title 23 CFR Part 450.214.

6.16 Regionally Significant Projects

Title 40 CFR Part 93.101 defines regionally significant projects as follows:

> *"Regionally significant project means a transportation project (other than an exempt project) that is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network, including at a minimum all principal arterial highways and all fixed guide way transit facilities that offer an alternative to regional highway travel."*

All regionally significant projects must be included in an RTP air quality conformity determination by the RTPA in coordination with Caltrans and FHWA regardless of its funding source. These regionally significant projects should be specifically identified and noted in the project-listing portion of RTP.

Requirements (Shalls)
Federal: Title 23 CFR Part 450.216(h) requires all regionally significant projects be included in the TIP regardless if the projects are to be funded with federal funds or not.

6.17 Regional ITS Architecture

Intelligent transportation systems (ITS) encompass a broad range of wireless and wire line communications-based information and electronics technologies. When integrated into the transportation system's infrastructure, and in vehicles themselves, these technologies relieve congestion and improve safety. ITS is one way to increase the efficiency, safety and security of a transportation system. ITS involves the use of advanced computer, electronic and communications technologies and emphasizes *enhancing travel on existing infrastructure* (highways, streets, bridges, trains). Some examples of ITS technologies include advanced traffic signals, roadway and weather monitoring stations, bus and maintenance vehicle location systems, electronic roadside information signs and automated vehicle control systems.

The National ITS Program was established by ISTEA in 1991. Further federal regulations focused on extending ITS to regional planning efforts and training transportation professionals to deal with the range of issues associated with the adoption of advanced transportation technology. The development of the regional ITS architecture is not meant to compete with the formal transportation planning process. In fact, key ITS projects and initiatives are targeted early in the planning process. When updating RTPs, RTPAs should be sure to comply with current federal regulations. Title 23 CFR Part 450.208(g) states, "*The statewide transportation planning process shall, to the maximum extent practicable, be consistent with the development of applicable regional intelligent transportation systems (ITS) architectures, as defined in Title 23 CFR Part 940."*

Title 23 CFR Part 940 establishes the protocol for developing a regional architecture plan that, in turn, conforms to national ITS architecture standards. The ITS regulations defines the responsibilities for creating and maintaining Regional ITS Architecture (RA) frameworks. Architecture maintenance is the process of updating a regional architecture with references to

new projects and activities, new stakeholders; additions, retirement or replacement of equipment; and, changes to standards and protocols. Maintenance is an ITS program responsibility under Title 23 CFR Part 940.

The intent of the federal ITS requirement is to encourage reciprocal consistency. Title 23 CFR Part 940.5, Intelligent transportation system architecture and standards, calls for the "development of the regional ITS architecture (to) be consistent with the transportation planning process…" It is important to coordinate the general RTP planning efforts with plans for specific projects that entail the use of ITS technology. These 'nested' plans should be developed in an open forum and they should be consistent. The resultant plans would reflect consideration of both documents during the planning process.

The National ITS Architecture and other related resources can be found at the United States Department of Transportation's (U.S. DOT's) Architecture website:

http://www.its.dot.gov/arch/arch.htm

Requirements (Shalls)
Federal: Title 23 CFR Part 450.208(g) states that the CTP shall (to the extent practicable) be consistent with the development of applicable regional ITS architectures as defined in Title 23 CFR Part 940. RTPAs shall comply as well.

6.18 Future of Transportation & New Technology

While maintaining the current transportation network is often a priority for RTPAs, RTPAs need to be planning ahead for a future in which technology will transform the way that people move and live. RTPAs are ideally positioned to anticipate and be responsive to the needs of future generations. This section provides a summary of federal legislation to prepare for new technologies and innovations for the future of transportation.

Connected Vehicle Program

There are several activities related to the national Connected Vehicle Program that will certainly impact regional and local transportation agencies, in addition to Caltrans. Since 90% of the roadways in California are owned and operated by local agencies, including the 58 counties and more than 500 incorporated cities, it is critically important for them to be aware of and to plan for the implementation of connected vehicles.

RTPAs should be aware of the pending rule being considered by the National Highway Traffic Safety Administration (NHTSA) to mandate that equipment for vehicle-to-vehicle (V2V) communications, using a technology called "Dedicated Short-Range Communications" (DSRC), be installed in the light-duty passenger car fleet to enable applications that improve vehicle safety. As the government regulator for auto industry safety, NHTSA is expected to adopt this rule, as it did for other safety systems such as seat belts, airbags, and anti-lock brakes. A future update of the RTP Guidelines will capture any "shoulds" or "shalls" resulting from the rulemaking process.

RTPAs should also be aware of the pending guidance from the FHWA to transportation infrastructure owner/operators (Caltrans; counties; and cities) on what equipment they should

consider installing in their infrastructure to support both V2V and vehicle-to-infrastructure (V2I) communications, again using DSRC. The best example of this equipment is the DSRC radios. These radios provide the communication capability that is essential for V2I applications. Roadside processors may also be necessary in some cases where the applications demands heavier computing requirements.

Unlike connected vehicles, the development of which is being led by the federal government, in partnership with state DOT's, regional transportation agencies, and the auto industry, automated vehicles are being developed by the technology industry, including companies such as Google, Tesla, and Delphi. So far, their philosophy has been to avoid dependence on the infrastructure. However it is difficult to achieve vehicle automation and connected vehicle (CV) applications without appropriate support from the infrastructure. The infrastructure needs to be upgraded with DSRC radios and roadside processors. The roadside processors are not an absolute requirement but may be required in some cases.

Title 23 U.S.C. Section 518 requires the U.S. DOT Secretary establishing guidance for recommended implementation path for V2V and V2I communication system deployment. Title 23 U.S.C. Section 519 ensures that funds are available for the development of Intelligent Transportation System (ITS) Infrastructure, equipment and systems.

Planning Practice Examples: Available in Appendix H

6.19 Transportation Safety

While Caltrans supports consideration of security as separate from safety as a planning area, it also recognizes that security and emergency responses efforts are often inextricably linked. Clearly both are linked to ensuring system security and availability of emergency response services in the event of a natural or human-caused disaster. Due to unexpected large-scale security incidents or natural disasters, the potential for the necessity of a wide scale evacuation exists in almost every area of California. RTPAs can use the CTP as a resource for recommendations for public safety and security improvements, such as supporting the implementation of Positive Train Control (PTC) into existing intercity rail cars.

Under a prior federal surface transportation reauthorization known as TEA-21, safety and security were lumped together in one federal planning factor. SAFETEA-LU changed this in order to signal the importance of these two items. Safety and security were again updated with MAP-21/FAST Act and are separate federal planning factors. According to Title 23 CFR Part 450.306(b), these two planning factors are:

1. Increase the safety of the transportation system for all motorized and non-motorized users; and,
2. Increase the security of the transportation system for motorized and non-motorized users.

The public expects, and demands, that the transportation system be safe and efficient for all users. Addressing the improvement of transportation safety can help alleviate a myriad of health, financial, and quality-of-life issues for travelers. Fatalities and injuries from motor vehicles crashes are a major public health problem. Historically, transportation safety has not been included as part of the transportation planning process. A clear need has developed for safety to be considered as part of planning process instead of as a reactionary consideration as

it as been. To be adequately addressed, safety must be a key goal within the process. Improving the safety of the transportation network requires an active, conscious approach to monitoring the transportation system for safety problems and anticipating problems before they occur.

Strategic Highway Safety Plan

Federal law requires MPOs to draw a strong link between the Strategic Highway Safety Planning process described in Title 23 U.S.C. Section 148 and the regional planning process. Federal regulations also require MPOs to summarize the priorities, goals, countermeasures or projects of the Strategic Highway Safety Plan (SHSP) in their RTPs. RTPAs will also be held to this same level of addressing safety during the development of their RTPs.

SHSPs were first required under SAFETEA-LU, which established the Highway Safety Improvement Program (HSIP) as a core federal program. The FAST Act continues the HSIP as a core Federal-aid program and the requirement for States to develop, implement, evaluate and update an SHSP that identifies and analyzes highway safety problems and opportunities on all public roads no less than every five years. Each State must have a Strategic SHSP in place to receive its full share of federal transportation funds.

Each RTPA should review the California SHSP during the preparation of the portion of the RTP addressing safety. The SHSP is guided by federal guidelines capitalizing on successes achieved to date and continue to create even greater improvements. It also addresses goals established by MAP-21:

1. Highlights challenges to roadway user safety on California's roads;
2. Provides a descriptive account of fatalities experienced on California's roads;
3. Proposes high-level strategies to reduce fatalities for each challenge; and,
4. Includes a five-year guide for the implementation of specific projects and activities.

The California SHSP is available on the Caltrans website at:

http://www.dot.ca.gov/hq/traffops/survey/SHSP/

Safety Performance Measures

The MAP-21/FAST Act established Safety Performance Management (PM) as part of the overall Transportation Performance Management (TPM) program, which FHWA defines as a strategic approach that uses system information to make investment and policy decision to achieve national performance goals. Refer to Section 7.1 for more information.

Requirements (Shall)
Federal: Title 23 CFR Part 450.206(a)(2) states the planning process will address the safety of the transportation system for the public.

Recommendations (Should)
Federal: Title 23 CFR Part 450.206(c)(4) states that RTPs should be consistent with the California Strategic Highway Safety Plan (SHSP) and other transit safety and security planning and review processes.

Title 23 CFR Part 450.216(3) states the RTP should integrate the priorities, goals, countermeasures or projects for the RTPAs region contained in the SHSP.

6.20 Transportation Security

A report was prepared by the American Highway Users Alliance titled "*Emergency Evacuation Report Card 2006*". The report stated: *"The principal resources of urban evacuation are private cars and publicly provided highways. As a result of the threat of terrorism, the interstate system is reasserting itself as a major element of national security (and defense), principally due to its capacity for handling mass evacuations."* The report conducted an initial evacuation capacity evaluation for the 37 largest urbanized areas in the United States. These urbanized areas were graded from "A" to "F". Of the four California urbanized areas identified in the report, three (San Diego, San Francisco and Los Angeles) received a grade of "F". Sacramento, the fourth California city identified in this report received a "D".

Due to unexpected large-scale security incidents or natural disasters, the potential for the necessity of a wide scale evacuation exists in almost every area of California. One of the lessons learned from the terrorist attack on the World Trade Center in New York City was that effective coordination and communication among the many different operating agencies in a region is absolutely essential. Such coordination is needed to allow law enforcement and safety responses to occur in an expeditious manner, while at the same time still permitting the transportation system to handle the possibly overwhelming public response to the incident. Complementary to this is the need to make sure the public has clear and concise information about the situation and what actions they should take.

Although the immediate organizational response to security incidents and disasters will be the responsibility of law enforcement/safety agencies, there is an important role that MPOs/RTPAs can play in promoting coordinated planning among first responders and transit agencies in anticipation of unexpected events or natural disasters. In addition, MPOs/RTPAs could also provide a centralized location of information on transportation system conditions and the responses that might be useful in an emergency.

In developing the RTP, RTPAs are required to consult with agencies and officials responsible for other planning activities with in the region including natural disaster risk reduction. The RTP should identify the primary agencies responsible for preparing the necessary plans should a wide scale evacuation be necessary. The RTPA should consult the appropriate emergency plan for the region to determine what evacuation plans are in place. Examples of strategies that could be addressed in regional mass evacuation plans could include:

1. Signaling – Allows traffic signals to extend for up to four minutes in either red or green to allow large amounts of vehicles or pedestrians to proceed in one direction;
2. Traffic Control Guides – Deploy traffic control personnel to problem intersections to manually direct traffic;
3. Roadblocks and Barricades – Deploy various methods such as portable signs, cones or barrels;
4. Electronic Signage – Changeable message signs have been installed along a number of major routes that could be used to provide information to evacuees;

5. Lane Expansion – Involves the use of using road shoulders to increase vehicle capacity of evacuation routes;
6. Contra flow Lanes – Contra flow or lane reversal involves directing traffic to use lanes in both directions to move a large amount of vehicles in one direction;
7. Use of Mass Transit – Transit could be used to assist in the evacuation of the public should it become necessary;
8. Alternative Routes – Rural areas typically do not have large scale highways and transit, which makes it critically important to identify alternate emergency evacuation routes; and,
9. Airport Use – Airports can be used as staging areas for medical and food supplies as well as evacuation.

Requirements (Shalls)
Federal: Title 23 CFR Part 450.206(a)(3) states the planning process will address the security of the transportation system for the public. Title 23 CFR Part 450.216(c) states that the CTP shall reference, summarize, or contain any applicable emergency relief and disaster preparedness plans, strategies and policies that support homeland security and safeguard the personal security of all motorized and non-motorized users. RTPAs shall also comply.

Recommendations (Shoulds)
Federal: Title 23 CFR 450.316(b) requires consultation with agencies and officials responsible for planning natural disaster risk reduction. RTPAs should also comply.

6.21 Assessment of Capital Investment & Other Strategies

MAP-21/FAST Act added a new requirement for MPO RTPs to also include an assessment of capital investment and other strategies to:
1. Preserve the existing and projected transportation infrastructure;
2. Provide for multimodal capacity increases based on regional priorities and needs; and,
3. Reduce the vulnerability of the existing transportation infrastructure to natural disasters.

The RTP may consider projects and strategies that address areas or corridors where current or projected congestions threatens the efficient functioning of key elements of the regional transportation system.

Recommendations (Shoulds)
Federal: 23 CFR 450.324(f)(7) requires MPOs to include an assessment of capital investment and other strategies; RTPAs are encouraged to comply as well.

6.22 Congestion Management Process

The RTP shall describe and identify the transportation system management (TSM) and operations strategies, actions and improvements it will employ to manage and operate the urban freeway system, its corridors and major local parallel arterials for highest or increased productivity. Increased productivity can include all modes, including transit, bicycles, and pedestrians. There may be many ways to increase mobility without increasing GHG emissions. One way may be to improve the efficiency and productivity of the corridor through operational,

transit and highway projects. TSM and operations strategies, actions and improvements shall include at a minimum traffic detection, traffic control, incident response and traveler information. Transportation demand strategies shall also be identified and can include, but are not limited to: Pricing, Transportation Planning, and Investment Strategies. Section 6.23 and Appendix H of the Guidelines contain additional information on strategies that can be used to manage congestion and reduce regional GHG emissions. The approach to TSM and operations shall be integrated into system planning documents.

Coordination of Project Programming

Programming of projects shall be scheduled so that project sequencing in a corridor achieves the most effective performance results. In State Highway System corridors the system planning documents should identify the most effective project sequencing, including projects identified for major local arterials. System planning strategies to address performance issues can include: system evaluation and monitoring, maintenance and preservation, smart land use and demand management, Intelligent Transportation Systems, operational capacity strategies, multimodal and Complete Streets concepts.

Congestion Management Process in the RTP

The RTP should identify urban freeway corridors with current and projected recurrent daily vehicle hours of delay that are a priority for preparing CSMPs and TCRs. The RTP should include by corridor all multimodal strategies, actions and improvements identified in the adopted TCR or CSMP that are needed to provide for safe and effective integrated management and operation of the multimodal transportation system across jurisdictions and modes to improve corridor performance based upon performance measurement. Approaches to improving corridor performance can include new and existing facilities, improved maintenance and operation of existing infrastructure, investing and encouraging the use of alternative modes (such as transit, rail, bicycling and walking), encouraging smart land use, and integrated corridor management strategies, among others.

The RTP should describe roles and relationships among units of local government, modal agencies, Caltrans and related agencies for managing the corridor for highest mobility benefits and for measuring and evaluating performance.

Recommendations (Shoulds)
Federal: Title 23 CFR Part 450.322(b) outlines a process for MPOs and states the congestion management process should result in performance measures that can be reflected in the RTP. RTPAs may comply as well, as appropriate.

Regional GHG Emissions Considerations in the RTP

6.23 Land Use & Transportation Strategies to Address Regional GHG Emissions

Better land use and transportation strategies will continue to be important to both MPOs and RTPAs in developing their RTPs to meet local, regional and statewide mobility and economic needs while meeting the requirements of AB 32 to reduce regional GHG (GHG) emissions. RTPAs and MPOs can encourage well-designed and sustainable local and regional projects that encourage reductions in GHG emissions by considering and implementing land use and

transportation strategies. The strategies set forth below and in Appendix H are suggested methods that may help the MPO and RTPA to reduce regional GHG emissions.

Land use strategies can include, but are not limited to:

- Mixed use, infill, and higher density development pr ojects.
- Public transit incorporated into project design.
- Open space, parks, existing trees, and replacement trees.
- "Brownfields" and other underused property near existing public transportation and jobs developed.
- Pedestrian and bicycle-only streets and plazas within developments.
- Consideration of current and future school sites and needs regarding school-related trips.

Transportation strategies can include, but are not limited to:

- Promote ride sharing programs
- Employer-sponsored shuttle services
- Encourage or use low or zero-emission vehicles
- Create car sharing programs
- Provide shuttle service to public transit
- Incorporate bicycle-friendly intersections into street design
- Create active transportation plans
- A school district may provide bussing to students based on the distance from a school, other hazards to walking to the school, or other district criteria. Consider opportunities to incorporate existing and planned school district busing to supplement and complement public transit options.
- Consider opportunities to protect or improve designated and proposed school district safe routes to school in community wide transportation strategies and investments (e.g. transit improvements bifurcating neighborhoods near schools disrupting pedestrian/bike access).

Additional strategies include, but are not limited to:

- Pricing Strategies (can include Congestion Pricing, Road Tolling, HOT lanes and toll roads, Parking Pricing and Alternative Mode Programs)
- Transportation Planning and Investment Strategies in the Smart Mobility Framework
- Urban and suburban infill, clustered development, mixed land uses, New Urbanist design, transit-oriented development, and other "smart-growth" strategies: Strategies incorporating the "D factors" (See Professor Robert Cervero's research as noted in Cervero, R. and K. Kockelman (1997) "Travel Demand and the 3Ds: Density, Diversity, and Design," *Transportation Research D*, Vol. 2, pp. 199-219. Other resources used to define these factors include Fehr & Peers' *Accurate Trip Generation Estimates for Mixed-Use Projects,* and Cervero and Lee's *The Effect of Housing Near Transit Stations on Vehicle Trip Rates and Transit Trip Generation.)*
- Congestion Management improving traffic circulation to reduce vehicle idling (coordinate controlled intersections for traffic to pass more efficiently through congested areas)
- Transportation Demand Management

As regions explore various land use and transportation strategies to reduce GHG emissions, RTPAs should consider identifying and to the extent possible, quantifying the co-benefits associated with GHG emissions reduction strategies throughout the RTP implementation processes. Co-benefits are positive externalities that result from reducing GHGs such as increased mobility, reduced air and water pollution, economic opportunities, and healthier, more equitable and sustainable communities.

The strategy suggestions listed above, and in more detail in Appendix H are applicable to both MPOs and RTPAs. Links to various planning practice examples are also available in Appendix H.

Planning Practice Examples: Available in Appendix H

6.24 Non-MPO Rural RTPA Addressing GHG Emissions

Rural RTPAs have a unique set of challenges compared to urbanized areas to reduce regional transportation related GHG emissions. Lower land use densities, limited transit options, and higher VMT per household contribute to the challenges to reduce these emissions. More efficient vehicles and low-carbon fuels present the highest payoff for rural counties to reduce transportation related carbon dioxide emissions. Nonetheless rural RTPAs should strive to incorporate strategies to reduce their GHG emissions during their planning process.

RTPAs that are not located within a boundary of an MPO are not subject to the provisions of SB 375, or the resultant requirements to address regional GHG targets in their RTPs. This includes the requirement to prepare a SCS to meet a regional GHG emissions reduction target.

It is suggested that in preparing the environmental document for their RTP, RTPAs ensure that any GHG emissions during either construction or as a result of the project be addressed and mitigated, as appropriate.

The Rural Policy Research Institute prepared a brief paper titled: “Climate Change and Rural Counties in the U.S.” dated August 2009. Although the paper does not specifically address transportation issues, it does help set the overall framework of rural GHG issues. The paper is located at the following link:

http://www.rupri.org/Forms/Climate_Change_Brief.pdf

Requirements (Shalls)
State: Public Resources Code, Section 21000, et seq.

6.25 Adaptation of the Regional Transportation System to Climate Change

This section is intended to provide background on climate adaptation for RTPAs to consider in the development of RTPs. First, an overview of climate adaptation is provided for informational purposes. Next, executive orders on climate change are discussed to provide a critical framework for RTPAs. While the executive orders are directed at State agencies, they are provided to inform RTPAs in the development of RTPs. State legislation is also discussed that

may provide important context for RTPAs to consider in development of RTPs. Lastly, several resources are provided for RTPAs to consider in adaptation planning.

In 2014, the Intergovernmental Panel on Climate Change concluded that further effects of climate change are inevitable despite planned and implemented mitigation efforts. To help regions prepare for these effects, Caltrans' 2013 report "Addressing Climate Change Adaptation in Regional Transportation Plans: A Guide for California MPOs and RTPAs[1]" and Caltrans Vulnerability Assessments provide methods to incorporate impacts of climate change into future long-range transportation planning and decisions. A number of studies (Risky Business[2], Pacific Institute[3], UC Merced and RAND Corporation[4], American Society of Civil Engineers[5], Next10 and U.C. Berkeley[6]) quantify the high costs associated with climate impacts such as rising sea levels, changing wind and precipitation patterns, increasing temperatures, and wildfire damage resulting from changes in the climate.

Adaptation planning is very important for cities and counties across California. Because of its natural and geographic diversity, California is extremely susceptible to a wide range of climate change effects – many of which we have already begun experiencing. Examples include: rising maximum and minimum temperatures, less snowpack and earlier snowpack melt, drought and other changing precipitation patterns, increased severity of wildfires, sea-level rise, extreme weather events, which will lead to numerous changes and effects on biodiversity and habitats.

Building on decades of successful actions to reduce pollution, increase energy efficiency and mitigate the effects of climate change; California has long been at the forefront of global and national efforts to reduce the threat of a changing climate. The increasing likelihood of severe, pervasive and irreversible impacts are expected to have potentially catastrophic impacts on the transportation system resulting in flooded airports, interstate highways and roads, landslides that disrupt traffic flow and rail lines, heat waves and subsidence causing roadways to buckle; and, increased costs of transportation infrastructure operations and maintenance due to fire damage, erosion and inundation. The degree of risk for the State's transportation infrastructure system is uncertain and since climate impacts are location-specific, it makes sense to address concerns regionally.

The potential for consequences to life, health and safety, the environment, economic well-being, and other values needs to be assessed in terms of probable risks and exposures, the likelihood of an event occurring (probability), and the anticipated damages that would result if it did occur (consequences).

In 2015, the Governor's Executive Order B-30-15 created a roadmap for climate adaptation progress around the foundation of prior state efforts to build climate preparedness and reduce GHG emissions. Public Resources Code 71155 requires that State agencies shall take into account the current and future impacts of climate change when planning, designing, building, operating, maintaining and investing in state infrastructure. The Executive Order provides further context to this statute and directs:

1. All State agencies with jurisdiction over sources of GHG emissions shall implement measures pursuant to statutory authority, to achieve reductions of GHG to meet the 2030 and 2050 GHG emissions reduction targets.
2. The preparation of implementation plans for the actions recommended in California's Adaptation Strategy, the Safeguarding California Plan[7] and sector reports to the *California Natural Resources Agency* describing progress towards implementation.

3. State agencies to employ the following guiding principles in all planning and investment decisions:
    - Prioritize actions that both build climate preparedness and reduce GHG emissions;
    - Where possible, choose flexible and adaptive approaches to prepare for uncertain climate impacts;
    - Protect the state's most vulnerable populations; and,
    - Prioritize natural infrastructure solutions, as defined in Public resources code 71154(c)(3) (e.g., flood plain and wetlands restoration or preservation, combining levees with restored natural systems to reduce flood risk, and urban tree planning to reduce high heat days).
4. State agencies shall take climate change into account in their planning and investment decisions, and employ full life-cycle cost accounting on infrastructure projects to evaluate and compare investments and alternatives.
5. All infrastructure projects included in the state's annual Five-Year Infrastructure Plan must take into account the current and future impacts of climate change.
6. The establishment of a Technical Advisory Group through the *Governor's Office of Planning and Research* (OPR) to help State agencies incorporate climate change impacts into planning and investment decisions.

Additionally, three laws were signed in 2015 that are intended to provide important context for State agencies to collaborate with RTPAs, to consider climate impacts as they formulate their RTPs:

- **AB 1482** directs ongoing updates to the Safeguarding California Plan (beginning in 2017) and requires future updates (every three years) to describe the vulnerabilities from climate change in a minimum of nine specific sectors, and the priority actions needed to reduce climate risks in each of those sectors.
- **SB 246** establishes the Integrated Climate Adaptation and Resilience Program at the *Governor's Office of Planning and Research* to coordinate regional and local efforts with the state's climate adaptation strategies; and to establish a climate adaptation clearinghouse that centralizes best scientific evidence, available climate data and information for use in planning and implementing state, regional, and local climate adaptation projects. This bill also directs the *Office of Emergency Services* to update the California Adaptation Planning Guide, within one year of an update to the Safeguarding California Plan, to provide current tools and guidance to regional and local governments and agencies that are adopting and implementing climate adaptation and community resiliency plans and projects.
- **SB 379** requires local hazard mitigation plans to incorporate climate impacts by 2021; through coordination with an update to local jurisdictions' General Plan Safety Element (see OPR's 2016 edition of the General Plan Guidelines[8]).

The state has developed tools and resources to help inform and empower local decision-makers to incorporate climate impacts into their work. Cal-Adapt.org[9] is an online platform created in 2011 by the California Energy Commission to synthesize the best available climate science and generate spatially-explicit visualizations for local policymakers and the general public. Planners can find sophisticated locality-specific projections for many temperature metrics, wind and precipitation patterns, wildfire risk, snowpack and sea-level rise. The Adaptation Planning

Guide[10], released by the Natural Resources Agency in 2012, helps regions and communities prepare for those projected impacts. *The Governor's Office of Planning and Research* has incorporated these resources into the 2016 General Plan Guidelines to create comprehensive planning processes for local governments.

RTPAs should begin to address climate change adaptation in their long-range transportation plans in collaboration with State agencies, as transportation infrastructure projects that do not consider the impacts of climate may not be eligible to receive state funds. The following Caltrans documents and other resources are useful for climate adaptation planning, including "Addressing Climate Change Adaptation in Regional Transportation Plans: A Guide for California MPOs and RTPAs, Cal-Adapt.org, and other state resources (see Climate Adaptation Resources table). Design and planning standards should be re-evaluated to address future conditions. RTPAs should consult Safeguarding California's transportation chapter, the California Coastal Commission Sea Level Rise Policy Guidance, and where possible, local General Plan safety elements and Hazard Mitigation Plan documents, as well as other relevant local, regional, and state plans, resources and documents.

References:

1. http://www.dot.ca.gov/hq/tpp/offices/orip/climate_change/documents/FR3_CA_Climate_Change_Adaptation_Guide_2013-02-26_.pdf#zoom=65
2. http://riskybusiness.org/site/assets/uploads/2015/09/California-Report-WEB-3-30-15.pdf
3. http://www.pacinst.org/reports/sea_level_rise/
4. http://www.energy.ca.gov/2009publications/CEC-500-2009-048/CEC-500-2009-048-D.PDF
5. http://ascelibrary.org/doi/pdfplus/10.1061/9780784479193
6. http://www.energy.ca.gov/2009publications/CEC-500-2009-014/CEC-500-2009-014-D.PDF
7. http://resources.ca.gov/docs/climate/safeguarding/Transportation%20Sector%20Plan.pdf
8. https://www.opr.ca.gov/s_generalplanguidelines.php
9. http://cal-adapt.org/
10. http://resources.ca.gov/climate/safeguarding/adaptation_policy_guide/

Planning Practice Examples: Available in Appendix H

Climate Adaptation Resources for RTPAs and MPOs		
Title of Resource	*Origin and Use*	*Website*
2013 - Addressing Climate Change Adaptation in Regional Transportation Plans*: A Guide for California MPOs and RTPAs*	Caltrans	http://www.dot.ca.gov/hq/tpp/offices/orip/climate_change/documents/FR3_CA_Climate_Change_Adaptation_Guide_2013-02-26_.pdf#zoom=65
Guidance on Incorporating Sea Level Rise: For use in the planning and development of Project Initiation Documents	Caltrans	http://www.dot.ca.gov/hq/tpp/offices/orip/climate_change/documents/guide_incorp_slr.pdf#zoom=65
Cal-Adapt.org	Energy Commission	www.cal-adapt.org
Adaptation Planning Guide	Office of Emergency Services	http://resources.ca.gov/climate/safeguarding/adaptation_policy_guide/
2014 Safeguarding California Plan (California's Adaptation Strategy)	Natural Resources Agency	http://resources.ca.gov/docs/climate/Final_Safeguarding_CA_Plan_July_31_2014.pdf
2016 Safeguarding California: Implementation Action Plans, Transportation Sector	Natural Resources Agency and the State Transportation Agency	http://resources.ca.gov/docs/climate/safeguarding/Transportation%20Sector%20Plan.pdf
State of California Sea-Level Rise Document	Ocean Protection Council	http://www.opc.ca.gov/2013/04/update-to-the-sea-level-rise-guidance-document/
2016 General Plan Guidelines	Governor's Office of Planning and Research	https://www.opr.ca.gov/s_generalplanguidelines.php
California Coastal Commission Sea Level Rise Policy Guidance	California Coastal Commission	http://www.coastal.ca.gov/climate/slrguidance.html

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Chapter 7

Transportation Performance Management

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TRANSPORTATION PERFORMANCE MANAGEMENT

7.0 Introduction

Performance management provides the opportunity to ensure efficient and effective investment of transportation funds by refocusing on established goals, increasing accountability and transparency, and improving project decision-making. This chapter is intended to provide an overview of Federal and State requirements and recommendations for performance management applications in the RTP. MAP-21/FAST Act require States, in collaboration with RTPAs, and MPOs to implement a performance-based approach in the scope of the statewide and nonmetropolitan *and* metropolitan transportation planning process. In addition to federal performance-based planning, the State of California has articulated through statute, regulation, executive order, and legislative intent language, numerous state policies and goals for the transportation system, the environment, the economy, and social equity.

There are different applications of performance management – performance measures, performance targets, and performance monitoring indicators or metrics. Performance measures are used to model travel demand and allow the long-range forecasting of transportation network and system-level performance (e.g. Walk, bike, transit, and carpool mode share, corridor travel times by mode, percentage of population within 0.5 mile of a high frequency transit stop). Performance targets are numeric goals established to enable the quantifiable assessment of performance measures. Performance monitoring indicators or metrics include field data such as vehicle miles traveled, mode share, fatalities/injuries, transit access, change in agricultural land, and CO2 emissions.

7.1 Federal Performance Goals & Measures

The cornerstone of the federal highway program transformation is the transition to a performance and outcome-based program. MAP-21/FAST Act integrate performance into many federal transportation programs and contains several performance elements. States, in collaboration with RTPAs, and MPOs will invest resources in projects to achieve individual targets that collectively will make progress toward national goals. The national performance goals for the Federal highway programs as established in MAP-21, 23 U.S.C. Section 150(b), are as follows:

- Safety - To achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- Infrastructure Condition - To maintain the highway infrastructure asset system in a state of good repair
- Congestion Reduction - To achieve a significant reduction in congestion on the National Highway System
- System Reliability - To improve the efficiency of the surface transportation system
- Freight Movement and Economic Vitality - To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
- Environmental Sustainability - To enhance the performance of the transportation system while protecting and enhancing the natural environment.
- Reduced Project Delivery Delays - To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project

completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

The national performance measures will assess the progress toward the national goals listed above. National performance measures [23 U.S.C. Section 150(c) and 49 U.S.C. Section 5326(c) and Section 5329(d)] will address the following issues:

- For the National Highway Performance Program (NHPP):
  - Pavement conditions on the Interstate system and remainder of the National Highway System,
  - Bridge conditions on the NHS,
  - Performance of the Interstate system and remainder of the NHS
- For the Highway Safety Improvement Program (HSIP):
  - Number and rate per vehicle mile traveled of fatalities
  - Number and rate per vehicle mile traveled of serious injuries
- For the Congestion Mitigation and Air Quality Improvement Program (CMAQ):
  - Traffic congestion
  - On-road mobile source emissions
  - Freight movement on the Interstate system
- Public transportation:
  - State of good repair
  - Safety

The FHWA/FTA have developed final rules to implement the MAP-21/FAST Act Transportation Management Program (TPM), as summarized below. Section 1203 of MAP-21 identifies the national transportation goals and requires the U.S. DOT Secretary to promulgate a rule to establish performance measures in specified Federal-aid highway program areas listed above. The FHWA has issued three separate rules to meet this requirement: (1) Safety Performance Measures; (2) Pavement and Bridge Condition Measures; and, (3) System Performance Measures. These three rules together establish a set of performance measures for Caltrans and MPOs to use as required by MAP-21. FTA is responsible for developing rules related to public transportation and transit asset management. The FHWA and FTA work together on additional rules for: Statewide and Nonmetropolitan Transportation Planning *and* Metropolitan Transportation Planning; Additional Authorities for Planning and Environmental Linkages; and, MPO Coordination & Planning Area Reform. A future update of the RTP Guidelines will capture any “shoulds” or “shalls” resulting from the rulemaking process.

Safety Performance Measures

The MAP-21/FAST Act established Safety Performance Management (PM) as part of the overall Transportation Performance Management (TPM) program, which FHWA defines as a strategic approach that uses system information to make investment and policy decision to achieve national performance goals. The first in a series of three related rules, the Safety PM final rule, was published on March 16, 2016 with an effective date of April 14, 2016. This final rule supports the HSIP, as it establishes safety performance measure requirements for the purpose of carrying out the HSIP and to assess fatalities and serious injuries on all public roads.

The Safety PM establishes five performance measures as the five-year rolling averages for:

1. Number of Fatalities
2. Rate of Fatalities per 100 million Vehicle Miles Traveled (VMT)

3. Number of Serious Injuries
4. Rate of Serious Injuries per 100 million VMT, and
5. Number of Non-motorized Fatalities and Non-motorized Serious Injuries.

The Safety PM regulation also establishes the process for Caltrans, in collaboration with RTPAs, and MPOs to establish and report their safety targets, and the process that FHWA will use to assess whether Caltrans has met or made significant progress toward meeting their safety targets.

The California HSIP is available at:

http://dot.ca.gov/hq/LocalPrograms/hsip.html.

Pavement & Bridge Condition Measures

The second final rule, Pavement & Bridge Condition was published on January 18, 2017 with an effective date of February 17, 2017 and established measures for Caltrans to use to carry out the NHPP and to assess the condition of the following: pavements on the NHS (excluding the Interstate System), bridges on the NHS, and pavements on the Interstate System. The NHPP is a core Federal-aid highway program that provides support for the condition and performance of the NHS and the construction of new facilities on the NHS, and ensures that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS. This rule provides regulations for the new performance aspects of the NHPP, which address: measures, targets, and reporting. Caltrans shall coordinate with relevant MPOs/RTPAs on the selection of targets in accordance with 23 U.S.C. 135(d)(2)(B)(i)(II) to ensure consistency to maximum extent practicable.

The Pavement & Bridge Condition final rule establishes six performance measures:

Four Measures of Pavement Condition:

Two Measures for Interstate System Pavement Condition:

1. Percentage of Pavements on the Interstate System in Good Condition;
2. Percentage of Pavements on the Interstate System in Poor Condition;

Two Measures for NHS Pavement Condition:

3. Percentage of Pavements on the NHS (excluding the Interstate System) in Good Condition;
4. Percentage of Pavements on the NHS (excluding the Interstate System) in Poor Condition;

Two Measures of Bridge Condition:

5. Percentage of NHS Bridges in Good Condition; and,
6. Percentage of NHS Bridges in Poor Condition.

System Performance Measures

The third in a series of three related rules, System Performance Measures, was published on January 18, 2017 with an effective date of February 17, 2017. Caltrans, in collaboration with RTPAs, and MPOs will implement the regulation to assess the performance of the Interstate and non-Interstate NHS for the purpose of carrying out the NHPP; to assess freight movement on the Interstate System; and to assess traffic congestion and on-road mobile source emissions

for the purpose of carrying out the CMAQ Program. This third proposed performance measure rule also includes a discussion that summarizes all three of the national performance management measures final rules and the comprehensive regulatory impact analysis to include all three final rules.

Caltrans will be expected to use the information and data generated as a result of the new regulations to make better informed transportation planning and programming decisions. The new performance aspects of the Federal-aid program will allow FHWA/FTA to better communicate a national performance story and more reliably assess the impacts of Federal funding investments. Caltrans shall coordinate with relevant MPOs on the selection of targets in accordance with 23 U.S.C. 135(d)(2)(B)(i)(II) to ensure consistency to maximum extent practicable.

The System Performance Measures final rule establishes seven performance measures:

Three Measures of System Performance:

1. Percentage of Reliable Person-Miles Traveled on the Interstate;
2. Percentage of Reliable Person-Miles Traveled on the non-Interstate NHS;
3. Percent Change in CO2 emissions from 2017, generated by on-road mobile sources on the NHS;

4. A measure that will evaluate truck travel time reliability on the Interstate system (average truck reliability index);

Three measures that will assess the CMAQ Program:

5. Total emissions reductions for applicable criteria pollutants, for non-attainment and maintenance areas;

Two measures to assess traffic congestion:

6. Annual Hours of Peak Hour Excessive Delay Per Capita; and,
7. Modal Share; Specifically, the percent of non-single occupancy vehicle travel, including travel avoided by telecommuting.

Transit Asset Management

The Transit Asset Management final rule was published on July 26, 2016 with an effective date of October 1, 2016. This final rule establishes state good repair standards and four state of good repair performance measures:

- Equipment: (non-revenue) service vehicles;
- Rolling stock;
- Infrastructure: rail fixed-guideway, track, signals, and systems; and,
- Facilities.

As similarly required in the Safety PM for the target setting process, to the extent practicable, transit providers must coordinate with Caltrans, in collaboration with RTPAs, and MPOs in the selection of State and MPO performance targets.

7.2 Federal Performance-Based Approach & RTP Recommendations

The Statewide and Nonmetropolitan Transportation Planning *and* Metropolitan Transportation Planning Final Rule was published May 27, 2016 with an effective date of June 27, 2016. This final rule requires States, in consultation with RTPAs, to implement the performance-based approach in the scope of the statewide and nonmetropolitan transportation planning process. First, Caltrans, in coordination with MPOs/RTPAs and public transportation providers, will establish, to the maximum extent practicable, an appropriate target setting framework. RTPAs are encouraged to participate in the State's target-setting process. RTPAs are also encouraged to align their performance monitoring indicators with the State's targets. Federal regulations define the implementation timeline for satisfying the new requirements for States as two years from the effective date of each rule establishing performance measures under 23 U.S.C. 150(c), 49 U.S.C. 5326, and 49 U.S.C. 5329 FHWA/FTA.

This section is intended to provide a summary of the additional requirements specific to MPO RTP development. RTPAs are encouraged to add these components to their RTPs, as appropriate. The federally required performance-based approach specifically added two components to the RTP:

1. A description of the performance measures and performance targets used in assessing the performance of the transportation system in accordance with 23 CFR 450.306(d); and,
2. A system performance report and subsequent updates evaluating the condition and performance of the transportation system with respect to the performance targets described in 23 CFR 450.306(d), including –
    a. Progress achieved by the RTPA in meeting the performance targets in comparison with system performance recorded in previous reports, including baseline data; and,
    b. For RTPAs that voluntarily elect to develop multiple scenarios, an analysis of how the preferred scenario has improved the conditions and performance of the transportation system and how changes in local policies an investments have impacted the costs necessary to achieve the identified performance targets.

It is important to note that failure to consider any factor specified in the Performance-Based Approach, 23 CFR 450.206(d), shall not be reviewable by any court under Title 23 U.S.C., 49 U.S.C. Chapter 53, Subchapter II of Title 5 U.S.C. Chapter 5, or Title 5 U.S.C. Chapter 7 in any matter affecting an RTP, TIP, a project or strategy, or the certification of a metropolitan transportation planning process.

The FHWA maintains a Performance Based Planning and Programming Guidebook to help identify potential packages of strategies to achieve performance-based objectives, as well as the data and tools used to determine which strategies may be most effective, available at:

http://www.fhwa.dot.gov/planning/performance_based_planning/pbpp_guidebook/page06.cfm

Requirements (Should)
Federal: 23 CFR 450.306; 23 CFR 450.324(f)(3) & (4); 23 CFR 450.340(e) & (f)

7.3 State Goals & RTPs

Regional Transportation Plans are developed to reflect regional and local priorities and goals and they are also instruments that can be used by federal and state agencies to demonstrate how regional agency efforts contribute to those federal and state agencies meeting their own transportation system goals. A clear articulation of regional goals helps regions select projects in furtherance of their own goals, but also helps the federal and state government understand how the regional plans will contribute to statewide or nationwide goals. The RTP vision and goals are developed through a bottom-up process that involves input from stakeholders in the region, including the RTPA member jurisdictions and the public. The RTP, including goals, are formally adopted at the discretion of the RTPA governing board. The following are state policies and goals that RTPAs are encouraged to use in the development of their RTP goals. This is not an exclusive list, and RTPAs may establish additional RTP goals appropriate to the region.

- Preserve transportation infrastructure
- Improve mobility and accessibility
- Reduce GHG and improve air quality
- Improve public health, e.g., increase physical activity
- Conserve land and natural resources
- Encourage sustainable land use patterns
- Increase supply of affordable housing
- Improve jobs and housing balance
- Improve mobility and accessibility for low-income and disadvantaged communities
- Support economic development
- Increase safety and security of the transportation system for motorized and non-motorized users

If existing modeling and data are a limitation for some RTPAs, qualitative goals may be used instead of quantitative measures. The Policy element of the RTP would include the goals and objectives, and the Action element is what would provide the result/s. For example, the Action element would provide a comparison of what is being monitored, how it is monitored and the results and analysis of the eventual outcomes. In small urban areas, to support performance-based planning consistent with federal law, developing partnerships with neighboring jurisdictions, and collecting data and information is recommended.

The goals and objectives in the RTIP and ITIP should be linked and consistent with the goals and objectives of the RTP. RTP goals set the context for judging the effectiveness of the RTP project lists as a program, by furthering the RTP goals and objectives, whereas, the STIP Guidelines address performance measures of specific projects. Government Code Section 14530.1 (b)(5) requires more detailed project specific "objective criteria for meeting system performance and cost effectiveness of candidate projects" in the STIP Guidelines (Section 19). For additional information on the STIP and the Fund Estimate (FE), please refer to Caltrans Division of Transportation Programming website at:

http://www.dot.ca.gov/hq/transprog/ctcliaison.htm.

On highway projects, Caltrans considers system condition and performance measurements for interregional planning and the setting of State planning and programming activities. The State performance measures will focus on interregional trips between, into and through the regions. Caltrans coordinates its performance measure activity with RTPAs.

Planning Practice Examples: Available in Appendix H

7.4 Performance Monitoring

Regions should also consider using performance monitoring indicators to measure plan performance. The following table provides a summary of potential performance metrics for rural county RTPAs as outlined in the report, *Transportation Performance Measures for Rural Counties in California* (Rural Counties Task Force, 2015), at:

http://www.ruralcountiestaskforce.org/Assets/Resources/PerformanceMeasures/Final_Report-PerfMonIndicators_StudySept2015.pdf

These metrics were developed according to the following criteria:

- Measurement-based rather than model-based;
- Alignment with California state transportation goals and objectives;
- Capability of informing current goals and objectives of each rural and small-urban RTPA;
- Applicability across all rural and small-urban regions;
- Capability of being linked to specific decisions on transportation investments; and
- Normalized for population to provide equitable comparisons to urban regions.

Metric	Source	Website
Vehicle Miles Traveled (VMT) Per Capita By Locality By Facility Ownership Local vs. Tourist	Mobility Reporting	http://www.dot.ca.gov/hq/traffops/sysmgtpl/MPR/index.htm
	California DOF	http://www.dof.ca.gov/research/demographic/reports/estimates/e-2/view.php
	HPMS	http://www.dot.ca.gov/hq/tsip/hpms/hpmslibrary/prd/2013prd/2013PRD-revised.pdf
Peak V/C Ratio or Thresholds	Traffic Counts: K and D Factors	http://traffic-counts.dot.ca.gov/
Journey to Work Mode Share	American Community Survey	http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml
Total Accident Cost Per VMT Per Capita	Transportation Injury Mapping System	http://tims.berkeley.edu/login.php?next=/tools/bc/main1.php#
	SWITRS TASAS	http://iswitrs.chp.ca.gov/Reports/jsp/userLogin.jsp Caltrans Public Information Request Form
Transit Operating Cost per Revenue Mile	Local Transit Providers	
Distressed Lane Miles Total and % Total By Jurisdiction By Facility Type	Federal Highway Administration	http://www.fhwa.dot.gov/tpm/rule/pmfactsheet.pdf
	Regional or local pavement management system	https://www.federalregister.gov/articles/2015/01/05/2014-30085/national-performance-management-measures-assessing-pavement-condition-for-the-national-highway
Pavement Condition Index (PCI) for Local Roads	Regional or local pavement management system	
Land Use Efficiency	Farmland Mapping and Monitoring Program (FMMP) DOF Annual population estimates	http://www.conservation.ca.gov/dlrp/fmmp

Planning Practice Examples: Available in Appendix H

APPENDICES

A. Federal and State Transportation Planning Flowchart

B. State and Federal Programming Process Flowchart

C. Regional Transportation Plan Checklist (to be completed by RTPA prior to submitting the draft and final RTP to Caltrans and CTC)

D. Title 23 CFR Part 450 Appendix A – Linking Transportation Planning and NEPA Processes

E. Integration of the Planning and NEPA Processes

F. Air Quality Conformity Checklist for Isolated Rural Non-Attainment/Maintenance Areas

G. Glossary of Transportation Terms

H. Planning Practice Examples

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Appendix A

Federal and State Transportation Planning Process Flowchart

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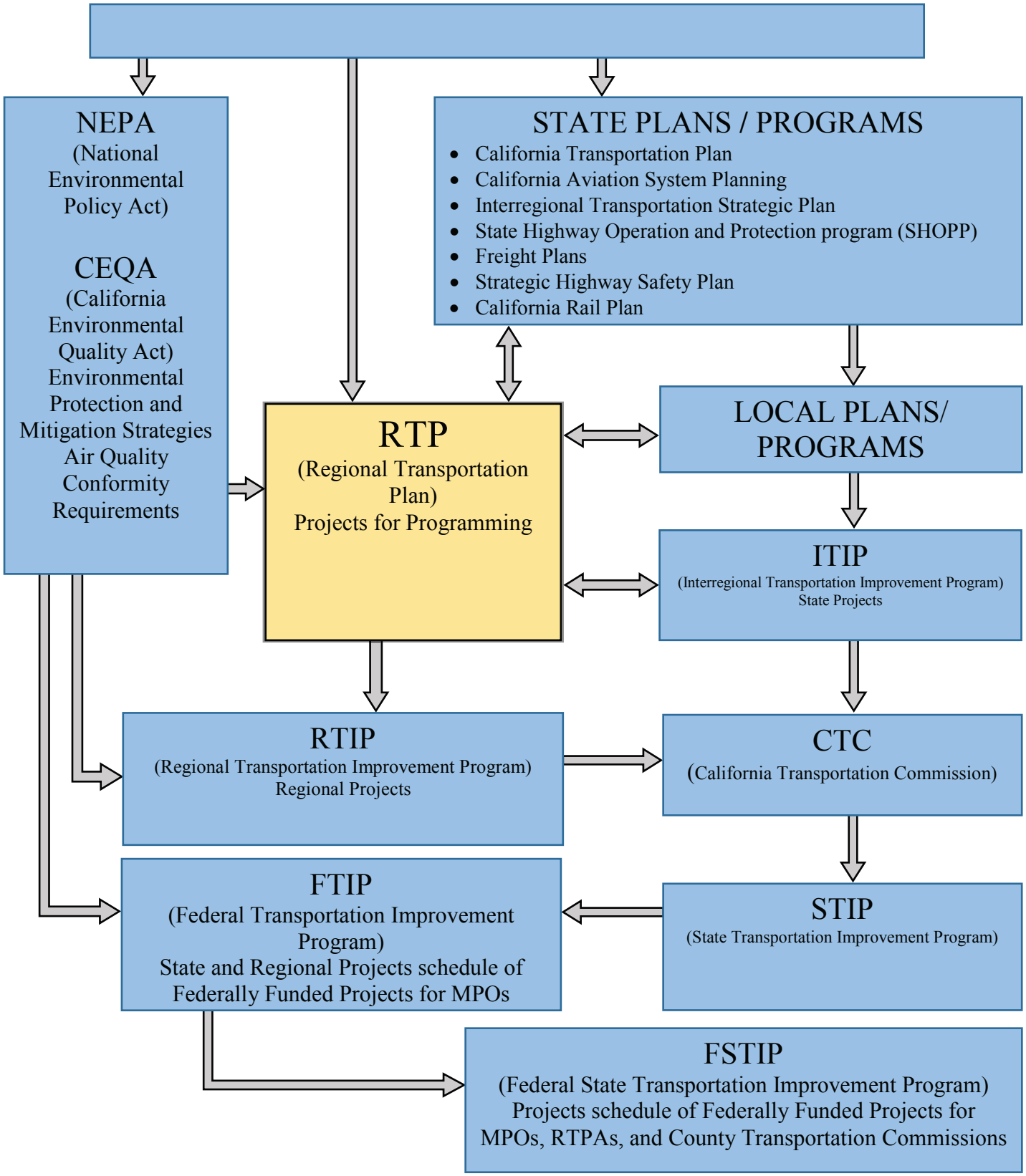
Regional Transportation Planning and Programming Process



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Appendix B

State and Federal Programming Process Flowchart

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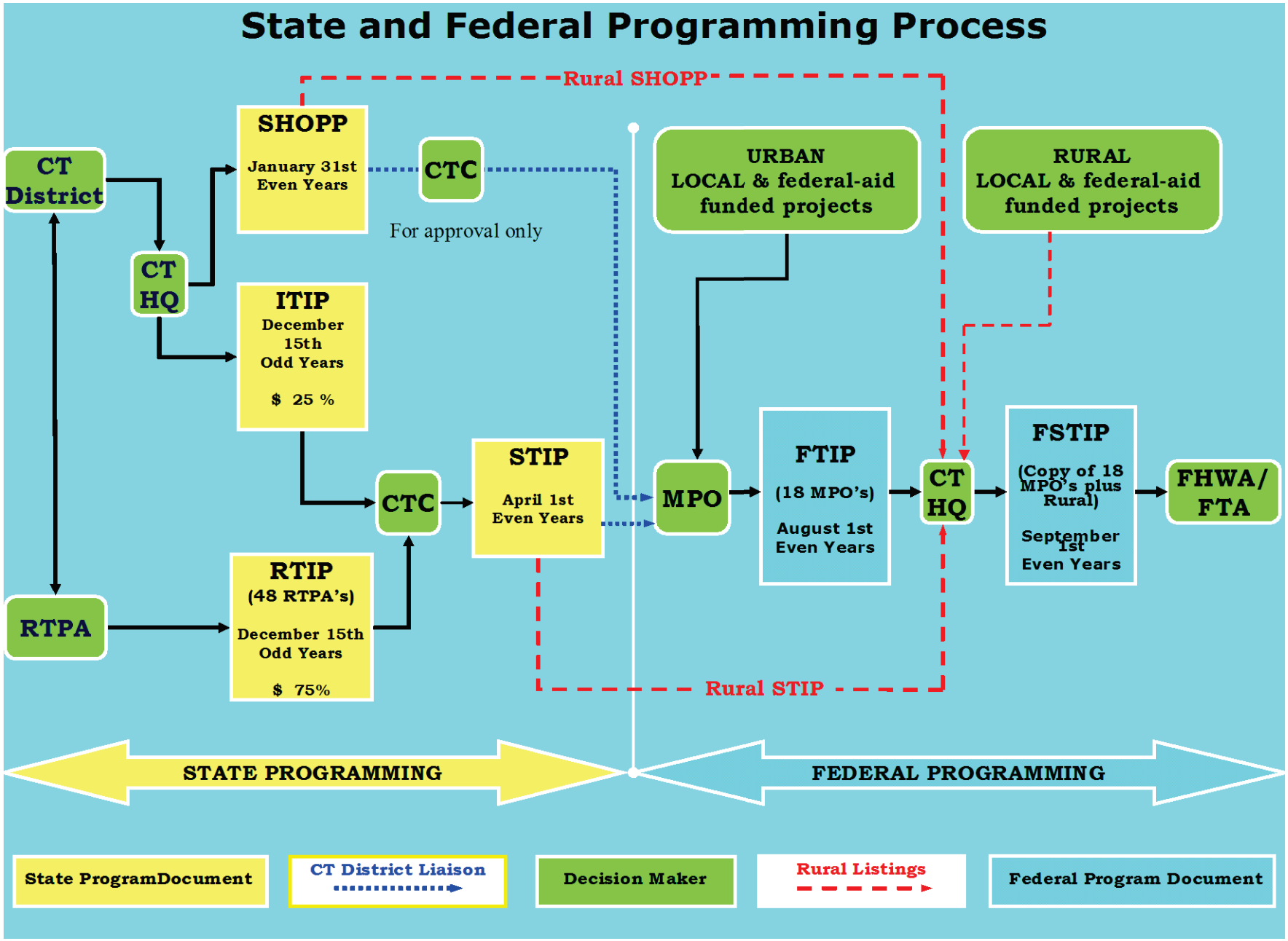
State and Federal Programming Process
Rural SHOPP
SHOPP
January 31st
Even Years
CTC
For approval only
CT
District
CT
HQ
ITIP
December
15th
Odd Years
$ 25 %
URBAN
LOCAL & federal-aid
funded projects
RURAL
LOCAL & federal-aid
funded projects
CTC
STIP
April 1st
Even Years
MPO
FTIP
(18 MPO's)
August 1st
Even Years
CT
HQ
FSTIP
(Copy of 18
MPO's plus
Rural)
September
1st
Even Years
FHWA/
FTA
RTPA
RTIP
(48 RTPA's)
December 15th
Odd Years
$ 75%
Rural STIP
STATE PROGRAMMING
FEDERAL PROGRAMMING
State ProgramDocument
CT District Liaison
Decision Maker
Rural Listings
Federal Program Document

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Appendix C

Regional Transportation Plan Checklist

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Regional Transportation Plan Checklist

(Revised December 2016)

(To be completed electronically in Microsoft Word format by the RTPA and submitted along with the draft and final RTP to Caltrans)

Name of RTPA: _____

Date Draft RTP Completed: _____

RTP Adoption Date: _____

What is the Certification Date of the Environmental Document (ED)? _____

Is the ED located in the RTP or is it a separate document? _____

By completing this checklist, the RTPA verifies the RTP addresses all of the following required information within the RTP.

Regional Transportation Plan Contents

General

		Yes/No	Page #
1.	Does the RTP address no less than a 20-year planning horizon? (23 CFR 450.216(a))		
2.	Does the RTP include both long-range and short-range strategies/actions? (23 CFR 450.324(b) "Should" for RTPAs)		
3.	Does the RTP address issues specified in the policy, action and financial elements identified in California Government Code Section 65080?		
4.	Does the RTP include Project Intent i.e. Plan Level Purpose and Need Statements?		

Consultation/Cooperation

1.	Does the RTP contain a documented public involvement process that meets the requirements of Title 23, CFR part 450.210(a)?		
2	Does the documented public involvement process describe how the RTPA will seek out and consider the needs of those traditionally underserved by the existing transportation system, such as low-income and minority households, who may face challenges accessing employment and other services? (23 CFR 450.210(a)(1)(viii))		

		Yes/No	Page #
3.	Was a periodic review conducted of the effectiveness of the procedures and strategies contained in the participation plan to ensure a full and open participation process? (23 CFR part 450.210(a)(1)(ix))		
4.	Did the RTPA consult with the appropriate State and local representatives including representatives from environmental and economic communities; airport; transit; freight during the preparation of the RTP? (23 CFR 450.316(b) "Should" for RTPAs)		
5.	Did the RTPA who has federal lands within its jurisdictional boundary involve the federal land management agencies during the preparation of the RTP? (23 CFR 450.216(j))		
6.	Where does the RTP specify that the appropriate State and local agencies responsible for land use, natural resources, environmental protection, conservation and historic preservation consulted? (23 CFR part 450.216(j))		
7.	Did the RTP include a comparison with the California State Wildlife Action Plan and (if available) inventories of natural and historic resources? (23 CFR part 450.216(j))		
8.	Did the RTPA who has a federally recognized Native American Tribal Government(s) and/or historical and sacred sites or subsistence resources of these Tribal Governments within its jurisdictional boundary address tribal concerns in the RTP and develop the RTP in consultation with the Tribal Government(s)? (23 CFR part 450.216(i))		
9.	Does the RTP address how the public and various specified groups were given a reasonable opportunity to comment on the plan using the public involvement process developed under 23 CFR part 450.210(a)? (23 CFR 450.210(a)(1)(iii))		
10.	Does the RTP contain a discussion describing the private sector involvement efforts that were used during the development of the plan? (23 CFR part 450.210(a))		
11.	Is the RTP coordinated and consistent with the Public Transit-Human Services Transportation Plan? (23 CFR part 450.208(h))		
12.	Were the draft and adopted RTP posted on the Internet? (23 CFR part 450.216(o))		
13.	If the RTPA made the election allowed by Government Code 65080(b)(2)(M) to change the RTP update schedule (from 5 to 4 years) and change the local government Housing Element update schedule (from 5 to 8 years), was the RTP adopted on the estimated date required to be provided in writing to State Department of Housing and Community Development pursuant to Government Code 65588(e)(5) to align the Regional Housing Need Allocation planning period established from the estimated RTP adoption date with the local government Housing Element planning period established from the actual RTP adoption date?		

Modal Discussion

		Yes/No	Page #
1.	Does the RTP discuss intermodal and connectivity issues?		
2.	Does the RTP include a discussion of highways?		
3.	Does the RTP include a discussion of mass transportation?		
4.	Does the RTP include a discussion of the regional airport system?		
5.	Does the RTP include a discussion of regional pedestrian needs?		
6.	Does the RTP include a discussion of regional bicycle needs?		
7.	Does the RTP address the California Coastal Trail? (Government Code 65080.1) **(For RTPAs located along the coast only)**		
8.	Does the RTP include a discussion of rail transportation?		
9.	Does the RTP include a discussion of maritime transportation (if appropriate)?		
10.	Does the RTP include a discussion of goods movement?		

Programming/Operations

1.	Is the RTP consistent (to the maximum extent practicable) with the development of the regional ITS architecture? (23 CFR 450.208(g))		
2.	Does the RTP identify the objective criteria used for measuring the performance of the transportation system?		
3.	Does the RTP contain a list of un-constrained projects?		

Financial

1.	Does the RTP include a financial plan that meets the requirements identified in 23 CFR part 450.322(f)(10) ("Should" for RTPAs)?		
2.	Does the RTP contain a consistency statement between the first 4 years of the fund estimate and the 4-year STIP fund estimate? (Government Code 65080(b)(4)(A))		
3.	Do the projected revenues in the RTP reflect Fiscal Constraint? (Government Code 65080(b)(4)(A))		
4.	Does the RTP contain a list of financially constrained projects? Any regionally significant projects should be identified. (Government Code 65080(4)(A))		

		Yes/No	Page #
5.	Do the cost estimates for implementing the projects identified in the RTP reflect "year of expenditure dollars" to reflect inflation rates? (23 CFR part 450.324(f)(11)(iv)) ("Should" for RTPAs)		
6.	After 12/11/07, Does the RTP contain estimates of costs and revenue sources that are reasonably expected to be available to operate and maintain the freeways, highway and transit within the region? (65080(b)(4)(A) (23 CFR 450.324(f)(11)(i))		
7.	Does the RTP contain a statement regarding consistency between the projects in the RTP and the ITIP? (2016 STIP Guidelines Section 33)		
8.	Does the RTP contain a statement regarding consistency between the projects in the RTP and the RTIP? (2016 STIP Guidelines Section 19)		

Environmental

1.	Did the RTPA prepare an EIR or a program EIR for the RTP in accordance with CEQA guidelines?		
2.	Does the RTP contain a list of projects specifically identified as TCMs, if applicable?		
3.	Does the RTP specify mitigation activities? (23 CFR part 450.216(k))		
4.	Where does the EIR address mitigation activities?		
5.	Did the RTPA prepare a Negative Declaration or a Mitigated Negative Declaration for the RTP in accordance with CEQA guidelines?		
6.	Does the RTP specify the TCMs to be implemented in the region? **(federal nonattainment and maintenance areas only)**		

I have reviewed the above information and certify that it is correct and complete.

(Must be signed by RTPA Executive Director or designated representative)

Date

Print Name

Title

Appendix D

Title 23 CFR Part 450 Appendix A – Linking Transportation Planning and NEPA Processes

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Appendix A to Title 23 CFR Part 450--Linking the Transportation Planning and NEPA Processes

Background and Overview

This Appendix provides additional information to explain the linkage between the transportation planning and project development/National Environmental Policy Act (NEPA) processes. It is intended to be non-binding and should not be construed as a rule of general applicability.

For 40 years, the Congress has directed that Federally funded highway and transit projects must flow from metropolitan and Statewide transportation planning processes (pursuant to 23 U.S.C. 134-135 and 49 U.S.C. 5303-5306). Over the years, the Congress has refined and strengthened the transportation planning process as the foundation for project decisions, emphasizing public involvement, consideration of environmental and other factors, and a Federal role that oversees the transportation planning process but does not second-guess the content of transportation plans and programs.

Despite this statutory emphasis on transportation planning, the environmental analyses produced to meet the requirements of the NEPA of 1969 (42 U.S.C. 4231 et seq.) have often been conducted de novo, disconnected from the analyses used to develop long-range transportation plans, Statewide and metropolitan Transportation Improvement Programs (STIPs/TIPs), or planning-level corridor/subarea/feasibility studies. When the NEPA and transportation planning processes are not well coordinated, the NEPA process may lead to the development of information that is more appropriately developed in the planning process, resulting in duplication of work and delays in transportation improvements.

The purpose of this Appendix is to change this culture, by supporting congressional intent that Statewide and metropolitan transportation planning should be the foundation for highway and transit project decisions. This Appendix was crafted to recognize that transportation planning processes vary across the country. This document provides details on how information, analysis, and products from transportation planning can be incorporated into and relied upon in NEPA documents under existing laws, regardless of when the Notice of Intent has been published. This Appendix presents environmental review as a continuum of sequential study, refinement, and expansion performed in transportation planning and during project development/NEPA, with information developed and conclusions drawn in early stages utilized in subsequent (and more detailed) review stages.

The information below is intended for use by State departments of transportation (State DOTs), metropolitan planning organizations (MPOs), and public transportation operators to clarify the circumstances under which transportation planning level choices and analyses can be adopted or incorporated into the process required by NEPA. Additionally, the FHWA and the FTA will work with Federal environmental, regulatory, and resource agencies to incorporate the principles of this Appendix in their day-to-day NEPA policies and procedures related to their involvement in highway and transit projects.

This Appendix does not extend NEPA requirements to transportation plans and programs. The Transportation Efficiency Act for the 21st Century (TEA-21) and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) specifically exempted transportation plans and programs from NEPA review. Therefore, initiating the NEPA process as part of, or concurrently with, a transportation planning study does not subject transportation plans and programs to NEPA.

Implementation of this Appendix by States, MPOs, and public transportation operators is voluntary. The degree to which studies, analyses, or conclusions from the transportation planning process can be incorporated into the project development/NEPA processes will depend upon how well they meet certain standards established by NEPA regulations and guidance. While some transportation planning processes already meet these standards, others will need some modification.

The remainder of this Appendix document utilizes a ``Question and Answer'' format, organized into three primary categories (``Procedural Issues,'' ``Substantive Issues,'' and ``Administrative Issues'').

I. Procedural Issues:

1. In what format should the transportation planning information be included?

To be included in the NEPA process, work from the transportation planning process must be documented in a form that can be appended to the NEPA document or incorporated by reference. Documents may be incorporated by reference if they are readily available so as to not impede agency or public review of the action. Any document incorporated by reference must be ``reasonably available for inspection by potentially interested persons within the time allowed for comment.'' Incorporated materials must be cited in the NEPA document and their contents briefly described, so that the reader understands why the document is cited and knows where to look for further information. To the extent possible, the documentation should be in a form such as official actions by the MPO, State DOT, or public transportation operator and/or correspondence within and among the organizations involved in the transportation planning process.

2. What is a reasonable level of detail for a planning product that is intended to be used in a NEPA document? How does this level of detail compare to what is considered a full NEPA analysis?

For purposes of transportation planning alone, a planning-level analysis does not need to rise to the level of detail required in the NEPA process. Rather, it needs to be accurate and up-to-date, and should adequately support recommended improvements in the Statewide or metropolitan long-range transportation plan.

The SAFETEA-LU requires transportation planning processes to focus on setting a context and following acceptable procedures. For example, the SAFETEA-LU requires a ``discussion of the types of potential environmental mitigation activities'' and potential areas for their implementation, rather than details on specific strategies. The SAFETEA-LU also emphasizes consultation with Federal, State, and Tribal land management, wildlife, and regulatory agencies.

However, the Environmental Assessment (EA) or Environmental Impact Statement (EIS) ultimately will be judged by the standards applicable under the NEPA regulations and guidance from the Council on Environmental Quality (CEQ). To the extent the information incorporated from the transportation planning process, standing alone, does not contain all of the information or analysis required by NEPA, then it will need to be supplemented by other information contained in the EIS or EA that would, in conjunction with the information from the plan, collectively meet the requirements of NEPA. The intent is not to require NEPA studies in the transportation planning process. As an option, the NEPA analyses prepared for project development can be integrated with transportation planning studies (see the response to Question 9 for additional information).

3. What type and extent of involvement from Federal, Tribal, State, and local environmental, regulatory, and resource agencies is needed in the transportation planning process in order for planning-level decisions to be more readily accepted in the NEPA process?

Sections 3005, 3006, and 6001 of the SAFETEA-LU established formal consultation requirements for MPOs and State DOTs to employ with environmental, regulatory, and resource agencies in the development of long-range transportation plans. For example, metropolitan transportation plans now ``shall include a discussion of the types of potential environmental mitigation activities and potential areas to carry out these activities, including activities that may have the greatest potential to restore and maintain the environmental functions affected by the [transportation] plan,'' and that these planning-level discussions ``shall be developed in consultation with Federal, State, and Tribal land management, wildlife, and regulatory agencies.'' In addition, MPOs ``shall consult, as appropriate, with State and local agencies responsible for land use management, natural resources, environmental protection, conservation, and historic preservation concerning the development of a long-range transportation plan,'' and that this consultation ``shall involve, as appropriate, comparison of transportation plans with State conservation plans or maps, if available, or comparison of transportation plans to inventories of natural or historic resources, if available.'' Similar SAFETEA-LU language addresses the development of the long-range Statewide transportation plan, with the addition of Tribal conservation plans or maps to this planning-level ``comparison.''

In addition, section 6002 of the SAFETEA-LU established several mechanisms for increased efficiency in environmental reviews for project decision-making. For example, the term ``lead agency'' collectively means the U. S. Department of Transportation and a State or local governmental entity serving as a joint lead agency for the NEPA process. In addition, the lead agency is responsible for inviting and designating ``participating agencies'' (i.e., other Federal or non-Federal agencies that may have an interest in the proposed project). Any Federal agency that is invited by the lead agency to participate in the environmental review process for a project shall be designated as a participating agency by the lead
agency unless the invited agency informs the lead agency, in writing, by the deadline specified in the invitation that the invited agency:

(a) Has no jurisdiction or authority with respect to the project; (b) has no expertise or information relevant to the project; and (c) does not intend to submit comments on the project.

Past successful examples of using transportation planning products in NEPA analysis are based on early and continuous involvement of environmental, regulatory, and resource agencies. Without this early coordination, environmental, regulatory, and resource agencies are more likely to expect decisions made or analyses conducted in the transportation planning process to be revisited during the NEPA process. Early participation in transportation planning provides environmental, regulatory, and resource agencies better insight into the needs and objectives of the locality. Additionally, early participation provides an important opportunity for environmental, regulatory, and resource agency concerns to be identified and addressed early in the process, such as those related to permit applications. Moreover, Federal, Tribal, State, and local environmental, regulatory, and resource agencies are able to share data on particular resources, which can play a critical role in determining the feasibility of a transportation solution with respect to environmental impacts. The use of other agency planning outputs can result in a transportation project that could support multiple goals (transportation, environmental, and community). Further, planning decisions by these other agencies may have impacts on long-range transportation plans and/or the STIP/TIP, thereby providing important input to the transportation planning process and advancing integrated decision-making.

4. What is the procedure for using decisions or analyses from the transportation planning process?

The lead agencies jointly decide, and must agree, on what processes and consultation techniques are used to determine the transportation planning products that will be incorporated into the NEPA process. At a minimum, a robust scoping/early coordination process (which explains to Federal and State environmental, regulatory, and resource agencies and the public the information and/or analyses utilized to develop the planning products, how the purpose and need was developed and refined, and how the design concept and scope were determined) should play a critical role in leading to informed decisions by the lead agencies on the suitability of the transportation planning information, analyses, documents, and decisions for use in the NEPA process. As part of a rigorous scoping/early coordination process, the FHWA and the FTA should ensure that the transportation planning results are appropriately documented, shared, and used.

5. To what extent can the FHWA/FTA provide up-front assurance that decisions and additional investments made in the transportation planning process will allow planning-level decisions and analyses to be used in the NEPA process?

There are no guarantees. However, the potential is greatly improved for transportation planning processes that address the ``3-C'' planning principles (comprehensive, cooperative, and continuous); incorporate the intent of NEPA through the consideration of natural, physical, and social effects; involve environmental, regulatory, and resource agencies; thoroughly document the transportation planning process information, analysis, and decision; and vet the planning results through the applicable public involvement processes.

6. What considerations will the FHWA/FTA take into account in their review of transportation planning products for acceptance in project development/NEPA?

The FHWA and the FTA will give deference to decisions resulting from the transportation planning process if the FHWA and FTA determine that the planning process is

consistent with the ``3-C'' planning principles and when the planning study process, alternatives considered, and resulting decisions have a rational basis that is thoroughly documented and vetted through the applicable public involvement processes. Moreover, any applicable program-specific requirements (e.g., those of the Congestion Mitigation and Air Quality Improvement Program or the FTA's Capital Investment Grant program) also must be met.

The NEPA requires that the FHWA and the FTA be able to stand behind the overall soundness and credibility of analyses conducted and decisions made during the transportation planning process if they are incorporated into a NEPA document. For example, if systems-level or other broad objectives or choices from the transportation plan are incorporated into the purpose and need Statement for a NEPA document, the FHWA and the FTA should not revisit whether these are the best objectives or choices among other options. Rather, the FHWA and the FTA review would include making sure that objectives or choices derived from the transportation plan were: Based on transportation planning factors established by Federal law; reflect a credible and articulated planning rationale; founded on reliable data; and developed through transportation planning processes meeting FHWA and FTA statutory and regulatory requirements. In addition, the basis for the goals and choices must be documented and included in the NEPA document. The FHWA/FTA reviewers do not need to review whether assumptions or analytical methods used in the studies are the best available, but, instead, need to assure that such assumptions or analytical methods are reasonable, scientifically acceptable, and consistent with goals, objectives, and policies set forth in long-range transportation plans. This review would include determining whether: (a) Assumptions have a rational basis and are up-to-date and (b) data, analytical methods, and modeling techniques are reliable, defensible, reasonably current, and meet data quality requirements.

II. Substantive Issues

General Issues To Be Considered:

7. What should be considered in order to rely upon transportation planning studies in NEPA?

The following questions should be answered prior to accepting studies conducted during the transportation planning process for use in NEPA. While not a ``checklist,'' these questions are intended to guide the practitioner's analysis of the planning products:

a. How much time has passed since the planning studies and corresponding decisions were made?

b. Were the future year policy assumptions used in the transportation planning process related to land use, economic development, transportation costs, and network expansion consistent with those to be used in the NEPA process?

c. Is the information still relevant/valid?

d. What changes have occurred in the area since the study was completed?

e. Is the information in a format that can be appended to an environmental document or reformatted to do so?

f. Are the analyses in a planning-level report or document based on data, analytical methods, and modeling techniques that are reliable, defensible, and consistent with those used in other regional transportation studies and project development activities?

g. Were the FHWA and FTA, other agencies, and the public involved in the relevant planning analysis and the corresponding planning decisions?

h. Were the planning products available to other agencies and the public during NEPA scoping?

i. During NEPA scoping, was a clear connection between the decisions made in planning and those to be made during the project development stage explained to the public and others? What was the response?
j. Are natural resource and land use plans being informed by transportation planning products, and vice versa?

Purpose and Need:
8. How can transportation planning be used to shape a project's purpose and need in the NEPA process?

A sound transportation planning process is the primary source of the project purpose and need. Through transportation planning, State and local governments, with involvement of stakeholders and the public, establish a vision for the region's future transportation system, define transportation goals and objectives for realizing that vision, decide which needs to address, and determine the timeframe for addressing these issues. The transportation planning process also provides a potential forum to define a project's purpose and need by framing the scope of the problem to be addressed by a proposed project. This scope may be further refined during the transportation planning process as more information about the transportation need is collected and consultation with the public and other stakeholders clarifies other issues and goals for the region.

23 U.S.C. 139(f), as amended by the SAFETEA-LU Section 6002, provides additional focus regarding the definition of the purpose and need and objectives. For example, the lead agency, as early as practicable during the environmental review process, shall provide an opportunity for involvement by participating agencies and the public in defining the purpose and need for a project. The Statement of purpose and need shall include a clear Statement of the objectives that the proposed action is intended to achieve, which may include: (a) Achieving a transportation objective identified in an applicable Statewide or metropolitan transportation plan; (b) supporting land use, economic development, or growth objectives
established in applicable Federal, State, local, or Tribal plans; and (c) serving national defense, national security, or other national objectives, as established in Federal laws, plans, or policies.

The transportation planning process can be utilized to develop the purpose and need in the following ways:
(a) Goals and objectives from the transportation planning process may be part of the project's purpose and need Statement;

(b) A general travel corridor or general mode or modes (e.g., highway, transit, or a highway/transit combination) resulting from planning analyses may be part of the project's purpose and need Statement;

(c) If the financial plan for a metropolitan transportation plan indicates that funding for a specific project will require special funding sources (e.g., tolls or public-private financing), such information may be included in the purpose and need Statement; or

(d) The results of analyses from management systems (e.g., congestion, pavement, bridge, and/or safety) may shape the purpose and need Statement.

The use of these planning-level goals and choices must be appropriately explained during NEPA scoping and in the NEPA document. Consistent with NEPA, the purpose and need Statement should be a Statement of a transportation problem, not a specific solution. However, the purpose and need Statement should be specific enough to generate alternatives that may potentially yield real solutions to the problem at-hand. A purpose and need Statement that yields only one alternative may indicate a purpose and need that is too narrowly defined.

Short of a fully integrated transportation decision-making process, many State DOTs develop information for their purpose and need Statements when implementing interagency NEPA/Section 404 process merger agreements. These agreements may need to be expanded to include commitments to share and utilize transportation planning products when developing a project's purpose and need.

9. Under what conditions can the NEPA process be initiated in conjunction with transportation planning studies?

The NEPA process may be initiated in conjunction with transportation planning studies in a number of ways. A common method is the ``tiered EIS,'' in which the first-tier EIS evaluates general travel corridors, modes, and/or packages of projects at a planning level of detail, leading to the refinement of purpose and need and, ideally, selection of the design concept and scope for a project or series of projects. Subsequently, second-tier NEPA review(s) of the resulting projects would be performed in the usual way. The first-tier EIS uses the NEPA process as a tool to involve environmental, regulatory, and resource agencies and the public in the planning decisions, as well as to ensure the appropriate consideration of environmental factors in these planning decisions.

Corridor or subarea analyses/studies are another option when the long-range transportation plan leaves open the possibility of multiple approaches to fulfill its goals and objectives. In such cases, the formal NEPA process could be initiated through publication of a NOI in conjunction with a corridor or subarea planning study. Similarly, some public transportation operators developing major capital projects perform the mandatory planning Alternatives Analysis required for funding under FTA's Capital Investment Grant program [49 U.S.C. 5309(d) and (e)] within the NEPA process and combine the planning Alternatives Analysis with the draft EIS.

Alternatives:

10. In the context of this Appendix, what is the meaning of the term ``alternatives''?

This Appendix uses the term ``alternatives'' as specified in the NEPA regulations (40 CFR 1502.14), where it is defined in its broadest sense to include everything from major modal alternatives and location alternatives to minor design changes that would mitigate

adverse impacts. This Appendix does not use the term as it is used in many other contexts (e.g., ``prudent and feasible alternatives'' under Section 4(f) of the Department of Transportation Act, the ``Least Environmentally Damaging Practicable Alternative'' under the Clean Water Act, or the planning Alternatives Analysis in 49 U.S.C. 5309(d) and (e)).

11. Under what circumstances can alternatives be eliminated from detailed consideration during the NEPA process based on information and analysis from the transportation planning process?

There are two ways in which the transportation planning process can begin limiting the alternative solutions to be evaluated during the NEPA process: (a) Shaping the purpose and need for the project; or (b) evaluating alternatives during planning studies and eliminating some of the alternatives from detailed study in the NEPA process prior to its start. Each approach requires careful attention, and is summarized below.

(a) Shaping the Purpose and Need for the Project: The transportation planning process should shape the purpose and need and, thereby, the range of reasonable alternatives. With proper documentation and public involvement, a purpose and need derived from the planning process can legitimately narrow the alternatives analyzed in the NEPA process. See the response to Question 8 for further discussion on how the planning process can shape the purpose and need used in the NEPA process.

For example, the purpose and need may be shaped by the transportation planning process in a manner that consequently narrows the range of alternatives that must be considered in detail in the NEPA document when:

(1) The transportation planning process has selected a general travel corridor as best addressing identified transportation problems and the rationale for the determination in the planning document is reflected in the purpose and need Statement of the subsequent NEPA document;
(2) The transportation planning process has selected a general mode (e.g., highway, transit, or a highway/transit combination) that accomplishes its goals and objectives, and these documented determinations are reflected in the purpose and need Statement of the subsequent NEPA document; or
(3) The transportation planning process determines that the project needs to be funded by tolls or other non-traditional funding sources in order for the long-range transportation plan to be fiscally constrained or identifies goals and objectives that can only be met by toll roads or other non-traditional funding sources, and that determination of those goals and objectives is reflected in the purpose and need Statement of the subsequent NEPA document.

(b) Evaluating and Eliminating Alternatives During the Transportation Planning Process: The evaluation and elimination of alternatives during the transportation planning process can be incorporated by reference into a NEPA document under certain circumstances. In these cases, the planning study becomes part of the NEPA process and provides a basis for screening out alternatives. As with any part of the NEPA process, the analysis of alternatives to be incorporated from the process must have a rational basis that has been thoroughly documented (including documentation of the necessary and appropriate vetting through the applicable public involvement processes). This record should be made available for public review during the NEPA scoping process.

See responses to Questions 4, 5, 6, and 7 for additional elements to consider with respect to acceptance of planning products for NEPA documentation and the response to Question 12 on the information or analysis from the transportation planning process necessary for supporting the elimination of an alternative(s) from detailed consideration in the NEPA process.

For instance, under FTA's Capital Investment Grant program, the alternatives considered in the NEPA process may be narrowed in those instances that the planning Alternatives Analysis required by 49 U.S.C. 5309(e) is conducted as a planning study prior to the NEPA review. In fact, the FTA may be able to narrow the alternatives considered in detail in the NEPA document to the No-Build (No Action) alternative and the Locally Preferred Alternative. Alternatives must meet the following criteria if they are deemed sufficiently considered by a planning Alternatives Analysis under FTA's Capital Investment Grant program conducted prior to NEPA without a programmatic NEPA analysis and documentation:

During the planning Alternatives Analysis, all of the reasonable alternatives under consideration must be fully evaluated in terms of their transportation impacts; capital and operating costs; social, economic, and environmental impacts; and technical considerations;

There must be appropriate public involvement in the planning Alternatives Analysis;

The appropriate Federal, State, and local environmental, regulatory, and resource agencies must be engaged in the planning Alternatives Analysis;

The results of the planning Alternatives Analysis must be documented;

The NEPA scoping participants must agree on the alternatives that will be considered in the NEPA review; and

The subsequent NEPA document must include the evaluation of alternatives from the planning Alternatives Analysis.

The above criteria apply specifically to FTA's Capital Investment Grant process. However, for other transportation projects, if the planning process has included the analysis and stakeholder involvement that would be undertaken in a first tier NEPA process, then the alternatives screening conducted in the transportation planning process may be incorporated by reference, described, and relied upon in the project-level NEPA document. At that point, the project-level NEPA analysis can focus on the remaining alternatives.

12. What information or analysis from the transportation planning process is needed in an EA or EIS to support the elimination of an alternative(s) from detailed consideration?

The section of the EA or EIS that discusses alternatives considered but eliminated from detailed consideration should:

(a) Identify any alternatives eliminated during the transportation planning process (this could include broad categories of alternatives, as when a long-range transportation plan selects a general travel corridor based on a corridor study, thereby eliminating all alternatives along other alignments);

(b) Briefly summarize the reasons for eliminating the alternative; and

(c) Include a summary of the analysis process that supports the elimination of alternatives (the summary should reference the relevant sections or pages of the analysis or study) and incorporate
it by reference or append it to the NEPA document.

Any analyses or studies used to eliminate alternatives from detailed consideration should be made available to the public and participating agencies during the NEPA scoping process and should be reasonably available during comment periods.

Alternatives passed over during the transportation planning process because they are infeasible or do not meet the NEPA ``purpose and need'' can be omitted from the detailed analysis of alternatives in the NEPA document, as long as the rationale for elimination is explained in the NEPA document. Alternatives that remain ``reasonable'' after the planning-level analysis must be addressed in the EIS, even when they are not the preferred alternative. When the proposed action evaluated in an EA involves unresolved conflicts concerning alternative uses of available resources, NEPA requires that appropriate alternatives be studied, developed, and described.

Affected Environment and Environmental Consequences:

13. What types of planning products provide analysis of the affected environment and environmental consequences that are useful in a project-level NEPA analysis and document?

The following planning products are valuable inputs to the discussion of the affected environment and environmental consequences (both its current State and future State in the absence of the proposed action) in the project-level NEPA analysis and document:

Regional development and growth analyses;

Local land use, growth management, or development plans; and

Population and employment projections.

The following are types of information, analysis, and other products from the transportation planning process that can be used in the discussion of the affected environment and environmental consequences in an EA or EIS:

(a) Geographic information system (GIS) overlays showing the past, current, or predicted future conditions of the natural and built environments;

(b) Environmental scans that identify environmental resources and environmentally sensitive areas;

(c) Descriptions of airsheds and watersheds;

(d) Demographic trends and forecasts;

(e) Projections of future land use, natural resource conservation areas, and development; and

(f) The outputs of natural resource planning efforts, such as wildlife conservation plans, watershed plans, special area management plans, and multiple species habitat conservation plans.

However, in most cases, the assessment of the affected environment and environmental consequences conducted during the transportation planning process will not be detailed or current enough to meet NEPA standards and, thus, the inventory and evaluation of affected resources and the analysis of consequences of the alternatives will need to be supplemented with more refined analysis and possibly site-specific details during the NEPA process.

14. What information from the transportation planning process is useful in describing a baseline for the NEPA analysis of indirect and cumulative impacts?

Because the nature of the transportation planning process is to look broadly at future land use, development, population increases, and other growth factors, the planning analysis can provide the basis for the assessment of indirect and cumulative impacts required under NEPA. The consideration in the transportation planning process of development, growth, and consistency with local land use, growth management, or development plans, as well as population and employment projections, provides an overview of the multitude of factors in an area that are creating pressures not only on the transportation system, but on the natural ecosystem and important environmental and community resources. An analysis of all reasonably foreseeable actions in the area also should be a part of the transportation planning process. This planning-level information should be captured and utilized in the analysis of indirect and cumulative impacts during the NEPA process.

To be used in the analysis of indirect and cumulative impacts, such information should:

(a) Be sufficiently detailed that differences in consequences of alternatives can be readily identified;
(b) Be based on current data (e.g., data from the most recent Census) or be updated by additional information;
(c) Be based on reasonable assumptions that are clearly Stated; and/or
(d) Rely on analytical methods and modeling techniques that are reliable, defensible, and reasonably current.

Environmental Mitigation:

15. How can planning-level efforts best support advance mitigation, mitigation banking, and priorities for environmental mitigation investments?

A lesson learned from efforts to establish mitigation banks and advance mitigation agreements and alternative mitigation options is the importance of beginning interagency discussions during the transportation planning process. Development pressures, habitat alteration, complicated real estate transactions, and competition for potential mitigation sites by public and private project proponents can encumber the already difficult task of mitigating for ``like'' value and function and reinforce the need to examine mitigation strategies as early as possible.

Robust use of remote sensing, GIS, and decision support systems for evaluating conservation strategies are all contributing to the advancement of natural resource and environmental planning. The outputs from environmental planning can now better inform transportation planning processes, including the development of mitigation strategies, so that transportation and conservation goals can be optimally met. For example, long-range transportation plans can be screened to assess the effect of general travel

corridors or density, on the viability of sensitive plant and animal species or habitats. This type of screening provides a basis for early collaboration among transportation and environmental staffs, the public, and regulatory agencies to explore areas where impacts must be avoided and identify areas for mitigation investments. This can lead to mitigation strategies that are both more economical and more effective from an environmental stewardship perspective than traditional project-specific mitigation measures.

III. Administrative Issues:

16. Are Federal funds eligible to pay for these additional, or more in depth, environmental studies in transportation planning?

Yes. For example, the following FHWA and FTA funds may be utilized for conducting environmental studies and analyses within transportation planning: FHWA planning and research funds, as defined under 23 CFR Part 420 (e.g., Metropolitan Planning (PL), Statewide Planning and Research (SPR), National Highway System (NHS), Surface Transportation Program (STP), and Equity Bonus); and FTA planning and research funds (49 U.S.C. 5303 and 49 U.S.C. 5313(b)), urban formula funds (49 U.S.C. 5307), and (in limited circumstances) transit capital investment funds (49 U.S.C. 5309).

The eligible transportation planning-related uses of these funds may include: (a) Conducting feasibility or subarea/corridor needs studies and (b) developing system-wide environmental information/inventories (e.g., wetland banking inventories or standards to identify historically significant sites). Particularly in the case of PL and SPR funds, the proposed expenditure must be closely related to the development of transportation plans and programs under 23 U.S.C. 134-135 and 49 U.S.C. 5303-5306.

For FHWA funding programs, once a general travel corridor or specific project has progressed to a point in the preliminary engineering/NEPA phase that clearly extends beyond transportation planning, additional in-depth environmental studies must be funded through the program category for which the ultimate project qualifies (e.g., NHS, STP, Interstate Maintenance, and/or Bridge), rather than PL or SPR funds.

Another source of funding is FHWA's Transportation Enhancement program, which may be used for activities such as: conducting archeological planning and research; developing inventories such as those for historic bridges and highways, and other surface transportation-related structures; conducting studies to determine the extent of water pollution due to highway runoff; and conducting studies to reduce vehicle-caused wildlife mortality while maintaining habitat connectivity.

The FHWA and the FTA encourage State DOTs, MPOs, and public transportation operators to seek partners for some of these studies from environmental, regulatory, and resource agencies, non-government organizations, and other government and private sector entities with similar data needs, or environmental interests. In some cases, these partners may contribute data and expertise to the studies, as well as funding.

17. What staffing or organizational arrangements may be helpful in allowing planning products to be accepted in the NEPA process?

Certain organizational and staffing arrangements may support a more integrated approach to the planning/NEPA decision-making continuum. In many cases, planning organizations do not have environmental expertise on staff or readily accessible. Likewise, the review and regulatory responsibilities of many environmental, regulatory, and resource agencies make involvement in the transportation planning process a challenge for staff resources.

These challenges may be partially met by improved use of the outputs of each agency's planning resources and by augmenting their capabilities through greater use of GIS and remote sensing technologies (see http://www.gis.fhwa.dot.gov/ for additional information on the use of GIS). Sharing databases and the planning products of local land use decision-makers and State and Federal environmental, regulatory, and resource agencies also provide efficiencies in acquiring and sharing the data and information needed for both transportation planning and NEPA work.

Additional opportunities such as shared staff, training across disciplines, and (in some cases) reorganizing to eliminate structural divisions between planning and NEPA practitioners may also need to be considered in order to better integrate NEPA considerations into transportation planning studies. The answers to the following two questions also contain useful information on
training and staffing opportunities.

18. How have environmental, regulatory, and resource agency liaisons (Federally- and State DOT-funded positions) and partnership agreements been used to provide the expertise and interagency participation needed to enhance the consideration of environmental factors in the planning process?

For several years, States have utilized Federal and State transportation funds to support focused and accelerated project review by a variety of local, State, Tribal, and Federal agencies. While Section 1309(e) of the TEA-21 and its successor in SAFETEA-LU section 6002 speak specifically to transportation project streamlining, there are other authorities that have been used to fund positions, such as the Intergovernmental Cooperation Act (31 U.S.C. 6505). In addition, long-term, on-call consultant contracts can provide backfill support for staff that are detailed to other parts of an agency for temporary assignments. At last count (as of 2003), 246 positions were being funded. Additional information on interagency funding agreements is available at: http://environment.fhwa.dot.gov/strmlng/igdocs/index.htm.

Moreover, every State has advanced a variety of stewardship and streamlining initiatives that necessitate early involvement of environmental, regulatory, and resource agencies in the project development process. Such process improvements have: addressed the exchange of data to support avoidance and impact analysis; established formal and informal consultation and review schedules; advanced mitigation strategies; and resulted in a variety of programmatic reviews. Interagency agreements and work plans have evolved to describe performance objectives, as well as specific roles and responsibilities related to new streamlining initiatives. Some States have improved collaboration and efficiency by co-locating environmental, regulatory, and resource and transportation agency staff.

19. What training opportunities are available to MPOs, State DOTs, public transportation operators and environmental, regulatory, and resource agencies to assist in their understanding of the transportation planning and NEPA processes?

Both the FHWA and the FTA offer a variety of transportation planning, public involvement, and NEPA courses through the National Highway Institute and/or the National Transit Institute. Of particular note is the Linking Planning and NEPA Workshop, which provides a forum and facilitated group discussion among and between State DOT; MPO; Federal, Tribal, and State environmental, regulatory, and resource agencies; and FHWA/FTA representatives (at both the executive and program manager levels) to develop a State-specific action plan that will provide for strengthened linkages between the transportation planning and NEPA processes.

Moreover, the U.S. Fish and Wildlife Service offers Green Infrastructure Workshops that are focused on integrating planning for natural resources (``green infrastructure'') with the development, economic, and other infrastructure needs of society (``gray infrastructure'').

Robust planning and multi-issue environmental screening requires input from a wide variety of disciplines, including information technology; transportation planning; the NEPA process; and regulatory, permitting, and environmental specialty areas (e.g., noise, air quality, and biology). Senior managers at transportation and partner agencies can arrange a variety of individual training programs to support learning curves and skill development that contribute to a strengthened link of the transportation planning and NEPA processes. Formal and informal mentoring on an intra-agency basis can be arranged. Employee exchanges within and between agencies can be periodically scheduled, and persons involved with professional leadership programs can seek temporary assignments with partner agencies.

IV. Additional Information on this Topic

Valuable sources of information are FHWA's environment website(http://www.fhwa.dot.gov/environment/index.htm) and FTA's environmental streamlining website (http://www.environment.fta.dot.gov).

Another source of information and case studies is NCHRP Report 8-38 (Consideration of Environmental Factors in Transportation Systems Planning), which is available at http://www4.trb.org/trb/crp.nsf/All+Projects/NCHRP+8-38.

In addition, AASHTO's Center for Environmental Excellence website is continuously updated with news and links to information of interest to transportation and environmental professionals (www.transportation.environment.org).

Appendix E

Integration of the Planning and NEPA Processes

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Date:	February 22, 2005
Subject:	Integration of Planning and NEPA Processes
In Reply Refer To:	HCC-30
From:	D.J. Gribbin /s/ Chief Counsel, Federal Highway Administration Judith S. Kaleta /s/ Acting Chief Counsel, Federal Transit Administration
To:	Cindy Burbank, Associate Administrator Office of Planning, Environment and Realty, FHWA David A. Vozzolo, Deputy Associate Administrator Office of Planning and Environment, FTA

I. Issue

You have asked for guidance regarding the extent to which the results of the transportation planning process can be used in and relied upon in the NEPA process.

In response to your request, this memorandum outlines the current law; describes the transportation planning products that can be used in the NEPA process and under what conditions; and explains the roles of Federal agencies and the public in reviewing transportation planning products used in NEPA analyses and documents.

II. Background

The transportation planning process required by 23 U.S.C. 134 and 135 and 49 U.S.C. 5303-5306 sets the stage for future development of transportation projects. As part of the transportation planning process, States and local metropolitan planning organizations (MPOs) must develop long-range transportation plans to address projected transportation needs. In addition, they must create transportation improvement programs (TIPs or STIPs), which identify a list of priority projects to be carried out in the next three years to implement the plan. To receive Federal funding, transportation projects must come from a TIP or STIP. As a result, much of the data and decision making undertaken by state and local officials during the planning process carry forward into the project development activities that follow the TIP or STIP. This means that the planning process and the environmental assessment required during project development by the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4231 *et seq.*) should work in tandem, with the results of the transportation planning process feeding into the NEPA process. Congress has put great emphasis on the transportation planning process for shaping transportation decisions, and has retained and refined that emphasis in surface transportation law over decades.

In practice, though, the environmental analyses produced during the NEPA process are sometimes disconnected from the analyses used to prepare transportation plans, transportation improvement programs, and supporting corridor or subarea studies.

Analyses and decisions occurring during transportation planning can be ignored or redone in the NEPA process, resulting in a duplication of work and delays in implementation of transportation projects. The sharp separation between the work done during the transportation planning process and the NEPA analysis and documentation process is not necessary. In fact, current law provides authority for and even encourages the integration of the information and products developed in highway and transit planning process into the NEPA process. This memorandum provides guidance on how this information and these products can be incorporated into and relied upon in NEPA analyses and documents under existing laws.

III. Legal Analysis of Current Law on Integrating Planning and NEPA

The transportation planning process is a detailed, Congressionally mandated procedure for developing long-range transportation plans and shorter-range transportation improvement programs. These procedures were initially enacted in the 1960s and were codified in Title 23 and Title 49 of the U.S. Code. See 23 U.S.C. 134 and 135 and 49 U.S.C. 5303-5306. In 1991, the Intermodal Surface Transportation Efficiency Act of 1991 substantially expanded the planning provisions. They have been subsequently revisited and refined by Congress in various transportation bills, but the basic framework has remained intact. The procedures identify the State and local agencies with primary responsibility for transportation planning. They also identify agencies and other interested parties who should be given an opportunity to participate in the transportation planning process and describe their appropriate level of involvement. The statute spells out the planning factors that must be considered, including, among other factors, the protection and enhancement of the environment. 23 U.S.C. 134(f) and 135(c).1 The transportation planning process undertaken by States and MPOs is periodically reviewed and, if found to be adequate, certified by FHWA and FTA. The Federal government does not approve the transportation plans developed by State or local officials, and although FTA and FHWA jointly approve the Statewide TIP such an approval does not constitute a Federal action subject to review under NEPA.2 This is the process that Congress constructed to shape transportation decisions for Federally funded projects.

In order to be eligible for Federal funding, projects must come from a plan created by this process. Federal action subject to NEPA is needed to approve these Federal aid projects. Because of the continuity between the planning and project development processes, the NEPA analysis for a transportation project needs to be reviewed in the context of this transportation planning process.

NEPA and the government-wide regulations that carry out NEPA (40 C.F.R. Parts 1500 *et seq.*) clearly contemplate the integration of the NEPA process with planning processes. Specifically, Section 102(2)(A) of NEPA direct all Federal agencies to "utilize a systemic, interdisciplinary approach which will insure the integrated use of natural and social sciences and the environmental design arts in *planning* and decision making. [Emphasis added] The regulations issued by the President's Council on Environmental Quality (CEQ) amplify the statutory directive:

- 40 C.F.R. 1501.1(a) requires decision makers to "integrate[e] the NEPA process *into early planning* to ensure appropriate consideration of NEPA's policies and to eliminate delay;

- 40 C.F.R. 1501.1(b) emphasizes the need for "cooperative consultation among agencies *before the environmental impact statement is prepared*, rather than "submission of adversary comments on a completed document;
- 40 C.F.R. 1501.1(d) emphasizes the importance of "[I]identifying at an early stage the significant environmental issues deserving of study, by de-emphasizing "insignificant issues and "narrowing the scope of the environmental impact statement accordingly;
- 40 C.F.R. 1501.2 requires that Federal agencies "integrate the NEPA process with *other planning at the earliest possible time* to ensure that planning and [agency] decisions reflect environmental values. . .

Likewise, the NEPA regulations adopted by the Federal Transit Administration (FTA) and the Federal Highway Administration (FHWA) emphasize the tie between NEPA and transportation planning:

- 23 C.F.R. 771.105(a) provides that "To the fullest extent possible, all environmental investigations, reviews and consultations be coordinated as a single process. . . and
- 23 C.F.R. 771.105(b) directs that "Alternative courses of action be evaluated and decisions be made in the best overall public interest based upon a balanced consideration of the need for safe and efficient transportation; of the social, economic and environmental impacts of the proposed transportation improvement; and of national, State and local environmental protection goals.

Thus, the organic statute, the government-wide NEPA regulations, and the specific FHWA and FTA regulations all strongly support the integration of the NEPA process with the transportation planning process.

Case law on the issue of the use of transportation planning studies and decisions in the NEPA process is not extensive. However, to the extent they exist, court decisions have consistently supported the reliance in the NEPA process on work done in the planning process. For example, in *North Buckhead Civic Association v. Skinner*, 903 F. 2d 1533 (11th Cir. 1990), the Plaintiffs challenged the purpose and need articulated in the EIS for a multi-lane limited access highway connecting two existing highways. The purpose and need was derived from a series of planning studies conducted by the Atlanta Regional Commission. Plaintiffs argued that the purpose and need was crafted in a way that the proposed highway was "conclusively presumed to be required and a rail alternative perfunctorily dismissed for its failure to fully satisfy the objectives of the project. The Court of Appeals disagreed with the Plaintiffs, stating that their objections reflected "a fundamental misapprehension of the role of federal and state agencies in the community planning process established by the Federal-Aid Highway Act. The Court went on to explain that the Federal-Aid Highway Act contemplated "a relationship of cooperation between federal and local authorities; each governmental entity plays a specific role in the development and execution of a local transportation project. The Court emphasized that federal agencies did not have responsibility for long range local planning, and found that the "federal, state and local officials complied with federally mandated regional planning procedures in developing the need and purpose section of the EIS. 903 F.3d at 1541-42. Although the Court in *Buckhead* acknowledged the validity of a purpose and need based on the results of the planning study, it did not in any way scale back the holdings of other cases relating to purpose and need which caution agencies not to write

purpose and need statements so narrowly as to "define competing 'reasonable alternatives' out of consideration (and even out of existence). *Simmons v. U.S. Army Corps of Engineers*, 120 F.3d 664 (7th Cir. 1997). (In this case, the Army Corps of Engineers failed to question city's insistence on one approach for supplying water and gave no independent thought to the feasibility of alternatives, both single source and separate source supply options. On this basis, the EIS was found to be inadequate.)

In *Carmel-by-the-Sea v. U.S. DOT*, 123 F.3d 1142 (9th Cir. 1997), the Plaintiffs challenged the sufficiency of an EIS for failing to adequately consider the proposed project's growth-inducing effects. The Ninth Circuit disagreed, finding that the EIS satisfied this requirement by referencing several local planning documents that specifically included construction of the highway in their growth plans and which discussed overall growth targets and limits. In addition, the Court found that achieving "Level of Service C, an objective derived from the local congestion management plan, was an appropriate part of the purpose and need statement (although ultimately the EIS was found inadequate on cumulative impact grounds). Similarly, in *Laguna Greenbelt, Inc. v. U.S. DOT*, 42 F.3d 517 (9th Cir. 1994), the court held that the absence of a more thorough discussion in an EIS of induced growth, an issue that was sufficiently analyzed in referenced state materials, does not violate NEPA. However, regardless of the source, the analysis of induced growth must be in sufficient detail and must provide an analytical basis for its assumptions in order to be adequate under NEPA. See *Senville v. Peters*, 327 F.Supp.2d 335, 349 (Vt. 2004) (In this case, the District Court found an FEIS, before it was supplemented by FHWA, to be inadequate because it contained only a "sketchy discussion of induced growth and failed to support its assumptions with any analysis.)

In *Utahns for Better Transportation v. U.S. DOT*, 305 F.3d 1152 (10th Cir. 2002), *as modified on rehearing*, 319 F.3rd 1207 (10th Cir. 2003), Plaintiffs contended that the FEIS was inadequate because it failed to consider reducing travel demand through alternative land use scenarios in combination with mass transit. Noting that "reasonable alternatives must be non-speculative, the Tenth Circuit found that Plaintiffs had not demonstrated a deficiency in the FEIS on this basis (although it was ultimately found inadequate on other grounds). The Court stated that "Land use is a local and regional matter, and that, in this case, the corridor at issue would involve the jurisdiction of several local and regional governmental entities whose cooperation would be necessary to make an alternative land use scenario a reality. The fact that these entities had clearly declined to alter their land use plans in such a way was justification for not considering this alternative. 305 F.3d at 1172. 3

In *Sierra Club v. U.S. Department of Transportation*, 310 F.Supp.2d 1168 (D. Nevada 2004), Plaintiffs made several challenges to the EIS for a proposed highway project. One of these challenges alleged that FHWA relied on understated population and traffic forecasts. However, the Nevada District Court found that FHWA's reliance on the forecasts and modeling efforts of the designated metropolitan planning organization responsible for developing transportation plans and programs for the area was reasonable. In addition, Plaintiffs argued that the EIS had improperly rejected a fixed guideway as a reasonable alternative under NEPA. The Court disagreed, finding that FHWA reasonably relied on a "major investment study4 conducted as part of its planning process to establish that such an alternative (1) would not meet the project's purpose and need, even when considered as part of a transportation strategy, (2) was too costly

and (3) depended on connections to other portions of such a system for which construction was uncertain.5

As demonstrated by these cases, Courts have sanctioned the use of information from the planning process in a NEPA analysis and document. This is consistent with the opening language in NEPA advocating the integration of environmental considerations in both planning and decision-making. Consequently, products from the transportation planning process can be used in the NEPA analysis and documentation prepared for a transportation project.

IV. Legal Guidance on How Products from the Planning Process Can Be Used In the NEPA Process

For studies, analyses or conclusions from the transportation planning process to be used in the NEPA process, they must meet certain standards established by NEPA. This is because the information and products coming from the planning process must be sufficiently comprehensive that the Federal government may reasonably rely upon them in its NEPA analysis and documentation. Transportation planning processes vary greatly from locality to locality. Some transportation planning processes will already meet these standards, while others might need some modification to do so. Below is a discussion of where products from the transportation planning process might be incorporated into a NEPA analysis and documentation (purpose and need, alternatives, affected environment, and, to a more limited extent, environmental consequences in terms of land use, indirect and cumulative impacts, etc.), along with the NEPA standards they must first meet.

In addition to what is discussed below, these planning products must come from a transportation planning process that complied with current transportation planning requirements (e.g., provided an opportunity for public involvement and considered relevant planning factors). Interested State, local, tribal and Federal agencies should be included in the transportation planning processes, and must be given a reasonable opportunity to comment upon the long range transportation plan and transportation improvement program. Finally, any work from the planning process must have been documented and available for public review during the planning process. Such documentation should be in a form that can easily be appended to the NEPA document or incorporated by reference.6

Purpose and Need

The "purpose and need statement in a NEPA document is where the planning process and the NEPA process most clearly intersect. A sound planning process is a primary source of the project purpose and need. It is through the planning process that state and local governments determine what the transportation needs of an area are, which of transportation needs they wish to address, and in what time frame they wish to address them. Indeed, that is what the law requires from the planning process and actually prevents projects that do not come from the planning process from going forward.

The purpose and need statement, at a minimum, is a statement of the transportation problem to be solved by the proposed project. It is often presented in two parts: broad goals and objectives, and a description of the transportation conditions (congestion,

safety, etc.) underlying the problem. The long-range transportation plan also includes goals and objectives similar to "purpose and need but on a broader scale, since it typically covers a wider area and spans at least twenty years. These goals and objectives are often identified through extensive public outreach, sometimes called "visioning or "alternative futures exercises. The purpose and need statement for a transportation project should be consistent with and based on the goals and objectives developed during the planning process.

Getting input from Federal agencies as transportation goals and objectives are developed during the planning process is advisable and would be consistent with the cooperative relationship envisioned by statute and reinforced by courts. Such participation would give Federal agencies a better insight into the needs and objectives of the locality and would also provide an important opportunity for Federal concerns to be identified and addressed early in the process. These concerns could include issues that might be raised by Federal agencies in considering permit applications for projects designed to implement the transportation plan. However, the responsibility for local planning lies with the metropolitan planning organization or the State, not the Federal government.

In many cases, the goals and objectives in the transportation plan are supported by a needs assessment and problem statement describing current transportation problems to be addressed. Although the goals and objectives in the long-range transportation plan will be broader than what is appropriate for a specific project, they can be the foundation for the purpose and need to be used in a NEPA document. For example, they can be used to generate corridor-level purpose and need statements, during planning, for use in NEPA documents. The challenge is to ensure what comes from the long-range transportation plan is not so general as to generate a range of alternatives that are not responsive to the problem to be solved.

NEPA calls for a purpose and need statement to briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action. A purpose and need statement can be derived from the transportation planning process. The purpose and need statement:

- Should be a statement of the transportation problem (not a statement of a solution);
- Should be based on articulated planning factors and developed through a certified planning process;
- Should be specific enough so that the range of alternatives developed will offer real potential for solutions to the transportation problem;
- Must not be so specific as to "reverse engineer a solution; and
- May reflect other priorities and limitations in the area, such as environmental resources, growth management, land use planning, and economic development.

Alternatives

Under NEPA, an EIS must rigorously explore and objectively evaluate all reasonable alternatives, and briefly explain the rationale for eliminating any alternatives from detailed study.7 "Reasonable alternatives are described in Council on Environmental Quality (CEQ) guidance as including "those that are practical or feasible from the

technical and economic standpoint and using common sense. *Forty Most Asked Questions Concerning CEQ's NEPA Regulations*, Question #2a (March 23, 1981). An alternative is not "reasonable if it does not satisfy the purpose and need,8 but it may be reasonable even if it is outside the jurisdiction of the proposing agency to implement.

The transportation planning process frequently takes steps to refine the purpose and need statement that results in narrowing or screening the range of alternatives. Regional planning considerations may be the basis for refining the purpose and need statement, which might then have the effect of eliminating some alternatives from detailed consideration. For example, network connectivity across a geographic barrier such as a river may dictate a particular transportation mode or a general alignment. The plan may also identify where a locality wants housing, commercial development, agriculture, etc.—all of which might drive the need for transportation improvements in particular corridors.

When a long- range transportation plan leaves open the possibility of multiple approaches to fulfill its goals and objectives, a subarea or corridor study could be conducted to "zoom in on a particular area. This study would evaluate alternative investment strategies, engineering constraints, fiscal constraints, and environmental considerations in this area, and could narrow the range of possible alternatives to those that will meet the goals and objectives of the broader long-range transportation plan in that particular subarea or corridor. At the conclusion of such a study, the remaining alternatives might simply consist of a single corridor or mode choice with location and design options.

On a broad scale, a decision about whether projects located in particular subareas or corridors would satisfy the transportation goals and objectives of a locality can be made in these subarea or corridor studies. These studies can therefore be used in and relied on in an EIS to refine the purpose and need statement, thereby narrowing the range of alternatives to be considered by eliminating some alternatives from further detailed study. When conducting subarea or corridor screening studies during the planning process, State and local agencies should keep in mind the principles of NEPA and should be sure to document their procedures and rationales. To be incorporated into an EIS, the analysis of alternatives conducted in the subarea or corridor study should be consistent with the standard of NEPA requiring consideration of reasonable alternatives. Alternatives that remain "reasonable after the planning level analysis must be addressed in the NEPA process, even when they are clearly not the preferred alternative.9 Alternatives passed over during the transportation planning process because they are infeasible or because they do not meet the NEPA "purpose and need can be omitted from the detailed analysis of alternatives in the NEPA analyses and documentation, so long as the rationale for omitting them is documented in the NEPA document. That documentation can either be appended to the EIS or the specific transportation planning documents can be summarized in the EIS and incorporated by reference. The NEPA review would then have to consider the alternatives that survive the planning study, plus any additional reasonable alternatives identified during NEPA scoping that may not have been considered during the planning process. All reasonable alternatives considered in the draft and final EIS should be presented in a "comparative form that sharply defines the issues and provides a clear basis for a choice by the decision maker and the public. 40 C.F.R. 1502.14.

Finally, any planning study being relied upon as a basis for eliminating alternatives from detailed study should be identified during the NEPA scoping process and available for public review. Since a major purpose of the scoping process is to identify alternatives to be evaluated, the public should be given the opportunity to comment on determinations made in the planning process to eliminate alternatives.

Therefore, if the planning process is used to screen or narrow the range of alternatives, by excluding certain alternatives from detailed study or by prescribing modes or corridors for transportation development which results in eliminating alternative modes or corridors from detailed study, then the planning-based analysis of alternatives:

- Should describe the rationale for determining the reasonableness of the alternative or alternatives;
- Should include an explanation of why an eliminated alternative would not meet the purpose and need or was otherwise unreasonable; and
- Should be made available for public review during the NEPA scoping process and comment period.

Under FTA's New Starts program, the alternatives considered during the NEPA process may be narrowed even further by eliminating alternatives from detailed study in those instances when the Alternatives Analysis required by 49 U.S.C. 5309(e) is conducted as a planning study prior to the NEPA review.10 In fact, FTA may narrow the alternatives considered in detail in the NEPA analysis and documentation to the No-Build (No-Action) alternative and the "Locally Preferred Alternative". The following criteria must be met if alternatives are eliminated from detailed study by a planning Alternatives Analysis conducted prior to the NEPA review:

- During the planning Alternatives Analysis, all of the reasonable alternatives under consideration must be fully evaluated in terms of their transportation impacts, capital and operating costs, social, economic, and environmental impacts, and technical considerations;
- There must be appropriate public involvement in the planning Alternatives Analysis;
- The appropriate Federal, State, and local resource agencies must be engaged in the planning Alternatives Analysis;
- The results of the planning Alternatives Analysis must be documented;
- The NEPA scoping participants must agree on the alternatives that will be considered in the NEPA review; and
- The NEPA document must incorporate by reference the evaluation of alternatives from the planning Alternatives Analysis.

If, during the NEPA process, new reasonable alternatives not considered during the planning Alternatives Analysis are identified or new information about eliminated alternatives comes to light, those alternatives must be evaluated during the NEPA process.

Affected Environment and Environmental Consequences

The EIS must present a description of the environment in the area that would be affected by the proposed action and alternatives and their environmental consequences. 40

C.F.R. 1502.15 and 1502.16. In the development of the long-range transportation plan and a corridor or subarea studies, a similar assessment of the environment in the area and environmental consequences should typically have been conducted. Such planning-level assessments might include developing and utilizing geographic information system overlays of the area; providing information on air- and water-sheds; identifying the location of environmental resources with respect to the proposed project and alternatives; conducting environmental "scans of the area of impact; and utilizing demographic trends and forecasts developed for the area. The discussion in the planning process of development growth, and consistency with local land use, growth management or development plans, as well as population and employment projections, would be particularly valuable for use in determining the affected environment and the scope of cumulative impacts assessment and possible indirect impacts of the proposed transportation improvement. Any relevant parts of such transportation planning process analysis, conducted in the planning process or by other sources and used in plan development, can be incorporated by reference and relied upon in the NEPA analysis and documentation.

The CEQ regulations require the action agency preparing an EIS to assess the environmental consequences of the proposed action and any reasonable alternatives. The CEQ regulation contains a detailed list of all of the types of environmental consequences that must be discussed, including direct, indirect and cumulative impacts and their significance, as well as means to mitigate adverse environmental impacts. These consequences must be discussed for each alternative and should be presented in a comparative form. 40 C.F.R. 1502.16. In transportation planning, the development of transportation plans and programs is guided by seven planning factors (23 U.S.C. 134(f)(1) and 23 U.S.C. 135(c)(1)), one of which is to "protect and enhance the environment, promote energy conservation, and improve the quality of life. As such, there generally is a broad consideration of the environmental effects of transportation decisions for a region.11 To the extent relevant, this analysis can be incorporated into the "environmental consequences section of an environmental assessment or impact statement performed under NEPA. However, in most cases the assessment of environmental consequences conducted during the planning process will not be detailed enough to meet NEPA standards and thus will need to be supplemented.

Nonetheless, the planning process often can be a source of information for the evaluation of cumulative and indirect impacts required under NEPA. 40 C.F.R. 1502.16, 1508.7 and 1508.8. The nature of the planning process is to look broadly at future land use, development, population increases, and other growth factors. This analysis could provide the basis for the assessment of cumulative and indirect impacts required under NEPA. Investigating these impacts at the planning level can also provide insight into landscape, watershed or regional mitigation opportunities that will provide mitigation for multiple projects.

An EIS may incorporate information regarding future land use, development, demographic changes, etc. from the transportation planning process to form a common basis for comparing the direct, indirect and cumulative impacts of all alternatives. When an analysis of the environmental consequences from the transportation planning process is incorporated into an EIS it:

- Should be presented in a way that differentiates among the consequences of the proposed action and other reasonable alternatives;
- Should be in sufficient detail to allow the decision maker and the public to ascertain the comparative merits and demerits of the alternatives; and
- Must be supplemented to the extent it does not adequately address all of the elements required by the CEQ and FHWA/FTA NEPA regulations.

V. Legal Guidance on Weight to be Given to Planning Products Incorporated into NEPA Analyses and Documents

Responsibility for NEPA analyses and documents on Federally funded or approved highway and transit projects ultimately rests with FHWA and FTA, since they are taking the federal action subject to NEPA. FHWA and FTA have an obligation to independently evaluate and review a NEPA analysis and document, even when some of the information contained in it has been prepared by the State or other local agency. 42 U.S.C. 4332(2)(D); 40 C.F.R. 1506.5 Under NEPA and other relevant environmental laws such as the Endangered Species Act, the Clean Water Act, or the Clean Air Act, other agencies also must be given an opportunity to review and comment on NEPA documents and analysis. Federal agencies that have jurisdiction by law have an independent responsibility under NEPA and, upon the request of the lead agency, shall be "cooperating agencies.12 Tribes and state and local agencies with jurisdiction by law and all agencies with special expertise may, upon the request of the lead agency, be "cooperating agencies in the NEPA process. 40 C.F.R. 1501.6 and 1508.5.

However, while imposing on Federal agencies the obligation to independently evaluate information in NEPA analyses and documents, Congress also affirmed that NEPA does not apply to the transportation planning process because it is not a Federal action:

"Since plans and programs described in this [transportation planning] section are subject to a reasonable opportunity for public comment, since individual projects included in the plans and programs are subject to review under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), and since decisions by the Secretary concerning plans and programs described in this section have not been reviewed under such Act as of January 1, 1997, any decision by the Secretary concerning a plan or program described in this section shall not be considered to be a Federal action subject to review under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.)."

23 U.S.C 134(o) and 135(i). The transportation planning process is a local function, which, by statute, is undertaken by State and local governments. The Department of Transportation has an oversight role, but it does not conduct the process and, therefore, there is no Federal action to trigger the application of NEPA. This is different than the "big picture planning processes undertaken by other Federal agencies with respect to lands that they manage, where action by the Federal agency is involved and NEPA applies.13

The affirmation in Sections 134(o) and 135(i) that the decisions made by State and local governments during the transportation planning process are exempt from NEPA is based on a Fifth Circuit decision, *Atlanta Coalition on the Transportation Crisis, Inc. v. Atlanta Regional Commission*, 599 F.2d 1333 (5th Cir. 1979). In this case, plaintiffs sought declaratory judgment that an EIS was required for a regional transportation plan

developed by the Atlanta Regional Commission in compliance with the FHWA and FTA planning regulations. The plan proposed a comprehensive transportation system for the Atlanta area. It included an analysis of projected regional transportation needs through the year 2000 and identified the general location and the mode (i.e. highway or transit) for recommended transportation corridors to meet those needs. The Fifth Circuit denied plaintiff's request for an EIS, finding that "Congress did not intend NEPA to apply to state, local or private actions; hence, the statute speaks only to 'federal agencies' and requires impact statements only as to 'major federal actions.' 559 F.2d at 1344. Specifically, the Court stated:

"The fact is that the [regional plan] was developed by ARC in conjunction with state and local authorities, and no federal agency had any significant hand in determining, or made any decision concerning, its substantive aspects. Under the statutes, those decisions are entrusted to the state and local agencies, not FHWA or [FTA]. Moreover, the plan, as a plan will never be submitted to a federal agency for review or approval. And while the planning process was so structured so as to preserve the eligibility for federal funding of projects included within the resulting plan, it has been consistently held that the possibility of federal funding in the future does not make the project or projects 'major federal action' during the planning stage."

[Cites omitted] 599 F.2d at 1346. The Court further found that certification or funding of the planning process by FHWA and FTA did not amount to a "major federal action as defined in the NEPA regulations. 559 F.3d at 1344; 40 C.F.R. 1508.18. The Court concluded by again emphasizing: "We have no doubt but that the [regional plan] embodies important decisions concerning the future growth of the Atlanta area that will have a continuing and significant effect on the human environment. But at the risk of belaboring the point, we reemphasize that those decisions have been made by state and local authorities, will not be reviewed by any federal agency, and obligate no federal funds. The defendants therefore need not prepare an impact statement on the [regional plan]. 559 F.3d at 1349.

This theme is echoed in other court decisions involving local planning processes. Early in the development of NEPA law, Courts recognized that deference to local planning was appropriate in the NEPA process. In *Maryland-National Capital Park and Planning Commission v. U.S. Postal Service*, 487 F.2d 1029 (U.S. App. D.C. 1973), the Postal Service determined that the construction of a bulk mail facility would have no significant impact since, under the locality's zoning laws, the postal facility was a "permitted use at the location proposed by the Postal Service. In analyzing this issue, the Court noted: "The question of significance takes on a distinctive case in the context of land use planning. The Court went on to state: "When local zoning regulations and procedures are followed in site location decisions by the Federal Government, there is an assurance that such 'environmental' effects as flow from the special uses of land—the safety of the structures, cohesiveness of neighborhoods, population density, crime control, and esthetics-will be no greater than demanded by the residents acting through their elected representatives. 487 F.2d at 165-66. The Court acknowledged, however, that local planning was not sufficient to effectuate NEPA, and that actions of the Federal government might have implications beyond those evaluated in the planning process: "For example, whereas the Federal Government might legitimately defer to New York City zoning in matters of, say, population density, a different issue would be posed by the location within the city of an atomic reactor. Its peculiar hazards would not be limited

to the citizens of New York, nor could they control them. 487 F.2d at 166. *See also Preservation Coalition, Inc. v. Pierce*, 667 F.2d 851 (C.A. Idaho 1982) (citing *Maryland-National Capital Park* and upholding a finding of no significant impact when a Federal project conformed to existing land use patterns, zoning and local plans).

The Fifth Circuit followed a similar line of reasoning in *Isle of Hope Historical Association v. U.S. Army Corps of Engineers*, 646 F. 2d 215 (5th Cir. 1981). In this case, the Court held that, in preparing an EIS, the Corps of Engineers properly relied on information and answers from the local government regarding planning and zoning issues. The Corps had consulted with county officials to determine whether planning documents had been adopted and whether there was any inconsistency between the proposed project and the local zoning regulations. Plaintiffs challenged this part of the EIS, alleging that it had not adequately discussed the planning documents at issue nor disclosed inconsistencies between the zoning regulations and the proposed project. The Court upheld the Corps' reliance on the county officials' responses, stating that "For the Corps in this case to follow planning documents which the county had not adopted or to engage independent analysis of inconsistencies which those specifically charged with zoning enforcement did not find would make the Corps in effect a planning and zoning review board. . . The proper function of the Corps was to assess the environmental impact of the [proposed project], not to act as a zoning interpretation or appeal board. 646 F.2d at 221.14

This respect for local sovereignty in making planning decisions has been reinforced more recently in the context of transportation planning. In *North Buckhead Civic Association v. Skinner* (discussed previously in Section III of this Memorandum), the 11th Circuit emphasized that "NEPA does not confer the power or responsibility for long range local planning on Federal or state agencies. 903 F. 3d at 1541-42. See also *Sierra Club v. U.S. Department of Transportation*, 350 F.Supp.2d 1168, 1193 (D. Nevada 2004), where the Court said: "[A] federal agency does not violate NEPA by relying on prior studies and analyses performed by local and state agencies. This approach is also consistent with the statutory provision describing the Federal-State relationship for the Federal-aid highway program: "The authorization of the appropriation of Federal funds or their availability for expenditure under this chapter shall in no way infringe on the sovereign rights of the States to determine which projects shall be federally financed. 23 U.S.C.

145(a). In conducting its NEPA analysis, FHWA and FTA must take into account Congressional direction regarding its statutory authority to act. See *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190 (C.A.D.C. 1991).15

When it enacts a provision of law, Congress is presumed to have in mind previous laws relating to the same subject matter. To the greatest extent possible, new statutes should be read in accord with prior statutes, and should be construed together in harmony. N. Singer, *Statutes and Statutory Construction*, 6th Ed., Vol. 2B, Sec. 51.02. A Federal agency's independent obligation to evaluate planning products incorporated into the NEPA process must be performed in a way that is consistent with the Congressional direction that NEPA does not apply to local transportation planning and consistent with court decisions recognizing the sovereignty of local governments in making local transportation planning decisions. Federal agencies should ensure transportation planning decisions have a rational basis and are based on accurate data, but should not use the NEPA process as a venue for substituting federal judgment for local judgment by

requiring reconsideration of systems-level objectives or choices that are properly made during the local transportation planning process.16

The transportation planning process and the NEPA process work in harmony when the planning process provides the basis or foundation for the purpose and need statement in a NEPA document. To the extent regional or systems-level analyses and choices in the transportation planning process help to form the purpose and need statement for a NEPA document, such planning products should be given great weight by FHWA and FTA, consistent with Congressional and Court direction to respect local sovereignty in planning. This approach is also consistent with a letter to Secretary Mineta dated May 12, 2003, from James Connaughton, Chairman of CEQ, on purpose and need statements in NEPA documents:

"Federal courts generally have been deferential in their review of a lead agency's 'purpose and need' statements, absent a finding that an agency acted in an arbitrary or capricious manner. They have recognized that federal agencies should respect the role of local and state authorities in the transportation planning process and appropriately reflect the results of that process in the federal agency's NEPA analysis of purpose and need [citing to *North Buckhead*]."

Further, in his letter, the Chairman states that, even though other Federal agencies must be provided an opportunity to comment, they "should afford substantial deference to the transportation agency's articulation of purpose and need when the proposal is a transportation project.17

Therefore, if transportation planning studies and conclusions have properly followed the transportation planning process, then they can be incorporated into the purpose and need statement and, further, can be used to help draw bounds around alternatives that need to be considered in detail. For example, if systems-level or other broad objectives or choices18 from the transportation plan are incorporated into the purpose and need statement used in a NEPA document, FHWA and FTA should not revisit whether these are the best objectives or choices among other options. Rather, their review would include making sure that objectives or choices derived from the transportation plan were based on transportation planning factors established by federal law; reflect a credible and articulated planning rationale; are founded on reliable data; and were developed through a transportation planning process meeting FHWA and FTA statutory and regulatory requirements. In addition, the basis for the objectives and choices must be documented and included in the NEPA document. In such cases, alternatives falling outside a purpose and need statement derived from objectives or choices identified in the planning process do not need to be considered in detail.

FHWA and FTA should independently review regional analyses or studies of transportation needs conducted during the transportation planning process at a similar level. FHWA and FTA reviewers do not need to review whether assumptions or analytical methods used in the studies are the best available, but, instead, need to assure that such assumptions or analytical methods are reasonable and scientifically acceptable. This review would include determining whether assumptions have a rational basis and are up-to-date and data, analytical methods, and modeling techniques are reliable, defensible, and reasonably current. This approach preserves the sovereignty of

state and local governments in making local planning decisions but in a way that is consistent with the principles and procedures of NEPA.

Nonetheless, additional scrutiny may be required if the results of the planning process are more specific than needed for regional or systems-level planning. Such results might actually be part of project development, which is outside of the planning jurisdiction of local agencies. Project development often involves a Federal action and therefore would be subject to NEPA. See 23 U.S.C. 134(o) and 135(i). In addition, the information the Federal agencies rely upon in the NEPA process based on underlying transportation planning work cannot be inaccurate, false or misleading. See *Sierra Club v. U.S. Army Corps of Engineers,* 701 F. 2d 1011, 1035 (where the court required a supplementation or re-evaluation of the NEPA analyses and documentation where the Corps unquestioningly relied on inaccurate information and did not investigate, on its own, the accuracy of the fisheries data submitted to it to support a permit for a landfill in the Hudson river to accommodate the Westway highway project.)

In conducting reviews under NEPA, Federal agencies should defer to planning products incorporated into the NEPA process to the extent that they involve decisions or analysis within the jurisdiction of the local planning agency. The focus of the Federal agency's review should be whether the planning information is adequate to meet the standards of NEPA, not whether the decisions made by the planning authority are correct. This would be consistent with the specific roles assigned by Congress to local and Federal authorities and consistent with court decisions admonishing Federal agencies to respect the sovereignty of local authorities in developing local plans.

VI. Conclusion

This memorandum provides guidance on how transportation planning level information and products may be used to focus the documentation prepared to comply with NEPA when Federal approvals are needed to build a transportation project. Federal law and regulations and best practices ensure that much information that is relevant to the NEPA process is in fact developed during the planning process. Both Federal transportation law and NEPA law strongly suggest that to the extent practicable, the NEPA process should use and build on the decision made and information developed during the planning process. Of course, where the transportation planning process fails to address or document issues, the NEPA analyses and documentation may have to supplement the information developed during the planning process.

Original signed by D.J. Gribbin and Judith S. Kaleta

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1 Protection of the environment is reinforced in the FHWA and FTA regulations clarifying the factors to be considered in the transportation planning process (e.g., States and MPOs must analyze the "overall social, economic, energy and environmental effects of transportation decisions. . . 23 CFR 450.208 and 450.316.

2 As stated in the planning provisions of Title 23, "any decision by the Secretary concerning a plan or program described in this section shall not be considered to be a Federal action subject to review under NEPA. 23 U.S.C. 134(o); see also 23 U.S.C. 135(i). These provisions are discussed more fully in Section V of this memorandum.

3 Note, however, an alternative is not "speculative or "unreasonable merely because it is outside the jurisdiction of the proposing agency. 40 C.F.R. 1402.14 (c). In some cases, an agency might be required to consider an alternative outside its jurisdiction. For example, in *Muckleshoot Indian Tribe v. United States Forest Service*, 177 F.3d 800 (9th Cir. 1999), the Ninth Circuit Court of Appeals found that the lack of funds for an alternative was not sufficient to render it "speculative when the Forest Service could have at least made a request for additional funding. The facts in the *Muckleshoot* case are different than the *Utahns* case, where the local agencies had clearly declined to exercise the alternative.

4 Corridor-level "Major Investment Studies were for a time required under FTA and FHWA's planning regulations where a need for a major metropolitan transportation investment was identified and Federal funds were potentially involved. Major investment studies were intended to refine the system-wide transportation plan and lead to decisions on the design concept and scope of the project, in consultation with other interested agencies. In addition, they were intended to be used as input to EISs and EAs. 23 C.F.R. 450.318. In Section 1308 of the Transportation Equity Act for the 21st Century, the Secretary was directed to eliminate the separate requirement for major investment studies and instead to integrate it with the planning analyses required under the FTA and FHWA planning statutes "as part of the analyses required to be undertaken pursuant to the planning provisions of Title 23, United States Code and Chapter 53 of Title 49, United States Code, and the National Environmental Policy Act of 1959 (42 U.S.C. 4321 et seq.) for Federal-aid highway and transit projects.. Pub.. 105-178 (June 9, 1998). Although no longer required, "major investment studies continue to be allowed at the discretion of the State or local agency.

It is telling, however, that a good many State and local agencies continue to prepare "major investment studies (and similar corridor and sub-area analyses) on their own volition, because they have found it very valuable to vet the merits and weaknesses of various alternatives—both modal and alignment--before they even initiate the NEPA analyses and documentation. Moreover, FTA requires Metropolitan Planning Organizations and/or transit agencies contemplating major capital investment ("new starts) projects to prepare a planning-level corridor study, know as an "Alternatives Analysis, either before or during a Draft Environmental Impact Statement for the purpose of narrowing the range of alternatives for study in a subsequent NEPA analysis and document(s) by eliminating some alternatives from further detailed study. See also footnote 10.

5 Plaintiffs have appealed this decision, and the Ninth Circuit has stayed further construction on the project pending the outcome of the appeal. *Order Granting Stay*, Ninth Circuit Court of Appeals, No. CV-02-00578-PMP (July 27, 2004).

6 Documents may be incorporated by reference if they do not impede agency or public review of the action. Any document incorporated by reference must be "reasonably available for inspection by potentially interested persons within the time allowed for comment. Incorporated materials must be cited in the NEPA document and their contents briefly described. 40 C.F.R. 1502.21.

7 40 C.F.R. 1502.14 The term "alternatives is also used in many other contexts (for example, "prudent and feasible alternatives under Section 4(f) of the Department of

Transportation Act, the "Least Environmentally Damaging Practicable Alternative under the Clean Water Act, or the "Alternatives Analysis under FTA's New Starts program). This memorandum only uses the term as defined under NEPA. At the planning stage of any project, however, a determination should be made as to whether the alternatives to be considered will need to be used to satisfy multiple requirements at the planning and NEPA review stages. If so, during planning the alternatives chosen for consideration and the analysis of those alternatives should reflect the multiple statutory objectives that must be addressed.

8 In some cases, an alternative may be reasonable even if it just partially satisfies the purpose and need. See *NRDC v. Morton*, 458 F.2d 827, 836 (C.A.D.C. 1972).

9 Under the requirements for FTA's New Starts Program, however, under the appropriate circumstances, reasonable alternatives may be eliminated from detailed study during a rigorous planning-level Alternatives Analysis (including an evaluation of environmental consequences) conducted before the issuance of a NEPA Notice of Intent to prepare an Environmental Impact Statement. This is discussed later in this section.

10 FTA offers applicant sponsors the opportunity to conduct the Alternatives Analysis before NEPA begins or alternatively, to conduct the Alternatives Analysis concurrently with the NEPA DEIS.

11 Specifically, the FHWA/FTA transportation planning regulations (23 C.F.R. Part 450 and 49 C.F.R. Part 613) require inclusion of the overall social, economic, energy and environmental effects of transportation decisions (including consideration of the effects and impacts of the plan on human, natural and man-made environment such as housing, employment and community development, consultation with appropriate resource and permit agencies to ensure early and continued coordination with environmental resource protection and management plans, and appropriate emphasis on transportation-related air quality problems). 23 C.F.R. 450.316(a)(13).

12 Nonetheless, a cooperating agency may, in response to a lead agency's request for assistance in preparing an EIS, reply that other program commitments preclude any involvement or the degree of involvement requested in the action that is subject to the EIS. 40 C.F.R. 1501.6(c).

13 For example, NEPA applies to the general management plans prepared and approved by the National Park Service for each unit of the National Park System (Chapter 2, "Management Policies, at www.nps.gov/policy/mp/chapter2.htm), and applies to resource management plans prepared and approved by the Bureau of Land Management to maximize resource values of federal lands and resources (43 C.F.R. 1601.0-6).

14 Of course, the reliance on the underlying local plan does not excuse the analysis of the impacts of the project within the context of that plan. Cf. *Sierra Club Illinois Chapter v. U.S. Department of Transportation*, 962 F. 2d 1037, 1042 (N.D. Ill. 1997).

15 In this case, plaintiffs challenged the Federal Aviation Administration's EIS on an application by the Toledo Port Authority for a cargo hub in Toledo. Plaintiffs alleged that the FAA should have considered alternatives outside of Toledo. The Court disagreed,

finding that Congress had made clear that the location of cargo hubs was to be made by local authorities and not by the Federal government, stating: "Where the Federal government acts, not as a proprietor, but to approve and support a project being sponsored by a local government or private applicant, the Federal agency is necessarily more limited. In the latter instance, the Federal government's consideration of alternatives may accord substantial weight to the preferences of the applicant and/or sponsor in the sitting and design of the project. 938 F.2d at 197.

16 This would not constrain the Environmental Protection Agency's authority under Section 309 of the Clean Air Act to refer concerns to the President's Council on Environmental Quality regarding impacts on public health or welfare or environmental quality. 42 U.S.C. 7609.

17 See, also, *Citizens Against Burlington, Inc. v. Busey*, *id*., At 938 F.2d 190, 195-96 (C.A.D.C. 1991), stating "When an agency is asked to sanction a specific plan, see 40 C.F.R. § 1508.18(b)(4), the agency should take into account the needs and goals of the parties involved in the application. [Citations omitted]; *Louisiana Wildlife Federation, Inc. v. York*, 761 F.2d 1044 (5th Cir. 1985), stating "Under [the Corps'] Guidelines, therefore, not only is it permissible for the Corps to consider the applicant's objective; the Corps has a duty to take into account the objectives of the applicant's project. Indeed, it would be bizarre if the Corps were to ignore the purpose for which the applicant seeks a permit and to substitute a purpose it deems more suitable.

18 Examples of such planning objectives or choices that courts have accepted for use in the purpose and need statement for a NEPA document are (1) the need for a multi-lane highway connecting two other highways (*North Buckhead Civic Association v. Skinner*, 903 F.2d at 1537) and (2) the need for a particular level of service (*Carmel-by-the-Sea v. U.S. DOT,* 123 F.3d at 1156). In *Atlanta Coalition on the Transportation Crisis v. Atlanta Regional Commission*, the court discusses the distinction between "systems planning and "project planning, and describes the Atlanta "systems plan as "an analysis of projected regional transportation needs through the year 2000 [identifying] the general location and the mode (i.e., highway or mass transit) of recommended transportation corridors to meet those needs. 599 F.2d at fn.2 and at 1341

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Appendix F

Air Quality Conformity Checklist For Rural Isolated Non-Attainment/Maintenance Areas

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Conformity Analysis Documentation
FHWA/EPA Checklist for Isolated Rural Nonattainment Areas
10/12/2016 update – Caltrans

This checklist can be used to ensure that all information needed for a regional conformity determination, for a regionally significant transportation project in an Isolated Rural area (nonattainment or attainment-maintenance area with no MPO(s)), is included in project documentation. This checklist would be used to structure regional conformity analysis associated with a NEPA document or other Federal action, and to assist reviewers in verifying that the necessary analysis has been done. Note that in Isolated Rural areas, since there is no MPO, there is no Regional Transportation Plan (RTP) subject to Federal conformity action; however, in California most areas have Regional Transportation Planning Agencies that prepare a RTP based on State requirements whether or not an MPO exists, and such documents along with their CEQA analyses can provide a regional planning context for project actions.

DO NOT USE THIS CHECKLIST IN "DONUT" NON-MPO AREAS. Such areas have regional conformity analysis requirements related to TIP approval, and must have a regional conformity determination approved by an adjacent MPO. Project-level conformity in those areas uses MPO-area procedures.

40 CFR	Criteria	Page	Comments
§93.102	Document the applicable pollutants and precursors for which EPA designates the area as nonattainment or maintenance. Describe the nonattainment or maintenance area and its boundaries.		
§93.104 (d)	Document whether a new conformity determination is required per this section: 1) a new project; 2) a significant change in design concept and scope; 3) three years since the most recent step to advance the project; 4) a supplemental EA/EIS was initiated for air quality purposes.		
§93.109 (a, b)	Document that the regional emissions analysis complies with any applicable conformity requirements of air quality implementation plans or court orders for the area which pertain specifically to conformity.		
§93.109 (c)	Provide a table that shows, for each pollutant and precursor, whether the interim emissions tests and/or the budget test apply for conformity. Indicate which emissions budgets have been deemed adequate and/or approved by EPA, and which budgets are currently applicable for what analysis years. Indicate what test is being used for analysis years after the attainment year (budget, interim, dispersion modeling) and if hot spot analyses are included.		
§93.110 (a,b)	Document the use of latest planning assumptions (source and year) "at the time the conformity analysis begins," including current and future population, employment, travel and congestion. Document the use of the most recent available estimates of current and future population, employment, travel, and congestion most recently developed by the MPO or other agency authorized to make such estimates. Document the date upon which the conformity analysis was begun. Document the use of planning assumptions less than five years old. If unable, include written justification for the use of older data.		
§93.110 (c,d,e,f)	Document any changes in transit operating policies and assumed ridership levels since the previous conformity determination. Document the use of the latest transit fares and road and bridge tolls. Document the use of the latest information on the effectiveness of TCMs and other SIP measures that have been implemented. Document the key assumptions and show that they were agreed to through Interagency and public consultation required by §93.105		
§93.111	Document the use of the latest emissions model approved by EPA.		

40 CFR	Criteria	Page	Comments
§93.112	Document fulfillment of the interagency and public consultation requirements outlined in a specific implementation plan according to §51.390 or, if a Consultation (Conformity) SIP revision has not been completed, according to §93.105 and 23 CFR 450. Include documentation of consultation on conformity tests and methodologies as well as responses to written comments.		
§93.113 (a,d)	Document timely implementation of all TCMs in approved SIPs. Document that the project does not interfere with the implementation of TCMs. Document timely implementation of transportation-related RACM measures that may not be formally TCMs.		
§93.116(a) [i]	Document that the project does not cause or contribute to any new localized PM or CO violations.		CO, PM10, PM2.5 areas only
§93.117 [ii]	Document that the project complies with any PM10 or PM2.5 control measures in the applicable attainment plan (approved SIP).		PM10, PM2.5 areas only
§93.118 (a, c, e)	For areas with SIP budgets: Document that emissions from the transportation network, including projects in the isolated rural nonattainment area that are in the Statewide TIP and regionally significant non-Federal projects, are consistent with any adequate or approved motor vehicle emissions budget(s) for all pollutants and precursors in applicable SIP(s).		
§93.118 (b)	Document for which years consistency with motor vehicle emissions budgets must be shown.		
§93.118 (d)	Document the use of the appropriate analysis years in the regional emissions analysis for areas with SIP budgets, and the analysis results for these years. Document any interpolation performed to meet tests for years in which specific analysis is not required.		
§93.119 [iii]	For areas without applicable SIP budgets: Document that emissions from the transportation network for each applicable pollutant and precursor, including projects in the isolated rural nonattainment area that are in the Statewide TIP and regionally significant non-Federal projects, are consistent with the requirements of the "Action/Baseline" (baseline is usually 1990 for CO and PM10, 2002 for PM2.5; EPA may also designate some other baseline) interim emissions tests as applicable.		
§93.119 (g)	Document the use of the appropriate analysis years in the regional emissions analysis for areas without applicable SIP budgets.		
§93.119 (h,i)	Document how the baseline and action scenarios are defined for each analysis year.		
§93.122 (a)(1)	Document that all regionally significant Federal and non-Federal projects in the nonattainment/maintenance area are explicitly modeled in the regional emissions analysis. For each project, identify by which analysis year it will be open to traffic. Document that VMT for non-regionally significant Federal projects is accounted for in the regional emissions analysis.		

40 CFR	Criteria	Page	Comments
§93.122 (a)(2, 3)	Document that only emission reduction credits from TCMs on schedule have been included, or that partial credit has been taken for partially implemented TCMs. Document that the regional emissions analysis only includes emissions credit for projects, programs, or activities that require regulatory action if: the regulatory action has been adopted; the project, program, activity or a written commitment is included in the SIP; EPA has approved an opt-in to the program, EPA has promulgated the program, or the Clean Air Act requires the program (indicate applicable date). Discuss the implementation status of these programs and the associated emissions credit for each analysis year.		
§93.122 (a)(4,5,6)	For nonregulatory measures that are not included in the FSTIP and are needed to demonstrate conformity, include written commitments from appropriate agencies. Document that assumptions for measures outside the transportation system (e.g. fuels measures) are the same for baseline and action scenarios. Document that factors such as ambient temperature are consistent with those used in the SIP unless modified through interagency consultation.		
§93.122 (d)	Document the continued use of modeling techniques or the use of appropriate alternative techniques to estimate vehicle miles traveled.		
§93.122 [3] (e, f)	Document, in areas where a SIP identifies construction-related PM10 or PM 2.5 as contributing, the inclusion of PM10 and/or PM 2.5 construction emissions in the regional conformity analysis.		
§93.123 [1]	Document how the required procedures were met for CO, PM10, and PM2.5 hot spot analyses. Document compliance with procedures for performing qualitative and quantitative analyses.		
§93.125 (a,d)	(a) Identify and make written commitment to implement all CO, PM10, and PM2.5 mitigation or control measures identified as conditions of NEPA approval. Identify and make written commitment to implement all project-level mitigation or control measures that are identified as conditions of the regional conformity determination and are included in the design concept and scope of the project. (d) If a mitigation or control measure was identified in a previous regional conformity analysis, may be applicable to the current regional conformity determination, and is no longer needed to demonstrate regional conformity, provide justification as described in this section.		
§93.126, §93.127, §93.128	Document all projects in the isolated rural nonattainment area that are in the Statewide TIP and exempt from conformity requirements or exempt from the regional emissions analysis. Indicate the reason for the exemption (Table 2, Table 3, signal synchronization) and that the interagency consultation process found these projects to have no potentially adverse emissions impacts.		

[*] **As of January 2009, all CO areas in California are attainment-maintenance so 40 CFR 93.116(b) does not apply.**
Applies for hot spot analyses in rural CO, PM10, and PM2.5 nonattainment and maintenance areas only.
Applies for project-level conformity determinations in rural PM10 and PM2.5 nonattainment areas only.
Note that some isolated rural areas are required to complete both interim emissions tests, depending on ozone classification if applicable.

Disclaimers

This checklist is intended solely as an informational guideline to be used in reviewing Transportation Plans and Transportation Improvement Programs for adequacy of their conformity documentation. It does not replace or supersede the Transportation Conformity regulations of 40 CFR Parts 51 and 93, the Statewide and Metropolitan Planning Regulations of 23 CFR Part 450 or any other EPA, FHWA or FTA guidance pertaining to transportation conformity or statewide and metropolitan planning. This checklist is not intended for use in documenting transportation conformity for individual transportation projects nonattainment or maintenance areas that include an MPO. 40 CFR Parts 51 and 93 contain additional criteria for project-level conformity determinations.

10/12/2016 Caltrans update based on 2006 FHWA checklist.

Appendix G

Glossary of Transportation Terms

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APCD	Air Pollution Control District, a county agency that adopts regulations to meet State and Federal air quality standards.
AQMD	Air Quality Management District, a regional agency formed by 2 or more counties, which adopts regulations to meet State and Federal air quality standards.
ATTAINMENT AREA	Attainment Area, is any geographic area in which levels of a given criteria air pollutant (e.g., ozone, carbon monoxide, PM10, PM2.5, and nitrogen dioxide) meet the health-based National Ambient Air Quality Standards (NAAQS) for that pollutant. An area may be an attainment area for one pollutant and a nonattainment area for others. A "maintenance area" (see definition below) is not considered an attainment area for transportation planning purposes.
BLUEPRINT PLANNING	Blueprint Planning, is a Caltrans sponsored voluntary discretionary competitive grant program designed to assist MPOs in developing a regional vision that considers transportation, land use, housing, environmental protection, economic development and equity.
CAPACITY	Capacity, is a transportation facility's ability to accommodate a moving stream of people or vehicles in a given time period.
CARB	California Air Resources Board, the State agency responsible for implementation of the Federal and State Clean Air Acts. Provides technical assistance to air districts preparing attainment plans; reviews local attainment plans and combines portions of them with State measures for submittal of the State Implementation Plan (SIP) to U.S. EPA.
CASP	California Aviation System Plan, prepared by Caltrans Division of Aeronautics every five years as required by PUC Section 21701. The CASP integrates regional aviation system planning on a Statewide basis.
CEQA	California Environmental Quality Act, State law that requires the environmental effects associated with proposed plans, programs and projects to be fully disclosed.
CMA	Congestion Management Agency, the county agency responsible for developing, coordinating and monitoring the Congestion Management Program.
CMP	Congestion Management Program is a countywide integrated program that addresses congestion in a coordinated and

cooperative manner. The program contains 5 elements: a Level of Service element, a transit standards element, a TDM and trip reduction element, a land use analysis element, and a capitol improvement program element. To effectively address this goal, the appropriate land use, transportation and air quality agencies need to integrate their planning processes, share information and respond to congestion using a coordinated approach. In 1996 AB 2419 amended government code section 65088.3 to allow counties to opt out of this previously mandatory program.

CTC California Transportation Commission, a decision making body established by AB 402(Alquist / Ingalls) of 1977 to advise and assist the Secretary of Transportation and the legislature in formulating and evaluating State policies and plans for transportation programs.

CTP California Transportation Plan, The CTP is a long-range transportation policy plan that is submitted to the Governor. The CTP is developed in collaboration with partners, presents a vision for California's future transportation system, and defines goals, policies, and strategies to reach the vision. It is developed in consultation with the State's regional transportation planning agencies, is influenced by the regional planning process, and provides guidance for developing future RTPs. RTPs should be consistent with and implement the vision and goals of the CTP. As defined by State statute, the CTP is not project specific.

DSMP District System Management Plan, a District's long-range plan for management of the State highway transportation system in its jurisdiction.

FAA Federal Aviation Administration, the agency of the U.S. Department of Transportation charged with regulating air commerce to promote its safety and development, encouraging and developing civil aviation, air traffic control and air navigation, and promoting the development of the national airport system.

EMISSIONS BUDGET Emissions Budget, is the part of the State Implementation Plan (SIP) that identifies the allowable emissions levels, mandated by the National Ambient Air Quality Standards (NAAQS), for certain pollutants from mobile, stationary, and area sources. The emissions levels are used for meeting emission reduction milestones.

FHWA Federal Highway Administration, a component of the U.S. Department of Transportation, established to ensure development of an effective national road and highway transportation system. FHWA and FTA, in consultation with US EPA, make Federal Clean Air Act Conformity findings for

Regional Transportation Plans, Transportation Improvement Programs, and Federally funded projects.

FISCAL CONSTRAINT

Fiscal constraint, the metropolitan transportation plan, TIP, and STIP includes sufficient financial information for demonstrating that projects in the metropolitan transportation plan, TIP, and STIP can be implemented using committed, available, or reasonably available revenue sources, with reasonable assurance that the Federally supported transportation system is being adequately operated and maintained. For the TIP and the STIP, financial constraint/fiscal constraint applies to each program year. Additionally, projects in air quality nonattainment and maintenance areas can be included in the first two years of the TIP and STIP only if funds are ‘‘available’’ or ‘‘committed.’’

FTA

Federal Transit Administration, a component of the U.S. Department of Transportation, responsible for administering the Federal transit program under the Federal Transit Act, as amended, and SAFETEA-LU.

FSTIP

Federal State Transportation Improvement Program is a multi-year Statewide, financially constrained, intermodal program of projects that is consistent with the Statewide transportation plan (CTP) and regional transportation plans (RTPs). The FSTIP is developed by the California Department of Transportation and incorporates all of the MPOs *and* RTPAs FTIPs by reference. Caltrans then submits the FSTIP to FHWA.

FTIP

Federal Transportation Improvement Program is a constrained 4-year prioritized list of all transportation projects that are proposed for *Federal and local* funding. The FTIP is developed and adopted by the MPO/RTPA and is updated every 4 years. It is consistent with the RTP and it is required as a prerequisite for Federal funding.

IIP

Interregional Improvement Program is one of two component funding source programs that ultimately make up the State Transportation Improvement program. The IIP receives 25% of the funds from the State Highway account. The IIP is the source of funding for the ITIP.

ILLUSTRATIVE PROJECT

An illustrative project means an additional transportation project that may (but is not required to)be included in a financial plan for the RTP or FTIP if reasonable additional resources were to become available.

INTERMODAL

Intermodal refers to the connections between modes of transportation.

ITIP	Interregional Transportation Improvement Program is a Statewide program of projects, developed by Caltrans for interregional projects that are primarily located outside of urbanized areas. The ITIP has a 4-year planning horizon and is updated every two years. It is submitted to the CTC along with the FTIP and taken together they are known as the STIP.
ITS	Intelligent Transportation Systems are electronics, photonics, communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system.
ITSP	Interregional Transportation Strategic Plan describes the framework in which the State will carry out its responsibilities for the Interregional Transportation Improvement Program (ITIP).
MIS	Major Investment Study was a Federally mandated study required for major transportation improvements under ISTEA. An MIS was a planning analysis done on a corridor or sub-regional area that included social, economic and environmental considerations early in the planning process and integrated these considerations into the project development stage. Although SAFETEA-LU has deleted this requirement, Section 450.318(a) and Appendix A retains the option to link early environmental considerations in the RTP to the subsequent project specific environmental review that takes place during the project delivery process.
MODE	Mode is a specific form of transportation, such as automobiles, buses, trains or planes.
MPO	Metropolitan Planning Organization, a planning organization created by Federal legislation charged with conducting regional transportation planning to meet Federal mandates.
NATIONAL AMBIENT AIR QUALITY STANDARDS	NAAQS are the acceptable limits that are set for various pollutants by the US EPA. Air quality standards have been established for the following six criteria pollutants: ozone, carbon monoxide, particulate matter, nitrogen dioxide, lead and sulfur dioxide.
NEPA	National Environmental Policy Act is Federal legislation that created a national policy and procedures that require Federal agencies to consider the environmental effects of their actions and to inform the public that their decisions reflect this environmental consideration. NEPA applies to most

transportation projects because they are jointly funded with a combination of Federal, State and sometimes local money.

NONATTAINMENT Nonattainment, any geographic region of the United States that has been designated by the EPA as a nonattainment area under section 107 of the Clean Air Act for any pollutants for which an NAAQS exists.

PERFORMANCE MEASURES Performance measures are used to model travel demand and allow the long-range forecasting of transportation network and system-level performance (e.g. Walk, bike, transit, and carpool mode share, corridor travel times by mode, percentage of population within 0.5 mile of a high frequency transit stop).

PERFORMANCE MONITORING INDICATORS/METRICS Performance monitoring indicators or metrics include field data such as vehicle miles traveled, mode share, fatalities/injuries, transit access, change in agricultural land, and CO2 emissions.

PERFORMANCE TARGETS Performance targets are numeric goals established to enable the quantifiable assessment of performance measures.

RIP Regional Improvement Program is one of two component funding source programs that ultimately make up the State Transportation Improvement program. The RIP receives 75% of the funds from the State Highway account. This 75% is then distributed to the MPOs and RTPAs by a formula. The RIP is the source of funding for the FTIP.

RTIP Regional Transportation Improvement Program, is a program proposal of projects prepared by the regions in coordination with Caltrans for inclusion in the STIP.

RTP Regional Transportation Plan, a Federal and State mandated planning document prepared by MPOs and RTPAs. The plan describes existing and projected transportation needs, conditions and financing affecting all modes within a 20-year horizon.

RTPA Regional Transportation Planning Agency, a State designated single or multi-county agency responsible for regional transportation planning. RTPAs are also known as Local Transportation Commissions or Councils of Governments and are usually located in rural or exurban areas.

SHA State Highway Account, the SHA account is the State's primary source of funding for transportation improvements. The SHA account is composed of revenues from the State's gasoline and diesel fuel tax, truck weight fees and Federal highway funds. The

SHA is primarily used for STIP, SHOPP and local assistance projects as well as non-capitol projects such as maintenance, operations, and support.

SHOPP State Highway Operations and Protection Program is a legislatively created program to maintain the integrity of the State highway system. It is tapped for safety and rehabilitation projects. SHOPP is a multi-year program of projects approved by the Legislature and Governor. It is separate from the STIP.

SIP State Implementation Plan, as defined in section 302(q) of the Clean Air Act (CAA), the portion (or portions) of the implementation plan, or most recent revision thereof, which has been approved under section 110 of the CAA, or promulgated under section 110(c) of the CAA, or promulgated or approved pursuant to regulations promulgated under section 301(d) of the CAA and which implements the relevant requirements of the CAA.

SMART GROWTH Smart Growth, is a set of policies designed by local governments to protect, preserve and economically develop established communities as well as natural and cultural resources. Smart growth encompasses a holistic view of development.

SPRAWL Sprawl is an urban form based on the movement of people from the central city to the suburbs. Concerns associated with sprawl include loss of farmland and open space due to low-density land development, increased public service costs including transportation, and environmental degradation.

STIP State Transportation Improvement Program, a Statewide or bundled prioritized list of transportation projects covering a period of four years that is consistent with the long-range Statewide transportation plan, metropolitan transportation plans and FTIPs, and required for projects to be eligible for funding under Title 23 U.S.C. and title 49 U.S.C. Chapter 53.

TCM Transportation Control Measures, any measure that is specifically identified and committed to in the applicable SIP that is either one of the types listed in section 108 of the Clean Air Act or any other measure for the purpose of reducing emissions or concentrations of air pollutants from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions. Notwithstanding the above, vehicle technology-based, fuel-based, and maintenance-based measures that control the emissions from vehicles under fixed traffic conditions are not TCMs.

TIERING Section 15385 of the CEQA guidelines defines tiering as the coverage of general matters in broader EIRs with subsequent narrower EIRs incorporating by reference the general

discussions and concentrating solely on the issue specific to the EIR that is being subsequently prepared. Tiering allows agencies to deal with broad environmental issues in EIRs at the planning stage and then to provide a more detailed examination of specific effects in EIRs for later development projects that are consistent with or that implement the plan.

TITLE VI Title VI of the Civil Rights Act of 1964, prohibits discrimination in any program or project receiving Federal financial assistance.

TDM Transportation Demand Management refers to policies, programs and actions that encourage the use of transportation alternatives to driving alone and reduce vehicle miles traveled.

TSM Transportation System Management refers to the use of relatively inexpensive transportation improvements that are used to increase the efficiency of transportation facilities. TSM can include carpool and vanpool programs, parking management, traffic flow improvements, high occupancy vehicle lanes, and park-and-ride lots.

US EPA United States Environmental Protection Agency is the Federal agency that approves the SIP and the emissions budgets that are the basis of the RTP conformity assessments.

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Appendix H

Planning Practice Examples

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Appendix H Contents

Introduction

This appendix aggregates Metropolitan Planning Organization (MPO)-specific planning practice examples and resource information into a single location organized by topic area. While acknowledging the different statutory requirements of MPOs and RTPAs in RTP development, the examples contained in this appendix are not intended to establish baseline standards but rather serve to highlight exemplary, state of the art planning practices that Regional Transportation Planning Agencies (RTPAs) can seek to emulate in their planning processes as financial and technical resources allow.

Efforts have been made to highlight planning practices that are being undertaken by large, medium, and small MPOs in both rural and urban areas throughout the state. It is important to note that this appendix represents a snapshot of available resources and planning practices representative of the time at which these guidelines were prepared.

Coordination with Other Planning Processes

Regional Transportation Plans (RTPs) are prepared within the context of many other planning processes conducted by federal, state, and local agencies. This section provides resources associated with planning processes that are used by state, federal and local agencies such as Caltrans, the Federal Highway Administration, and local jurisdictions to further their respective goals and objectives associated with the California Transportation Plan, the federal Partnership for Sustainable Communities, and local General Plans. As the RTP is bound by fiscal constraint, the strategies, actions, and improvements described in this section are intended to inform the development of the RTP and should be considered to the maximum extent feasible.

Please see **Section 2.7** in the RTP Guidelines for additional information on these areas.

Smart Mobility Framework

The Caltrans Smart Mobility Framework (SMF) is a key strategic tool for integrating transportation with land use, to develop healthy and livable communities through multi-modal travel options, reliable travel times, and safety for all users of the transportation system. Additional Smart Mobility Framework information and resources are available at the following links:

http://www.dot.ca.gov/transplanning/ocp/sm-framework.html

http://smartmobilityca.org/

Planning for Public Health and Health Equity

Please see **Section 2.3** and **Appendix L** of the MPO RTP Guidelines for resources and planning practice information regarding the consideration of public health and health equity in the regional transportation planning process.

Complete Streets

The term "Complete Street" refers to a transportation network that is planned, designed, constructed, operated, and maintained to provide safe mobility for all users including: bicyclists, pedestrians, transit and rail riders, as well as commercial vehicles and motorists appropriate to the function and context of the facility. Complete Streets policies and practices are best implemented with a comprehensive and integrated approach of all agencies involved, taking advantage of opportunities for synergies and cost savings such as restriping when repaving.

General Complete Streets background, resources, and practice information at the state and national level:

Smart Growth America offers an interactive resources data base which offers information and case studies on a variety of mobility topics including Complete Streets: https://smartgrowthamerica.org/resources/

The National Complete Streets Coalition provides success stories, frequently asked questions, examples, and resources including sample presentations here: http://www.completestreets.org/

The National Complete Streets Coalition provides a map with states and local jurisdictions that have adopted complete streets policies: https://smartgrowthamerica.org/program/national-complete-streets-coalition/

Safe Routes to Schools National Partnership Complete Streets resources are available here: http://saferoutespartnership.org/state/bestpractices/completestreets

The guide Complete Streets: Making Roads Safe and Accessible for All Users (Safe Routes to Schools National Partnership, 2013) provides information on Complete Streets policies in underserved communities.

A Complete Intersections Guide can be downloaded from the Caltrans Pedestrian Safety Resources website: http://nacto.org/docs/usdg/complete_intersections_caltrans.pdf

Accommodating Bicycle and Pedestrian Travel: A Recommended Approach is a policy statement adopted by the United States Department of Transportation (USDOT). USDOT hopes that public agencies, professional associations, advocacy groups, and others will also adopt this approach as a way to promote the integration of bicycling and walking into the transportation main stream: http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/design.cfm

The American Planning Association Knowledge Center offers Complete Streets applied research resources: http://planning.org/research/streets/

The AARP Complete Streets Archive provides reports, case studies, presentations and more.

State-Level Plans addressing Complete Streets:

http://www.californiatransportationplan2040.org/

http://www.cabikepedplan.org/

Regional Planning Practice Examples of Complete Streets Policies:

Large/Urban MPO Examples:

The following link contains a case study in the SCAG region of how MPOs can integrate neighborhood electric vehicles into a complete streets policy:

http://www.scag.ca.gov/sb375/pdfs/FS/cs-SouthBayStrategy.pdf

The following links contains planning practice examples of integrating Complete Streets Policies in the Metropolitan Transportation Commission (MTC) bay-area region and the San Diego Region:

http://mtc.ca.gov/our-work/plans-projects/bicycle-pedestrian-planning/complete-streets

http://www.sandag.org/index.asp?classid=12&projectid=521&fuseaction=projects.detail

Small/Medium and Rural MPO Examples:

Tahoe Metropolitan Planning Organization and the Tahoe Regional Planning Agency developed the following Complete Street Resource Guide:

http://tahoempo.org/activetransportationplan/docs/appendices/Appendix%20A_Complete%20Street%20Resource%20Guide.pdf

Local Planning Guidance for Complete Streets

Governor's Office of Planning and Research General Plan Guidelines:

https://www.opr.ca.gov/s_generalplanguidelines.php

Regional Travel Demand Modeling & Analysis

Please see **Section 3.5** for resources and planning practice information regarding travel demand modeling and analysis for the preparation of an RTP.

RTP Consultation and Coordination

Public Participation Plan

The purpose of the Public Participation Plan is to establish the process by which the public can participate in the development of regional transportation plans and programs. Please see **Section 4.1** in the RTP Guidelines for Statutory requirements associated with Public Participation Plan development and the public input process for preparing the RTP.

Exemplary planning practice examples of MPO Public Participation plans and processes include incorporating public participation strategies in the RTP that ensure members of the public are engaged throughout the development of the RTP. Given the complex nature of transportation planning, MPOs can use public participation as a way to ensure local residents and community-based organizations are active participants at each step of the process. Open-invite roundtables and/or on-going advisory committees are one way that MPOs can seek public input throughout the process.

Various MPOs have developed on-going advisory committees that included a wide range of interests including representation from historically underserved communities and rural areas. These advisory committees met regularly throughout the development of the RTP to ensure the document reflected the goals of the community. Other MPOs used on-line educational survey tools and games in addition to workshops, roundtables, and phone surveys, to allow the public to balance their priorities for the region. Additional information and specific examples are provided below:

Large/Urban MPO Examples:

Metropolitan Transportation Commission Public Participation Plan
http://www.mtc.ca.gov/get_involved/participation_plan.htm

Sacramento Area Council of Governments Public Participation Plan
http://www.sacog.org/sites/main/files/file-attachments/public_participation_plan_2013.pdf

SANDAG Public Involvement Plan:
http://www.sandag.org/uploads/projectid/projectid_428_15559.pdf

Small/Medium/Rural MPO Example:

Kern Council of Governments Online Educational Survey Game
http://www.directionsto2050.com/

To the extent that it is practicable and resources are available, the Draft RTP as well as any comments received to the draft could be posted on the MPO website in a way that is easily accessible to the public. The table below provides links to the websites of all eighteen California MPO's:

MPO Name	Website
Association of Monterey Bay Area Governments	www.ambag.org
Butte County Association of Governments	www.bcag.org
Fresno Council of Governments	www.fresnocog.org
Kings County Association of Governments	www.kingscog.org
Kern Council of Governments	www.kerncog.org
Merced County Association of Governments	www.mcagov.org
Madera County Transportation Commission	www.maderactc.org
Metropolitan Transportation Commission	www.mtc.ca.gov
Sacramento Area Council of Governments	www.sacog.org
San Diego Association of Governments	www.sandag.org
San Joaquin Council of Governments	www.sjcog.org
San Luis Obispo Council of Governments	www.slocog.org
Santa Barbara County Association of Governments	www.sbcag.org
Shasta Regional Transportation Agency	www.srta.ca.gov
Southern California Association of Governments	www.scag.ca.gov
Stanislaus Council of Governments	www.stancog.org
Tulare County Association of Governments	www.tularecog.org
Tahoe Metropolitan Planning Organization	http://www.trpa.org/transportation/

Title VI, Environmental Justice, and Social Equity Considerations in the RTP

This section includes planning practices relevant to the requirements described in Chapter 4, especially sections 4.2, 4.3 and 4.4. These requirements include conducting a social equity analysis to ensure that any planned regional transportation improvements do not have a disproportionately high and adverse impact on low income or minority populations, and to ensure that the plan will not result in the denial of, reduction in, or significant delay in the receipt of benefits by minority or low-income populations.

In order to identify and address (if further mitigation measures or alternatives are feasible that would reduce the disproportionately high and adverse effects) disproportionately high and adverse effects of programs, policies, and activities on minority and low-income populations to achieve an equitable distribution of benefits and burdens in the RTP, MPOs are called upon to (1) *identify which populations and communities are low income or minority*, and to (2) *determine what metrics they will use to measure the benefits* and burdens to those populations and communities. They are then called up to (3) *conduct an appropriate social equity analysis*, as discussed in section 4.2. Finally, (4) *a public participation* is required to ensure that the RTP planning process succeeds in "seeking out and considering the needs of low-income and minority households."

Planning practices relevant to each of these requirements are collected here:

1.) Identifying protected communities:

FTA Circular 4703.1 emphasizes the importance of understanding a community when addressing environmental justice, both in identifying low income and minority communities through the use of Census data and in engaging with potentially impacted residents and community-based organizations. In defining a unit of geographic analysis, a study area "must be appropriate to the scope of the plan, program, or project to determine disproportionate burdens on EJ versus non-EJ populations." As such, MPOs ought to "make reasonable efforts to identify the presence of distinct minority and/or low-income communities residing both within, and in close proximity to, the proposed project or activity and to identify those minority and/or low income groups who use or are dependent upon natural resources that could be potentially affected by the proposed action." This may involve analysis that summarizes impacts for areas with the highest concentration of EJ populations or potential burdens within an MPO's service area.

One particular approach, pioneered by the U.S. Department of Housing and Urban Development (HUD), for identifying especially impacted communities, is known as "Racially Concentrated Areas of Poverty." HUD's definition is "a geographic area with significant concentrations of poverty and minority populations." The concept is flexible and can be readily adapted to local conditions. For instance, in Minnesota's Twin City region, the Metropolitan Council provides a two-step definition for Areas of Concentrated Poverty. The first, contiguous census tracts where at least 40% of residents live in households with incomes below 185% of the federal poverty line. The second, a refinement of HUD's concept which further identifies, as particularly vulnerable, Areas of Concentrated Poverty where at least 50% of the residents are people of color.

2.) Defining "benefits" and "burdens" to those protected communities:

While there is some federal guidance on candidate social equity performance measures, the measures can vary according to regional goals. Examples of performance measures that have been used by California MPOs are:

- Share of population within 1/4 or 1/2 mile of transit
- Travel Time
- Active Transportation' infrastructure
- Share of transportation system usage by population type
- Physical activity (time or distance) walking/biking
- Distribution of investments
- Combined housing / transportation affordability
- Gentrification / displacement
- Access to employment
- Access to parks or open space
- Access to medical or health care facilities
- Access to primary or secondary schools
- Access to higher education
- Access to grocery stores
- Air quality - localized (near roads, ports, rail yards, etc.)
- Traffic safety - active modes
- Air quality - regional distribution
- Roadway noise

Some of these performance measures are intended to help evaluate whether a particular population will be more heavily burdened than others if the RTP is implemented, while others are intended to indicate whether some groups will glean more benefits than others if the RTP is implemented. Based on factors such as community input, availability of the necessary data, technical capabilities of the MPO, and likely accuracy of the results of the analysis, each MPO through outreach to and consultation with residents of affected communities can choose these or other measures best suited to its region.

In addition, non-governmental organizations have identified planning examples from other contexts. One example is guidance the California Air Resources Board (ARB) has provided on the implementation of SB 535 (De León).

[1] ARB's GGRF Funding Guidelines require implementing agencies to "give priority to those [investments] that maximize benefits to disadvantaged communities" by "favor[ing the] projects which provide … the most significant benefits" to them. More specifically, the Guidelines require that every investment intended to benefit a disadvantaged community "provide[] direct, meaningful, and assured benefits to one or more disadvantaged communities."

[1] That statute requires that "a minimum of 25 percent" of moneys in the Greenhouse Gas Reduction Fund go "to projects that provide benefits to" disadvantaged communities and "a minimum of 10 percent … to projects located within" those communities. Health & Saf. Code § 39713.

ARB's Funding Guidelines[2] define the benefit a GGRF investment must provide under SB 535 as "a benefit that *meaningfully addresses an important community need*" in a disadvantaged community.[3] ARB's definition of "benefit" is also directly relevant to the crafting of an equity and EJ analysis of the RTP, as discussed in the next section. In addition, ARB's Funding Guidelines require that "projects be designed to *avoid substantial burdens*, such as physical or economic displacement of low-income disadvantaged community residents and businesses or increased exposure to toxics or other health risks."[4]

3.) Conducting the social equity analysis:

Many California MPOs have conducted environmental justice and social equity analyses in their respective RTP/SCS reports. Federal and state agencies have also compiled best practices in environmental justice and equity analysis in various topic areas from RTPs across the nation[5]. Efforts are underway by SANDAG[6], in partnership with other regional transportation planning agencies and Caltrans, to develop a Social Equity Analysis Method (SEAM) and a Social Equity Analysis Tool (SEAT) to assist with RTP development. This project, which is partly funded by a Caltrans Partnership Planning grant, will produce a tool that MPOs and RTPAs could use when assessing benefits and burdens on various 'social equity focus' (SEF) populations (e.g. low income and minority groups) that are expected to occur if the programs and projects in an RTP are implemented. The final version of the SEAT is expected to be complete in the first quarter of 2018 and will include up to eight performance measures – some of which will measure relative benefits and others that will measure relative burdens. The goal is to provide an analysis tool with functionality in a GIS-based application that can be used by agencies throughout the state.

MPOs also can work with environmental justice and social equity stakeholders through the RTP/SCS outreach process to develop additional measures and analyses to illustrate and identify the historical and current conditions of transportation and land use for low income and minority communities to ensure future transportation investments will not further cause disproportional impacts to those communities.

As MPOs seek to respond to the needs and concerns of low-income and minority communities, a planning practice from another (non-RTP) context that MPOs may incorporate comes from the U.S. Department of Housing and Community Development (HUD) rule on "affirmatively furthering fair housing" (or AFFH). AFFH looks at

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[2] Air Resources Board, Cap-and-Trade Auction Proceeds Funding Guidelines for Agencies that Administer California Climate Investments (Dec. 2015), p. 2.A-6, available at http://www.arb.ca.gov/cc/capandtrade/auctionproceeds/fundingguidelines.htm

[3] *Id*., p. 2-6. *See id*., p. 1.A-12 (requiring reporting on "disadvantaged community benefits and … strategies the agency will use to maximize benefits" to them).

[4] *Id*. p. 2-12.

[5] Examples include: http://dot.ca.gov/hq/LocalPrograms/saferoutes/EnvironmentalJusticeDeskGuideJan2003.pdf, http://www.fhwa.dot.gov/environment/environmental_justice/resources/, http://www.fhwa.dot.gov/environment/environmental_justice/case_studies/

[6] SANDAG Statewide Social Equity project description: http://sdforward.com/ContinuingActions/SocialEquityEnvJustice.aspx.

neighborhood-level transportation and transit access, educational and economic opportunity, and environmental health factors.[7]

The AFFH begins with assessing "the elements and factors that cause, increase, contribute to, maintain, or perpetuate segregation, racially or ethnically concentrated areas of poverty, significant disparities in access to opportunity, and disproportionate housing needs."[8] The basic methodology for HUD's AFFH rule includes the following steps:

1. Identify, with robust community engagement, current patterns and conditions of segregation, racially concentrated poverty, disparities in access to opportunity, and disproportionate housing needs, utilizing data HUD provides and other relevant regional data;
2. Identify key contributing factors of the patterns and conditions identified;
3. Prioritize the most significant contributing factors and set goals that will meaningfully address the high priority factors, with "metrics and milestones" for each goal;
4. Tailor near-term actions and investments consistent with those goals; and
5. Measure progress over the near term. (24 C.F.R. § 5.154(d) (2), (3), (4), (5) and (7).)

The HUD rule is discussed in a recent letter that the Secretary of the U.S. Department of Transportation issued with the Secretaries of HUD and the U.S. Department of Education.[9] That letter emphasized the relevance of transportation to the issues of segregation, access to opportunity, and racially-concentrated poverty, and encouraged transportation agencies (including MPOs) nationally to integrate the principles and goals of AFFH into their decision-making. In particular, the letter called on transportation agencies to "identify impediments to accessing opportunity" and to "coordinate efforts to address" issues of segregation and opportunity.[10] In considering whether to align its equity analysis with the Assessment its local jurisdictions are called up to conduct, an MPO will have the opportunity to ensure coordination regionally of local actions to identify and address current conditions of inequity.

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[7] HUD, Assessment Tool (Public Dec. 31, 2015) at 8, available online at https://www.huduser.gov/portal/sites/default/files/pdf/Assessment-of-Fair-Housing-Tool.pdf (last accessed July 12, 2016).

[8] 24 C.F.R. § 5.154 (a).

[9] The Tri-Agency letter, issued on June 3, 2016, is available at https://www2.ed.gov/documents/press-releases/06032016-dear-colleagues-letter.pdf.

[10] The letter states: "Today, our agencies are calling on local education, transportation, and housing leaders to work together on issues at the intersection of our respective missions in helping to guarantee full access of opportunity across the country. Our goals are to identify impediments to accessing opportunity; to coordinate efforts to address these issues and to provide broad-reaching benefits; and to ensure that every child and family is provided with transportation, housing, and education tools that promote economic mobility. The new process in which communities are engaging under the Affirmatively Furthering Fair Housing rule (AFFH rule) from HUD provides an opportunity for cross-agency collaboration and strong community involvement. We urge you to take full advantage of the community participation process of the AFFH rule, so that regional planning promotes economic mobility and equal access to the many benefits provided by affordable housing, great schools, and reliable transportation."

Public Engagement Practices for "Seeking Out and Considering the Needs of Low-income and Minority Households":

Building on the emphasis of public engagement outlined in FTA Circular 4703.1, it is recommended that MPOs "ensure the full and fair participation by all potentially affected communities in the transportation decision-making process….Understanding the needs and priorities of environmental justice populations will also help…to balance the benefits of the proposed project against its adverse effects." If an adverse effect is "predominantly borne by an EJ population, or will be suffered by the EJ population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-EJ population", engagement with an affected community can help to identify an appropriate strategy to mitigate, reduce, avoid, and/or offset adverse effects. Public outreach is, therefore, an essential component of an MPO's environmental justice efforts and should employ strategies to increase engagement in the transportation decision-making process from low income and minority populations. Specific strategies covering location, timing, content, format, noticing, and accessibility requirements of public outreach meetings are detailed in Chapter III of FTA Circular 4703.1.

MPOs can encourage the involvement of low-income communities and communities of color by proactively seeking the input of these households and by making public meetings as accessible as possible. Public engagement strategies to promote inclusion of these communities may include:

- Conduct education and outreach before beginning the formal input process;
- Provide all materials related to the update with adequate time for public review and input.
- Provide early and ongoing drafts for public review to ensure transparency.
- Proactively work with and/or provide financial support, as resources allow, to community-based and membership organizations across the region to help engage low-income residents and residents of color in the public process and to jointly plan public workshops or other engagement opportunities.
- Form an advisory group on Environmental Justice, Social Equity and/or Disadvantaged Communities that includes policy and community-based organizations that are focused on social equity in the region to provide feedback throughout the RTP process.
- Ensure that community residents have the opportunity to deliberate together to achieve consensus on their most pressing needs and recommendations.
- Hold meetings at accessible locations and outside of traditional working hours (e.g. evenings and weekends);
- Locate meetings in low-income communities and communities of color;
- Locate meetings at sites accessible via affordable transit;
- Translate meeting materials for non-English speakers;
- Consider the needs to low-income and individuals with limited English proficiency when translating outreach materials and ensuring that documents are easy to understand (i.e. evaluate the reading level of the materials and quality of translations);
- Technology and the Internet can reach many people, but recognize that not everyone has access to the Internet and an email address and that efforts should be made to reach individuals in other ways;
- Provide interpretation at meetings for non-English speakers;

- Create resident advisory committees or roles within existing committees with decision-making authority and identify opportunities for disadvantaged communities to serve as representatives on decision-making bodies;
- Expand the list of potential partners to include: schools, the faith community, agriculture and food hubs, local business or chambers of commerce, health providers and public health sectors, funders/philanthropy, academia, and environmental health/justice advocates, libraries, law enforcement, parks and recreation, and the technology industry;
- Create a feedback loop to provide community members information about how their input was included in any drafts and reasons for including/excluding the input;
- Make sure that there is agreement between residents and the local planning authority about what community engagement includes;
- Educate and build capacity of community members on issues such as data, evaluation, storytelling, and mentoring community members new to the process;
- Use a community health worker or promotora model to identify resident leaders;
- Use facilitators with experience in race and power inequities at community meetings;
- Work with community-based and membership organizations across the region to jointly plan public workshops on the RTP, especially the Title VI and Environmental Justice analyses. They know the communities impacted by the RTP transportation projects and can assist with recruiting residents, businesses and other affected stakeholders. Be proactive in asking for their participation instead of waiting for them to come to you; and,
- Ensure meetings are attended by MPO decision makers in addition to MPO staff.

Exemplary planning practice examples of MPO efforts to address Title VI, Environmental Justice, and Social Equity Considerations in the RTP are provided below:

Large/Urban MPO Examples:

http://planbayarea.org/the-plan/plan-details/equity-analysis.html

http://www.scag.ca.gov/programs/Pages/EnvironmentJustice.aspx

http://www.sdforward.com/pdfs/RP_final/AppendixH-SocialEquityEngagementandAnalysis.pdf

Statewide Social Equity Analysis Tool:

SANDAG, through a Caltrans Strategic Partnership Grant, is collaborating with large and small MPOs and RTPAs in the state to develop a tool that can be used for conducting Social Equity Analyses for regional plans throughout the state of California.
Currently agencies use varied approaches when conducting a social equity analyses of regional plans such as RTPs and the SCSs required by SB 375. There is not a widely accepted tool used by regional and local agencies to model the burdens and benefits of regional plans and the projects they encompass to consistently evaluate environmental justice outcomes expected to result from a plan or project. This project calls for identification of best practices being used by regional agencies to analyze proposed plans and covered projects and development of a Social Equity Analysis Methodology

(SEAM) and Social Equity Analysis Tool (SEAT) for statewide use. For more information visit: http://sdforward.com/ContinuingActions/SocialEquityEnvJustice.aspx

Small/Medium and Rural MPO Examples:

To help ensure diverse and direct input from all populations especially those with the most potential to be affected by health inequities, Fresno Council of Governments (FresnoCOG) administers a "Community-Based Mini-Grant Outreach Program[11]," which competitively awards mini-grants ($1,000 - $3,000) to community-based organizations, schools, and other groups to conduct outreach to individuals not typically involved in the regional transportation planning process. The selected organizations conduct outreach activities such as organizing and tailoring meetings, customizing presentations materials, building trust and removing barriers to participation to secure public involvement from stakeholders in their communities and the populations they currently serve, engaging them in the planning process and generating feedback on the development of the RTP and SCS.

Additional statewide examples of stakeholder engagement strategies are also compiled in the following report developed by ClimatePlan:
Leading the Way: Policies and Practices for Sustainable Communities

Private Sector Involvement

Private sector involvement refers to engaging the goods movement industry and other business or commercial interests in the development of the RTP. Trucks, freight trains, taxis, limousines, and shared mobility companies all use the transportation network and are an integral part of the regional transportation system. Other examples of private sector entities to engage in the development of the RTP include Transportation Management Associations, private transit operators, developers, and Chambers of Commerce. Private sector involvement informs the regional transportation planning process can contribute to greater efficiency of the planned transportation network.

Exemplary planning practice examples of MPO efforts to engage the private sector in RTP development are provided below:

Large/Urban MPO Examples:

http://www.sacog.org/regional-plans

The National Highway Institute offers training on engaging the Private Sector in Freight Planning:
http://www.nhi.fhwa.dot.gov/training/course_search.aspx?sf=0&course_no=139009

[11] Administered as a contractual arrangement with community based consultants for outreach services that is subject to the federal procurement process. See: http://www.fresnocog.org/sites/default/files/publications/RTP/RTP_Mini_grant_app_Fresno_COG.pdf

Consultation with Interested Parties

The US DOT defines consultation as when: "*one or more parties confer with other identified parties in accordance with an established process and, prior to taking action(s), considers the views of the other parties and periodically informs them about action(s) taken*." Some areas of consultation could include transportation, land use, employment, economic development, housing, community development and environmental issues. Consultation requirements for the RTP are outlined in **Section 4.6**.

Large/Urban MPO Examples:

http://rtpscs.scag.ca.gov/Pages/default.aspx
Exemplary planning practice examples of MPO consultation efforts are provided below:

Small/Medium and Rural MPO Example:

http://www.sjcog.org/index.aspx?nid=181

Native American Tribal Government Consultation and Coordination

California is home to many non-federally recognized tribes as well as Native Americans living in urban areas. MPOs should involve the Native American communities in the public participation processes. Establishing and maintaining government-to-government relations with federally recognized Tribal Governments through consultation is separate from, and precedes the public participation process. Tribal Consultation requirements for the RTP are outlined in **Section 4.7**.

US DOT Order 5301.1 ensures that programs, policies and procedures administered by the US DOT are responsive to the needs and concerns of Native Americans. This Order provides a very thorough overview of the various Federal regulations and Executive Orders on this subject. This Order is available at:

http://environment.fhwa.dot.gov/guidebook/vol2/5301.1.pdf

It is recommended that federally and non-federally recognized Tribal Governments be consulted when historic, sacred sites, subsistence resources or traditional collecting properties are present in the MPOs jurisdiction.

An exemplary planning practice example of MPO Tribal Consultation efforts is provided below:

http://www.sdforward.com/pdfs/RP_final/AppendixG-TribalConsultationProcessforSanDiegoForward-CommunicationCooperationandCoordination.pdf

Consultation with Resource Agencies

Current federal regulations require MPOs to consult with resource agencies, State and local agencies responsible for land use management, environmental protection,

conservation, and historic preservation concerning the development of the RTP. As part of SCS development, MPOs must gather and consider the best available scientific information on resource areas and farmlands within the region. State and federal resource agencies may be able to assist MPOs by providing data, maps, or other information. Detailed information regarding Resource Agency Consultation during RTP development is available in **Section 4.8**.

Transportation agencies and resource agencies have developed methods to better incorporate resource issues into transportation planning processes to benefit both transportation planning and project delivery as well as ecological outcomes. Two examples of processes are:

1) FHWA's *Eco-logical Approach* organizes current methods for addressing natural resource identification, avoidance, minimization and mitigation into a systematic, step-wise process that starts at the beginning of the transportation planning process and concludes with establishing programmatic approaches to recurring natural resource issues that are implemented at the project level. FHWA has developed an implementation approach called Integrated Eco-logical Framework (IEF), a nine-step, voluntary framework for partners to collaborate, share data, and prioritize areas of ecological significance. Implementing IEF at a regional scale during RTP development would allow for early coordination with resource agencies and other key stakeholders to establish a Regional Ecosystem Framework. This approach is also consistent with Regional Advance Mitigation Planning (RAMP) models developed by the RAMP Statewide Working Group.

   https://www.environment.fhwa.dot.gov/ecological/ImplementingEcoLogicalApproach/default.asp

   https://rampcalifornia.water.ca.gov/

2) AB 2087 (Levine, 2016) establishes a pilot study program for a conservation planning tool called a Regional Conservation Investment Strategy (RCIS). The purpose of the RCIS is to promote the conservation of species, habitats and other natural resources and enable advance mitigation for public infrastructure projects, including transportation. An RCIS provides a voluntary, non-regulatory assessment and analysis of conservation needs in a region including habitat connectivity and climate resilience. Transportation agencies can use an approved RCIS to secure mitigation credit for conservation investments consistent with the RCIS through a Mitigation Credit Agreement (MCA). Pursuant to AB 2087, an RCIS pilot study program is presently under development and all RCISs and MCAs must be approved prior to January 1, 2020.

Exemplary planning practice examples of Resource Agency consultation efforts and resulting planning products are provided below:

Large/Urban MPO Examples:

The San Diego Association of Governments' *TransNet* Environmental Mitigation Program (EMP), funded by local sales tax dollars, is unique in that it goes beyond traditional mitigation for transportation projects by including a funding allocation for habitat acquisition, management, and monitoring activities as needed to help implement

the Multiple Species Conservation Program (MSCP) and the Multiple Habitat Conservation Program (MHCP) which are developed through extensive consultation with resource agencies. Information regarding the *TransNet* EMP is available at:

http://www.sandag.org/index.asp?projectid=263&fuseaction=projects.detail

The Southern California Association of Governments' (SCAG) recently approved SCS Appendix on Natural and Farm Lands is a prime example of successful consultation with environmental agencies and stakeholders. SCAG established an Open Space Conservation Working Group (which included resource agencies), developed a comprehensive database with resources for county transportation commissions, local governments and other planning agencies to use in their conservation and mitigation planning processes, along with a report to provide context. The SCAG SCS Appendix is available at:

www.scagrtpscs.net/Documents/2016/final/f2016RTPSCS_NaturalFarmLands.pdf

Small/Medium and Rural MPO Examples:

Butte County Association of Government's (BCAG) RTP/SCS and Regional Conservation Plan. BCAG adopted the Butte County Regional Conservation Plan (Plan), a regional Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP), to streamline the development and mitigation associated with public and private development in the planning area. BCAG's RTP/SCS is built around a set of general plans designed to be consistent with the Regional Conservation Plan. Preparation and adoption of the Regional Conservation Plan required extensive resource agency coordination with the planning signatories upon issuance of federal and state permits along with the Plan.

http://www.buttehcp.com/

Integrating Ecological Considerations into Transportation Planning and Project Delivery

This section discusses regionally important natural resources such as farmlands and habitat corridors that should be identified during the development and update process of RTPs, in order to more effectively implement transportation projects during the environmental review and permitting processes. This should not be considered a comprehensive list of environmental resources to consider in planning and early project development nor is this intended to include a comprehensive list for regulatory review. For a list of environmental resources to consider during environmental review, please see **Chapter 5** of these Guidelines.

Addressing Resource Areas and Farmland in the RTP

As a planning practice to comply with the requirements of CA Government Code 65080 (b)(2)(B), MPOs, based on locally and regionally significant considerations, are

encouraged to develop a Regional Open Space and Conservation Area Framework that identifies and considers "resource areas" and "farmland" as defined in Government Code Section 65080.01(a) and (b). To demonstrate consideration of resource areas and farmland, the SCS could 1) identify regional priority areas for conservation and mitigation efforts, based upon existing publicly available information and developed in consultation with the appropriate resource agencies including cities and counties, 2) adopt a land use forecast structured around spatially explicit, complementary networks of priority conservation areas and priority development areas, and 3) commit discretionary funding for conservation and development incentives for such areas. For an example of this approach, see Plan Bay Area: http://planbayarea.org/the-plan/adopted-plan-bay-area-2013.html

Another way to demonstrate consideration of resource areas and farmland is to 1) incorporate layers representing all categories of "resource areas" listed in Government Code Section 65080.01(a) and (b), as well as other key resources identified in HCPs, NCCPs and input from leading conservation organizations, and 2) treat these layers as constraints to development in land use scenarios and the adopted land use forecast. This low-cost, straightforward approach was pioneered by the Santa Barbara County Association of Governments (using a "Regional Greenprint" of GIS layers representing habitat, agricultural resources and other open space areas), and the Tulare County Association of Governments (using layers from the San Joaquin Valley Greenprint).

Regional Conservation Planning Strategies to Address Potential Impacts

Landscape conservation planning takes a proactive approach, identifying priority mitigation and conservation areas in advance of impacts, with the goal of preserving larger areas of higher habitat quality and connectivity. This type of advance planning also results in a more efficient and streamlined permitting approach for development projects. Advance mitigation, Natural Community Conservation Planning, mitigation banking, and in-lieu fee programs are all examples of landscape conservation planning in California. Generally speaking, all take a long-range, regional approach to mitigation and conservation planning. By working on a regional level, rather than project-by-project, state and federal agencies can work together and in cooperation with regional and local agencies to offset the environmental impacts of several planned infrastructure projects at once. https://www.wildlife.ca.gov/Conservation/Planning

Policies and Regulations

The following is a list of national and state policies that support and enable regional conservation planning efforts in California:

National

- Department of the Interior, Order No. 3330 "Improving Mitigation Policies and Practices of the Department of the Interior (Secretary Sally Jewell, 2013);" and
- Presidential Memorandum "Mitigating Impacts on Natural Resources from Development and Encouraging Related Private Investment" (Nov 2015).
- FHWA policies to encourage integration of natural resources in the planning process: https://www.environment.fhwa.dot.gov/integ/index.asp

State

- California Endangered Species Act and Natural Community Conservation Planning Act (NCCP Act)

Tools and Frameworks

The following is a list of tools and frameworks available for regional conservation planning that can be integrated into planning processes at a regional scale:

- Regional Advance Mitigation Planning (RAMP) - Advance mitigation planning to identify areas for mitigation prior to project-by-project discussion is an exemplary planning practice. Regional Advance Mitigation Planning (RAMP) is an important example of such efforts. By coordinating early with agencies responsible for project-level permitting to evaluate the individual and cumulative impacts of one or several projects and focusing mitigation on regional priority conservation opportunities, ecosystem-scale conservation needs can be met, providing more effective conservation and mitigation. In addition, the time and cost inefficiency of project-by-project review, permitting, and mitigation can be avoided thereby making mitigation more efficient. MPOs may consider using RAMP in siting and mitigating for infrastructure projects, in order to maximize time efficiency, reduce mitigation costs, and protect regional natural resources;
- Regional Conservation Investment Strategies (RCIS) and Mitigation Credits Agreements (MCA) – Assembly Bill 2087 (Levine, 2016), established an RCIS pilot study program in California that is presently under development. An RCIS must be proposed by a public agency and would provide a voluntary process and framework to guide investments in natural resource conservation, infrastructure, and will identify priority locations for compensatory mitigation on a regional basis. Once an RCIS has been approved by the California Department of Fish and Wildlife as a pilot project, a Mitigation Credit Agreement can be established. Once established, RCISs and subsequent MCAs can provide a regional mitigation framework for RTPs and subsequent transportation projects. All RCISs and MCAs must be approved prior to January 1, 2020;
- For additional information regarding regional open space conservation please see the following EPA website - http://www.epa.gov/dced/openspace.htm.

The following is a list of regional Habitat Conservation Plan/NCCPs (HCP/NCCP) and other resources:

- CA Department of Fish and Game Natural Community Conservation Planning information - There are currently 13 approved NCCPs (includes 6 subarea plans) and 22 NCCPs in the active planning phase (includes 10 subarea plans), which together cover more than 7 million acres and will provide conservation for nearly 400 special status species and a wide diversity of natural community types throughout California - https://www.wildlife.ca.gov/Conservation/Planning/NCCP/Plans;
- USFWS Endangered Species Habitat Conservation Planning Information https://www.fws.gov/endangered/what-we-do/hcp-overview.html
- Pacific Southwest Region USFWS Offices for Ecological Information http://www.fws.gov/cno/es/
- Sacramento FWS Office list of Regional Habitat Conservation Plans - https://www.fws.gov/sacramento/es/Habitat-Conservation-Plans/es_hcp.htm

- Carlsbad FWS Office information regarding Regional Habitat Conservation Plans http://www.fws.gov/carlsbad/HCPs/CarlsbadCFWORegionalHCPs%20.html
- Ventura FWS Office information regarding Regional Habitat Conservation Plans https://www.fws.gov/ventura/endangered/habitatconservation/index.html
- Information regarding City and County Zoning Ordinances - https://www.opr.ca.gov/docs/PZD2012.pdf
- Information regarding Farmland Mapping and Williamson Act www.conservation.ca.gov/dlrp/fmmp;
- Information regarding adopted Open Space Elements is available through the Governor's Office of Planning and Research (OPR) California Planner's Book of Lists - https://www.opr.ca.gov/s_publications.php

Statewide Examples

Aggregated planning practice examples of the consideration of environmental resources in transportation planning from throughout California can be found in the Sustainable Communities Strategies and Conservation report:

http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/california/sustainable-communities-strategies-and-conservation.pdf

The following represent additional planning practice examples of how regions have conducted regional conservation planning efforts focusing on resource areas and farmland as part of their RTP process:

Large/Urban MPO Examples:

- SANDAG's Environmental Mitigation Program (EMP) - An excellent example of this approach is SANDAG's EMP, which is funded through the region's TransNet sales tax measure. The EMP directs mitigation resources to habitat identified in adopted conservation plans, leverages funding from conservation partners, and saves additional money by acquiring habitat "early, at lower prices, and in larger parcels" (http://www.keepsandiegomoving.com/EMP/EMP-intro.aspx). For more information, please see San Diego Forward: The Regional Plan http://www.sdforward.com/;
- Orange County Transportation Authority (OCTA) EMP http://www.octa.net/Projects-and-Programs/Measure-M/Measure-M2-(2011-2041)/Freeway-Mitigation/Conservation-Plan/;
- Rural-Urban Connections Strategy (RUCS) developed by SACOG: http://www.sacog.org/rucs/
- SCAG's preparation of a Conservation Framework and Assessment (Jan 2015)- http://sustain.scag.ca.gov/Sustainability%20Portal%20Document%20Library/SCAG%20Final%20Conservation%20Framework%20%20Assessment_Feb.pdf;
- SCAG's 2016 RTP/SCS preparation of Natural and Farm Lands Appendix - www.scagrtpscs.net/Documents/2016/final/f2016RTPSCS_NaturalFarmLands.pdf

Medium/Small/Rural MPO Examples:

- Butte County Association of Government's (BCAG) RTP/SCS and Regional Conservation Plan - BCAG adopted the Butte County Regional Conservation Plan (Plan), a regional Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP), adopted recently to streamline the development and mitigation associated with public and private development in the planning area. BCAG's RTP/SCS has identified Regional Conservation Plan development and implementation strategies during transportation projects. Preparation and adoption of the Regional Conservation Plan required extensive resource agency coordination with the planning signatories upon issuance of federal and state permits along with the Plan. For more information, see Butte County Metropolitan Transportation Plan & Sustainable Communities Strategy: http://www.bcag.org/Planning/RTP--SCS/index.html;
- AMBAG incorporated a Regional Greenprint Analysis into its 2014 MTP/SCS: http://www.ambag.org/programs-services/planning/metro-transport-plan;
- San Joaquin Valley Greenprint, sponsored by Fresno COG: www.fresnocog.org/san-joaquin-valley-greenprint-program;
- Tulare County Association of Governments (using layers from the San Joaquin Valley Greenprint) - 2014-2040 Regional Transportation Plan & Sustainable Communities Strategy for Tulare County http://www.tularecog.org/rtp2014/.
- Santa Barbara County Conservation Blueprint – A process led by the Land Trust of Santa Barbara County is underway and leading an effort of data gathering and community engagement process leading to a Conservation Blueprint that will provide a science based decision-making platform for conservation, including restoration and other land management decisions. The process is led by Land Trust for Santa Barbara County, Cachuma Resource Conversation District, and the Santa Barbara Foundation's LEAF Initiative, and is guided by a 12-member Steering Committee; http://www.aginnovations.org/project/santa-barbara-county-conservation-blueprint. For more information, see Santa Barbara's 2040 Regional Transportation Plan and Sustainable Communities Strategy: http://www.sbcag.org/rtp.html;
- The Land Trust of Santa Cruz County developed a Conservation Blueprint (http://www.landtrustsantacruz.org/blueprint/) for the county which is being integrated with Santa Cruz County's RTP and regional planning processes. Specifically, Santa Cruz County's Conservation Blueprint is the basis for developing an advance mitigation planning framework via an EMP within the 2014 RTP development process - http://sccrtc.org/funding-planning/long-range-plans/rtp/2014-plan.
- The Elkhorn Slough Early Mitigation Partnership (ESEMP) is a Caltrans-sponsored interagency effort to provide early mitigation for a series of future transportation improvement projects within the Elkhorn Slough Watershed. This project seeks to help address regional scale conservation in a manner that also can help facilitate project delivery by developing a process for identifying funding strategies and implementing conservation agreements earlier than would be possible through existing traditional channels - http://elkhornslough.ucdavis.edu/.

Aquatic and Terrestrial Habitat Connectivity

A functional network of connected wildlands is essential to the continued support of California's diverse natural communities in the face of human development and climate change. Natural and semi-natural components of the landscape must be large enough and connected enough to meet the needs of all species that use them, including species' continued need for movement, migration, and shifts in distribution. The California Essential Habitat Connectivity Project developed guidance for mitigating the fragmenting effects of roads and transportation corridors and a framework for developing regional and local connectivity plans (California Essential Habitat Connectivity Project 2010).

Policies and Regulations

The following is a list of national and state policies that support and enable habitat connectivity planning efforts in California:

National

- Federal Endangered Species Act and species recovery plans that identify habitat fragmentation and road mortality as risks to species recovery

State

- AB 498 (Levine, 2015) regarding Wildlife Conservation and Wildlife Corridors which amends California Fish and Game Code Sections 1797.5, 1930, and 1930.5;
- CEQA Guidelines and Migratory Species – "Will the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;"
- California State Wildlife Action Plan and Transportation Companion Plan - https://www.wildlife.ca.gov/swap; and
- SB 857 (Kuehl, 2006) applies to State Highway System transportation projects and details requirements for assessing and remediating barriers to fish passage at stream crossings along the State Highway System. A coordinated and comprehensive fish passage improvement program is fundamental to restore unimpeded passage for aquatic organisms and for the success of habitat restoration activities.

Tools and Data

There are GIS habitat modeling tools and datasets that are available to consider and integrate into the RTP update process. These can be integrated into the RTP update itself as well as with future transportation projects identified in RTPs. The following is a list of tools and datasets available for planning decisions:

Statewide

- California Essential Connectivity Project (2010) https://www.wildlife.ca.gov/conservation/planning/connectivity/CEHC;
- California Protected Areas Database www.calands.org; and
- California Fish Passage Assessment Database (PAD) http://www.calfish.org/

Regional

- Bay Area Critical Linkages - http://www.scwildlands.org/;

- South Coast Linkages - http://www.scwildlands.org/;
- California Desert Connectivity Project - http://www.scwildlands.org/; and
- CDFW's Northern Sierra Nevada Foothill connectivity mapping project https://www.wildlife.ca.gov/Data/Analysis/Connectivity.

Examples

The following are examples of various RTPs and other long-range transportation plans that have integrated habitat connectivity resources and natural resource mapping into their planning processes:

- AMBAG's Monterey Bay Area Sensitive Resource Mapping Project with 2035 RTP/SCS Update. AMBAG received SHRP2 (C06) federal highway research funds to apply FHWA's Integrated Ecological Framework (IEF) to their Moving Forward Monterey Bay 2035 Plan and planning process. The goal was to identify sensitive resources in the AMBAG region to provide managers with a better understanding of potential conflicts and mitigation needs for transportation projects in the 2035 Plan. AMBAG created on on-line interactive GIS database with this project and developed 32 sensitive resource maps for the AMBAG region and used in the Environmental Mitigation section of the RTP/SCS 2035 Plan update;
- Caltrans District 5 Highway 17 Transportation Concept Report – http://www.dot.ca.gov/dist05/planning/sys_plan_docs/factsheets_datasheets/SR17/17_tcr.pdf;
- Caltrans District 5 Regional Wildlife and Habitat Connectivity Plan for the Central Coast Region of California – http://www.dot.ca.gov/dist05/planning/AdvWildlifeConnectivity.htm; and
- Santa Cruz County Regional Transportation Plan - Conservation planning efforts, such as the Conservation Blueprint, developed by the Land Trust of Santa Cruz County, and the Wildlife Habitat Connectivity GIS database, developed by Caltrans and partner agencies, support regional mitigation and can serve as a resource for future mitigation plans in Santa Cruz County. This data is being integrated into the RTP 2014 of Santa Cruz County and AMBAG's RTP/SCS.

RTP Financial Overview

Federal statute and regulations and California State statute requires RTPs to contain an estimate of funds available for the 20-year planning horizon. This discussion of financial information is fundamental to the development and implementation of the RTP. The financial portions of the RTP identify the current and anticipated revenue sources and financing techniques available to fund the planned transportation investments described in other portions of the RTP. The intent is to define realistic financing constraints and opportunities. All projects, except illustrative projects i.e. unconstrained projects, must be fully funded in order to be included in the RTP. With this financing information, alternatives are developed and used by the MPO, local agencies and State decision-makers in funding transportation projects. Detailed information regarding RTP financial requirements is available in **Sections 6.2 – 6.7**.

Fiscal Constraint

http://www.sandag.org/index.asp?projectid=292&fuseaction=projects.detail

http://www.scag.ca.gov/rtp2004/2004/FinalPlan.htm

Listing of Constrained and Un-constrained Projects

http://www.mtc.ca.gov/planning/2035_plan/

Revenue Identification and Forecasting

http://www.bcag.org/Planning/index.html

Estimating Future Transportation Costs

In keeping with the Federal and State efforts to streamline the project delivery and NEPA review process at the project level by providing environmental information at the earliest point in time, it is recommended that the RTP also include a preliminary cost estimate for the mitigation activities that are identified.

Asset Management

To ensure a sustainable transportation system, MPOs are encouraged to address existing infrastructure condition and performance prior to considering expansion of the system. This general approach is considered a best practice that will ensure that the agencies funding for the transportation will be adequate to sustain the system into the future.

RTP Modal Discussion

Transit

Los Angeles Metro, First and Last Mile Strategic Plan, identified strategies and potential funding sources for improving the areas surrounding transit stations to make it easier and safer for people to access them. SCAG incorporated some of these strategies into its 2016 RTP/SCS as well as short trips strategies to increase the number of trips under three miles that people take by foot or bike. The plan is available at:

http://media.metro.net/docs/sustainability_path_design_guidelines.pdf

Bicycle & Pedestrian

The use of bicycles and walking as a means of transportation has increased dramatically in California over the last 20 years. Both modes of transportation promote a healthy lifestyle and reduce environmental impacts.

Bicycle and Pedestrian planning practice information and resources are available at the following links:

"At the Intersection of Active Transportation & Equity" (Safe Routes to Schools National Partnership, 2015) http://saferoutespartnership.org/resources/report/intersection-active-transportation-equity

"Urban Bikeway Design Guide" (National Association of City Transportation Officials, 2014) http://nacto.org/publication/urban-bikeway-design-guide/

Local and Regional plans for bicycle and pedestrian trails and related facilities, including the California Coastal Trail should be supported by RTPs. Additional planning practice information regarding the California Coastal Trail is available at the following links:

Completing the California Coastal Trail Plan – California Coastal Conservancy
http://www.coastal.ca.gov/access/coastal-trail-report.pdf

Information regarding California Coastal Trail Definition and Design and Siting Standards is available at:
http://www.scc.ca.gov/webmaster/pdfs/CCT_Siting_Design.pdf

Goods Movement (Maritime/Rail/Trucking/Aviation)

MPOs are encouraged to consider developing or updating freight plans for their region, as these plans can help MPOs improve the efficiency and sustainability of goods movement in their regions.

http://www.dot.ca.gov/hq/tpp/offices/ogm/

http://rtpscs.scag.ca.gov/Pages/default.aspx

http://www.alamedactc.org/goodsmovement

http://www.ops.fhwa.dot.gov/Freight/infrastructure/nfn/index.htm

http://www.sandag.org/index.asp?classid=13&fuseaction=home.classhome

California Sustainable Freight Action Plan

In July 2015, Governor Brown issued Executive Order B-32-15 which prioritizes California's transition to a more efficient and less polluting freight transportation system. This transition of California's freight transportation system is essential to supporting the State's economic competitiveness in the coming decades while reducing greenhouse gas emissions and air quality impacts. The Executive Order directed State agencies to develop an integrated action plan by July 2016 that established clear targets to improve freight efficiency, transition to zero-emission technologies, and increase the competitiveness of California's freight system. It is suggested that regional transportation agencies consult the California Sustainable Freight Action Plan when

developing the freight-related strategies in their respective RTPs. For more information see: http://www.dot.ca.gov/casustainablefreight/

California Freight Mobility Plan

The state's California Freight Mobility Plan (CFMP) is a policy and action agenda document that supports the improvement of California's goods movement infrastructure while preserving the environment. MPOs are encouraged to review the CFMP for guidance, and ensure consistency while addressing goods movement within their RTPs. The RTPs and the CFMP will ideally function in a feedback loop, as the goods movement strategies and projects identified in RTPs will be incorporated into the next update of the CFMP. For more information see:
http://www.dot.ca.gov/hq/tpp/offices/ogm/cfmp.html

Regional Aviation System

MPOs should consider including the following aviation planning topics in the development of their RTPs:

1. An overview of the role that all public use airports including both commercial, and general aviation airports, heliports, and military airfields play in the region's multimodal transportation system.
2. Describe the functional relationship between the region's airports, and heliports, and explain specific RTP policies that support and preserve the long term viability of the region's airports.
3. Identify current airport conditions such as noise, safety, and future airport improvement projects that can be found in either an airport's layout plan, or master plans.
4. Provide a list of all public-use airports, including their State functional class developed by the Division of Aeronautics for all commercial and general aviation airports, and military installations in the region, and a description of their facilities and uses, and a map of their location.
5. Provide a discussion of any future airport(s) growth and improvement needs found in each airport's master plan or airport layout plan.
6. A discussion of multimodal ground access issues and any required ground access program or plan.
7. A separate list of short (5 year) and long-range (10 year) Airport Capital Improvement Plan (ACIP) projects within the region.
8. Identify which governing body serves as each county's ALUC for the region established pursuant to PUC 21670(a), as well as the title and date of the most current ALUCPs, Airport Master Plans or Airport Layout Plans; and military Air Installation Compatible Use Zone Plans.
9. Demonstrate consistency with the State of California Office of Planning and Research's document entitled *Community and Military Compatibility Planning; Supplement to the General Plan Guidelines* (December 2009) for military installations available at:
   https://www.opr.ca.gov/docs/Military_GPG_Supplement.pdf

Additional aviation planning practice information and case studies can be found at:

http://dot.ca.gov/hq/planning/aeronaut/publication.htm

http://www.faa.gov/airports/planning_capacity/ga_study

http://www.gao.gov/products/GAO-10-120

http://www.gao.gov/products/GAO-13-261

For questions and additional information regarding the state aviation program and its airport planning activities for a specific region, please visit the Caltrans Division of Aeronautics website: http://www.dot.ca.gov/aeronaut/index.html

For additional information regarding land use compatibility concerns affecting airports, please visit the Caltrans Division of Aeronautics website:
http://dot.ca.gov/hq/planning/aeronaut/documents/alucp/

Military Airfields and Installations

As a best practice, MPOs should include a discussion of military installations transportation and land use compatibility needs in their RTPs by addressing of the following:

1. A list and map of all military airfields and installations in the region.
2. An overview of the role that these military airfields and installations play in the region including a brief description of the installation's current and future mission(s).
3. Discuss multimodal ground access needs to installations for both people and freight, as well any needed ground access programs or plans that support its needs to complete its mission(s).
4. Demonstrate consistency with California's OPR document *Community and Military Compatibility Planning; Supplement to the General Plan Guidelines* (December 2009) available at:
https://www.opr.ca.gov/docs/Military_GPG_Supplement.pdf.

Additional military installation planning practices can be found at:

http://www.napawash.org/2009/1378-strengthening-national-defense-countering-encroachment-through-military-community-collaboration.html

http://militarycouncil.ca.gov/s_economicdata.php

https://www.sdmac.org/ImpactStudy.htm

http://hrtpo.org/page/military-transportation-needs

http://www.nctcog.org/trans/aviation/jlus/JLUS_bkg.asp

http://hrtpo.org/page/military-transportation-needs

http://www.nceastmgtf.org/studies-and-analyses

For questions and additional information regarding the state aviation program and its airport planning activities for a specific region, please visit the Caltrans Division of Aeronautics website: http://www.dot.ca.gov/hq/planning/aeronaut/planners.htm

Transportation System Management and Operations

A US DOT document titled; "Management & Operations in the Metropolitan Transportation Plan: A Guidebook for Creating an Objectives-Driven, Performance-Based Approach" provides a very good overview on how to integrate transportation system management and operations into the planning process. See:

http://www.ops.fhwa.dot.gov/publications/moguidebook/index.htm

In addition, the US DOT document titled, "Traffic Signal Operations and Maintenance Staffing Guidelines," provides guidelines to estimate the staffing and resource needs required to effectively operate and maintain traffic signal systems. Specifically, Chapter 1.3.1 provides a suggestion on the level of maintenance that is necessary. See: http://ops.fhwa.dot.gov/publications/fhwahop09006/fhwahop09006.pdf

Future of Transportation and New Technology

While maintaining the current transportation network is often a priority for MPOs, MPOs need to be planning ahead for a future in which technology will transform the way that people move and live. This section provides a summary of federal and State legislation to prepare for new technologies and innovations for the future of transportation. MPOs are ideally positioned to anticipate and be responsive to the needs of future generations. In addition, RTPs can also identify how the transportation network has been designed to accommodate, and promote, new technology, alternative fuels, charging stations, zero-emission technology, and emerging technology such as automated vehicles; include a discussion about incentives and implementation of these measures; and, identify how the proposed transportation network is meeting the goals and objectives of the State's Zero Emission Vehicle Action Plan.

Connected Vehicle Program

There are several activities related to the national Connected Vehicle Program that will certainly impact regional and local transportation agencies, in addition to Caltrans. Since 90% of the roadways in California are owned and operated by local agencies, including the 58 counties and more than 500 incorporated cities, it is critically important for them to be aware of and to plan for the implementation of connected vehicles.

This document explains licensing requirements transparent and best practices accessible to any organization, public or private, seeking to deploy "Connected Vehicle" Dedicated Short Range Communications (DSRC) Roadside Units (RSU) and services that support vehicle-to-infrastructure (V2I) applications.

http://ntl.bts.gov/lib/56000/56900/56950/FHWA-JPO-16-267.pdf

This guidance is intended to assist system owner/operator staff to deploy V2I technology not only in terms Federal Aid Highway program requirements but also practices to help ensure interoperability and efficient and effective planning/procurement/operations.

http://www.its.dot.gov/meetings/pdf/V2I_DeploymentGuidanceDraftv9.pdf

SANDAG's "Off-Model GHG Reduction Methodology" provides calculations and planning practices for vehicle automation assumptions:
http://www.sdforward.com/pdfs/RP_final/AppendixA_B_C.pdf

Transportation Electrification

State law encourages MPOs to promote the development of transportation electrification and the deployment of electric vehicles in their RTPs. Section 740.12 of the Public Utilities Code describes the importance of transportation electrification for meeting greenhouse gas emission reduction targets and air quality standards.

Guidance for Zero-Emission Vehicles Readiness Planning Statewide

2016 Zero Emission Vehicle Action Plan
(Governor's Interagency Working Group on Zero-Emission Vehicles):
https://www.gov.ca.gov/docs/2016_ZEV_Action_Plan.pdf

Zero-Emission Vehicles in CA: Community Readiness Guidebook and Other Resources (Governor's Office of Planning and Research, OPR):
https://www.opr.ca.gov/docs/ZEV_Guidebook.pdf
https://www.opr.ca.gov/s_zero-emissionvehicles.php

A Toolkit for Community Plug-In Electric Vehicle Readiness and Additional Resources (California Plug-in Electric Vehicle Collaborative, PEV Collaborative):
http://www.pevcollaborative.org/sites/all/themes/pev/files/docs/toolkit_final_website.pdf
http://www.pevcollaborative.org/pev-readiness

Funding for Zero-Emission Vehicle Planning and Implementation

Zero-Emission Vehicle Regional Readiness and Planning (California Energy Commission):
http://www.energy.ca.gov/contracts/GFO-16-601/

Examples of Regional Readiness Plans (Zero-Emission Vehicles and Alternative Fuels)

Upstate Plug-In Electric Vehicle Readiness Project (Shasta, Siskiyou & Tehama Counties)
http://www.siskiyoucounty.org/pev/

AMBAG Electric Vehicle Infrastructure Plan for the Monterey Bay Area
http://www.ambag.org/programs-services/planning/electric-vehicle-planning

San Joaquin Valley Plug-In Electric Vehicle Readiness Plan
https://energycenter.org/sites/default/files/docs/nav/programs/pev-planning/san-joaquin/san_joaquin_valley_pev_readiness_plan-web.pdf

Bay Area – Experience Electric Initiative
http://mtc.ca.gov/whats-happening/news/experience-electric-initiative-brings-lastest-ev-models-people

SCAG RTP/SCS Mobility Innovations Appendix:
http://scagrtpscs.net/Documents/2016/draft/d2016RTPSCS_MobilityInnovations.pdf

SCAG Plug-In Electric Vehicle Readiness Plan
https://www.scag.ca.gov/Documents/SCAG-Southern%20CA%20PEV%20Readiness%20Plan.pdf

San Diego Regional Alternative Fuel Readiness Plan:
http://www.sandag.org/uploads/projectid/projectid_487_20274.pdf

San Diego Plug-In Electric Vehicle Readiness Plan:
http://www.sandag.org/uploads/publicationid/publicationid_1817_17061.pdf

Land Use and Transportation Strategies to Address Regional Greenhouse Gas Emissions in the RTP

MPOs are encouraged to consider and incorporate those strategies that are likely to provide the greatest level of greenhouse gas emissions reduction considering feasibility of implementation as well as the unique characteristics and needs within the region.

This section provides several, but not a complete list of many and varied resources currently available to promote reductions in greenhouse gas emissions. MPOs are encouraged to connect and consult these resources as appropriate for their region, additional information is also available in **Section 6.23**.

Pricing Strategies

(Local/State Legislation is required to implement various pricing strategies and should be researched prior to incorporating into the RTP development process)

Pricing strategies are suggested to encourage reduced driving to reduce GHG emissions, and include, but are not limited to:

1. Using alternative mode programs, congestion pricing, toll roads, and parking pricing strategies. Examples are:
    i. Road pricing and High Occupancy Toll (HOT) lanes. To reduce VMT, MPOs should model adding pricing to existing lanes, not just as a means for additional expansion. Variable/congestion pricing should be considered.
    ii. User fees such as fuel taxes and parking charges.
    iii. Free or reduced fare transit fares.
    iv. Expansion of Parking Cash-Out Programs.
    v. Strategies to reduce the impacts of pricing strategies on low-income individuals.
    vi. Improve the cost-efficiency of transit investments and transit operations.

2. Consider utilizing revenues from these pricing strategies for projects, such as mass transit, that improve mobility without increasing VMT or GHG emissions.

Road pricing can be found at:

"Opportunities to Improve Air Quality through Transportation Pricing Programs", U.S. Environmental Protection Agency, September 1997.
http://www.epa.gov/oms/market/pricing.pdf

"Sacramento Transportation & Air Quality Collaborative Final Report, Volume III: Supplemental Text for Agreements", December 2005.
http://www.sacta.org/pdf/STAQC/FinalReportIII.pdf

Transportation Planning and Investment Strategies

1. Consider shifting transportation investments towards improving and expanding urban and suburban core transit, programs for walkability, bicycling and other alternative modes, transit access, housing near transit, and local blueprint plans that coincide with the regional blueprint and the SCS. Although not explicitly required by law, MPOs could identify a set of indicators that will be used to assess the performance of the RTP in reaching climate and other goals, and could identify the criteria that the MPO used to select the transportation projects on the constrained and unconstrained project lists. Some examples of MPOs that have undertaken this approach include efforts by MTC and SACOG, for more information see:

MTC Plan Bay Area and Transportation Project Performance Assessment
http://planbayarea.org/the-plan/plan-details/transportation.html
http://planbayarea.org/file10305.html

SACOG 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy and Planning Process:
http://www.sacog.org/general-information/2016-mtpscs
http://www.sacog.org/sites/main/files/file-attachments/chapter_2_planning_process.pdf

2. Provide funds and technical assistance to local agencies to implement blueprint strategies and the SCS.

3. Implement operational efficiencies that reduce congestion in vehicle throughput on roadways or improve transit access or other alternative access without physical expansion of the roadways.

4. Consider consulting with school districts on the regional land use plan to facilitate coordination between school siting and other land uses. This coordination could effectively reduce driving in the region. Consider school districts' facilities master plans and transportation policies in the coordination of regional planning efforts.

5. For purposes of allocating transportation investments, recognize the rural contribution towards GHG reduction for counties that have policies that support development within their cities, and protect agriculture and resource lands. Consideration should be given to

jurisdictions that contribute towards these goals for projects that reduce GHG or are GHG neutral, such as safety, rehabilitation, connectivity and for alternative modes.

6. In setting priorities, consider transportation projects that increase efficiency, connectivity and/or accessibility or provide other means to reduce GHG.

7. In setting priorities, consider transportation projects that provide public health co-benefits.

8. Employ "Fix It First" policies to ensure that preventive maintenance and repair of existing transit and roads are the highest priority for spending, to reduce overall maintenance costs, and to support development in existing centers and corridors.

Land Use Strategies that Can Help Reduce Rates of VMT and Per Person Household Greenhouse Gas (GHG) Emissions

(Strategies incorporating the "D factors" - Professor Robert Cervero research)

There have been various studies and research conducted on land use and transportation strategies regarding travel that reduces driving by walking, biking, and transit use. Some of this research is known as the "Ds factors" as the variables can be described as Density, land use; Diversity, pedestrian-scale; Design, access to regional Destinations, and Distance to transit.

Professor Robert Cervero's research efforts found that certain neighborhood characteristics significantly affect the amounts and modes of travel by residents, customers and employees.

Land use strategies that typically incorporate some or all of these "D factors" include: urban and suburban infill, clustered development, mixed land uses, New Urbanist design, transit-oriented development, and other "smart-growth" strategies. When combined with good pedestrian and bicycle facilities and transit service, such strategies can contribute to a significant reduction in per household levels of GHG emissions (Reid Ewing, Keith Bartholomew, Steve Winkelman, Jerry Walters, and Don Chen, **Growing Cooler** – The Evidence on Urban Development and Climate Change, for the Urban Land Institute, 2008.)

The Ds are Destination (proximity), Density (or clustered development), Diversity (or mixture of land uses), Distance to transit, Design, and Development scale.

Transportation Demand Management (TDM)

The Victoria Transport Policy Institute at http://www.vtpi.org/tdm/index.php contains an Encyclopedia that is a comprehensive source of information about innovative management solutions to transportation problems. It provides detailed information on various demand management strategies, plus general information on TDM planning and evaluation techniques. It is produced by the Victoria Transport Policy Institute to increase understanding and implementation of TDM.

For example, TDM-related chapters include:

- Incentives to Use Alternative Modes and Reduce Driving
- Parking and Land Use Management
- TDM Programs and Program Support
- TDM Planning and Evaluation
- Innovative and Emerging Shared Mobility Services (i.e., bikeshare, carshare, and on-demand rideshare services)

RTP policies that support Smart Growth Land Use principles

Metropolitan Transportation Commission's Best Practice Examples related to strategies 1. and 2. listed below:

MTC's T2035 Plan called for modifying our Transportation for Livable Communities (TLC) program to support Priority Development Areas which were identified as a part of FOCUS, the Bay Area's blueprint planning process. The TLC program offers capital grants to cities, counties, and transit agencies to construct projects that support compact development near transit. See:

http://mtc.ca.gov/whats-happening/news/mtc-awards-44-million-new-grants-promote-livable-communities

MTC's Resolution 3434 TOD Policy ties regional discretionary funds for new transit extension projects (funded via Resolution 3434) to supportive land uses. This policy establishes targets for new housing units in each transit corridor and calls for station area plans and corridor working groups to help achieve the housing targets. Station area plans to meet the housing targets must be adopted by local municipalities prior to receiving MTC discretionary funding for construction of Resolution 3434 funds. See:

http://mtc.ca.gov/our-work/plans-projects/other-plans/regional-transit-expansion-program

As MPOs and RTPAs work towards achieving better linkages between land use and transportation planning within their regions, both MPOs and RTPAs are highly encouraged to include within their Policy Element the following:

1. Develop investments and programs that support local jurisdictions that make land use decisions that implement as appropriate, the SCS, regional blueprints, and other strategies that will help reduce greenhouse gas emissions and improve the quality of mobility throughout the region.
2. Emphasize transportation investments in areas where forecasted development patterns indicated may result in regional greenhouse gas emissions reduction.

Additional Planning Practice Examples

Attorney General list of mitigation measures:
http://ag.ca.gov/globalwarming/pdf/GW_mitigation_measures.pdf

CAPCOA CEQA and Climate Change paper:
http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA-White-Paper.pdf

US EPA highlighted case studies for Smart Growth illustrated through open space, mixed land use and transportation choices are available at:
http://www.epa.gov/dced/case.htm

SANDAG's Regional Parking Management Toolbox contains resources for parking and demand management. The Regional Parking Management Toolbox can be found here:

http://www.sandag.org/uploads/publicationid/publicationid_1910_18614.pdf

Adaptation of the Regional Transportation System to Climate Change

MPOs should begin to address climate change in their long range transportation plans using Caltrans guidance, Cal-Adapt.org and other state resources (see Climate Adaptation Resources table). Design and planning standards should be re-evaluated to address future conditions. Where possible, MPOs and RTPAs should consult *Safeguarding California*'s transportation chapter, local general plan safety elements, local hazard mitigation plans, and other relevant local, regional, and state resources and documents. See **Section 6.25** for additional information on Climate Change Adaptation planning.

In addition, MPOs should make use of models that predict climate impacts like sea level rise, and that estimate changes in carbon stocks from alternative project or land management activities. Recent research shows that changes in land use and management can generate GHG benefits by avoiding and reducing emissions, and by increasing carbon storage. MPOs are encouraged to refer to the Climate Action through Conservation (CATC): http://scienceforconservation.org/downloads/

The model, method and tool presented in this report is usable at the county or regional scale, and can help MPOs to provide a more comprehensive account of their progress toward meeting the state's GHG reduction goals.

Large/Urban Planning Practice Example:

Southern California Council of Government's (SCAG) has developed a section on Environmental Mitigation pursuant to 23 USC Section 134 into their RTP/SCS and planning process. SCAG has also developed a Sustainability Program focused on natural resources and climate change strategies.
http://sustain.scag.ca.gov/Pages/LinksResources.aspx
http://rtpscs.scag.ca.gov/Pages/2012-2035-RTP-SCS.aspx

MTC has been conducting climate resilience studies focused on impacts to specific communities, coastlines, and transportation assets:
http://mtc.ca.gov/our-work/plans-projects/climate-change-clean-vehicles/adapting-rising-tides

SANDAG prepared a Climate Change Mitigation and Adaptation White Paper prior to adopting the 2015 RTP/SCS:
http://www.sdforward.com/sites/sandag/files/Climate_Change_White%20Paper_fwe_07142014.pdf

SACOG, prior to preparing the 2016 MTP/SCS, partnered with CivicSpark to develop the Sacramento Region Transportation Climate Adaptation Plan (SRTCAP). This plan outlines key strategies and actions the Sacramento region can take to ensure its transportation assets are adaptable to potential climate related events:
http://www.sacog.org/sites/main/files/file-attachments/fullplanwithappendices.pdf

Performance Measures

Caltrans recommends using performance measures to measure the progress of regional projects. MPOs should take into account the benefits of using performance measures to establish a base of measurement and cross-reference the measurement with the performance measure outcome/results. These measurements can be used to justify the need for funding on specific projects. The scientific data may support regional needs and highlight the justification for funding a project that demonstrates the potential for improved performance on the Caltrans system or regional road network.

Although not explicitly required by law, MPOs could identify a set of indicators that will be used to assess the performance of the RTP. In addition, the RTP could identify the criteria that the MPO used to select the transportation projects on the constrained and unconstrained project lists. Caltrans has also developed a guidebook on how to implement performance measures in rural and small urban regions. This guidebook provides a toolbox from which to select appropriate methodologies for performance measures in rural or small urban area. The Guidebook on "Performance Measures for Rural Transportation Systems" can be accessed at:

http://www.dot.ca.gov/perf

In 2011, the San Diego Association of Governments (SANDAG) received grant funding from the Strategic Growth Council to collaborate with other California MPOs and state agencies to identify common statewide performance monitoring indicators related to SB 375 implementation. While performance measures rely mostly on modeled or forecasted data, performance monitoring indicators rely directly on observed data. MPOs use travel demand models or Geographic Information Systems analyses to forecast performance measures. Ideally monitoring indicators would be considered together and be consistent with modeling performance measures.

The following table identifies nine indicators that can be monitored using statewide and regional data sources as reflected in the *Statewide Performance Monitoring Indicators for Transportation Planning Final Report* (SANDAG, 2013), available at:

http://www.dot.ca.gov/hq/tpp/offices/ocp/ATLC/documents/august_15_2013/document_links/indicator.pdf.

Table 1: Proposed Performance Monitoring Indicators

ID	Inventory Ref. (Appendix B)	MAP-21 Category	Statewide Performance Monitoring Observed Data	Performance Measure (Model Based)	Referenced In
		Congestion Reduction			
1	A-8 / A-1	VMT a. VMT per capita*	√	√	SB 375 & MAP-21
		b. Percent of Congested Freeway/ Highway Vehicle Miles **[PeMS]**	√	√	SB 375 & MAP-21
2	A-16/A-18	Mode Share (Travel to work)*	√	√	SB 375 & MAP-21
		Infrastructure Condition			
3	-	State of Good Repair a. Highways b. Local Streets c. Highway Bridges d. Transit Assets	√		MAP-21
		System Reliability			
4	A-65	Freeway/Highway Buffer Index **[PeMS]**	√	√	MAP-21
		Safety			
5	A-39	Fatalities/Serious Injuries a. Fatalities/Serious Injuries per capita* b. Fatalities/Serious Injuries per VMT*	√	√	MAP-21
		Economic Vitality			
6	C-33	Transit Accessibility (Housing and jobs within 0.5 miles of transit stops with frequent transit service)*	√	√	SB 375
7	A-84	Travel Time to Jobs	√	√	SB 375 & MAP-21
		Environmental Sustainability			
8	B-1/B-5	Change in Agricultural Land*	√	√	SB 375
9	E-5	CO_2 Emissions Reduction per capita (modeled data)*		√	SB 375 & MAP-21
	*	Indicator relates to Public Health	**[PeMS]**	Indicator for MPOs that have access to PeMS data	

The following table provides a summary of potential performance metrics for rural county Regional Transportation Planning Agencies as outlined in the report, ***Transportation Performance Measures for Rural Counties in California*** (Rural Counties Task Force, 2015), at: http://www.ruralcountiestaskforce.org/Assets/Resources/PerformanceMeasures/Final_Report-PerfMonIndicators_StudySept2015.pdf

These metrics were developed according to the following criteria:

- Measurement-based rather than model-based;
- Alignment with California state transportation goals and objectives;
- Capability of informing current goals and objectives of each rural and small-urban RTPA;
- Applicability across all rural and small-urban regions;
- Capability of being linked to specific decisions on transportation investments; and
- Normalized for population to provide equitable comparisons to urban regions.

Metric	Source	Website
Vehicle Miles Traveled (VMT) Per Capita By Locality By Facility Ownership Local vs. Tourist	Mobility Reporting	http://www.dot.ca.gov/hq/traffops/sysmgtpl/MPR/index.htm
	California DOF	http://www.dof.ca.gov/research/demographic/reports/estimates/e-2/view.php
	HPMS	http://www.dot.ca.gov/hq/tsip/hpms/hpmslibrary/prd/2013prd/2013PRD-revised.pdf
Peak V/C Ratio or Thresholds	Traffic Counts: K and D Factors	http://traffic-counts.dot.ca.gov/
Journey to Work Mode Share	American Community Survey	http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml
Total Accident Cost Per VMT Per Capita	Transportation Injury Mapping System	http://tims.berkeley.edu/login.php?next=/tools/bc/main1.php#
	SWITRS TASAS	http://iswitrs.chp.ca.gov/Reports/jsp/userLogin.jsp Caltrans Public Information Request Form
Transit Operating Cost per Revenue Mile	Local Transit Providers	
Distressed Lane Miles Total and % Total By Jurisdiction By Facility Type	Federal Highway Administration	http://www.fhwa.dot.gov/tpm/rule/pmfactsheet.pdf
	Regional or local pavement management system	https://www.federalregister.gov/articles/2015/01/05/2014-30085/national-performance-management-measures-assessing-pavement-condition-for-the-national-highway
Pavement Condition Index (PCI) for Local Roads	Regional or local pavement management system	
Land Use Efficiency	Farmland Mapping and Monitoring Program (FMMP) DOF Annual population estimates	http://www.conservation.ca.gov/dlrp/fmmp

Additionally, the following documents contain planning practice examples for performance based planning:

- Transform report entitled "Creating Healthy Regional Transportation Plans" (2012) contains a chapter explaining what the RTP Guidelines are, how they support healthy outcomes, and best practices for public participation. http://www.transformca.org/resource/creating-healthy-regional-transportation-plans
- The Nature Conservancy report entitled "Sustainable Communities Strategies and Conservation" includes model policies and best practices for conservation policies in SCSs. http://www.southernsierrapartnership.org/scs-policy-report.html
- The ClimatePlan report entitled "Leading the Way: Policies and Practices for Sustainable Communities Strategies:" http://www.climateplan.org/wp-content/uploads/2016/10/Leading-the-Way-Full-Report.pdf
- US DOT: Management & Operations in the Metropolitan Transportation Plan: A Guidebook for Creating an Objectives-Driven, Performance-Based Approach http://www.ops.fhwa.dot.gov/publications/moguidebook/index.htm
- FHWA Model Long-Range Transportation Plans: A Guide for Incorporating Performance Based Planning (2014) http://www.fhwa.dot.gov/planning/performance_based_planning/mlrtp_guidebook/