Draft
Regional Transportation Plan
Guidelines for
Metropolitan Planning Organizations

Adopted by the California Transportation Commission

On _____, 2023

Pursuant to California Government Code Section 14522

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Chapter 1 Introduction

1.0 Applicability of the Regional Transportation Plan Guidelines

Every Metropolitan Planning Organization (MPO) 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) or Metropolitan Transportation Plan (MTP), is an important policy document that is based on the unique needs and characteristics of a region. The RTP impacts a region's economy, environment, public health and safety, and social equity future, along with communicating a regional vision to the State and federal government. The RTP supports the State's goals as enumerated in California Government Code (GC) Section 65041.1, 49 U.S.C., 5303(i), 23 U.S.C., 134, and 23 U.S.C., 150.

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

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

The eighteen MPOs, in alphabetical order, are:

Association of Monterey Bay Governments (AMBAG), Butte County Association of Governments (BCAG), Fresno Council of Governments (FresnoCOG), Kings County Association of Governments (KCAG), Kern Council of Governments (KernCOG), Merced County Association of Governments (MCAG), Madera County Transportation Commission (MCTC), Metropolitan Transportation Commission (MTC), Sacramento Area Council of Governments (SACOG), San Diego Association of Governments (SANDAG), San Joaquin Council of Governments (SJCOG), San Luis Obispo Council of Governments (SLOCOG), Santa Barbara County Association of Governments (SBCAG), Shasta Regional Transportation Agency (SRTA), Southern California Association of Governments (SCAG), Stanislaus Council of Governments (StanCOG), Tulare County Association of Governments (TCAG), and Tahoe Regional Planning Agency (TRPA).

While the guidelines include both State and federal requirements, MPOs 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 MPO will be different than those used by a smaller MPO.

The 2023 RTP Guidelines 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 G** for Planning Practices Examples where appropriate. Planning practice examples are intended to highlight exemplary state of the art planning practices that MPOs can seek to emulate as financial and technical resources allow.

MPO RTPs are updated every four years (or five years in attainment regions); however, many MPOs begin the next RTP update immediately upon adoption of the current RTP. As RTP development is a continuous process, consideration is given to MPOs that will be too far along in the planning process to conform their RTPs to the 2023 RTP Guidelines. All RTP updates started after the 2023 RTP Guidelines are adopted by the CTC must use the new RTP Guidelines. MPOs are encouraged to communicate with Caltrans, the Federal Highways Administration (FHWA), and the Federal Transit Administration (FTA) to discuss schedules for RTP adoption.

1.1 Why Conduct Long-Range Transportation Planning?

The long-range transportation planning process in metropolitan areas is uniquely suited to address a number of federal, State, regional, and local goals, from supporting economic growth to achieving environmental goals, promoting public health, quality of life, and social equity. Not only does the transportation system provide for the mobility of people and goods, but it also influences patterns of growth and economic activity through accessibility to housing, jobs, critical services, and other destinations. Furthermore, the performance of this system affects public policy concerns like exposure to air pollution, greenhouse gas (GHG) emissions, natural resources, environmental protection and conservation, social equity, public health, smart growth, housing affordability, jobs/housing balance, economic development, safety, and security. Transportation planning recognizes and accounts for the critical links between transportation and 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 a way that advances the area's long-term goals and vision.

Assembly Bill 285 (AB 285, Chapter 605, Statutes of 2019) required the Strategic Growth Council (SGC) to report on progress made towards achieving climate goals, including:

- An overview of the California Transportation Plan (CTP)
- An overview of all regional Sustainable Community Strategies (SCS) and Alternative Planning Strategies (APS)
- An assessment of how the implementation of the CTP and regional plans will influence the configuration of the statewide integrated multimodal transportation system
- A review of the potential impacts and opportunities for coordination of key State funding programs, to be conducted in consultation with administering agencies

- Recommendations for the improvement of these programs or other relevant transportation funding programs to better align the programs to meet long-term common goals, including the goals outlined in the CTP

The AB 285 Final Report can be found at: https://sgc.ca.gov/resources/docs/20220831-AB_285_Final_Report.pdf

In 2008, transportation planning and land use planning became further linked following the passage of Senate Bill (SB) 375 (Chapter 728, Statutes of 2008). SB 375 requires the MPOs to develop a SCS or APS to demonstrate meeting regional GHG emissions reduction targets established by the California Air Resources Board (CARB) through the forecasted development pattern, integrated land use and planned transportation network, and transportation measures and policies within the RTP. In 2013, the connection between higher-density development and GHG reduction was strengthened further with the passage of SB 743 (Chapter 386, Statutes of 2013), which required an update in the California Environmental Quality Act (CEQA) transportation metrics to align with climate and planning goals. In the past, the transportation impacts for new development were evaluated based on the potential increase in traffic congestion in the immediate area through level of service. The Governor's Office of Planning and Research's 2018 CEQA Guidelines states Vehicle Miles Travelled (VMT)is the most appropriate measure of transportation impacts. For transportation projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in an RTP Environmental Impact Report, a lead agency may tier from that analysis.

The RTP or Long-Range Transportation Plan is the mechanism used in California for MPOs 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 affect travel patterns, smart investments play a key role in meeting climate targets. As a result of State legislation, as well as EOs, GHG emission reduction, transportation electrification, climate resilience, improving transportation mobility, equity, 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.

Housing also plays an impactful role in long-range planning. Housing coordination is a key element in meeting GHG reduction goals. Housing, land use, and transportation are synergistic. Land use patterns that leverage transportation investments with housing enable a wider range of access and mobility choices. Creating communities with shorter travel distances and more options for active travel produces environmental benefits, reduced financial burdens, better access to opportunities, and improved public health.

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 hazardous air pollutants from 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. MPOs can consider health priorities in selection of projects for the RTP and Federal Transportation Improvement Program (FTIP). MPOs 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. **Appendix E** highlights the various health and health equity-promoting projects, programs, and policies currently employed in MPO RTPs in California. Public health is also discussed in **Section 2.3**.

Long-range transportation planning provides the opportunity to compare alternative scenarios and improvement strategies, track implementation and plan performance over time, and identify funding priorities. The California Transportation Plan (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, MPOs 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 numerous state goals for the transportation system, the environment, the economy, and social equity through statute, regulation, EO, and legislative intent language. 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. The 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. The performance-based approach will continue to develop over the years and will be implemented at the federal and State levels. Transportation performance management and the performance-based approach are further discussed in Chapter 7.

1.2 RTPs and the CTP

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 an RTP, it is not project specific or subject to both federal air quality conformity regulations and CEQA, but it does explore how RTP/SCS implementation will influence the statewide multimodal transportation system, as well as how the state will redouble efforts to achieve maximum feasible GHG emission reductions in order to mitigate impacts of climate change per AB 32, SB 391, SB 32, and EO N-19-19. While the CTP is prepared by Caltrans, it is developed in collaboration with various stakeholders through an ongoing public engagement process. 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 the transportation system. Therefore, integration of CTP and RTP goals (where applicable and consistent with federal and State fiscal constraint 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 continuous 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 and Purpose of the RTP Guidelines

The purposes of these RTP 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 MPOs will

develop their RTPs to be consistent with federal and state transportation planning requirements. This is important because state statutes require that RTPs serve as the foundation of the FTIP. The FTIPs are prepared by MPOs and identify 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. SB 375 requires that the RTP Guidelines are to be developed pursuant to California GC 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."

"14522.1. (a) (1) The commission, in consultation with the department and the State Air Resources Board, shall maintain guidelines for travel demand models used in the development of regional transportation plans by federally designated metropolitan planning organizations.
(2) Any revision of the guidelines shall include the formation of an advisory committee that shall include representatives of the metropolitan planning organizations, the department, organizations knowledgeable in the creation and use of travel demand models, local governments, and organizations concerned with the impacts of transportation investments on communities and the environment. Before amending the guidelines, the commission shall hold two workshops on the guidelines, one in northern California and one in southern California. The workshops shall be incorporated into regular commission meetings.
(b) The guidelines shall, at a minimum and to the extent practicable, taking into account such factors as the size and available resources of the metropolitan planning organization, account for all of the following:
(1) The relationship between land use density and household vehicle ownership and vehicle miles traveled in a way that is consistent with statistical research.
(2) The impact of enhanced transit service levels on household vehicle ownership and vehicle miles traveled.
(3) Changes in travel and land development likely to result from highway or passenger rail expansion.
(4) Mode splitting that allocates trips among automobile, transit, carpool, and bicycle and pedestrian trips. If a travel demand model is unable to forecast bicycle and pedestrian trips, another means may be used to estimate those trips.
(5) Speed and frequency, days, and hours of operation of transit service."

"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 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 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 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 the 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 CARB through their RTP planning processes.

Since the 2017 update, the final rulemaking for federal performance measures 2 and 3 was released, establishing new requirements for performance management to promote the efficient investment of federal transportation funds, and a federal surface transportation reauthorization bill, the Bipartisan Infrastructure Law, has been signed into law. It includes the largest federal investment in public transportation to date and a re-authorization of the core federal surface transportation program, which sets federal funding levels and policy direction for the next five years.

1.4 MPOs in California

Federal transportation legislation requires the formation of an MPO for any urbanized area with a population greater than 50,000. MPOs were created in order to ensure that existing and future expenditures for transportation projects and programs were based on a continuing, cooperative, and comprehensive (3-C) planning process. MPOs' federally required responsibilities are identified in Title 23 U.S.C. Section 134 and Title 23 Code of Federal Regulations (CFR) Part 450.300. To carry out various transportation planning functions, MPOs receive annual federal metropolitan planning funds from FHWA and FTA.

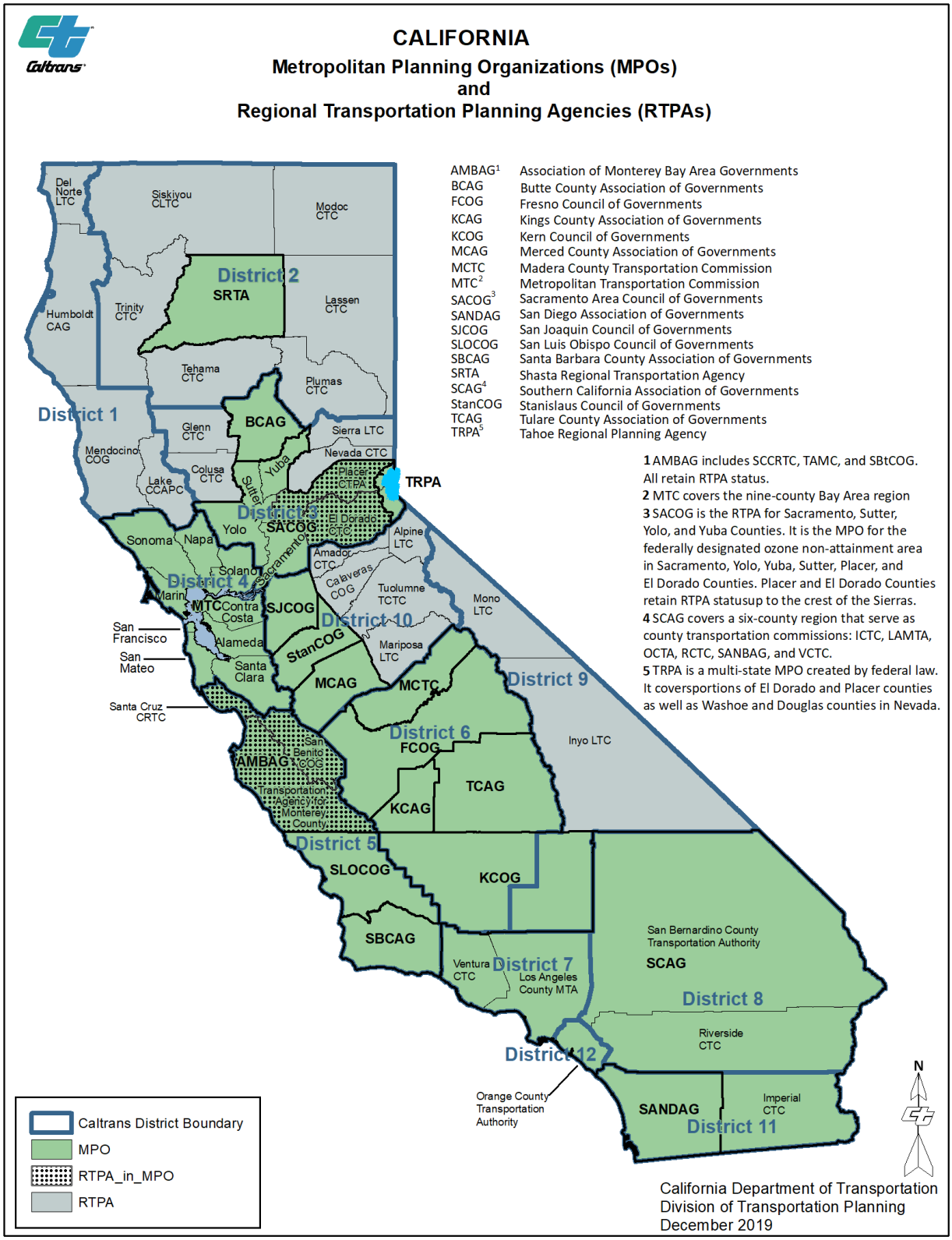
An MPO has five core functions:

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
5. Develop a Transportation Improvement Program (TIP)

MPOs' federally required responsibilities are identified in Title 23 U.S.C. Section 134 and Title 23 CFR Part 450.300. To carry out various transportation planning functions, MPOs receive annual federal metropolitan planning funds from the FHWA and FTA.

California GC 65080 sets forth the requirements for an RTP to be an internally consistent document that contains an SCS in addition to the policy, action, and financial elements. With the added requirement for an SCS in 2008, state law placed new emphasis on the RTP as an integrated planning document that promotes sustainable land use and increases mobility options. This heightens the importance of the MPOs as regional leaders to bring together local governments and other partners in a collaborative discussion about setting public policy and investments that can be implemented for the region's future.

The map below identifies the 18 MPOs (in gray) and the 26 RTPAs that prepare RTPs (in green 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
TRPA[5] Tahoe Regional Planning Agency
1 AMBAG includes SCCRTC, TAMC, and SBtCOG. All retain RTPA status.
2 MTC covers the nine-county Bay Area 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 statusup 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 TRPA is a multi-state MPO created by federal law. It coversportions of El Dorado and Placer counties as well as Washoe and Douglas counties in Nevada.
Del Norte LTC
Siskiyou CLTC
Modoc CTC
District 2
SRTA
Lassen CTC
Humboldt CAG
Trinity CTC
Tehama CTC
Plumas CTC
District 1
Glenn CTC
BCAG
Sierra LTC
Nevada CTC
Mendocino COG
Colusa CTC
Lake CCAPC
Sutter
Yuba
Placer CTPA
TRPA
District 3
SACOG
El Dorado CTC
Yolo
Sonoma
Napa
Alpine LTC
Amador CTC
Solano
Sacramento
Calaveras COG
Tuolumne TCTC
Mono LTC
District 4
Marin
MTC
Contra Costa
SJCOG
District 10
San Francisco
Alameda
StanCOG
Mariposa LTC
San Mateo
Santa Clara
MCAG
MCTC
District 9
Santa Cruz CRTC
District 6
FCOG
Inyo LTC
San Benito COG
AMBAG
TCAG
Transportation Agency for Monterey County
KCAG
District 5
SLOCOG
KCOG
SBCAG
San Bernardino County Transportation Authority
SCAG
Ventura CTC
District 7
Los Angeles County MTA
District 8
Riverside CTC
District 12
Orange County Transportation Authority
SANDAG
Imperial CTC
District 11
N
Caltrans District Boundary
MPO
RTPA_in_MPO
RTPA
California Department of Transportation
Division of Transportation Planning
December 2019

1.5 Purpose of the RTP

Regional Transportation Plans are planning documents developed by MPOs in cooperation with FHWA, FTA, Caltrans, and other stakeholders, including system users. Following the passage of SB 375, MPOs also need to work closely with CARB and the California Department of Housing and Community Development (HCD) (GC Section 65080 et seq.). MPOs are required to prepare these long-range plans per federal statute (Title 23 U.S.C. Section 134). 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". However, several California MPOs refer to RTPs as "Metropolitan Transportation Plan or MTP" which is used in federal planning regulations. "RTP" or "MTP" are terms used to describe the same document.

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; and Be updated every five years or four years in air quality nonattainment and maintenance areas. MPOs should make special efforts to engage interested parties in the development of the plan. In cases where a metropolitan area is designated as a nonattainment or maintenance area, the plan must conform to the State Implementation Plan (SIP) for air quality."*

The regional transportation planning led by the MPOs is a collaborative process that is widely participated in by federal, State, local and 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 MPO in coordination with state agencies and transit operators. It is essential to extend public participation/engagement 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 costly delays during the project development stages.

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
8. Developing a financial plan that covers operating costs, maintenance of the system, system preservation costs, and new capital investments
9. Considering all planning factors
10. Utilizing a performance-based planning approach
11. Assessing capital investments and other strategies
12. Considering public transportation facilities and intercity bus facilities
13. Providing engagement, public participation, and meaningful consultation opportunities
14. Utilizing scenario planning

The RTP is an integrated planning document and must include the SCS. It may consider the following:

1. Transportation projects, non-auto mobility strategies, and the forecasted development pattern in the RTP must be modeled to determine their impacts on regional GHG emissions. Current travel models are not always sensitive to the land use and transportation strategies in an SCS; therefore, MPOs have had to find alternative methods to quantify the GHG emissions reduction benefits of these strategies. The technical methodology for quantifying emissions and off-model methods is discussed further in Chapters 3 and 6.
2. The RTP must contain an SCS that includes a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the GHG emissions from automobiles and light trucks to achieve, if feasible, the GHG emission reduction target approved for the region by CARB, if implemented. The MPO will need to coordinate with cities, counties, transit operators, and other interested parties

within the region to work towards strategies that will reduce regional GHG emissions.

3. The MPO must prepare an APS if the SCS is unable to reduce GHG emissions to achieve the GHG emissions reduction targets established by CARB. The APS shall be a separate document from the RTP, but it may be adopted concurrently with the RTP.
4. SB 150 (Chapter 646, Statutes of 2017) requires CARB to prepare a report to the Legislature starting in 2018 and every four years thereafter, to discuss progress related to SB 375 implementation. An MPO can use this report to inform scenario development.

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 and future growth patterns
5. Identification of needed transportation improvements, in sufficient detail, to serve as a foundation for the: (a) Development of the FTIP, and the State Transportation Improvement Program (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 demonstrates 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, the public, federal, State, and local agencies, California Tribal Governments, as well as local elected officials, early in the transportation planning process to include them in discussions and decisions on the social, economic, air quality and environmental issues related to transportation.

1.6 California Transportation Planning and Programming Process

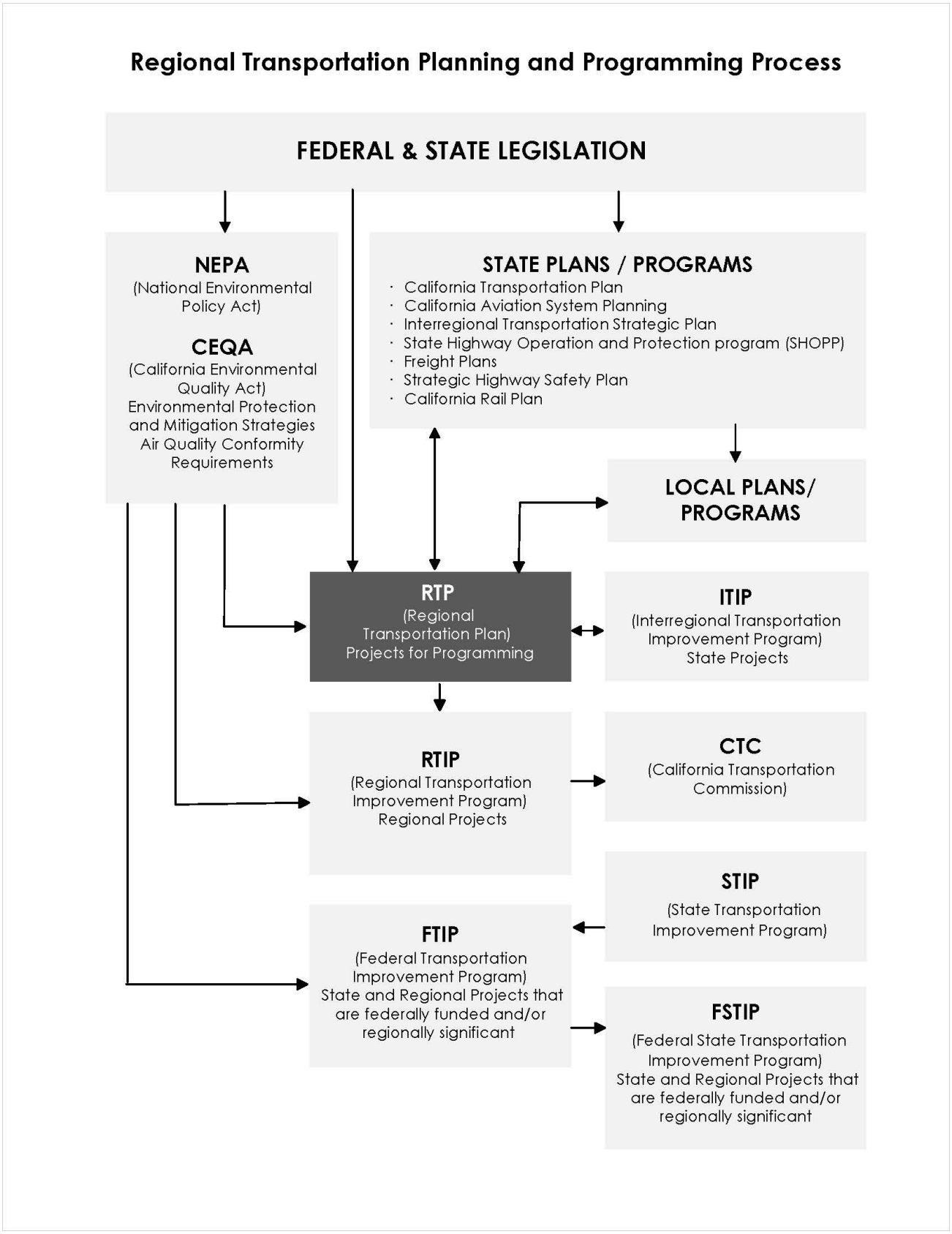
The State of California and federal transportation agencies allocate millions of dollars of planning funds annually to help support California's transportation planning process. The RTP establishes the basis for programming local, state, and federal funds for transportation projects within a region. State and federal planning and programming legislation has been in place 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 requirements of the FTIP) and the STIP. Because there are a variety of names used for the programming document that is prepared by an MPO, the RTP Guidelines refer to the programming document that accompanies an RTP as the FTIP. The FTIP is defined as a constrained four-year prioritized list of regionally significant and non-regionally significant transportation projects that are proposed for federal, state, and local funding. The FTIP is developed and adopted by the MPO and is updated every two years. It is consistent with the RTP, and it is required as a prerequisite for federal funding. In this document the words FTIP and Regional Transportation Improvement Program (RTIP) are used interchangeably.

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
3. Funds are allocated in an equitable manner to address transportation needs

The chart below 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**.


Regional Transportation Planning and Programming Process
FEDERAL & STATE LEGISLATION
NEPA
(National Environmental Policy Act)
CEQA
(California Environmental Quality Act)
Environmental Protection and Mitigation Strategies
Air Quality Conformity Requirements
STATE PLANS / PROGRAMS
· California Transportation Plan
· California Aviation System Planning
· Interregional Transportation Strategic Plan
· State Highway Operation and Protection program (SHOPP)
· Freight Plans
· Strategic Highway Safety Plan
· California Rail Plan
LOCAL PLANS/ PROGRAMS
RTP
(Regional Transportation Plan)
Projects for Programming
ITIP
(Interregional Transportation Improvement Program)
State Projects
RTIP
(Regional Transportation Improvement Program)
Regional Projects
CTC
(California Transportation Commission)
STIP
(State Transportation Improvement Program)
FTIP
(Federal Transportation Improvement Program)
State and Regional Projects that are federally funded and/or regionally significant
FSTIP
(Federal State Transportation Improvement Program)
State and Regional Projects that are federally funded and/or regionally significant

1.7 Infrastructure Investment and Jobs Act (IIJA) Items Impacting the Development of RTPs

This section is intended to outline the new federal requirements and recommendations resulting from the IIJA. 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.

Public Participation of Interested Parties – In addition to all entities listed in **Chapter 4**, IIJA requires MPOs provide affordable housing organizations a reasonable opportunity to comment on the RTP. 23 U.S.C. 134 (i)(6)(A)

Housing Coordination Plan – MPOs may develop a housing coordination plan that includes projects and strategies that may be considered in the RTP. MPOs may align transportation improvement projects with proposed housing developments – and can coordinate these projects with local and regional housing and land use agencies. MPOs may consider managing the effects of increased VMT as it relates to housing and economic developments. MPOs may coordinate the location of existing and planned housing and employment to coordinate transportation options that connect housing and employment. MPOs may include a comparison of RTPs to land use management plans, such as zoning plans, that may affect VMT, public transit, and housing development. 23 U.S.C. 134 (i)(4)(C)

It is important to note that MPOs already integrate land use, housing, and transportation as part of the SCS. To the extent possible, an MPO preparing a housing coordination plan should build of its SCS.

1.8 Key Additions, Recommendations, and Additional Resources to the 2023 RTP Guidelines

Key Additions to the 2023 RTP Guidelines include the following items:

1. Alignment with performance measurements and asset management
2. Updates for the IIJA/BIL throughout the RTP Guidelines, including:
    a. Regional housing planning. Housing coordination plan (IIJA Section 3002)
    b. Community engagement practices, including virtual engagement (IIJA Section 3003) to be included
3. Considerations for CAPTI to be included
4. Information on federal environmental justice direction, including the Justice40 Initiative and President Biden's Executive Order to Revitalize Our Nation's Commitment to Environmental Justice for All
5. Planning Practice Examples

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Chapter 2

RTP Process

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Chapter 2 RTP Process

2.1 State Requirements

MPOs must adhere to federal planning regulations, California statutes, and the RTP Guidelines during the preparation of their RTPs. California statute relating to the development of the RTP is primarily contained in GC Section 65080.

GC Section 65080 requires MPOs located in nonattainment regions update their RTPs at least every four years. State statute provides MPOs located in air quality attainment regions the option to update their RTPs every five years.

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 GC Section 65080(d). In addition, the CTC cannot program projects in the STIP that are not identified in an RTP. Section 65080 states RTPs shall include the following:

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

The following California GC Sections apply to the development of RTPs:

GC Section 65080.6 – Each MPO 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.

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

GC 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 MPO, 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.

GC 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 (Shall)
State: GC Sections 65080, 65080.1, 65080.5, 65081.1

2.2 Background on State Climate Change Legislation and EOs

For MPOs in the development of RTPs, this section provides background for important State climate change legislation and related EOs, SB 32, SB 375, and EOs N-19-19 and N-79-20. MPOs are encouraged to integrate policies and strategies that support these state policies in the development of RTPs.

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. SB 32 extends the AB 32 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 CARB to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emissions reductions. CARB shall carry out the process to achieve GHG emissions reductions in a manner that benefits the state's most disadvantaged communities and is transparent and accountable to the public and Legislature.

AB 1279 - The California Climate Crisis Act of 2021

This law establishes the policy of the state to achieve carbon neutrality as soon as possible, but no later than 2045; to maintain net negative GHG emissions thereafter; and to ensure that by 2045 statewide anthropogenic GHG emissions are reduced at least 85 percent below 1990 levels. The bill requires CARB to ensure that the Scoping Plan updates, identifies, and recommends measures to achieve carbon neutrality, and to identify and implement policies and strategies that enable CO2 removal solutions and carbon capture, utilization, and storage technologies.

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 CARB 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 CARB for 2020 and 2035 can be achieved for the region. If the target cannot be met through the SCS, then an APS shall be prepared.

3. Provides streamlining of CEQA requirements for specific residential and mixed-use developments that are consistent with an SCS or APS that has been determined by CARB 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 GC 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, in consultation with CARB, 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 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. (GC Section 14522.1)

Requirements (Shall)
State: GC Section 65080

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

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. MPOs are encouraged to support widespread transportation electrification and partner with state agencies to advance California toward the standards and goals outlined in Public Utilities Code Section 740.12(a)(1). These include:

- Reducing emissions of GHGs to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050.
- Achieving the goals of the Charge Ahead California Initiative (Chapter 8.5 (commencing with Section 44258) of Part 5 of Division 26 of the Health and Safety Code).
- Meeting air quality standards, reducing petroleum use, improving public health, and achieving GHG emission reduction goals.
- Attracting investments and high-quality jobs.

EOs on Climate Change Issues

Combating climate change through reducing greenhouse gas emissions is a key goal for the state of California. In July 2021, the California State Transportation Agency (CalSTA) unveiled the Climate Action Plan for Transportation Infrastructure (CAPTI), which details recommendations for investing discretionary transportation dollars to combat climate change. CAPTI builds on Executive Order (EO) N-19-19 and N-79-20 issued in 2019 and 2020, respectively.

EOs on climate change provide a critical framework for MPOs. While EOs 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.

Two EOs were issued since the last guidelines update that address climate change: N-19-19 (September 20, 2019) calls for leveraging the State's investment portfolio to advance climate leadership and create a climate investment framework. CAPTI was developed in response to this EO (Appendix to be added). N-79-20 (September 23, 2020) calls for 100 percent of in-state sales of passenger cars and trucks to be zero-emission by 2035. N-79-20 also establishes the goal of medium and heavy-duty vehicles in the State to be zero-emission by 2045.

These EOs are available at:

N-19-19: https://www.gov.ca.gov/wp-content/uploads/2019/09/9.20.19-Climate-EO-N-19-19.pdf

N-79-20: https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf

2.3 Promoting Public Health and Health Equity

Health-promoting policies are found throughout 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. Local health departments other public health practitioners, and residents can be valuable partners in RTP development. These partnerships can help maximize the RTP's public health and equity benefits and ensure that the RTP is responsive to community needs.

Appendix E provides a summary of policies, practices, and projects that have been employed by MPOs in their RTPs to promote health and health equity. This is in fulfillment of requirements set forth by California Gov. Code 14522.3. In light of the diversity of California MPOs and the residents they serve, and the varying level of financial resources and technical capabilities to undertake the long-range regional transportation planning process, **Appendix E** outlines direct and indirect effects of transportation projects and policies, provides key terms and definitions, offers examples from both rural and urban regions, and recognizes the importance of a regionally appropriate approach to addressing health and health equity in the RTP.

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. MPOs can play an important role in setting regional priorities and providing access to funding to local jurisdictions for active transportation projects. In addition, they can provide resources and technical assistance to access statewide funding such as the Active Transportation Program. Finally, they can encourage local cities to develop land use patterns that are supportive of walkable and bikeable communities by providing planning funding and including supportive policies or guidance in their SCS.

Another role of the RTP, in addressing public health, is to demonstrate transportation air quality conformity (further described in **Sections 2.3** and **5.6**), and to set goals and strategies that encourage implementing agencies to make investments that benefit public health in federally designated air quality nonattainment and maintenance areas. Key strategies controlled by local implementing agencies include carpooling, transit, signal synchronization, and other Transportation Demand Management/Transportation System Management (TDM/TSM) improvements. At the

federal and state levels, key strategies include vehicle emission and fuel standards, as well as incentive programs to expedite the adoption of clean technologies. These have been shown to be by far the most effective strategies for reducing the public's exposure to harmful pollutants, as well as for reducing GHG emissions. Beyond criteria pollutants, strategies to address other harmful air pollutants from transportation systems, such as volatile organic compounds (VOCs) and toxic air contaminants (TACs), can be considered in RTP development to minimize harmful cumulative health impacts.

Transportation provides access to important destinations: 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, in collaboration with communities, can help one another to address all these factors, learning from each other and joining their skills to improve transportation for better health outcomes for everyone.

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 goes down as pedestrians and bicyclists become more visible to motorists.[1] 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.[2] 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:

[1] At the Intersection of Active Transportation and Equity." Safe Routes to School National Partnership. 2015. < https://www.saferoutespartnership.org/sites/default/files/resource_files/at-the-intersection-of-active-transportation-and-equity.pdf>.
[2] At the Intersection of Active Transportation and Equity." Safe Routes to School National Partnership. 2015. < https://www.saferoutespartnership.org/sites/default/files/resource_files/at-the-intersection-of-active-transportation-and-equity.pdf>.

- 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 enable low-income households to invest in savings, education, and healthier food options—all factors that contribute to greater individual and community health.

Planning Practice Examples: Available in Appendix E

2.4 Federal Requirements

Federal requirements for the development of RTPs are directed at the federally designated MPOs. The primary federal requirements regarding RTPs are addressed in the metropolitan transportation planning rules – Title 23 CFR Part 450 and 771 and Title 49 CFR Part 613. The metropolitan transportation planning process provides for consideration of the following federal planning factors:

1. Support the economic vitality of the metropolitan 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 housing patterns, 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 Title 23 CFR 450.306 (b) or (d), shall not be reviewable by any court under Title 23 U.S.C., Title 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 MPO nonattainment and maintenance areas. Section 176(c) of the Clean Air Act (CAA), as amended (Title 42 U.S.C. 7506(c), and the related requirements of Title 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 SIP. In California, as designated under federal and state law, CARB calculates the Motor Vehicle Emission Budget (MVEB) based on emissions inventory and control measures in the SIP. For MPO nonattainment regions, the MPO, FHWA, and FTA are responsible for making the RTP conformity determination. Under the U.S. Department of Transportation (U.S. DOT) Metropolitan Planning Regulations (Title 23 CFR Part 450 and 771 and Title 49 CFR Part 613) and EPA's Transportation Conformity Rule (Title 40 CFR Part 93) requirements, the RTP needs to meet four requirements: 1.) Regional emissions analysis, 2.) Timely implementation of Transportation Control Measures, 3.) Financial constraints analysis, and 4.) Interagency consultation and public involvement. The transportation conformity rule (Title 40 CFR Part 93 Subpart A) sets forth the policy, criteria, and procedures for demonstrating and assuring conformity of transportation activities.

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 MPOs 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, 4.3**, and **4.4**.

Requirements (Shall)
Federal: Title 23 CFR Part 450 and 771; 49 CFR Part 613; Title 40 CFR Part 93; and Title VI of the Civil Rights Act of 1964; 23 U.S.C. 134 §11201(d)(3); 23 U.S.C. 134(h)(1)(E)

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

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

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

2. OWP – The OWP lists the transportation planning studies and tasks to be performed by the MPO, RTPA or member agency during that fiscal year. The OWP is also referred to as a Unified Planning Work Program (UPWP) in federal regulations.

Federal Program - MPOs Only:

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

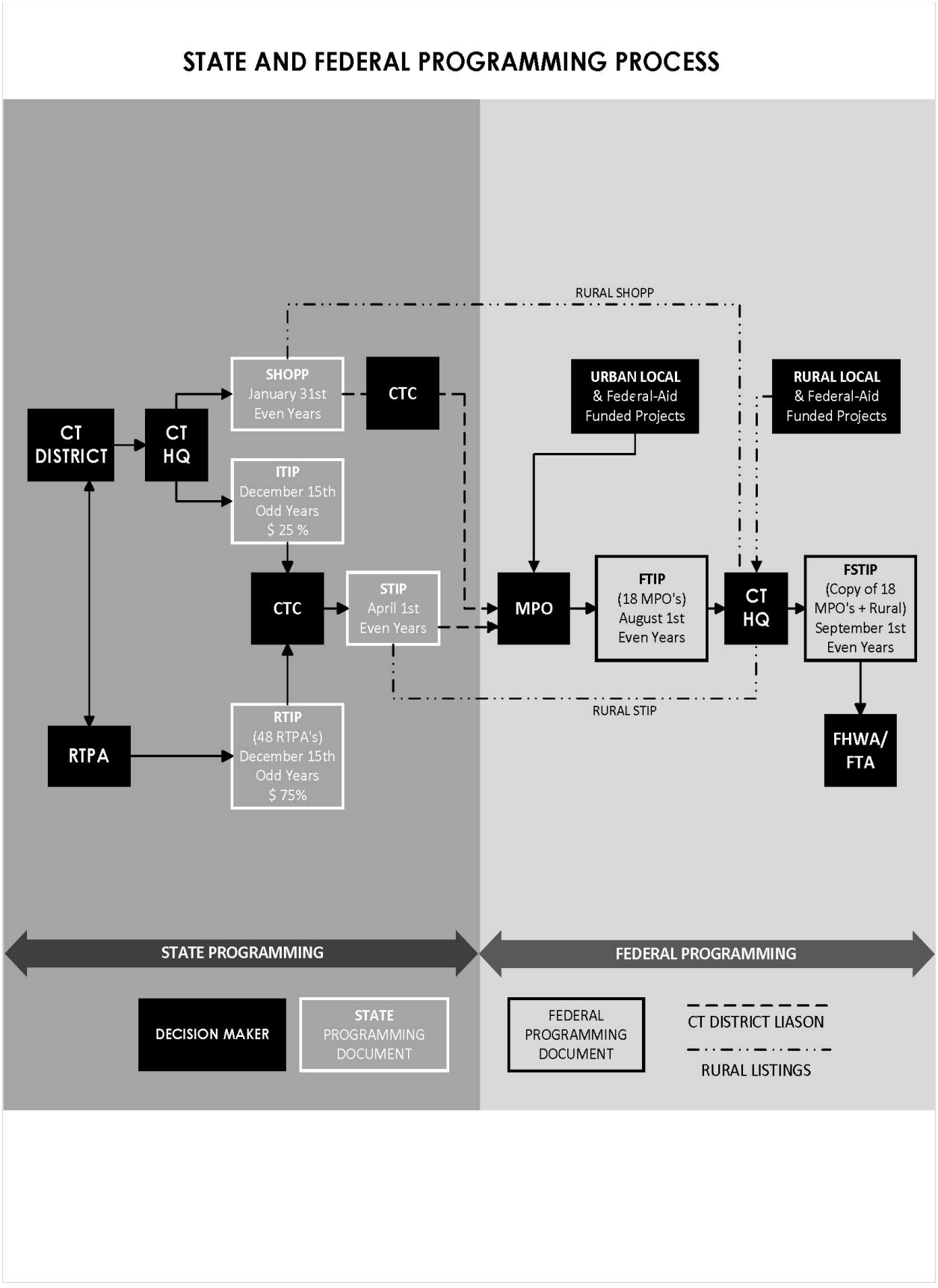
State Program – RTPAs, County Transportation Commissions (CTCs) and Caltrans:

4. STIP – 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 RTIPs and by Caltrans in its interregional transportation improvement program (ITIP).

a. RTIP – 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 MPOs and RTPAs. Projects included in the interregional program shall be consistent with the Interregional Transportation Strategic Plan and relevant adopted RTP(s).

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

5. Federal Statewide Transportation Improvement Program (FSTIP) - The FSTIP is a four-year state and federally mandated document that includes a statewide multimodal program of transportation projects funded from *federal, state, and local* funding sources. The FSTIP includes federally funded and regionally significant projects; Locally funded, not regionally significant projects are not required to be included. The FSTIP is updated every two-years and is developed by Caltrans in coordination with MPOs and RTPAs and jointly approved by the FHWA and FTA. The FSTIP incorporates by reference projects from the MPOs FTIPs and FTIP amendments. FTIPs must be consistent with the MPOs' RTPs.


STATE AND FEDERAL PROGRAMMING PROCESS
RURAL SHOPP
SHOPP
January 31st
Even Years
CTC
URBAN LOCAL
& Federal-Aid
Funded Projects
RURAL LOCAL
& Federal-Aid
Funded Projects
CT
DISTRICT
CT
HQ
ITIP
December 15th
Odd Years
$ 25 %
CTC
STIP
April 1st
Even Years
MPO
FTIP
(18 MPO's)
August 1st
Even Years
CT
HQ
FSTIP
(Copy of 18
MPO's + Rural)
September 1st
Even Years
RURAL STIP
RTPA
RTIP
(48 RTPA's)
December 15th
Odd Years
$ 75%
FHWA/
FTA
STATE PROGRAMMING
FEDERAL PROGRAMMING
DECISION MAKER
STATE
PROGRAMMING
DOCUMENT
FEDERAL
PROGRAMMING
DOCUMENT
CT DISTRICT LIASON
RURAL LISTINGS

Key Planning and Programming Documents Produced by MPOs/RTPAs & County Transportation Commissions (CTCs)/Caltrans

	Time/Horizon	***Contents***	***Update Requirements***
RTP	*20+ Years*	*Future Goals, Strategies & Projects*	*Nonattainment MPOs – Every 4 Years* *Attainment MPOs – Optional Every 5 Years* *RTPAs – Optional 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*	*Every 2 Years*

Requirements (Shall)
Federal: Title 23 CFR Part 450.326(a) requires MPOs to prepare a TIP
State: California GC 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. MPOs depend upon the collaborative process described in Chapter 4 for the numerous plans below to be incorporated or consulted with. MPOs also rely on the aforementioned stakeholders to contribute to RTP development, according to their plans and areas of expertise. While preparing an updated RTP, MPOs should, as appropriate, incorporate or consult such local/regionally prepared documents as:

1. General Plans (especially the Circulation, Land Use, and Housing Elements)
2. Airport Land Use Compatibility Plans
3. Air quality 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)
17. Tribal Transportation Plans
18. Climate Action, Adaptation, and Resilience Plans
19. Emergency Evacuation Plans
20. AB 617 Community Emission Reduction Programs (if applicable)

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

1. CTP
2. California Rail Plan
3. Interregional Transportation Strategic Plan
4. Comprehensive Multimodal Corridor Plan
5. District System Management Plans
6. California Aviation System Plan
7. Sustainable Freight Action Plan
8. California Freight Mobility Plan
9. Strategic Highway Safety Plan
10. California Strategic Highway Safety Plan
11. Corridor System Management Plans
12. Federal Lands Management Plans
13. Complete Streets Action Plan
14. Toward an Active California - State Bicycle and Pedestrian Plan

MPOs 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 Adaptation Planning Guide
5. Safeguarding California Plan
6. Safeguarding California: Implementation Action Plans
7. SB 743 Implementation Resources
8. 2022 Scoping Plan Update

Federal regulations require MPOs to consult 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). MPO 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. Chapter 4 provides the federal requirements for resource agency consultation.

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 G**, for how MPOs 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 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

Smart Mobility is the movement of people and freight while enhancing California's economic, environmental, and human resources by emphasizing convenient and safe multimodal travel, speed suitability, accessibility, management of the circulation network, and efficient use of land. In 2010, Caltrans introduced smart mobility as an overall approach to respond to the State's interrelated challenges of mobility and sustainability.

The Caltrans Smart Mobility Framework (SMF) Guide 2020 is a starting point for those working to implement multimodal and sustainable transportation strategies in California. SMF Guide 2020 is an update to the Smart Mobility 2010: A Call to Action for the New Decade. SMF Guide 2020 describes strategies, and analysis methods for implementing smart mobility, organized around five themes/chapters: network management, multimodal choices, speed suitability, accessibility and connectivity, and equity.

The SMF Guide is well aligned with Caltrans' mission of providing a safe and reliable transportation network that serves all people and respects the environment. To encourage mode shift and to provide a safer and more equitable transportation network, the SMF Guide includes several strategies on multi-modal transportation network, safety, and equity.

The guide also describes the application of place types to identify transportation planning and project development priorities across California. Case study examples are

used to illustrate the application of smart mobility strategies in real-world plans and projects.

Complete Streets

"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, older adults, motorists, movers of commercial goods, and people with disabilities. 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 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 and VMT. 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 MPOs, integration of Complete Streets policies support local agencies' requirements to address Complete Streets in circulation elements of their general plans.

MPOs should also integrate Complete Streets policies into their RTPs, not only as a means to develop a SCS, but also 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.

MPOs 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, MPO 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 (Should)

Federal: 23 CFR Part 490. Safety for users, encourages each State and M PO 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.

Investing in development of Complete Streets Policy Guides that 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.

Recommendations (Should)
State: According to GC 65040.2 Section (2)(h)(h), it is the intent of the Legislature to require in the development of the circulation element of a local government's general plan that the circulation of users of streets, roads, and highways be accommodated in a manner suitable for the respective setting in rural, suburban, and urban contexts, and that users of streets, roads, and highways include bicyclists, children, persons with disabilities, motorists, movers of commercial goods, pedestrians, public transportation, and seniors.

Planning Practice Examples: To be included in Appendix G in second public draft

Context Sensitive Solutions

Context Sensitive Solutions 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:
https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability

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 NEPA. Appendix A to 23 CFR §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 MPO 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**.

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 (Should)
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 23 CFR Part 450 – Linking the Transportation Planning and NEPA Processes (Appendix D of this document).

System Planning Documents

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.

Corridor Plans

Corridor plans are short, medium, and long-range planning documents that provide a vision for a transportation corridor. As outlined in Caltrans' Corridor Planning Process Guide, objectives of comprehensive multimodal corridor planning may include the following:

- Encourage effective communication with partners, stakeholders, Tribal Governments, advocacy groups, and the public by providing a transparent planning process with clear corridor objectives.
- Identify the corridors by considering origin and destination, along with land-use and place-types, to address multimodal transportation opportunities through a comprehensive, cooperative, and continuing planning process.
- Task a multi-disciplinary, multi-organizational corridor team to look at State and local transportation systems, while including community, local, and regional transportation systems.
- Identify opportunities to employ cooperative, multimodal, and systematic improvements by leveraging federal, state, and local funding programs such as self-help county sales tax programs.
- Underscore the importance of corridors identified in the Interregional Transportation Strategic Plan (ITSP) and other statewide plans.
- Support Caltrans' asset management program and emphasize the importance of utilizing maintenance and operational improvements to strengthen the mobility and accessibility options of the community.
- Identify and prioritize projects and strategies to meet future corridor opportunities.
- Analyze multimodal transportation issues and opportunities for optimizing system operations and support a safe and reliable system.
- Further federal and State ambient air standards and GHG emissions reduction standards pursuant to the California Global Warming Solutions Act of 2006 (Division 25.5, commencing with Section 38550, of the Health and Safety Code) and SB 375 (Chapter 728, Statutes of 2008).
- Preserve the character of local communities, create opportunities for neighborhood enhancement, and improve multimodal accessibility including complete streets.
- Consider climate change adaptation and resiliency of the transportation system to reduce disruptions.
- Identify opportunities that achieve a balanced set of transportation, environmental, and community access improvements.

Ideally corridor planning culminates in a clear vision for identified improvements, while recognizing both the positive and negative impacts of changes over time. Corridor Planning within California should address quality of life, access to destinations, environmental factors including GHG, and transportation system performance. The impacts of the benefits and the burdens on different groups and communities should also be considered in the system analysis and improvement discussions.

2.8 RTP Development Sequencing Process

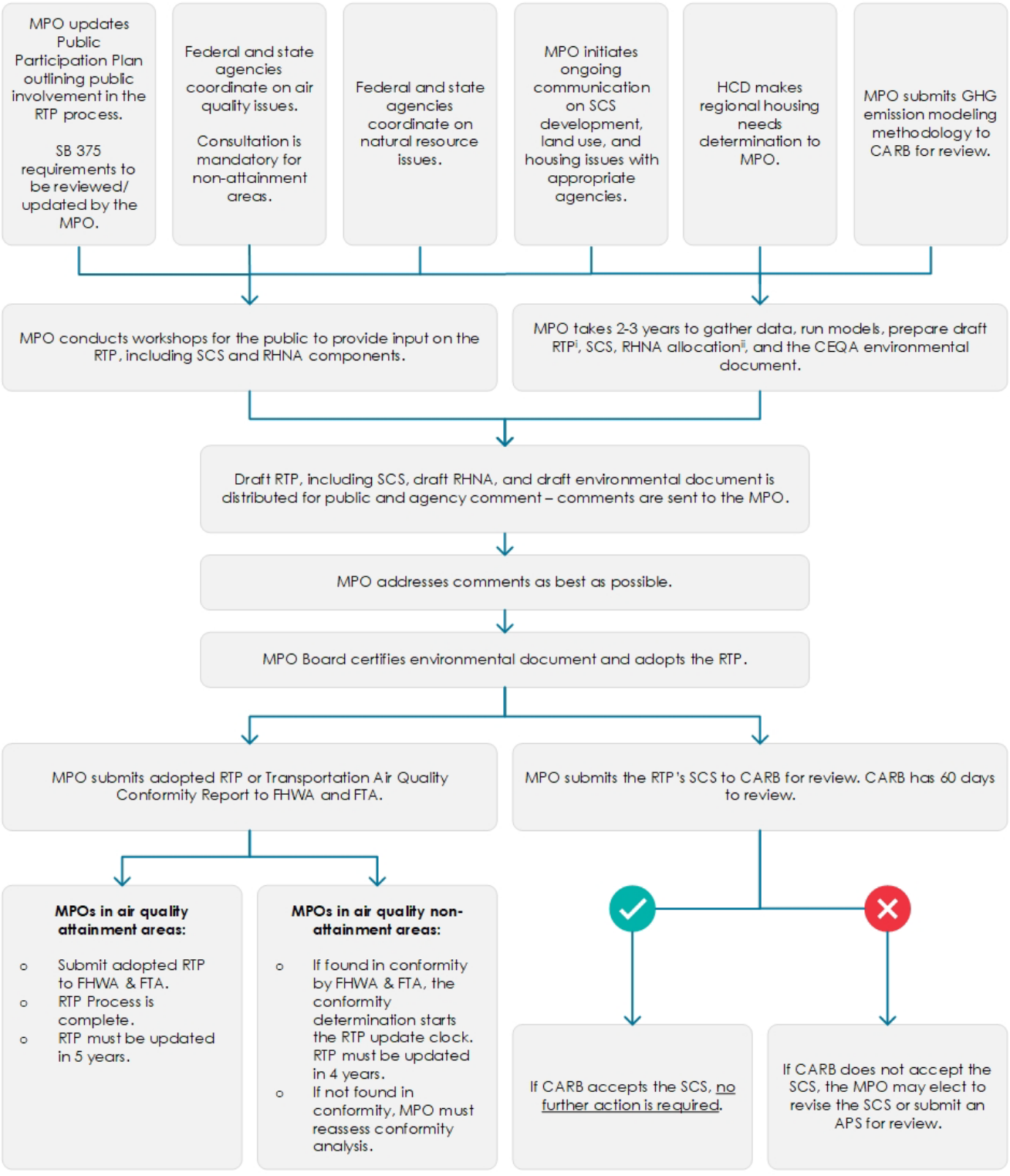
Following the passage of SB 375 in 2008, MPOs will need to continue to coordinate with CARB and HCD. MPOs are encouraged to continue to communicate with CARB as early in the RTP development as possible to obtain input. CARB must review the SCS and possibly an APS after the documents are prepared. Communication between the MPO and HCD should also take place as early in the RTP process as possible to ensure the RHNA is coordinated with the development of the SCS. SB 375 amended the law to require regional planning agencies to estimate the RTP adoption date and provide HCD a notice at least 12 months before the estimated adoption date.

In summary, early communication and coordination with all appropriate levels of government, elected officials and the public is very important to avoid delays that may impede the final federal air quality conformity determination, the determination by CARB whether the SCS or APS, if implemented, would achieve the regional GHG emission reduction target, or successful coordination of the RHNA with the SCS.

The following flowchart entitled: "RTP Development/Approval Process for MPOs" was prepared to help summarize the overall steps that MPOs must undertake to ultimately adopt an RTP with a transportation air quality conformity report that has been found in conformity with the applicable air quality SIP (for nonattainment and maintenance regions) and that has received acceptance by CARB that the SCS/APS, if implemented, would achieve the region's GHG emissions reduction target. The process outlined in this flowchart is very complex and may take several years from RTP inception to RTP adoption, SCS/APS acceptance/rejection, and federal conformity determination.

Requirements (Shall)
Federal: Title 23 CFR Part 450
State: GC Section 65080 and 65588(e)(5)

RTP Development / Approval Process for MPOs



[i]All MPOs that are Transportation Management Agencies (TMA) must address all capacity increasing projects in the Congestion Management Process (CMP) before inclusion in the RTP.
[ii]Regional Housing Needs Allocation (RHNA) has statutorily-driven timelines and review periods; MPO needs to work closely with HCD and local agencies to address these requirements. GC 65580

2.9 Housing Coordination Plan

Housing Planning

An MPO serving a transportation management area may develop a housing coordination plan that includes projects and strategies that may be considered in the RTP.

Contents of the plan may include developing regional goals for the integration of housing, transportation, and economic development strategies to:

- Better connect housing and employment while mitigating commuting times
- Align transportation improvements with housing needs, such as housing supply shortages, and proposed housing development
- Align planning for housing and transportation to address needs in relationship to household incomes within the metropolitan planning area
- Expand housing and economic development within the catchment areas of existing transportation facilities and public transportation services when appropriate, include higher-density development, as locally determined
- Manage effects of growth of VMT experienced in the metropolitan planning area related to housing development and economic development
- Increase share of households with sufficient and affordable access to the transportation networks of the metropolitan planning area
- Identify the location of existing and planned housing and employment, and transportation options that connect housing and employment; and
- Include a comparison of transportation plans to land use management plans, including zoning plans, that may affect road use, public transportation ridership, and housing development.

Recommendations (Should)
Federal: (Title 23 CFR Part 450) 49 U.S.C. Section 5303

2.10 Adoption - Update Cycles and Amendments

Regional transportation planning is a dynamic process requiring continuous monitoring and periodic updating. Updating an RTP ensures the MPOs 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.

MPOs may revise the transportation plan at any time using the procedures in this section without a requirement to extend the horizon year. Regional planning agencies should consult with local governments well in advance of adopting an RTP to ensure an RTP adoption date facilitates alignment of the RTP schedule, RHNA schedule and planning period, and local government housing element update schedule and planning period, pursuant to SB 375 amendments. The transportation plan (and any revisions or amendments) shall be approved by the MPO'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.

California state law, (GC Section 65080(d)) mirrors the federal update requirement and states that nonattainment MPOs must update their RTPs at least every four years and attainment MPOs at least every five years. Title 23 CFR Part 450.322(a) states that in nonattainment and maintenance areas, the effective date of the RTP shall be the date of a conformity determination issued by FHWA and FTA. In attainment areas, the effective date of the RTP shall be its date of adoption by the MPO. 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 GC Sections 65080 (b)(2)(M) and 65588(b).

Failure of an MPO to adhere to the State and Federal required update period could result in the FHWA not approving the region's FTIP. Failure of an MPO 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 FTIP 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 MPOs 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

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, or 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, demonstration of fiscal constraint and an air quality conformity determination (for MPOs located in nonattainment and maintenance areas).

RTP Administrative Modification

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

When an MPO Board prepares an RTP amendment or update, they also need to be aware that a conformity determination may need to be conducted, depending on the type of changes, modifications, or amendments. An amendment that makes any of the following changes to the RTP would require a new conformity determination for the RTP:

1) The amendment adds or deletes a non-exempt project
2) The amendment significantly changes the design concept or scope of a regionally significant project, or
3) The amendment changes the implementation year such that it affects a transportation conformity analysis year.

Requirements (Shall)
Federal: Title 23 CFR Part 450.324(a) and (c), mandatory RTP update cycles for MPOs.

2.11 RTP Checklist

The RTP Checklist is contained in **Appendix A** 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.

MPOs 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 MPO/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 MPO is encouraged to complete the checklist electronically. Following its completion, the MPO Executive Director (or designated representative) must sign the checklist to indicate that the information is complete and correct.

Requirements (Shall)
Federal: None
State: Pursuant to California GC Section 14032(a), which authorizes the CTC to request an evaluation of all RTPs statewide to be conducted by Caltrans. All MPOs 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

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Chapter 3 RTP Analysis and Modeling

3.0 Introduction

The purpose of this guidance is to provide MPOs clear and relevant travel demand model (TDM) development direction for supporting RTP analysis, determine federal air quality conformity, and for SB 375 SCS development.

The 2023 RTP guidelines builds upon the 2017 guidelines, reflects changes in federal and state law, current modeling information, and the experience gained with the application of travel demand modeling during the development of the first, second, and third rounds of SCSs. The RTP guidelines also link to the most recent and relevant "living documents" such as CARB's 2019 Final Sustainable Community Strategy Program and Evaluation Guidelines, which outline how CARB evaluates MPO SCSs pursuant to SB 375. .

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 that MPO Modeling practitioners need to implement.

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

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

"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. Tools such as Geographic Information Systems (GIS) have geospatial 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 and transportation scenarios or other alternates studied.
- 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 accessibility, 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 roadways. 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

Federal legislation requires each MPO to develop an RTP as part of its transportation planning process [23 U.S.C. 134(g) and 49 U.S.C. 5303(f)]. The plan is required to cover a minimum 20-year horizon, include long and short-range strategies and actions, and describe the ways the region intends to invest in the transportation system (23 CFR §450.322).

State law aligns with federal law and requires each MPOs to prepare a SCS subject to the requirements of 23 CFR §450 and 40 CFR §93, including the requirements to utilize the most recent planning assumptions considering local general plans and other factors (Gov. Code, § 65080(b)(2)(B)) and identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region pursuant to Section 65584.

Travel Demand Models (TDM)

Transportation planners and engineers utilize TDMs to comply with federal and state requirements identified (see Section 3.5), for evaluating alternative strategies as part of an RTP, and to quantify GHG emission reductions associated with SCSs *(See Chapter 6, Regional GHG Emissions Requirements and Considerations in the RTP)*.

A TDM utilizes a series of mathematical equations that forecast travel behavior and transportation service demand in a given 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 NEPA and the CEQA analysis. For additional guidance and methodologies see CARB's 2019 Final Sustainable Community Strategy Program and Evaluation Guidelines for SCSs pursuant to SB 375.

California Statewide Travel Demand Model (CSTDM)

Interregional travel is the sum of the following:

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

For MPOs to account for the emissions from interregional travel and share responsibly for reducing those emissions with bordering regions, it is critical that they have the ability to accurately capture VMT associated with interregional travel trips. The CSTDM is used to forecast interregional trips and other travel types. MPOs can use this model to assist in capturing interregional VMT and as a point of reference in instances where adjacent MPO models produce dissimilar interregional volumes. RTPAs can use this data if they do not have access to a TDM.

Close collaboration is urged between bordering MPOs and Caltrans in developing interregional trip estimates. In those instances where MPO models produce dissimilar interregional volumes, the CSTDM may act as a point of reference that the MPO regional models should reasonably consider. Caltrans can act as the facilitator in these situations to help reach consensus. *(For more information see, http://www.dot.ca.gov/hq/tpp/offices/omsp/statewide_modeling/cstdm.html)*

Visualization Techniques and Sketch Modeling of Scenarios

Pursuant to 23 CFR 450.316(a)(1)(iii) MPOs are required to employ visualization techniques to describe RTPs and TIPs. Examples include GIS-based information, maps, charts, and other visual aids that are useable and understandable by the public. Furthermore, MPOs are required under California GC 65080(b)(2)(F)(iii) to the extent practical to use urban simulation computer modeling to create visual representations of the SCS or APS during their public workshops. *See Chapter 6, Regional GHG Emissions Requirements and Consideration in the RTP, and Visualization and Mapping for additional information related to SCS development.*

EMFAC Model

CARB developed the EMission FACtor model (EMFAC) to assess emissions from on-road vehicles, including cars, trucks, and buses, to support CARB's regulatory and air quality planning, and by MPOs to meet the federal Clean Air Act (CAA) requirements and for SCSs pursuant to SB 375. The most recent USEPA approved version is EMFAC 2021. The mobile source emissions inventory is CARB's tool for assessing vehicle population, and emissions from on-road vehicles. These inventories are constantly being, updated to support the latest air quality plans and regulations.

(MSEI - Modeling Tools - EMFAC Software and Technical Support Documentation | California Air Resources Board)

3.3 TDM Quality Control and Consistency

Regional travel demand modeling consistency and quality control are essential for creating confidence in modeling results.

Model Inputs and Assumptions

Model inputs and assumptions are a necessary part of running a TDM. Although it is not required under the transportation conformity rule, the United States Environmental Protection Agency (EPA) and the United States Department of Transportation (U.S. DOT) encourage MPOs in nonattainment and maintenance areas to review and update their planning assumptions (especially population, employment, and vehicle registration) at least every five years or to justify in the conformity determination why the planning assumptions have not been updated.

Data

Modeling results are only as good as the data that goes into them. If travel survey samples are limited to a given region, other available sources of data including the National Household Travel Survey, the American Community Survey, and trip rates associated with a region that is similar in size (such as demographic and socioeconomic characteristics) can be used. For statewide consistency, and if feasible, MPOs are encouraged to use common data definitions and sources. As new technology and new data sources become available (e.g., "big data"), MPOs are encouraged to consider ways to incorporate them into their analysis and modeling practices.

For additional guidance and methodologies, see CARB's 2019 Final Sustainable Community Strategy Program and Evaluation pursuant to SB 375.

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, the 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.[3]

The U.S. EPA and U.S. DOT also suggest that every component of a model, as well as the entire model system, be validated.[4] Nonattainment and maintenance areas using network-based travel models are encouraged by the U.S. EPA and U.S. DOT to establish criteria for validating the congestion speeds predicted by the transportation model with the observed speed data.

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

[4] 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 and the actual traffic count for individual roadways model-wide. It provides a general context for the relationship (i.e. 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.

MPOs are encouraged to meet the recommended static validation and transit assignment validation thresholds listed below. Where a model does not meet the thresholds, the MPO is encouraged to clearly document 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 Thresholds

Validation Metric	Thresholds
Difference between actual counts and model results for a given year by route group (e.g., local bus, express bus, etc.)	+/- 20%
Difference between actual counts and 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, and the latest guidance and methodologies from CARB's 2019 Final Sustainable Community Strategy Program and Evaluation pursuant to SB 375 t.

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. 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[5].

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 MPO is encouraged to improve model sensitivity and accuracy related to measuring GHG emissions associated with both land use and transportation network decisions. However, the application of these quality control criteria will vary based on the size of the MPO, severity of non-attainment status, the sophistication of transit system, the degree of model sophistication, and the presence of pricing variables, 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 (households and number of jobs), proximity to transit, regional accessibility, jobs/housing balance, and land use mix

Pricing: Increase/decrease auto operating costs, parking pricing, and toll rates

Demand Management (if included in the model): Increase/decrease telecommute and vanpooling, and change HOV lanes/policy

Transit: Increase/decrease transit fares, transit capacity - (BRT, express bus, regular bus, and a combination of all bus types), and transit frequency

Socioeconomic: Changes in demographic and in economic growth, and household income distribution

For additional guidance see the FHWA's, The Travel Model Validation and Reasonableness Checking Manual, Second Edition, 10.2 Sensitivity Testing September 2010, the latest guidance and methodologies from CARB's 2019 Final Sustainable Community Strategy Program and Evaluation pursuant to SB 375.

Calculating VMT

VMT is key data for transportation planning and management and a common measure of roadway use and travel demand. MPOs use VMT, along with other data, in estimating congestion, GHG emissions, air quality, potential gas-tax revenues, and road pricing revenues. They also use VMT or VMT stratified by speed, as inputs in the

[5] *Travel Model Validation and Reasonableness Checking Manual Second Edition, September 2010,* 1-5

development of SCSs, NEPA and CEQA documents (in accordance with SB 743), and for purposes other than RTP development.

Performance Indicators

Performance indicators are critical for tracking the progress of SCS strategies. They are sets of real-world data that are tracked and monitored over time and used for system performance evaluation. The latest guidance and methodologies from CARB's 2019 Final Sustainable Community Strategy Program and Evaluation pursuant to SB 375 includes recommended performance indicators.

Co-benefits of SCS

MPOs are encouraged to quantify, to the extent possible, the co-benefits associated with their land use, housing, and transportation SCS strategies, and the achievement of their GHG reduction targets, such as improved air quality, public health, and conservation of natural and working lands. This can help increase public understanding and support for the strategies in the plan *(See the Recommendations of the RTAC Pursuant to SB 375 pp. 42-44 for additional guidance)*. Some MPOs forecast the impacts of different possible land use and transportation scenarios on multiple co-benefit performance measures.

Documentation

Quality documentation is key to providing planners, engineers, decision-makers, and the public with a better understanding of the reliability of the tools used to produce the forecast. In addition to documentation, 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). For more guidance and methodologies from CARB's 2019 Final Sustainable Community Strategy Program and Evaluation

Model Peer Review / Peer Advisory Committee

MPOs are encouraged to formally seek out peer reviews from practitioners and Californian transportation modelers from other agencies of similar size during model development or after a major modeling enhancement. In addition to the review by peers, agencies can utilize FHWA's Travel Model Improvement Program peer review process or use the FHWA/FTA certification review to verify that the travel forecasting methods the agencies are using support the applications.

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.

<u>California Interagency (CIA) Modeling Forum</u>

Analytical and forecasting tools, as well as transportation technologies, are dynamic and evolving; therefore, it is important that state, regional, local, and air quality agencies have on-going dialogue that supports model improvement activities by focusing on increasing model accuracy, policy sensitivity, data development and acquisition, and transparency. As a result, Caltrans will enhance the CIA Modeling Forum to facilitate an on-going dialogue between state and regional agencies, and other modeling practitioners. The CIA Modeling Forum will be organized and facilitated

by Caltrans, with an additional objective of developing recommendations for the RTP Guidelines. Caltrans will share any existing information/research reports with the group and the public.

Transportation modelers from state, regional, and local agencies including Caltrans, CARB, California Energy Commission, MPOs, and RTPAs will meet to discuss modeling topics of general interest and to learn about new developments in the field. This forum will also be used for education, collaboration, consensus building, for encouraging MPO model improvement activities (consistent with current professional practice), and for recommending areas for future research.

This group will provide a memo to the CTC on an annual basis with recommended changes to the RTP Analysis and Modeling Chapter of the RTP Guidelines, status of work, on-going efforts. In areas where consensus is not reached, the group will provide the CTC a summary of the perspectives. During the applicable RTP Guidelines update, the RTP guidelines may be updated, as appropriate and applicable. MPO Model improvement programs must be developed to meet MPO needs and fit within their available modeling resources. All recommendations from the CIA forum shall consider factors such as the size and available resources of the MPO, consistent with California GC Section 14522.1.

To ensure recommendations from the CIA forum are consistent with regional, state, and federal policy direction, Caltrans will coordinate with MPO planning directors and other state agencies in the development of study areas for consideration by the CIA modeling forum.

Initial areas recommended for discussion include, but are not limited to (not in priority order):

- The calculation and forecasting of auto operating cost
- Should vehicle ownership models be developed for all MPOs?
- Induced travel demand modeling
- The role of back casting and sensitivity testing in model development
- The impact of changing vehicle and transportation technologies on model development
- Guidance for activity-based modeling
- Model validation and calibration criteria
- Guidance for peer review process of MPO models
- External travel/visitor model
- Freight forecasting
- Integration with other models
- Guidance on transferable parameters
- Statewide data collection to support MPO modeling efforts
- Additional items as deemed appropriate and applicable by the group

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

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

The RTP MIP includes planning practice examples that consider factors such as the MPO's size and available resources and considers all modeling related to RTP development (e.g. federal air quality conformity and SCS analysis).

For all federal and state statutory and regulatory requirements and recommendations please refer to **Section 3.5** - RTP Travel Analysis Groupings.

Category 1 –MPOs 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

MPOs with attainment AQ, slow to moderate growth, population under 200,000, 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 federally recognized MPOs subject to federal air quality conformity analysis as part of RTP development. They do not need to run a network travel model.

Category 2 - MPOs with moderate to rapid growth, nonattainment, and maintenance - AQ, or the potential for transit to reduce VMT.

Consider the planning practice examples listed below.

Travel Demand Models:

- The number of residents per travel analysis zone (TAZ) is encouraged to be greater than 1,200, but less than 3,000; each TAZ is encouraged to yield less than 15,000 person trips per day; and the size of each TAZ is encouraged to range from one-quarter to one square mile in area (NCHRP 716, page 14)
- If an MPO uses a gravity model in their trip distribution step, a different friction factor can be used for each trip purpose. For example, home-based school trips can consider the school district areas in developing the friction factors and can be calibrated based on the local household travel survey
- MPOs are encouraged to have a minimum of three trip purposes in their model (home-based work (HBW), home-based other (HBO), and nonhome-based (HHB) trips), especially with higher rates of teleworking. MPOs are encouraged to include more trip purposes such as home-based school (HBS), home-based university (HBU), home-based shopping (HBSh), home-based recreation, and other trip purposes as appropriate.
- Each MPO model is encouraged to account for auto operating costs in forecasting the travel. Auto operating cost is a key parameter in various steps of the TDM and can consist of fuel (primarily gasoline) costs and non-fuel-related (repair, maintenance, tires, and accessories) costs, as well as travel costs associated with

roadway or parking pricing. This can also include the effective fuel efficiency of the vehicle fleet.

- The models can have sufficient temporal resolution (at least three time periods) to adequately model peak and off-peak periods.
- MPOs can consider developing a logit-based destination choice model as part of their trip distribution step.
- Consider including a percentage share of all trips (work and non-work) made by all single occupant vehicles, multiple occupant vehicles, or carpool, transit, walking, and bicycling in the measures of means of travel.
- MPOs can model the entire regional transit network when modeling the transit mode.
- Mode choice models can be segmented by vehicle availability or household income.
- Because such variables as walking time and parking costs are important elements in mode choice, walking and auto access to transit modes can be modeled separately, unless there is little demand for transit where people drive or are driven to the transit stop (*NCHRP 716, page 54)*.
- Consider using several employment types along with several trip purposes.

Visualization Techniques and Sketch Modeling of Scenarios:

- Consider developing GIS capabilities such as creating a parcel and land use data layers.
- Consider using an urban scenario model to calculate environmental impacts on natural and working lands and aquatic ecosystems and/or to inform the land-use model of areas to be avoided in order to help locate alternative development areas.

Freight Models:

- Consider developing a simple freight model.

Policy Analysis Capabilities:

- Can define and evaluate trend forecasts, combined general plans, and preferred RTP scenarios.
- Models can be used to evaluate increased density and mix, urban growth limits, improved neighborhood walkability and bikeability, and one or more transit improvement proposals, as well as demand management, pricing strategies, and housing affordability.
- Can evaluate policies for their effects on vulnerable communities including lower-income households. This can be done by evaluating traveler welfare measures based on the mode choice log sums for each household income class or based on travel costs for them.

Category 3 - MPOs that are nonattainment for ozone or CO, with a metropolitan planning area containing an urbanized population over 200,000.

Can consider all the planning practice examples identified in Category 2 and those listed below.

Travel Demand Models:

- Four-step models can be developed with full feedback across travel model steps and some sort of land use modeling.
- Vehicle ownership model can be developed and used. A vehicle ownership model is used to determine the number of motor vehicles available for use by household members. MPOs can consider variables such as household size, income, the number of workers, types of housing units, residential and employment density, and access to transit and non-motorized transport as part of vehicle ownership model.
- Walk, drive, wait, and in-vehicle travel time can be included when calculating the duration of a transit trip.
- A time-of-day model can be developed and used to allocate daily trips.
- Vehicle occupancy rate can be varied based on the trip purpose and time of day.

Regional Economic and Land-Use Models:

- Consider using travel costs or mode choice log sums for simple environmental justice analysis. Examples of such analyses include the effects of transportation and development scenarios on low-income or transit-dependent households, the combined housing/transportation cost burden on these households, and the jobs/housing fit.
- Consider developing models that test joint (or simultaneous)-choice of mode and destination.

Freight Models:

- Consider implementing freight or commodity flow models.

Policy Analysis Capabilities:

- Travel welfare can be measured using various economic measures (wages, jobs, production, and exports can be created).

Category 4 - The largest MPOs with rapid growth, large population centers and established transit systems.

Consider all the planning practice examples identified in Categories 2 and 3 and those listed below.

Travel Demand Models:

- MPOs are encouraged to transition to an activity based TDM
- Technology influences the travel behavior by substituting physical travel (e.g. telework, telehealth, and e-commerce) and may lead to more travel by allowing for people to live farther away from their jobs or other destinations. Consider reflecting the interactions between technology and travel behavior within the TDM.

Regional Economic and Land Use Models:

- If resources permit, consider building formal microeconomic land use models to analyze and evaluate the effects of growth scenarios on economic welfare (utility), including land prices, home affordability, jobs-housing fit, the combined housing-transportation cost burden, and economic development (wages, jobs, exports).

- Consider integrating land use and activity-based models into a single modeling system – integrated land use/transportation model that would allow planners to analyze the interactions between land use and the transportation system. ("Jobs-housing fit" is the extent to which the rents and mortgages in the community are affordable to the people who currently work there or will fill anticipated jobs).

Freight Models:

- Consider incorporating freight movement into the travel demand process. Consider documenting assumptions about freight growth and mode choice that impact truck VMT.
- Consider using information from the statewide freight model, local trip-based truck demand models, or commodity flows models when available. MPOs are encouraged to coordinated freight data collection programs with statewide efforts.

Data:

- Household travel surveys can be activity-based and include a tour table. Global Positioning System (GPS) sampling is encouraged, and extra emphasis can be placed on accurate geocoding of households, workplace locations, and stops. Regions are encouraged to carefully design and follow the survey's data collection procedures so that the results are appropriate for the type of model being utilized. Coordination with Caltrans' travel survey efforts is encouraged

Policy Analysis Capabilities:

- Integrating land use modeling with transportation demand modeling can simulate the complex interactions of proposed changes in land use, economic, and transportation systems. Equity analysis can include changes in welfare by household income class. Economic development impacts may be comprehensively evaluated with this model set. Time-of-day road tolls and parking pricing can be evaluated.
- Agencies can take transit capacity constraints into consideration to derive operating scenarios that avoid overcrowded buses and trains. The amount of transit service thus derived can advise policy makers on needed transit capital and operating funding levels.

3.5 RTP Travel Analysis Groupings – Federal/State Laws

DISCLAIMER
The State of California (State) and the California Department of Transportation (Department) make no representation or warranty regarding the accuracy of the data shown on this map.Neither the State nor the Department shall be liable under any circumstances for any direct, indirect, special, incidental, or consequential damages with respect to any claim by any user or any third party on account of or arising from the use of this map.

MPOs, RTPAs, and congestion management agencies (CMAs) are organized into travel analysis groups based on federal and State laws (see map below). Group A includes 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 (Shall)

None

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

California GC §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 (Should)

None

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

California GC

§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 *(Shall)*

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 §93.109 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 *(Shall)*

California GC §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 *(Should)*

None

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

None

Group B1: Non-TMA MPOs - Attainment Areas -- Federal Requirements *(Shall)*

Title 23 CFR §450.306 Scope of the metropolitan transportation planning process.

(c) Consideration of the planning factors in paragraph (b) of this section shall be reflected, as appropriate, in the metropolitan transportation planning process. The degree of consideration and analysis of the factors should be based on the scale and complexity of many issues, including transportation system development, land use, employment, economic development, human and natural environment (including Section 4(f) properties as defined in 23 CFR 774.17), and housing and community development.

§450.316 Interested parties, participation, and consultation.

(a) The MPO shall develop and use a documented participation plan that defines a process for providing individuals, affected public agencies, representatives of public transportation employees, public ports, freight shippers, providers of freight transportation services, private providers of transportation (including intercity bus operators, employer-based commuting programs, such as carpool program, vanpool program, transit benefit program, parking cash-out program, shuttle program, or telework program), representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle transportation facilities, representatives of the disabled, and other interested parties with reasonable opportunities to be involved in the metropolitan transportation planning process.

(1) The MPO shall develop the participation plan in consultation with all interested parties and shall, at a minimum, describe explicit procedures, strategies, and desired outcomes for:

(iii) MPOs are required to use visualization techniques as part the public participation plan, RTP, and TIP development that are usable and understandable to the public.

(iv) Making public information (technical information and meeting notices) available in electronically accessible formats and means, such as the World Wide Web

§450.324 Development and content of the metropolitan transportation plan.

(a) The metropolitan transportation planning process shall include the development of a transportation plan addressing no less than a 20-year planning horizon as of the effective date. In formulating the transportation plan, the MPO shall consider factors described in § 450.306 as the factors relate to a minimum 20-year forecast period. In attainment areas, the effective date of the transportation plan shall be its date of adoption by the MPO.

(b) MPOs are required to develop RTPs that address a minimum of 20-year horizon and include both long and short-range strategies/actions that lead to the development of an integrated multimodal transportation system that facilitates the safe and efficient movement of people and goods in addressing current and future transportation demand.

(c) The MPO shall review and update the transportation plan at least every 5 years in attainment areas to confirm the transportation plan's validity and consistency with current and forecasted transportation and land use conditions and trends and to extend the forecast period to at least a 20-year planning horizon. The MPO shall approve the transportation plan (and any revisions) and submit it for information purposes to the Governor. Copies of any updated or revised transportation plans must be provided to the FHWA and the FTA.

(e) The MPO, the State(s), and the public transportation operator(s) shall validate data used in preparing other existing modal plans for providing input to the transportation plan. In updating the transportation plan, the MPO shall base the update on the latest available estimates and assumptions for population, land use, travel, employment, congestion, and economic activity. The MPO shall approve transportation plan contents and supporting analyses produced by a transportation plan update.

(f) The metropolitan transportation plan shall, at a minimum, include:

(1) The current and projected transportation demand of persons and goods in the metropolitan planning area over the period of the transportation plan

(2) Existing and proposed transportation facilities (including major roadways, public transportation facilities, intercity bus facilities, multimodal and intermodal facilities, nonmotorized transportation facilities (e.g., pedestrian walkways and bicycle facilities), and intermodal connectors) that should function as an integrated metropolitan transportation system, giving emphasis to those facilities that serve important national and regional transportation functions over the period of the transportation plan

Group B1: Non-TMA MPOs – Attainment Areas -- State requirements *(Shall)*

California GC

§14522.2 (a) MPOs are required to disseminate the methodology, results, and key assumptions of whichever travel demand models it uses in a way that would be usable and understandable to the public

§65080 (b) The regional transportation plan shall be an internally consistent document and shall include all of the following:

(1) A policy element that describes the transportation issues in the region, identifies and quantifies regional needs, and describes the desired short-range and long-range transportation goals, and pragmatic objective and policy statements. The objective and policy statements shall be consistent with the funding estimates of the financial element. The policy element of transportation planning agencies with populations that exceed 200,000 persons may quantify a set of indicators including, but not limited to, all of the following:

(A) Measures of mobility and traffic congestion, including, but not limited to, daily vehicle hours of delay per capita and vehicle miles traveled per capita.

(B) Measures of road and bridge maintenance and rehabilitation needs, including, but not limited to, roadway pavement and bridge conditions.

(C) Measures of means of travel, including, but not limited to, percentage share of all trips (work and non-work) made by all of the following:

(i) Single occupant vehicle

(ii) Multiple occupant vehicle or carpool

(iii) Public transit including commuter rail and intercity rail

(iv). Walking

(v) Bicycling.

(D) Measures of safety and security, including, but not limited to, total injuries and fatalities assigned to each of the modes set forth in subparagraph (C).

(E) Measures of equity and accessibility, including, but not limited to, percentage of the population served by frequent and reliable public transit, with a breakdown by income bracket, and percentage of all jobs accessible by frequent and reliable public transit service, with a breakdown by income bracket.

(F) The requirements of this section may be met utilizing existing sources of information. No additional traffic counts, household surveys, or other sources of data shall be required.

Group B1: Non-TMAs MPOs - *Attainment Areas* -- Federal Recommendations *(Should):*

Title 23 CFR §450**.306 Scope of the metropolitan transportation planning process.**

(c) The degree of the consideration and analysis of the planning factors (23 CFR §450.306(b)) should be based on the scale and complexity of the many issues, including transportation system development, land use, employment, economic development, human and natural environment (including Section 4(f) properties as defined in (23 CFR §774.17), and housing and community development).

§450.324 Development and content of the metropolitan transportation plan.

(c) In addition, the MPO may revise the transportation plan at any time using the procedures in this section without a requirement to extend the horizon year.

Group B1: Non-TMAs MPOs - Attainment Areas -- State Recommendations *(Should)*

This section includes all the Isolated Rural Attainment (see Map) state recommendations. No new recommendations are identified in this section.

Group B2: Non-TMA MPOs – Nonattainment or Maintenance Areas -- Federal Requirements *(Shall)*

This section includes all of Group B1 federal requirements and the following requirements.

Federal Clean Air Act of 1990

Section 176(c)(1)(B)(iii) of the Clean Air Act states that "[t]he determination of conformity shall be based on the most recent estimates of emissions, and such estimates shall be determined from the most recent population, employment, travel, and congestion estimates as determined by the MPO or other agency authorized to make such estimates." The Clean Air Act requires that transportation investments be based on the most recent information that is available, in order to protect public health over the long-term.

Title 40 CFR §93

§93.102 Applicability. (a) Action applicability.

(1) Except as provided for in paragraph (c) of this section or §93.126, conformity determinations are required for:

(i) The adoption, acceptance, approval or support of transportation plans and transportation plan amendments developed pursuant to 23 CFR Part 450 or 49 CFR Part 613 by an MPO or DOT

(ii) The adoption, acceptance, approval or support of TIPs and TIP amendments developed pursuant to 23 CFR Part 450 or 49 CFR Part 613 by an MPO or DOT; and

(iii) The approval, funding, or implementation of FHWA/FTA projects.

(b) Geographic applicability. The provisions of this subpart shall apply in all nonattainment and maintenance areas for transportation-related criteria pollutants for which the area is designated nonattainment or has a maintenance plan.

§93.104 Frequency of conformity determinations.

(a) Conformity determinations and conformity redetermination for transportation plans, TIPS, and FHWA/FTA projects must be make according to the requirements of this section and applicable implementation plan.
(b) Frequency of conformity determinations for transportation plans.
(1) Each new transportation plan must be demonstrated to conform before the transportation plan is approved by the MPO or accepted by DOT
(2) All transportation plan amendments must be found to conform before the transportation plan amendments are approved by the MPO or accepted by DOT, unless the amendment merely adds or deletes exempt projects listed in §93.126 or §93.127. The conformity determination must be based on the transportation plan and the amendment taken as a whole.
(3) The MPO and DOT must determine the conformity of the transportation plan (including a new regional emissions analysis) no less frequently than every four years. If more than four years elapse after DOT's conformity determination without the MPO and DOT determining conformity of the transportation plan, a 12-month grace period will be implemented as described in paragraph (f) of this section. At the end of this 12-month grace period, the existing conformity determination will lapse.
(e) Triggers for transportation plan and TIP conformity determinations. Conformity of existing transportation plans and TIPs must be redetermined within two years of the following, or after a 12-month grace period (as described in paragraph (f) of this section) the existing conformity determination will lapse, and no new project-level conformity determinations may be made until conformity of the transportation plan and TIP has been determined by the MPO and DOT:
(1) The effective date of EPA's finding that motor vehicle emissions budgets from an initially submitted control strategy implementation plan or maintenance plan are adequate pursuant to §93.118(e) and can be used for transportation conformity purposes
(2) The effective date of EPA approval of a control strategy implementation plan revision or maintenance plan which establishes or revises a motor vehicle emissions budget if that budget has not yet been used in a conformity determination prior to approval; and
(3) The effective date of EPA promulgation of an implementation plan which establishes or revises a motor vehicle emissions budget.

§93.105 Consultation. Sections (a) and (c)
(a) General. The implementation plan revision required under §51.390 of this chapter shall include procedures for interagency consultation (Federal, State, and local), resolution of conflicts, and public consultation as described in paragraphs (a) through (e) of this section. Public consultation procedures will be developed in accordance with the requirements for public involvement in 23 CFR Part 450.
(c) Interagency consultation procedures: Specific processes. Interagency consultation procedures shall also include the following specific processes:
(1) A process involving the MPO, State and local air quality planning agencies, State and local transportation agencies, EPA, and DOT for the following:
(i) Evaluating and choosing a model (or models) and associated methods and assumptions to be used in hot-spot analyses and regional emissions analyses
(ii) Determining which minor arterials and other transportation projects should be considered "regionally significant" for the purposes of regional emissions analysis (in

addition to those functionally classified as principal arterial or higher or fixed guideway systems or extensions that offer an alternative to regional highway travel), and which projects should be considered to have a significant change in design concept and scope from the transportation plan or TIP

(iii) Evaluating whether projects otherwise exempted from meeting the requirements of this subpart (see §§93.126 and 93.127) should be treated as non-exempt in cases where potential adverse emissions impacts may exist for any reason

(iv) Making a determination, as required by §93.113(c)(1), whether past obstacles to implementation of TCMs which are behind the schedule established in the applicable implementation plan have been identified and are being overcome, and whether State and local agencies with influence over approvals or funding for TCMs are giving maximum priority to approval or funding for TCMs. This process shall also consider whether delays in all the applicable implementation plan to remove TCMs or substitute TCMs or other emission reduction measures

(v) Notification of transportation plan or TIP amendments which merely add or delete exempt projects listed in §93.126 or §93.127; and

(vi) Choosing conformity tests and methodologies for isolated rural nonattainment and maintenance areas, as required by §93.109(g)(2)(iii).

(2) A process involving the MPO and State and local air quality planning agencies and transportation agencies for the following:

(i) Evaluating events which will trigger new conformity determinations in addition to those triggering events established in §93.104; and

(ii) Consulting on emissions analysis for transportation activities which cross the borders of MPOs or nonattainment areas or air basins.

(3) Where the metropolitan planning area does not include the entire nonattainment or maintenance area, a process involving the MPO and the State department of transportation for cooperative planning and analysis for purposes of determining conformity of all projects outside the metropolitan area and within the nonattainment or maintenance area.

(4) A process to ensure that plans for construction of regionally significant projects which are not FHWA/FTA projects (including projects for which alternative locations, design concept and scope, or the no-build option are still being considered), including those by recipients of funds designated under title 23 U.S.C. or the Federal Transit Laws, are disclosed to the MPO on a regular basis, and to ensure that any changes to those plans are immediately disclosed.

(5) A process involving the MPO, and other recipients of funds designated under title 23 U.S.C. or the Federal Transit Laws for assuming the location and design concept and scope of projects which are disclosed to the MPO as required by paragraph (c)(4) of this section but whose sponsors have not yet decided these features, in sufficient detail to perform the regional emissions analysis according to the requirements of §93.122.

(6) A process for consulting on the design, schedule, and funding of research and data collection efforts and regional transportation model development by the MPO (e.g., household/ travel transportation surveys).

(7) Interagency consultation procedures shall include a process for providing final documents (including applicable implementation plans and implementation plan revisions) and supporting information to each agency after approval or adoption. This process is applicable to all agencies described in paragraph (a)(1) of this section, including Federal agencies (40 CFR 93.105).

§93.106 Content of transportation plans and timeframe of conformity determinations.
(c) Transportation plans for other areas. Transportation plans for other areas must meet the requirements of paragraph (a) of this section at least to the extent it has been the previous practice of the MPO to prepare plans which meet those requirements. Otherwise, the transportation system envisioned for the future must be sufficiently described within the transportation plans so that a conformity determination can be made according to the criteria and procedures of §§93.109 through 93.11

§93.110 Criteria and procedures: Latest planning assumptions.
(a) If new data that become available (after the analysis begins) they are required to use it for the conformity determination only if a significant delay in the analysis has occurred (as determined through interagency consultation).
(b) The assumptions are required to be derived from the estimates of current and future population, employment, travel, and congestion most recently developed by the MPO, or other agency authorized to make such estimates and approved by the MPO. The conformity determination must also be based on the latest assumptions about current and future background concentrations.
(c) The conformity determination for each transportation plan and TIP must discuss how transit operating policies (including fares and service levels) and assumed transit ridership have changed since the previous conformity determination.
(d) The conformity determination must include reasonable assumptions about transit service and increases in transit fares and road and bridge tolls over time.
(e) The conformity determination must use the latest existing information regarding the effectiveness of the TCMs and other implementation plan measures which have already been implemented.
(f) Key assumptions shall be specified and included in the draft documents and supporting materials used for the interagency and public consultation required by §93.105 (40 CFR 93.110(f)).

§93.111 Criteria and procedures: Latest emissions model.

(a) The conformity determination must be based on the latest emission estimation model available. This criterion is satisfied if the most current version of the motor vehicle emissions model specified by EPA for use in the preparation or revision of implementation plans in that State or area is used for the conformity analysis. Where EMFAC is the motor vehicle emissions model used in preparing or revising the applicable implementation plan, new versions must be approved by EPA before they are used in the conformity analysis.

§93.122 Procedures for determining regional transportation-related emissions.
(a) General requirements.
(1) The regional emissions analysis required by §§93.118 and 93.119 for the transportation plan, TIP, or project not from a conforming plan and TIP must include all regionally significant projects expected in the nonattainment or maintenance area. The analysis shall include FHWA/FTA projects proposed in the transportation plan and TIP and all other regionally significant projects which are disclosed to the MPO as required by §93.105. Projects which are not regionally significant are not required to be explicitly modeled, but vehicle miles traveled (VMT) from such projects must be estimated in accordance with reasonable professional practice. The effects of TCMs

and similar projects that are not regionally significant may also be estimated in accordance with reasonable professional practice.
(7) Reasonable methods shall be used to estimate nonattainment or maintenance area VMT on off-network roadways within the urban transportation planning area, and on roadways outside the urban transportation planning area.

§93.122 Procedures for determining regional transportation-related emissions.
(d) In all areas not otherwise subject to paragraph (b) of this section, regional emissions analyses must use those procedures described in paragraph (b) of this section if the use of those procedures has been the previous practice of the MPO. Otherwise, areas not subject to paragraph (b) of this section may estimate regional emissions using any appropriate methods that account for VMT growth by, for example, extrapolating historical VMT or projecting future VMT by considering growth in population and historical growth trends for VMT per person. These methods must also consider future economic activity, transit alternatives, and transportation system policies.

Title 23 CFR §450.324 Development and content of the metropolitan transportation plan.

(a) In nonattainment and maintenance areas, the effective date of the transportation plan shall be the date of a conformity determination issued by the FHWA and the FTA.
(c) The MPO shall review and update the transportation plan at least every 4 years in air quality nonattainment and maintenance areas to confirm the transportation plan's validity and consistency with current and forecasted transportation and land use conditions and trends and to extend the forecast period to at least a 20-year planning horizon.
(d) In metropolitan areas that are in nonattainment for ozone or carbon monoxide, the MPO shall coordinate the development of the metropolitan transportation plan with the process for developing transportation control measures (TCMs) in a State Implementation Plan (SIP).

Group B2: Non-TMA MPOs – Nonattainment or Maintenance Areas -- State Requirements *(Shall)*

This section includes all of Group A and B1 state requirements. No new requirements are identified in this section.

Group B2: Non-TMA MPOs - Nonattainment or Maintenance Areas -- Federal Recommendations *(Should)*

This section includes all of Group A and B1 federal recommendations. No new requirements are identified in this section.

Group B2: Non-TMA MPOs - Nonattainment or Maintenance Areas -- State Recommendations *(Should)*

This section includes all of Group A and B1 state recommendations. No new requirements are identified in this section.

Group C1: TMA MPOs - Attainment Areas -- Federal Requirements *(Shall)*

This section includes all Group B1 and B2 federal requirements and the following requirements

Title 23 CFR §450.322 Congestion management process in transportation management areas.

a) The transportation planning process in a TMA shall address congestion management through a process that provides for safe and effective integrated management and operation of the multimodal transportation system, based on a cooperatively developed and implemented the metropolitan-wide strategy, of new and existing transportation facilities eligible for funding under title 23 U.S.C. and title 49 U.S.C. Chapter 53 through the use of travel demand reduction (including intercity bus operators, employer-based commuting programs such as a carpool program, vanpool program, transit benefit program, parking cash-out program, shuttle program, or telework program), job access projects, and operational management strategies.
(d) The congestion management process shall be developed, established, and implemented as part of the metropolitan transportation planning process that includes coordination with transportation system management and operations activities. The congestion management process shall include.

(1) Methods to monitor and evaluate the performance of the multimodal transportation system, identify the underlying causes of recurring and nonrecurring congestion, identify, and evaluate alternative strategies, provide information supporting the implementation of actions, and evaluate the effectiveness of implemented actions

(2) Definition of congestion management objectives and appropriate performance measures to assess the extent of congestion and support the evaluation of the effectiveness of congestion reduction and mobility enhancement strategies for the movement of people and goods

(3) Establishment of a coordinated program for data collection and system performance monitoring to define the extent and duration of congestion, to contribute to determining the causes of congestion, and evaluate the efficiency and effectiveness of implemented actions

(4) Identification and evaluation of the anticipated performance and expected benefits of appropriate congestion management strategies that will contribute to the more effective use and improved safety of existing and future transportation systems based on the established performance measures.

Group C1: TMAs MPOs - Attainment Areas -- State Requirements *(Shall)*

Includes all state requirements in Group B. No new requirements are identified in this section.

Group C1: TMA MPOs - Attainment Areas -- Federal Recommendations *(Should)*

Includes all federal recommendations in Group B and the following requirements.

Title 23 CFR §450.322 Congestion management process in transportation management areas

(d)(3) To the extent possible, TMA's data collection programs should be coordinated with existing data sources, archived operational/ITS data, and coordinated with operations managers in metropolitan areas.

Group C1: TMA MPOs - Attainment Areas -- State Recommendations *(Should)*

Includes all state recommendations in Group B. No new requirements are identified in this section.

Group C2: TMA MPOs - Nonattainment or Maintenance Areas -- Federal Requirements *(Shall)*

Includes all federal requirements in Group B and C (1) and the following requirement.

Title 40 CFR §93

§93.106 Content of transportation plans and timeframe of conformity determinations.
(a) Transportation plans adopted after January 1, 1997 in serious, severe, or extreme ozone nonattainment areas and in serious CO nonattainment areas. If the metropolitan planning area contains an urbanized area population greater than 200,000, the transportation plan must specifically describe the transportation system envisioned for certain future years which shall be called horizon years
(1) The agency or organization developing the transportation plan may choose any years to be horizon years, subject to the following restriction:
(i) Horizon years may be no more than 10 years apart
(ii) The first horizon year may be no more than 10 years from the base year used to validate the transportation demand planning model
(iii) The attainment year must be a horizon year if it is in the timeframe of the transportation plan and conformity determination
(iv) The last year of the transportation plan's forecast period must be a horizon year; and
(v) If the timeframe of the conformity determination has been shortened under paragraph (d) of this section, the last year of the timeframe of the conformity determination must be a horizon year.
(2) For these horizon years described in:
(i) The transportation plan shall quantify and document the demographic and employment factors influencing expected transportation demand, including land use forecasts, in accordance with implementation plan provisions and the consultation requirements specified by §93.105
(ii) The highway and transit system shall be described in terms of the regionally significant additions or modifications to the existing transportation network which the transportation plan envisions to be operational in the horizon years. Additions and modifications to the highway network shall be sufficiently identified to indicate intersections with existing regionally significant facilities, and to determine their effect on route options between transportation analysis zones. Each added or modified highway segment shall also be sufficiently identified in terms of its design concept and design scope to allow modeling of travel times under various traffic volumes,

consistent with the modeling methods for area-wide transportation analysis in use by the MPO. Transit facilities, equipment, and services envisioned for the future shall be identified in terms of design concept, design scope, and operating policies that are sufficient for modeling of their transit ridership. Additions and modifications to the transportation network shall be described sufficiently to show that there is a reasonable relationship between expected land use and the envisioned transportation system; and iii) Other future transportation policies, requirements, services, and activities, including intermodal activities, shall be describe
(iii) Other future transportation policies, requirements, services, and activities, including intermodal activities, shall be described.

§93.122 Procedures for determining regional transportation-related emissions.
(b) Regional emissions analysis in serious, severe, and extreme ozone nonattainment areas and serious CO nonattainment areas must meet the requirements of paragraphs (b) (1) through (3) of this section if their metropolitan planning area contains an urbanized area population over 200,000.
(1) By January 1, 1997, estimates of regional transportation-related emissions used to support conformity determinations must be made at a minimum using network-based travel models according to procedures and methods that are available and in practice and supported by current and available documentation. These procedures, methods, and practices are available from DOT and will be updated periodically. Agencies must discuss these modeling procedures and practices through the interagency consultation process, as required by §93.105(c)(1)(i). Network-based travel models must at a minimum satisfy the following requirements:
(i) Network-based travel models must be validated against observed counts (peak and off-peak, if possible) for a base year that is not more than 10 years prior to the date of the conformity determination. Model forecasts must be analyzed for reasonableness and compared to historical trends and other factors, and the results must be documented
(ii) Land use, population, employment, and other network-based travel model assumptions must be documented and based on the best available information
(iii) Scenarios of land development and use must be consistent with the future transportation system alternatives for which emissions are being estimated. The distribution of employment and residences for different transportation options must be reasonable
(iv) A capacity-sensitive assignment methodology must be used, and emissions estimates must be based on a methodology which differentiates between peak and off-peak link volumes and speeds and uses speeds based on final assigned volumes
(v) Zone-to-zone travel impedances used to distribute trips between origin and destination pairs must be in reasonable agreement with the travel times that are estimated from final assigned traffic volumes. Where use of transit currently is anticipated to be a significant factor in satisfying transportation demand, these times should also be used for modeling mode splits; and
(vi) Network-based travel models must be reasonably sensitive to changes in the time(s), cost(s), and other factors affecting travel choices
(2) Reasonable methods in accordance with good practice must be used to estimate traffic speeds and delays in a manner that is sensitive to the estimated volume of travel on each roadway segment represented in the network-based travel model

(3) Highway Performance Monitoring System (HPMS) estimates of vehicle miles traveled (VMT) shall be considered the primary measure of VMT within the portion of the nonattainment or maintenance area and for the functional classes of roadways included in HPMS, for urban areas which are sampled on a separate urban area basis. For areas with network-based travel models, a factor (or factors) may be developed to reconcile and calibrate the network-based travel model estimates of VMT in the base year of its validation to the HPMS estimates for the same period. These factors may then be applied to model estimates of future VMT. In this factoring process, consideration will be given to differences between HPMS and network-based travel models, such as differences in the facility coverage of the HPMS and the modeled network description. Locally developed count- based programs and other departures from these procedures are permitted subject to the interagency consultation procedures of §93.105(c)(1)(i).

Title 23 CFR §450.322 Congestion management process in transportation management areas.

(f) In TMAs designated as nonattainment for ozone or carbon monoxide, the congestion management process shall provide an appropriate analysis of reasonable (including multimodal) travel demand reduction and operational management strategies for the corridor in which a project that will result in a significant increase in capacity for SOVs (as described in paragraph (d) of this section) is proposed to be advanced with Federal funds. If the analysis demonstrates that travel demand reduction and operational management strategies cannot fully satisfy the need for additional capacity in the corridor and additional SOV capacity is warranted, then the congestion management process shall identify all reasonable strategies to manage the SOV facility safely and effectively (or to facilitate its management in the future). Other travel demand reduction and operational management strategies appropriate for the corridor, but not appropriate for incorporation into the SOV facility itself, shall also be identified through the congestion management process. All identified reasonable travel demand reduction and operational management strategies shall be incorporated into the SOV project or committed to by the State and MPO for implementation.

Group C2: TMA MPOs – Nonattainment or Maintenance Areas -- State Requirements *(Shall)*

Includes all state requirements in Group A and B. No new requirements are identified in this section.

Group C2: TMA MPOs – Nonattainment or Maintenance Areas -- Federal Recommendations *(Should)*

Includes all federal recommendations in Group B and C1. No new recommendations are identified in this section.

Group C2: TMA MPOs – Nonattainment or Maintenance Areas -- State Recommendations *(Should)*

Includes all state recommendations in Group B. No new recommendations are identified in this section.

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Chapter 4

RTP Consultation and Coordination

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Chapter 4 RTP Consultation and Coordination

4.1 Consultation and Coordination

Transportation planning is a collaborative process, led by the MPO and other key stakeholders in the regional transportation system. Transportation planning activities include visioning, forecasting population/employment, identifying major growth corridors and areas, projecting future land use in conjunction with local jurisdictions, assessing needs, developing capital and operating strategies to move people and goods, developing a financial plan, identifying implementation actions, and ongoing tracking and monitoring of performance. Consistent with SB 375 and Title 23 CFR Part 450.316, the required planning processes are designed to foster involvement by all interested parties, such as walking and bicycling representatives, public health departments and public health non-governmental organizations, affordable housing advocates, transportation advocates, neighborhood and community groups, environmental advocates, home builder representatives, broad-based business organizations, landowners, commercial property interests and homeowner associations, the Native American community, local jurisdictions, transit operators, neighboring MPOs 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 MPO 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, transit, pedestrian and bicycle representatives and adjoining MPOs. The RTP shall (Title 23 CFR Part 450.324(g)(1) and (2)) 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 4.10**.

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)). MPOs participate in air quality planning by providing travel activity data for emissions inventories. They also implement Transportation Control Measures to reduce transportation related emissions. This participation helps lay the groundwork for future SIP conformity determinations. All MPOs in nonattainment and maintenance areas shall coordinate the development of their RTPs with their respective Air Quality Management District(s), the CARB, Caltrans, local transportation agencies, EPA, and USDOT in order to

ensure conformity with the SIP. The federal Clean Air Act Amendments of 1990 requires SIP development to be coordinated with the transportation planning process (Title 42 Section 7504(b)). Detailed requirements may also be found in Title 40 CFR Parts 51 and 93 (Transportation Conformity rules).

MPOs should coordinate closely with disadvantaged and low-income communities on RTP development. Under AB 617 (Garcia, Chapter 136, Statutes of 2017), CARB and local air districts work with selected disadvantaged and low-income communities across the state to develop Community Emissions Reduction Programs (CERPs), which can inform transportation planning priorities. MPOs that contain communities selected for the AB 617 program are encouraged to consider relevant local CERPs when developing strategies and identifying projects in the financial plan of the RTP.

Development of the Public Participation Plan and the RTP shall include consultation and coordination with all interested parties and shall, at a minimum, describe explicit procedures, strategies, and desired outcomes (Title 23 CFR Part 450.316).
In summary, the consultation process shall:

1. Provide adequate public notice and the opportunity to comment on proposed RTPs and public participation plans
2. Employ visualization techniques to describe the RTP
3. Make the RTP electronically accessible, such as placing it on the Internet
4. 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 and the FTIP, 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 (Shall)
Federal: Transportation Conformity Regulations of Title 40 CFR Part 93.105; Title 23 CFR Part 450.316 requires MPOs to develop a process and mechanism in which all parties may provide comments/input on the MPOs public participation plan and in the development of the RTP.
State: GC Section 65080(b)(2)(E)

Planning Practice Examples: To be included in Appendix G in second public draft

4.2 Title VI and 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 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 affordable 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 participation plan 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 GC, Presidential EO 12898 on Environmental Justice (EJ), and the U.S. DOT EJ Order 5610.2(A). As discussed below, these laws and orders require MPOs to conduct analyses to determine (under Title VI) whether transportation and land use changes identified in the RTP result in disparate impacts to minority communities and populations and (with respect to EJ) to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of programs, policies, and activities on low-income populations and minority populations resulting from the transportation and land use changes in the RTP.

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 MPO 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 Analysis

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,"* part of the Title VI Program for MPOs includes an analysis of impacts that identifies any disparate impacts on basis of race, color, or national origin. Specifically, FTA Circular 4702.1B requires MPOs to submit a Title VI Program report certifying compliance every three years. (MPOs that have the responsibility typically held by transit operators, such as development of new transit services or setting of transit fares must also conduct equity studies if proposing significant service or fare changes.) The Circular requires that MPOs include the following information in their Title VI Program reports:

1. All general requirements set out in section 4 of Chapter III of the Circular
2. A demographic profile of the metropolitan area that includes identification of the locations of minority populations in the aggregate
3. A description of the procedures by which the mobility needs of minority populations are identified and considered within the planning process

4. Demographic maps that overlay the percent minority and non-minority populations as identified by Census or ACS data, at Census tract or block group level, and charts that analyze the impacts of the distribution of State and Federal funds in the aggregate for public transportation purposes, including Federal funds managed by the MPO as a designated recipient
5. An analysis of impacts identified in paragraph (4) that identifies any disparate impacts on the basis of race, color, or national origin, and, if so, determines whether there is a substantial legitimate justification for the policy that resulted in the disparate impacts, and if there are alternatives that could be employed that would have a less discriminatory impact.

This information is submitted to the State as the primary recipient of funding and also to FTA separately from the RTP. This Title VI analysis is applicable to the MPO activities and planning process as a whole. Federal law requires each MPO periodically to "certify . . . that the metropolitan transportation planning process is being carried out in accordance with . . . Title VI of the Civil Rights Act of 1964." 23 CFR § 450.334 (a) (3). A valid Title VI Analysis is an essential part of a valid Title VI certification.

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 EO 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 "disproportionately 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 "disproportionately high and adverse effect on minority and low-income populations," defined as "an adverse effect that: (I) 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 direction related to the responsibilities of MPOs on environmental justice as recipients of federal funds. 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 EO 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.

Incorporating Environmental Justice Principles into Decision Making Processes

Specific to low-income and minority populations, MPOs are required to conduct an EJ analysis. The requirement of an EJ analysis grows out of the requirement in the federal EJ EO to "*identify and address*, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations." As described in FTA Circular 4703.1, an EJ analysis starts with knowing basic socioeconomic information about the people who live and/or work in the region. This information will provide a basis for developing a public engagement plan that will encourage the full and fair participation by all members of the affected communities. The public participation plan ensures that community concerns and engagement can guide the identification of programs, policies, and activities, and ensure that actions taken will not result in disproportionately high and adverse human health or environmental effects on EJ populations.

Chapter 2 of FTA Circular 4703.1 on EJ describes a four-step process for conducting an EJ analysis: "Step 1: Know your community by analyzing demographic data. Step 2: Develop Public Engagement Plan that responds to the community. Step 3: Consider proposed project and likely adverse effects and benefits. Step 4: Select alternative, incorporate mitigation as needed." MPOs may adjust the above four step framework to fit the particular activity they are analyzing. Each step is discussed in more detail in the Circular: Step 1 is discussed in chapter II; Step 2 in chapter III; and Steps 3 and 4 in Chapters IV and V. MPOs are advised to consult this Circular for details and specific requirements and recommendations. The Circular also contains recommendations for

State DOTs, MPOs, and transit providers on "(1) how to fully engage EJ populations in the transportation decision-making process; (2) how to determine whether EJ populations would be subjected to disproportionately high and adverse human health or environmental effects of a public transportation project, policy or activity; and (3) how to avoid, minimize or mitigate these effects."

Title VI Analysis and EJ Analysis

There may be some overlap between EJ and Title VI analyses; however, engaging in EJ analysis during the federal transportation planning process will not necessarily satisfy Title VI requirements. Conversely, a Title VI analysis would not necessarily satisfy EJ requirements since Title VI does not include low-income populations. Moreover, Title VI applies to all federally funded projects and activities, including those that will provide new benefits or services, not solely those activities that may have adverse human health or environmental effects on communities, which the U.S. DOT Order on EJ defines very broadly.

Requirements (Shall)
Federal: Title 23 CFR Part 450.316(a); Title 42 U.S.C. Chapter 21 Section 2000(d) (Title VI of the federal Civil Rights Act of 1964); Title 49 CFR Part 21 (Title VI Regulations); portions of FTA Circular 4702.1B – Title VI Requirements and Guidelines for FTA Recipients; Presidential EO 12898 on Environmental Justice (1994): portions of U.S. DOT Order 5610.2(a) (2012) and FHWA Order 6640.23A (2012).
State: GC Section 11135

Recommendations (Should)
Federal: FTA Circular 4703.1 – EJ Policy Guidance for FTA Recipients; 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: To be included in Appendix G in second public draft

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 450.316(a)(1)(vii) requires that an MPO's public participation plan 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 communities and communities of color, who may face challenges accessing employment and other services.

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 may include:

- Provide all materials related to the update with adequate time for public review and input.
- Hold meetings at convenient and 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
- Use plain language so that information is easy to read and understand and avoids technical terms and jargon;
- 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 efforts should be made to reach individuals with limited/no internet access, such as those in rural communities
- Provide interpretation at meetings for non-English speakers; and,
- Ensure meetings are attended by MPO decision makers in addition to MPO staff.

In addition to the practices listed above, MPOs 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: To be included in Appendix G in second public draft

4.4 Participation Plan

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. At the same time, especially for MPOs as a result of SB 375, there has been and continues to be, increased interest in regional transportation planning by individuals and groups not previously involved.

The RTP is one of the key processes an MPO undertakes. It is a primary avenue for public participation in the long-range transportation planning process. Title 23 CFR Part 450.316(a) states the following concerning participation and consultation:

"The MPO shall develop and use a documented participation plan that defines a process for providing individuals, affected public agencies, representatives of public transportation employees, public ports, freight shippers, providers of freight transportation services, private providers of transportation, representatives of users of public transportation, representatives of users of pedestrian walkways and bicycle

transportation facilities, representatives of the disabled, and other interested parties with reasonable opportunities to be involved in the metropolitan transportation planning process."

Title 23 CFR Part 450.316(a)(1) also requires that public participation plans be developed by MPOs in consultation with all interested parties and describe explicit procedures, strategies, and desired outcomes for:
(i) 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 metropolitan transportation plan and the TIP
(ii) Providing timely notice and reasonable access to information about transportation issues and processes
(v) Holding any public meetings at convenient and accessible locations and times
(vii) 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 MPO's participation plan is to establish the process by which the public can participate in the development of RTPs and programs. The public participation plan should be designed to assist MPO staff in implementing an effective public participation process through a variety of strategies. It provides MPO staff with a menu of techniques or activities from which they can tailor their specific program's input process. MPOs 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: https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/f0009283-ppp-final-v1-0-041018-a11y.pdf.
Which public participation methods the MPO 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 MPOs 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 shall be made as part of the final RTP.

It is important to note that the public participation plan should be prepared prior to the development of the RTP. The public participation plan should have public input during its preparation and have a 45-day comment period before the MPOs board adopts it. This enhanced public participation plan is a federal requirement. MPOs that currently have a public participation plan per federal requirements do not need to adopt another plan to meet SB 375 requirements for additional public participation. The public participation requirements for development of the SCS, pursuant to the requirements of SB 375, can be incorporated into the existing plan.

Title 23 CFR Part 450.316(a)(1)(iii) requires the participation plan to use visualization techniques to describe the RTP and FTIP. 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 MPO.

The public participation plan, the draft and adopted RTP shall be posted on the MPO website to the maximum extent practicable and for the life of the RTP. It is also recommended that MPOs 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 MPO may develop a more specialized public involvement program if that promises to be more effective.

In developing RTPs, the MPO 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. Tourism
6. Natural disaster risk reduction
7. Environmental protection
8. Airport operations
9. Goods Movement

When the MPO region includes California Indian Tribal Lands (reservations, Rancherias, and allotments) the MPO shall appropriately involve the federally recognized Native American Tribal Government(s) in the development of the RTP. The MPO 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) established "Tribal Cultural Resources as a new, separate, and distinct resource to be analyzed in the CEQA process. A project that causes an adverse change to a tribal cultural resource is one that may have a significant effect on the environment, so the MPO should avoid or mitigate impacts to Tribal Cultural Resources when feasible. The MPO must also begin consultation with a California Native American Tribe that is traditionally and culturally affiliated with the MPO region prior to the release of a Negative Declaration, a Mitigated Negative Declaration, or an Environmental Impact Report if the tribe requested, in writing, to be informed by the lead agency of proposed projects in that geographic area and if other procedural requirements are met. See Section 4.9 Native American Tribal Government Consultation and Coordination for further discussion.

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

The MPO shall also, to the extent practicable, develop a documented process that outlines roles, responsibilities, and key decision points for consulting with other governments and agencies.

MPOs 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.

For MPOs, SB 375 increased the minimum level of public participation required in the regional transportation planning process including collaboration between partners in the region during the development of a SCS (see Sections 4.7 and 4.8).

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 for the SCS and the APS, if applicable. Use of these tools will help facilitate more effective and meaningful public involvement in development and refinement of the SCS and APS, if applicable. A Public Participation Plan includes public outreach, public awareness, and public input beginning with the planning stage.

Periodic Evaluation of the Public Participation Plan

A periodic review of the public participation plan 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 participation plan, 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 (Shall)
Federal: Title 23 CFR Part 450.316 requires that the MPO shall develop and use a documented participation plan that defines a process for providing reasonable opportunities for all parties to comment and be involved in the metropolitan transportation planning process.
State: GC Section 65080; Public Resources Code Section 5097.94, and Sections 21073 through 21084.3.

Planning Practice Examples: To be included in Appendix G in second public draft

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, Transportation Network Companies, micro-mobility companies, 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, employers, 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 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.

MPOs 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 MPO should strive to take into consideration who makes up the private sector and importance of engaging them in major long-range plans, as these organizations 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 (Shall)
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 450.316 (a) require the transportation planning process include input from the goods movement industry and other transportation organizations.

Recommendations (Should)
State: California GC 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: To be included in Appendix G in second public draft

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 and metropolitan transportation planning has been expanded. Title 23 CFR Part 450.324(j) provides the list of interested parties that shall be provided with a reasonable opportunity to comment on the RTP using the Public Participation Plan developed under 450.316(a). The MPO 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
11. Other interested parties

Consistent with SB 375, the MPO shall adopt a Public Participation Plan in advance of developing an SCS and/or APS to also include consultation with congestion management agencies, transportation agencies, and transportation commissions. Reference Section 4.4 for Public Participation requirements and Section 4.5 for Private Sector Involvement. The remaining sections of this chapter provide more detailed requirements for RTP/SCS input, consultation, and coordination.

Requirements (Shall)
Federal: Consulting with interested parties on plans, programs and projects shall include individuals or organizations that are mentioned in Title 23 CFR Part 450.316(a). Title 23 CFR Part 450.316(d) requires MPOs to consult with federal land use management agencies as appropriate during the development of RTP. Title 23 CFR part 450.324(g) states that MPOs 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. Title 23 CFR Part 450.324(j) provides the list of interested parties that shall be provided with a reasonable opportunity to comment on the RTP using the Public Participation Plan developed under 450.316(a).
State: GC Section 65080

Planning Practice Examples: To be included in Appendix G in second public draft

4.7 Input and Consultation on SCS Development

This section applies only to federally designated MPOs that are required to prepare a SCS, and APS, if applicable.

Existing federal regulations require MPOs to ensure the general public, resource agencies and Native American Tribal Governments are consulted during the development of the RTP. As a result of SB 375, this input and consultation requirement has been expanded.

SCS Public Participation Plan

Consistent with SB 375, the MPO shall adopt a Public Participation Plan in advance of developing an SCS and/or APS to include:

- Outreach and engagement efforts encouraging the active participation of a broad range of stakeholders in the planning process, consistent with the MPO's adopted Federal Public Participation Plan. This includes, but is not limited to, affordable housing advocates, transportation advocates, neighborhood and community groups, environmental advocates, home builder representatives, broad-based business organizations, landowners, commercial property interests, and homeowner associations.
- Consultation with congestion management agencies, transportation agencies, and transportation commissions.
- Regional public workshops with information and tools providing a clear understanding of policy choices and issues. At least one workshop in each county. At least three workshops for counties with a population greater than 500,000. To the extent practicable, each workshop shall include urban simulation computer modeling to create visual representations of the SCS and APS.
- Preparation and circulation of a draft SCS (and APS, if one is prepared) not less than 55 days before adoption of a final RTP.
- For multiple-county MPOs at least three public hearings shall be held on the draft SCS in the RTP (and APS, if any). For a single county MPO, at least two public hearings shall be held. To the maximum extent feasible, the hearings shall be in different parts of the region to maximize the opportunity for participation by members of the public throughout the region.
- A process enabling the public to provide a single request to receive notices, information, and updates.

This public participation plan is not required to be reviewed or approved by any state agency, but it is recommended that a summary discussion of the RTP/SCS public participation process be included in the RTP. However, the MPO should maintain a record of its public participation efforts relative to the SCS and APS if applicable, and therefore, it is recommended these additional requirements should be included in the federally required public participation plan.

Consultation with Local Elected Officials

During the development of the SCS (and APS if applicable), the MPO must conduct at least two informational meetings in each county for members of the board of supervisors and city councils. Only one informational meeting is needed in each county if it is attended by representatives of the county board of supervisors and city councils that represent a majority of the cities representing a majority of the population in the incorporated areas of that county. The purpose of this meeting (or meetings) shall be to discuss the SCS (and APS if applicable), including the key land use and planning assumptions, with the members of the board of supervisors and city council members in that county and to solicit and consider their input and recommendations. Notices of these meetings are to be sent to the clerk of the board of supervisors and city councils.

Continuing with a collaborative transportation planning process, MPOs work and consult with local elected officials as key stakeholders in the regional transportation system. While local elected officials serve on regional agency boards, expanded consultation is required pursuant to GC Section 65080(b)(2)(E) and (F) to provide outreach to all local elected officials and their member jurisdictions affected by the SCS (and APS if applicable). This is particularly significant in those regions where not all cities and counties have a permanent seat on the MPO board. Early consultation with all member agencies may avoid future conflicts with implementation of the RTP including the SCS (and APS, if applicable).

Pursuant to GC Section 65080(b)(2)(G), in preparing an SCS, the MPO shall consider spheres of influence that have been adopted by Local Agency Formation Commissions (LAFCOs) within the region. MPOs should also consult with LAFCOs regarding special districts within the region that provide property-related services such as water or wastewater services, and should consult with these regional special districts, as appropriate, during development of an SCS (and APS if applicable).

Consultation with School Districts

Additionally, MPOs should consider consultation with school districts within their region during development of the RTP. School-related trips constitute a significant portion of all vehicle trips. For that reason, MPOs are encouraged to share data on growth projections and consult with school districts in the development of the SCS (and APS if applicable), especially with respect to land uses and the regional transportation system. Where possible, an SCS should incorporate current and future school needs into the RTP. Some school districts use School Facilities Master Plans (SFMP) as a way to compile comprehensive data on the district's long-term facilities including the general location of planned new schools and the expansion, revitalization, and reuse of existing schools. A SFMP may also contain Board of Education adopted policies related to joint use and the district's sustainability efforts which can dovetail with community and regional efforts (e.g. infill, reuse, busing, pedestrian/bike safe routes to schools, etc.).

For additional information on the consultation process please refer to Section **4.1**, **4.9**, and **4.10**.

4.8 Interagency Coordination on SCS Development

As the MPO works on RTP development and approval, interagency coordination with both federal and State agencies provides necessary information for the RTP, and notification to all interested parties. Advanced and continuous coordination with all appropriate agencies is highly recommended. MPO development of the RTP should include interagency coordination with, but not limited to, the following entities:

1. Federal agencies, including FHWA, Environmental Protection Agency (EPA), and FTA
2. HCD
3. CARB
4. Caltrans
5. Appropriate Resources Agencies (see list in **Section 4.10**)
6. Adjacent MPOs with which the MPO shares a significant amount of interregional travel.

CARB must exchange technical information with Caltrans, MPOs, local air districts, and local governments in developing the regional GHG reduction targets for the MPOs. MPOs are strongly encouraged to participate in the target update process by providing CARB with region-specific target recommendations supported by modeling, technical data and analysis.

Prior to the public participation process, MPOs shall submit their technical methodology to CARB as part of their SCS development to understand how the MPO will estimate the greenhouse gas emissions from the SCS or APS, if appropriate. MPO are encouraged to

work with CARB until CARB concludes that the technical methodology operates accurately.

The CTC also encourages State agencies to work with the MPOs to provide the best data and information available as they develop their GHG emissions modeling methodology together with CARB.

MPOs are also encouraged to work with HCD to incorporate the appropriate RHNA within their RTPs.

A Sequencing Flowchart showing the RTP development and approval process for MPOs as they work with these entities is located in **Section 2.8** of the RTP Guidelines.

4.9 Native American Tribal Government Consultation and Coordination

During the development of the RTP, Tribal Government ***consultation*** can be described as the meaningful and timely process of seeking, discussing, and carefully considering the views of leaders of federally recognized Tribal Governments and, where feasible, seeking agreement on important matters. The MPO 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 MPOs transportation plans, programs, projects, and schedules with similar documents prepared by the tribe. The MPO 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.

When the MPO region includes California Indian Tribal Lands (reservations, Rancherias, and allotments) the MPO shall appropriately involve the federally recognized Native American Tribal Government(s) in the development of the RTP. The MPO should also seek input 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 mandates that agencies must consult with tribes regarding impacts to Tribal Cultural Resources as an impact under CEQA.

The MPO should include a discussion of consultation, coordination, and communication with federally recognized Tribal Governments when the tribes are located within the boundary of an MPO/RTPA. The MPO should establish a government-to-government relationship with each tribe in the region. This refers to the protocol for communicating

between the MPOs 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 MPO 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 Caltrans Native American Liaison Branch (NALB) at: https://dot.ca.gov/programs/planning-modal/race-equity/nalbThe NALB webpage also provides contact information for the Caltrans 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. 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.

Requirements (Shall)
Federal: Title 23 CFR part 450.316(c) requires MPOs to involve the federally recognized Native American Tribal Government in the development of the RTP and FTIP. Title 23 CFR part 450.316 (a)(1), the participation plan shall be developed by the MPO in consultation with all interested parties and shall, at a minimum, describe explicit procedures, strategies, and desired outcomes. 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 MPOs must consult with tribes with regards to Tribal Cultural Resources as part of the CEQA process.

Planning Practice Examples: To be included in Appendix G in second public draft

4.10 Consultation with Federal Land Management and 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 which may be impacted by the RTP. State and federal resource agencies may be able to assist MPOs by providing data, maps, or other information.

The consultation efforts shall 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.

Federal requirements seek to receive input/comments from resource agencies early in the planning process. 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 include 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 green prints 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 MPO 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. FHWA
2. FTA
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. CARB
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
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. MPOs in the Sacramento Valley and Southern California have chosen a targeted approach and send letters to specific stakeholders requesting comment/s on plans, programs, and projects. When responses are not received, these MPOs follow-up on the request by asking for a reason from the resource agency as to why a response was not received.

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 must 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 (Shall)
Federal: Title 23 CFR Part 450.324(g)(1) & (g)(2) requires that the MPO 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. 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 450.324(f)(10) (and described more fully in **Section 5.2**) shall be developed in consultation with Federal, State, and Tribal land management, and regulatory agencies. 23 CFR 93.105 for interagency consultation for transportation conformity.
State: CEQA, consultation with agencies, governments or individuals that could potentially be impacted by transportation projects in the RTP. GC Section 65080(b)(2)(B)(v) requires that MPOs develop a SCS (which is part of the RTP) that shall gather and consider the best practically available scientific information regarding "resource areas" and "farmland" as defined in subdivisions (a) and (b) of GC Section 65080.01.

Planning Practice Examples: To be included in Appendix G in second public draft

4.11 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

MPOs 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 metropolitan transportation planning process. In any case, MPOs should ensure that the plan is coordinated and consistent with their regions' metropolitan 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 and 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. Further, the annual list of obligated projects is a planning requirement that will necessitate active involvement by the MPO in those programs.

Recommendations (Should)

Federal: Title 23 CFR Part 450.306(h) states the regional 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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Chapter 5 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 NEPA in 1969, which requires federal agencies to consider the environmental impacts of their actions. In a similar vein, California passed the 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. MPOs 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 metrics of transportation impact used in CEQA from Level of Service and vehicle delay to one that promotes the reduction of GHGs, the development of multimodal transportation networks, and a diversity of land uses for transit priority areas. Except any of the events specified in Public Resources Code Section 21166, a residential, employment center, or mixed-use development project, including a subdivision or any zoning change is exempted from SB 743 requirements if the project is (a) within a transit priority area; (b) to implement and consistent with a specific plan for which an EIR has been certified; (c) consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in an CARB-accepted SCS/APS (Public Resources Code Sections 21155.4 and 21099; GC Section 65080). Per CARB's 2022 Scoping Plan, reductions in VMT and widespread transportation electrification are needed to meet carbon neutrality by 2045. VMT has been identified by the Governor's Office of Planning and Research (OPR) as the most appropriate metric to evaluate a project's transportation impacts. Lead agencies should refer to current CEQA statutes, regulations, and case law when performing CEQA analysis for their RTPs/SCSs.

For more information refer to SB 743 implementation resources, https://dot.ca.gov/programs/sustainability/sb-743/sb743-resources

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 MPO 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 Green House Gases:
http://www.capcoa.org/wp-content/uploads/2012/03/CAPCOA-White-Paper.pdf

Program EIR

Many MPOs prepare a Program Environmental Impact Report (PIER) to analyze the environmental impacts of implementing their RTP. The purpose of the PEIR is to enable the MPO 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 PEIR 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 PEIR 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 D** Glossary for a definition of 'tiering')

Changes to the RTP/FTIP

When the MPO modifies its RTP/FTIP, it must determine whether the proposed changes have the potential to impact the environment and trigger CEQA review. As a lead agency under CEQA, it is the responsibility of each MPO to analyze 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 6.27 provides further guidance for GHG reduction and Section 6.29 provides guidance for addressing adaption of the regional transportation system to climate change. The full CEQA guidance is available at: https://ceq.doe.gov/guidance/ceq_guidance_nepa-ghg.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

Federal requirements are intended to enhance the consideration of environmental issues in the transportation planning process. Pursuant to Title 23 CFR Part 450.324, 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 MPO to compare the RTP with available state conservation plans or maps and inventories of natural or historic resources. 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". For additional information related to consultation with resource agencies on regional mitigation activities, see Section 4.10.

Requirements (Shall)
Federal:

Title 23 CFR Part 450.324(f)(10):
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 metropolitan transportation plan. The discussion shall be developed in consultation with Federal, State, and Tribal land management, wildlife, and regulatory agencies.
Title 23 CFR Part 450.324(g)(1) and (2):
Requires that the MPO 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. 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.
Title 23 CFR Part 450.306(b)(5):
Requires that the metropolitan 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.

Planning Practice Examples: To be included in Appendix G in second public draft

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.

Recommendations (Should)
Federal: Title 23 CFR Part 450.318 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 and 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/CEQA environmental analysis required during project delivery can work in tandem with the results of the transportation planning process informing the NEPA/CEQA 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**. For a more in-depth discussion of potential environmental impact and resource areas, please see Volume 1 of the Standard Environmental Reference at:

https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser

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. 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.

For RTPs in the coastal zone, the environmental analysis conducted during the planning process for projects should also include an evaluation of consistency with the California Coastal Act and applicable certified Local Coastal Programs.

Wetlands

Wetlands and other waters are protected under several laws and regulations, including the federal Clean Water Act, federal EO for the Protection of Wetlands (EO 11990), and state Porter-Cologne Water Quality Control Act and parts of the state Fish and Wildlife 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. EPA.

The EO for the Protection of Wetlands (EO 11990) states that a federal agency, such as the FHWA, cannot undertake or aid with 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 DOT 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 several 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 consider 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 SB 908, which was passed in 2001, the Coastal Conservancy, Coastal Commission, and State Parks were directed to coordinate and facilitate development of the CCT. AB 1396 was passed in 2007 and amended Public Resources Code Section 31408 to include Caltrans as another agency responsible for development of the CCT. AB 1396 also added Section 65080.1 to the California GC, which mandates that provisions for the CCT be provided in each RTP for those MPOs located along the coast. Negative impacts to the CCT network should be avoided and opportunities for fully mitigating any such impacts, or for improving and expanding the CCT, should be clearly identified in each RTP. More information and guidance relative to the CCT can be found in **Section 6.11** and at: http://scc.ca.gov/projects/california-coastal-trail/

www.coastal.ca.gov/access/ca-coastal-trail/coastal-trail.pdf

Floodplains

EO 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.

https://wildlife.ca.gov/Conservation/CESA https://wildlife.ca.gov/Data/BIOS

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.

AB 2087 (Chapter 455, Statutes of 2016) established a conservation planning tool called a Regional Conservation Investment Strategy 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 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.

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

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

Air Quality Impacts

The Clean Air Act as amended in 1990 is the primary federal law that governs air quality. This law mandates the U.S. EPA to establish national air quality standards. The U.S. EPA must review the standards every five years and revise them as necessary to protect public health and welfare. RTPs for MPOs in nonattainment/maintenance areas are required to show compliance with the federal Clean Air Act through the transportation conformity process.

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, CARB sets and updates State air quality standards. The California Clean Air Act requires attainment as expeditiously as practicable but does not require RTPs to demonstrate conformity like the federal Clean Air Act.

Reducing emissions is critical to achieving improved health outcomes and meeting air quality standards. The regional planning process provides an excellent forum to promote measures to improve health and reduce emissions. When practicable, RTPs may discuss the public health impact associated with the operations of on-road passenger and freight vehicles and seek to promote the implementation of the lowest emission technologies available to provide the needed utility for a proposed transportation network.

Requirements (Shall)
Federal: Title 23 CFR Part 450.306(b)(5) requires that the metropolitan planning process addresses protection and enhancement of the environment, among other planning factors
State: GC Section 65080(b)(2)(B)(v) requires that MPOs develop a SCS (which is part of the RTP) that shall gather and consider the best practically available scientific information regarding resource areas and farmland in the region as defined in subdivisions (a) and (b) of GC Section 65080.01.

Recommendations (Should)
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: To be included in Appendix G in second public draft

5.5 Project Intent Statements/Plan Level Purpose and Need Statements

Previous versions of the RTP Guidelines 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.

MPOs 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 RTIP
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 (Should)

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.

Planning Practice Examples: To be included in Appendix G in second public draft

5.6 Air Quality and Transportation Conformity

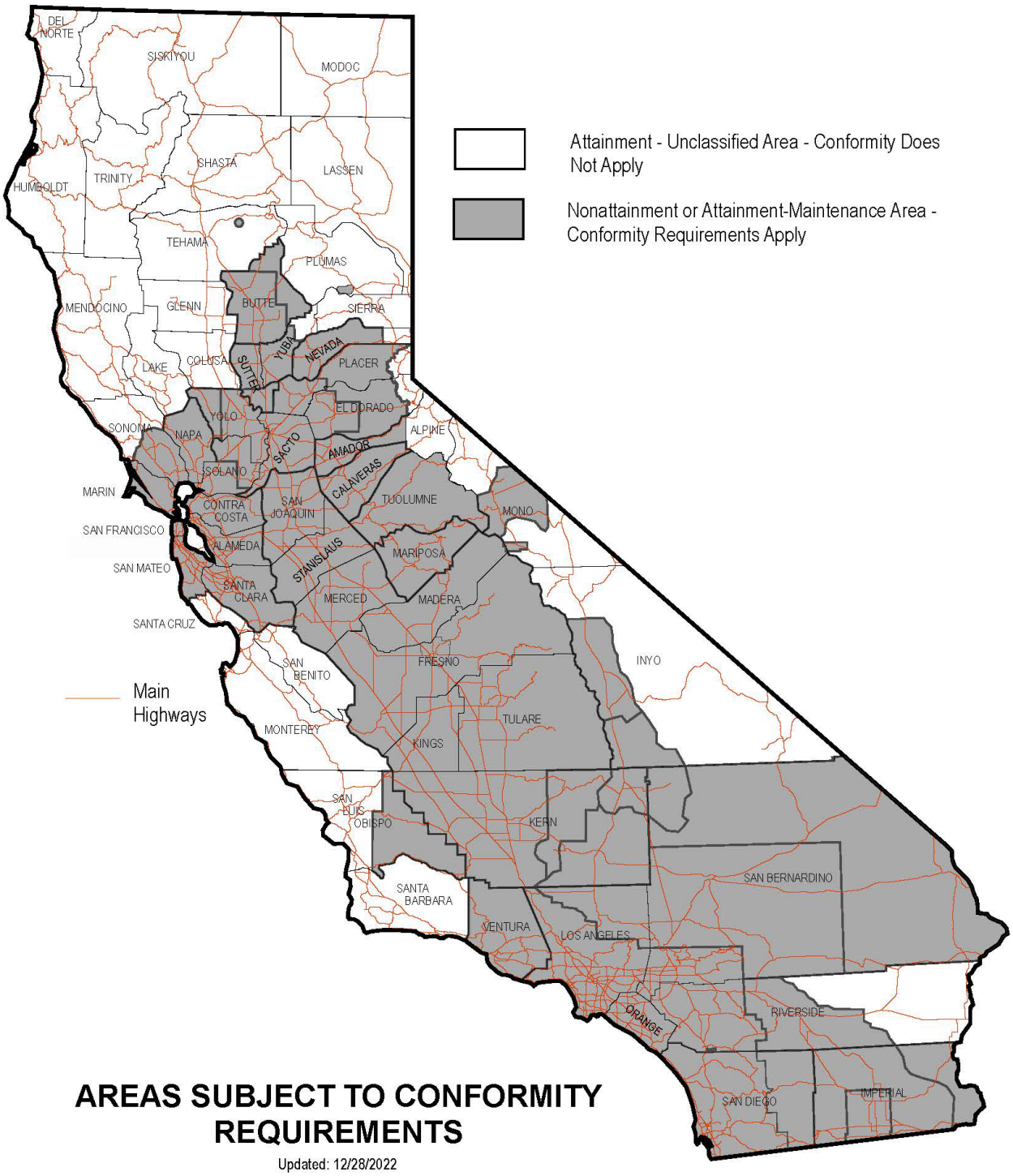
Federal and State Clean Air Act

The Clean Air Act as amended in 1990 is the primary federal law that governs air quality. This law mandates the U.S. EPA to establish the standards for the concentrations 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 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 CARB 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, CARB 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 AQMD perform regional air quality planning in consultation with the MPO, 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 NAAQS mandated by the Clean Air Act. If the area does not meet the NAAQS, it is designated as a nonattainment area. The area must then submit an attainment plan showing how the area will meet the NAAQs. Once a nonattainment area attains a NAAQS, the area may develop a maintenance SIP and submit 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 NAAQS. All of California except Lake County fails to attain one or more of the State ambient air quality standards.



AREAS SUBJECT TO CONFORMITY REQUIREMENTS

Updated: 12/28/2022

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SIP Transportation Conformity Requirement

Transportation conformity is required by section 176(c) of the 1990 Federal Clean Air Act. Transportation conformity to a SIP means that on-road transportation activities will not produce new air quality violations, worsen existing violations, or delay timely attainment of the NAAQS. 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(40 CFR 93.101), 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. 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 nonattainment and maintenance areas. When areas are designated as nonattainment 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. RTP and FTIP amendments, Federal project approvals and Federal funding are all contingent upon the conformity determination that shows that the total emissions projected in the RTP and FTIP are within the motor vehicle emission limits or 'budgets' established in the SIP. Before budgets are established in the SIP, "interim" emission tests are also available. The conformity regulations also contain specific requirements for fiscal constraint and assumptions to be used in the emissions analysis.

No new transportation conformity requirements were created by the BIL/IIJA; however, previous requirements were modified to shorten or lengthen the time period for conformity determinations and re-determinations, to add or substitute transportation control measures (TCMs) in an approved SIP, and to adjust the frequency of conformity determinations. The Clean Air Act section 176(c) (42 U.S.C. 7506(c)) was amended, and U.S. EPA regulations at 40 CFR 93 Subpart A have been amended to conform to the Clean Air Act changes, as noted below.

RTPs are subject to regional conformity, while RTP projects are not exempt from conformity project cost, scope, and schedule must be consistent with the RTP. MPOs are encouraged to work closely with project sponsors to ensure no project delivery delays result from development of project level conformity determinations.

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

Requirements (Shall)
Federal: RTPs prepared by MPOs in areas subject to transportation conformity requirements shall meet the requirements of Title 42 U.S.C. Section 7506(c) and Title 40 CFR Part 93 Subpart A regarding transportation conformity. The specific conformity requirements are listed in CFR Section 93.100-129 and apply to all nonattainment and maintenance areas.

Title 40 CFR Part 93.104(b)(3) and (c)(3) sets the required frequency of transportation conformity determinations for RTPs and FTIPs at four years; Title 42 U.S.C. Section 7506(c)(2)(E) and Title 40 CFR Part 93.104(e) provide two years to determine conformity after new SIP motor vehicle emissions budgets are either found adequate, approved or promulgated; Title 42 U.S.C. Section 7506(c)(9) adds a one-year grace period before the consequences of a conformity lapse apply; Title 42 U.S.C. Section 7506(c)(4)(e) and Title 40 CFR Part 93.105 streamline requirements for conformity SIPs; and, Title 42 U.S.C. Section 7506(c)(8), Title 40 CFR Part 93.113, and EPA's policy January 2009 guidance (EPA420-B-09-002) identify procedures for areas to use in substituting or adding transportation control measures (TCMs) to approved SIPs.

Transportation Control Measures

The RTP shall discuss ways in which activities in the plan will conform to the SIP, including TCM implementation. To achieve consistency between the RTP and the SIP, all TCMs identified in the SIP and approved by U.S. EPA must be identified in the RTP by MPOs in areas subject to conformity requirements (Title 40 CFR Part 93.113).

The conformity analysis prepared for the RTP shall describe both completed TCMs and TCMs that are underway. 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 MPO is taking to address the delay. TCM projects must receive priority for funding.

Interagency Consultation

There is a formal interagency consultation requirement in areas subject to conformity requirements; see Title 40 CFR Parts 93.105 and 93.112. Consultation for key decisions related to the conformity analysis (and to many individual projects in areas subject to conformity because of particulate matter NAAQS nonattainment or maintenance) must include FHWA, FTA, U.S. EPA, CARB, Caltrans, the MPO, and local transit providers. The air pollution control/air quality management districts(s) shall also be included. Identifying the consultation partners and defining the form of local consultation procedures is the core of the "Conformity SIP" required by Title 40 CFR Part 51.390.

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 (Should)
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.

Planning Practice Examples: To be included in Appendix G in second public draft

5.7 Analysis of GHGs and Achievement of SB 375 GHG Targets

Pursuant to Public Resources Code Section 21083.05 and Sections 15064 and 15064.4 of the California Code of Regulations, the CEQA Guidelines require analysis of the potential direct, indirect, and cumulative greenhouse (GHG) emissions impacts and mitigation of any significant impacts. California GC Section 65080 requires that an MPO demonstrate that its SCS would, if implemented, achieve the GHG reduction targets set by CARB. These targets are established for each MPO region, for the years 2020 and 2035. MPOs are required to submit their final SCSs and quantification of the GHG emissions reductions to CARB for review and concurrence with the MPO's determination. If CARB determines that the Sustainable Community Strategy submitted would not, if implemented, achieve the GHG emissions reduction targets, the MPO shall revise its strategy or adopt an APS, if not previously adopted, and submit the strategy for review pursuant to the paragraph above. At a minimum, the MPO must obtain CARB acceptance that an APS would, if implemented, achieve the GHG emission reduction targets established for that region by the state board. Integration of climate change policies in the RTP coupled with analysis of climate impacts, and mitigation of significant impacts identified in the environmental document, supports the statewide effort to reduce GHG emissions and combat the effects of climate change. Additional information regarding state goals and policies relating to climate change is available in **Section 2.2**.

Chapter 6

RTP Contents

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Chapter 6 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 GC 65080, each MPO 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 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 (GC 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 (GC Section 65080 (b)(1)) and,
3. Maintains internal consistency with the Financial Element and fund estimates.

State law requires that the objectives shall (GC 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 and supportive strategies and related land use forecast assumptions. These land-use assumptions consider the latest planning documents and associated policies of the local jurisdictions. 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. The Policy Element should clearly identify and describe the SCS strategies,

including land use, transportation, and other strategies intended to reduce per capita GHG emissions from passenger vehicles. It should also explain implementation actions to support the Policy Element, and how the financial commitments are consistent with and support the land use pattern and goals of the RTP.

Although not required by law, MPOs should identify a set of indicators that will be used to assess the performance of strategies in the RTP. In addition, the RTP should identify the criteria that the MPO or RTPA/County Transportation Commission used to select the transportation projects on the constrained and unconstrained project lists. More information for performance measurement is available in Chapter 7.

The SCS

The second component of the RTP (for MPOs only) is a SCS, as required by GC Section 65080(b)(2)(B). The SCS is statutorily required to:

1. Identify the general location of uses, residential densities, and building intensities within the region
2. Identify areas within the region sufficient to house all the population of the region, including all economic segments of the population over the course of the planning period of the RTP considering net migration into the region, population growth, household formation and employment growth
3. Identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region pursuant to GC Section 65584
4. Identify a transportation network to service the transportation needs of the region
5. Gather and consider the best practically available scientific information regarding resource areas and farmland in the region as defined in subdivisions (a) and (b) of GC Section 65080.01
6. Consider the state housing goals specified in Sections 65580 and 65581
7. Utilize the most recent planning assumptions, considering local general plans and other factors (see Section 6.24 for additional guidance)
8. Set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the GHG emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the GHG emission reduction targets approved by CARB
9. Provide consistency between the development pattern and allocation of housing units within the region (GC 65584.04(i)(1)
10. Allow the RTP to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Section 7506)

The Action Element

The third major component as required in GC 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, including the SCS, 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. Additionally, the action element should highlight programs, policies, technical assistance, investments, or other actions to support strategies and goals in the plan. The action element is critical to providing clear direction about the roles and responsibilities of the MPO and other agencies to follow through on the RTP's policies and projects. It consists of short and long-term actions 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 Action Element is divided into two sections. The first section includes a discussion of the preparatory activities such as identification of existing needs, assumptions, and forecasting and potential alternative actions. The second section addresses the data and conclusions.

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 strategies and 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.

GC Section 65080 (b)(4)(C) states that the MPO or county transportation agency, whichever entity is appropriate, shall consider financial incentives for cities and counties that have resource areas or farmland, as defined in GC Section 65080.01, for the purposes of, for example, transportation investments for the preservation and safety of the city street or county road system and farm to market and interconnectivity transportation needs. The MPO or county transportation agency, whichever entity is appropriate, shall also consider financial assistance for counties to address countywide service responsibilities in counties that contribute towards the GHG emission reduction targets by implementing policies for growth to occur within their cities.

It is very important that RTPs reflect the transportation needs of the specific region. There are State statutory content requirements for the SCS, 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.

Consistency between the SCS and the RTP Policy, Financial and Action Elements

The RTP shall be an "internally consistent" document. This means that the contents of the Policy, Action, Financial Elements, and SCS shall be consistent with one another. As a result, transportation investments and the forecasted development pattern in the SCS should be complementary and not contradictory. For information regarding transportation projects exempt from the internal consistency provisions of SB 375 pursuant to GC Section 65080(b)(2)(L) please refer to **Section 6.15** of these Guidelines.

For more detailed information regarding the contents of an SCS please refer to **Section 6.24** of the RTP Guidelines.

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 (Shall)
Federal: Title 23 CFR Part 450.324
State: California GC Section 65080

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 MPO, 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 and each TIP prepared by the MPO to include a financial plan that demonstrates how the adopted Plan and TIP 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 and FTIP, identify innovative financing techniques to finance projects, programs, and strategies, and recommend any additional financing plans 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 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 MPO, 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. Reasonably available new funding sources and strategies shall also be identified. All revenue estimates for the financial plan must use an inflation rate that reflects the "year of expenditure dollars" developed cooperatively by the MPO, State and transit operators.

2. Projected Costs – The MPO shall consider all projects, programs, 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 four-year FTIP and the RTP must be included. 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 MPO 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). MPOs are encouraged to provide the timing or year of construction for major investments, as practicable.

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 potential shortfalls to an MPOs budget. To the extent there appear to be shortfalls, the MPO must 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 MPO or transit operators' past record of obtaining funding. If it relies on new funding sources, the MPO must demonstrate that these funds are reasonably expected to be available.

Requirements (Shall)
Federal: Title 23 CFR Part 450.324(f)(11)
State: California GC Section 65080(b)

Planning Practice Examples: To be included in Appendix G in second public draft

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'." Metropolitan transportation plan refers to the long-range transportation plan of a MPO. In California, the term RTP is commonly used for MPOs and RTPAs.

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. 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 450.218(m)). 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 (Shall)
Federal: Title 23 CFR Part 450.324(f)(11)
State: California GC Section 65080(b)

Planning Practice Examples: To be included in Appendix G in second public draft

6.4 Listing of Constrained and 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 MPO 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 (Shall)
Federal: Title 23 CFR Part 450.324(f)(11) Requires a fiscally constrained list of projects.

Recommendations (Should)
Federal: Title 23 CFR Part 450.324(f)(11)(vii) For illustrative purposes, the list of projects may include additional projects if an additional source of funds is located.

Planning Practice Examples: To be included in Appendix G in second public draft

6.5 Revenue Identification and Forecasting

Revenue forecasts for RTPs can consider 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 MPO, 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 450.324(f)(11)(iv), the MPO shall consider 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. Funding estimates contained in the RTP must use an inflation rate to reflect "year of expenditure dollars".

Title 23 CFR Part 450.324(f)(11)(viii) states: "In cases that the FHWA and the FTA find a metropolitan transportation plan to be fiscally constrained and a revenue source is subsequently removed or substantially reduced (i.e. by legislative or administrative actions), the FHWA and FTA will not withdraw the original determination of fiscal constraint; however, in such cases, the FHWA and FTA will not act on an updated or amended metropolitan transportation plan that does not reflect the changed revenue situation." The same policy applies if project costs, or operations/maintenance cost estimates change after an RTP or FTIP is adopted. Such a change in cost estimates does not invalidate the adopted transportation plan or program. However, the revised costs must be provided in new or amended RTPs and FTIPs. In such cases, FHWA will expect the MPO to identify alternative sources of revenue as soon as possible. In such cases the FHWA/FTA will not act on new or amended RTPs or FTIPs unless they reflect the changed revenue and project cost situation. If FHWA and FTA find an RTP or FTIP to be fiscally constrained and the planned/programmed projects are included based on outdated or invalid cost estimates, then FHWA/FTA will not make funding or environmental approval actions for the listed project(s) unless the RTP and FTIP are updated or amended to reflect the latest project cost estimate.

The estimated revenue by existing revenue source (local, State, Federal and private) available for transportation projects shall be determined and any shortfalls identified. Proposed new revenues and/or revenue sources to cover shortfalls shall be identified, including strategies for ensuring their availability for proposed investments. Existing and proposed revenues shall cover all forecasted capital, operating, and maintenance costs. All cost and revenue projections shall be based on the data reflecting the existing situation and historical trends. For nonattainment and maintenance areas, the financial plan element shall address the specific financial strategies required to ensure the implementation of projects and programs (TCMs) to reach air quality compliance

Requirements (Shall)
Federal: Title 23 CFR Part 450.324(f)(11)
State: California GC Section 65080(b)

Planning Practice Examples: To be included in Appendix G in second public draft

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. MPOs must ensure project costs identified in both the RTP and FTIP are in year of expenditure dollars. This is particularly crucial for large-scale projects with construction/implementation dates stretching into the future. For those MPOs located in air quality nonattainment and maintenance areas the financial plan developed by the MPO shall address the specific financial strategies and funding sources required to ensure the implementation of TCMs whether or not the TCMs are identified in the SIP pursuant to Title 23 CFR Part 450.324(f)(11)(vi).

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 and FTIP, 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, considering 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 MPO and transit agencies. To ensure consistency, similar financial forecasting approaches ideally should be used for both the RTP and FTIP. 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 MPO 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, MPOs and transit operators should attempt to be as realistic as possible, as well as ensure that all costs assumptions are publicly documented.

Requirements (Shall)
Federal: Title 23 CFR Part 450.324(f)(11)
State: California GC Section 65080(b)

Recommendations (Should)
Federal: Title 23 CFR Part 450.324(f)(11)(v) authorizes the option to use aggregate cost ranges or bands in the outer years of the RTP.

Planning Practice Examples: To be included in Appendix G in second public draft

6.7 Asset Management

The transportation system in California continues to experience substantial wear and tear from increased VMT, heavier vehicles, growing population, greater congestion, aging infrastructure, climate impacts, and escalating maintenance and 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.

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, MPOs 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.

MPOs 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 MPO and result in more effective decision making. The MPO 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. MPOs can also educate the public and decision makers and work cooperatively with stakeholders across transportation modes.

Title 23 CFR Part 450.306(e) states the following concerning asset management:

> "*In carrying out the metropolitan transportation planning process, MPOs, States, and public transportation operators may apply asset management principles and techniques in establishing planning goals, defining TIP priorities, and assessing transportation investment decisions, including transportation system safety,*

operations, preservation, and maintenance, as well as strategies and policies to support homeland security and to safeguard the personal security of all motorized and non-motorized users."

MPOs should ensure that the proposed RTPs make progress toward the Transportation Performance Management goals established by the State by evaluating the proposed project outcomes relative to deterioration/degradation over a future time period. 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 (Shall)
Federal: 23 CFR Part 490 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. Caltrans or the appropriate entity shall monitor the current structurally deficient bridge deck area and make the necessary investment decisions that result in less than 10% of the agencies' NHS bridge deck area being structurally deficient.

Recommendations (Should)
Federal: Title 23 CFR Part 450.306(e) - MPOs, States, and public transportation operators may apply asset management principles and techniques in establishing planning goals, defining TIP priorities, and assessing transportation investment decisions.
State: None

Planning Practice Examples: To be included in Appendix G in second public draft

Multi-Modal Discussion

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 GC 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 State Highway System

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

1. An overview of the primary highway system within the region
2. National and State highway system
3. Any corridor preservation processes for possible future transportation projects (i.e. historic or abandoned highways;
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
8. Consider CTP policy suggesting the application of sustainable preventative maintenance and rehabilitation strategies
9. Consider investing in HOV/HOT-related emerging technologies and by promoting the use of zero-emission vehicles on the highway network to reduce GHG emissions
10. Consider investing strategically to advance widespread transportation electrification
11. Consider emissions from highways, and their impact on adjacent communities
12. Infrastructure needs for Connected, Zero-Emission Autonomous Vehicles
13. Historical highway impacts on communities and potential Reconnecting Communities projects, and
14. Opportunities for Bus on Shoulder efforts.

Requirements (Shall)
Federal: Title 23 CFR Part 450.324(b) requires short and long-range strategies for an integrated multimodal transportation system.
State: GC Section 65080(a) requires that the RTP shall be directed at achieving a coordinated and balanced regional transportation system.

6.9 Local Streets and 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 access to homes, jobs, and other key destinations, public safety, economic growth, goods movement, and farm to market needs. According to

2018 California Public Road Data compiled by Caltrans Division of Research, Innovation & System Information, counties, and cities maintain 86 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
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 and,
7. The benefits of active transportation and how the RTP supports active transportation planning and achieving SB 375 goals.

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 (Shall)

Federal: Title 23 CFR Part 450.324(b) requires short and long-range strategies for an integrated multimodal transportation system.

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

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 climate change. Transit systems also play an important role in the mobility for those who are unable to drive, including youth and older adults, as well as low-income individuals, and people with disabilities. Given these reasons, it is crucial for MPOs to engage in a continual and comprehensive dialogue with the transit operators within their region. The CTP 2050 and the 2022 Scoping Plan highlight 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 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 RT
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;
13. A measure of transit capacity utilization for peak and off-peak service to evaluate service effectiveness; and
14. Integration with micro-mobility modes of transportation and other first and last mile considerations.

23 U.S.C. 135 requires RTPs to 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. Since May 27, 2018, an MPO may not adopt an RTP that has not been developed according to the provisions of 23 CFR § 450.340 as specified in the Planning Final Rule. MPOs are encouraged to communicate with Caltrans and FHWA/FTA to discuss schedules for RTP adoption.

Requirements (Shall)
Federal: Title 23 CFR Part 450.324(b) requires short and long-range strategies for an integrated multimodal transportation system. 23 CFR 450.325(f)(8) is an added requirement for the RTP pursuant to 23 U.S.C. 135 to include consideration of the role that intercity buses play in reducing congestion, pollution, and energy consumption.
State: GC Section 65080(a) the RTP shall be directed at achieving a coordinated and balanced regional transportation system.

Planning Practice Examples: To be included in Appendix G in second public draft

6.11 Bicycle and 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. Higher levels of physical activity are associated with well-connected transportation networks that are coordinated with land use development. 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 MPOs to refer to during their RTP development. Additional information regarding the Complete Streets planning process, which emphasizes bicycle and pedestrian accessibility to destinations 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 (CCT)

Enacted in 2007, AB 1396 added Section 65080.1 to the GC which requires transportation planning agencies whose jurisdictions include a portion of the CCT (or property appropriate or 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 CCT. 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, interim, 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 transportation; critical linkages to parking, bicycle racks, restrooms, and other support facilities; and connections to CCT trailheads and other interconnected local and regional trail systems. While siting goals for the CCT are to locate it as close to the sight, sound, and scent of the ocean as possible, any interim or necessary trail alignment near motorized traffic should provide for adequate separation and transportation improvements providing crossings over streams and rivers that could connect gaps in the CCT should include safe bike and pedestrian features. Prioritization of projects within RTPs should ensure connection of the CCT across identified critical gaps in the Coastal Trail system.

Additional information and maps regarding the California Coastal Trail and coastal access points are available from the State Coastal Conservancy and the California Coastal Commission at:

http://scc.ca.gov/projects/california-coastal-trail/

www.coastal.ca.gov/access/ca-coastal-trail/coastal-trail.pdf

www.yourcoast.org

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

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

Requirements (Shall)
Federal: Title 23 CFR Part 450.324(f)(12) requires MPOs to include a discussion of pedestrian walkways and bicycle transportation facilities in accordance with Title 23 U.S.C. Section 217(g)
State: GC Section 65080(a) requires that the RTP shall be directed at achieving a coordinated and balanced regional transportation system.
GC Section 65080.1 requires that transportation planning agencies along the coast whose boundaries include a portion of the California Coastal Trail (CCT) or property appropriate or designated for the trail, coordinate with appropriate agencies including the State Coastal Conservancy, California Department of Parks and Recreation, the California Coastal Commission and Caltrans regarding development of the CCT, and clearly include provisions for the CCT Trail in their RTP. Caltrans expects these provisions to include mapping of the existing CCT, prioritizing gaps to be connected in the CCT system, and identifying funding resources available for the planning and construction of bridging the prioritized gaps.

Planning Practice Examples: To be included in Appendix G in second public draft

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 and Mexican near-shoring 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, MPOs can create strategies for improving the regional goods movement transportation system so positive impacts (e.g. job creation, access to goods and product diversity, improvements to truck speed and reliability, freight bottleneck relief) are maximized and negative impacts (e.g. land use conflicts, air pollution, roadway congestion and delays, disproportionately high and adverse impact on low income or disadvantaged communities) are minimized.

MPO 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 2050 recognizes the importance of enhancing freight mobility, reliability, efficiency, and global competitiveness, which is why MPOs should consider deploying, as appropriate and feasible, cost-effective technologies that can help expedite goods movement and reduce congestion at our ports, including ports of entry. A seamless, efficient, low-emitting, and well-maintained multi-modal transportation system is paramount to the state's economic strength and its residents' 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, freight carriers and shippers, local air districts, electric and gas utilities, and multiple State agencies (e.g., CARB, 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 and rural 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 the overall freight transportation system capacity, including existing land side freight 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. Specific projections, by mode, of future freight demand
6. Identification of freight-related highway and roadway improvement needs, for example operational improvements, truck parking, zero emission/near zero emission vehicle infrastructure, and others
7. Identification of expansion or improvement needs for freight rail lines within the region
8. Identification of intermodal connection issues between different modes (e.g. freight, rail, and seaport facilities), as applicable
9. Identification of any existing and planned inland trade ports and any connectivity network issues for those ports, if applicable
10. Identification of U.S.A./Mexico border crossing issues, if applicable
11. Discussion of ITS and advanced technology opportunities for goods movement, with the aim of maximizing operational efficiencies and minimizing emissions
12. 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
13. Identification of opportunities or innovations that reduce GHG emissions and criteria air pollutant emissions associated with freight
14. Discuss current and future climate impacts on our goods movement facilities; and,
15. Environmental Justice impacts to underserved communities.

California Freight Mobility Plan

The state's California Freight Mobility Plan (CFMP) is a policy and action document that supports the improvement of California's goods movement infrastructure. The California Freight Mobility Plan administers the immediate and long-range planning activities and capital investments by the state with respect to freight movement. 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.

Requirements (Shall)
Federal: Title 23 CFR Part 450.324(b) requires 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)(1) states that the RTP shall

include the €§§§projected transportation demand of persons and goods in the metropolitan planning area over the period of the plan, and Title 23 CFR Part 450.324(f)(3) states that the 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. Title 23 CFR Part 450.324(j) and Title 23 Part 450.316(a) require that the MPO shall provide freight shippers and providers of freight transportation services, among other stakeholders, a reasonable opportunity to comment on the RTP using the adopted Public Participation Plan. Title 23 U.S.C. Section 134 reflects similar requirements in federal statutes.
State: GC Section 65080(a) requires that the RTP shall be directed at achieving a coordinated and balanced regional transportation system.

Recommendations (Should)
Federal: oversight is a joint FHWA/FTA responsibility, 23 U.S.C. 134. 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 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 consists of 41,518 centerline 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 Urban Freight Corridors (CUFCs):** These are public roads in urbanized areas which provide access and connection to the PHFS and the Interstate with other ports, public transportation facilities, or other intermodal transportation facilities.
- **Identification and Designation of Critical Rural Freight Corridors (CRFCs):** These are public roads not in urbanized areas which provide access and connection to the PHFS and the Interstate with other ports, public transportation facilities, or other intermodal transportation facilities.

Planning Practice Examples: To be included in Appendix G in second public draft

6.13 Aeronautics

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 241 public-use airports made up of both commercial and general aviation airports, 62 special-use airports, 359 hospital and/or corporate, police, fire, or private heliports, 22 military/NASA bases, and 1 joint-use facility.

Aviation improves mobility options, generates tax revenue, saves lives through emergency response, medical, and firefighting services, produces air cargo revenues, and generates profits for the State's tourism industry.

To preserve the economic and access benefits aviation contributes to California, airports must be considered in comprehensive planning practices at all levels of government. This includes policies that protect airports from encroachment from incompatible land uses. Every county in California that has an airport that is "operated for the benefit of the general public" (PUC Section 21670(b) must have an airport land use commission (ALUC) whose function is to accomplish airport land use compatibility planning. The California Public Utilities Code (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. In addition, general plans shall be consistent with ALUCPs, (PUC Sections 21674(c) and 21675). Guidance regarding ALUCP and ALUC can be found in the California Airport Land Use Planning Handbook available online at https://dot.ca.gov/programs/aeronautics/airport-land-use-planning .

Federal laws (Title 23 CFR Part 450.324(g) and Title 23 CFR Part 450.316(a) (1)) require MPOs to consult with stakeholders responsible for land use management, as appropriate. Although not specifically named in statute, airports and ALUCs meet these 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 GC Section 65080(a) and California GC 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).

Requirements (Shall)
Federal: Title 23 CFR 450.324, Development, and Content of the Metropolitan Transportation Plan. Subsection (b) requires short and long-range strategies for an integrated multimodal transportation system. Title 23 CFR Part 450.324(g) states that MPOs 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. Title 23 CFR Part

450.316(a) (1) also requires that public participation plans be developed by MPOs in consultation with all interested parties and describe explicit procedures, strategies, and desired outcomes.
State: California GC Section 65080(a) states that "Each transportation planning agency…shall prepare and adopt a RTP directed at achieving a coordinated and balanced regional transportation system, including…aviation facilities and services." GC 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."

Recommendations (Should)
State: MPOs should consider the needs of public-use airports, special-use heliports and military airfields when planning transportation and infrastructure projects (i.e., by consulting with the sponsors) to further sustainable and compatible land use and circulation patterns. When appropriate, emerging plans for the establishment of vertiports and possible Advanced Air Mobility facilities and travel corridors should be incorporated. Active Transportation consideration in and around airports should be considered.

Planning Practice Examples: To be included in Appendix G in second public draft

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 level 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 employee's 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, which is available at https://opr.ca.gov/planning/land-use/military-affairs.

Requirements (Shalls)
Federal: Consulting with interested parties on plans, programs, and projects shall include individuals or organization that are mentioned in Title 23 CFR Part 450.316(a). Title 23 CFR Part 450.316(d) requires MPOs to consult with federal land use management agencies as appropriate during the development of RTP. Title 23 CFR Part 450.324(g) states that MPOs 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. Title 23 CFR Part 450.316(a) (1) also requires that public participation plans be developed by MPOs in consultation with all interested parties and describe explicit procedures, strategies, and desired outcomes.

Recommendations (Should)
State: MPOs 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. MPOs should align policies with those described in the California Aviation System Plan (CASP), https://dot.ca.gov/programs/aeronautics/california-aviation-system-plan.

Planning Practice Examples: To be included in Appendix G in second public draft

Programming/Operations

6.14 Transportation Systems Management and Operations (TSMO)

The RTP should address TSMO to improve the performance of the existing regional transportation system through enhanced institutional, technical, and operational solutions. TSMO utilizes system monitoring or data to evaluate options that maximize the safety and mobility of people and goods. Examples of TMSO activities can include: (a) Traffic incident management, (b) Multi-modal travel information services, (c) Roadway

weather information (RWIS), (d) corridor management, (e) Traffic control device timing or optimization, and (f) transportation demand management strategies.

Although operational and management strategies may be implemented on a sub-regional, area-wide, or project-specific basis, those strategies included in an RTP should typically be those that also 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 (Shall)
Federal: Title 23 U.S.C. Section 134 and Title 23 CFR Part 450.324(f)(5) requires strategies for improving the regional transportation system and reducing congestion.

Planning Practice Examples: To be included in Appendix G in second public draft

6.15 Coordination with Programming Documents

The FTIP is a four-year prioritized listing of federally funded and the 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 every two years. MPOs may also refer to the FTIP as the Metropolitan Transportation Improvement Program (MTIP). Specific requirements for the development and content of the FTIP are contained in Title 23 CFR Part 450.326.

As with the RTP, some MPOs refer to their four-year FTIP by other terms. Below is a table outlining the various terms used by federal, state and the MPOs to refer to the same documents:

Federal Term Used	State Term Used	Terms Used by MPOs
TIP	FTIP	TIP, MTIP, FTIP, RTIP
STIP	FSTIP	FSTIP

Projects included in the FTIP may include projects from two other State programming documents: (1) the State Highways Operation and Protection Program (SHOPP), and (2), the STIP. The purpose of the SHOPP program is to maintain safety, operational

integrity and rehabilitation of the State Highway System. 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 (Caltrans 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 every two years. Projects cannot be programmed in the FTIP or 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 2.5 illustrates the federal/state programming process.

Requirements (Shall)
Federal: Title 23 CFR Part 450.326(a) requires MPOs to prepare a TIP. 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 450.216 and, in metropolitan planning areas, consistent with the approved metropolitan transportation plan developed under Title 23 CFR Part 450.324.

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 MPO and FHWA regardless of its funding source. These regionally significant projects shall be specifically identified and noted in the project-listing portion of RTP.

Requirements (Shall)

Federal: Title 23 CFR Part 450.326(f) requires all regionally significant projects be included in the TIP regardless of 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, MPOs should be sure to comply with current federal regulations. Title 23 CFR Part 450.306(g) states, "*The metropolitan 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 define 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 (Metropolitan) 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 U.S. DOT Architecture website:

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

Requirements (Shall)
Federal: Title 23 CFR Part 450.306(g) states that the RTP shall (to the extent practicable) be consistent with the development of applicable regional ITS architectures as defined in Title 23 CFR Part 940.

6.18 Future of Transportation and New Technology

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

MPOs 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.

MPOs 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 demand 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: To be included in Appendix G in second public draft

Transportation Electrification

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.

MPOs are encouraged to support widespread transportation electrification and partner with state agencies to advance California toward the standards and goals outlined in Public Utilities Code Section 740.12(a)(1). These include:

- Reducing emissions of GHGs to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050.
- Achieving the goals of the Charge Ahead California Initiative (Chapter 8.5 (commencing with Section 44258) of Part 5 of Division 26 of the Health and Safety Code).
- Meeting air quality standards, reducing petroleum use, improving public health, and achieving GHG emission reduction goals.
- Attracting investments and high-quality jobs.

Planning Practice Examples: To be included in Appendix G in second public draft

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. MPOs 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.

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 has 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. SHSPs were first required under SAFETEA-LU, which established the Highway Safety Improvement Program (HSIP) as a core federal program. The FAST Act continued 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 MPO should review the California SHSP during the preparation of the portion of the RTP addressing safety. The SHSP:

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: https://dot.ca.gov/programs/safety-programs/shsp

Safety Performance Measures

The 23 CFR Part 490 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 450.306(b)(2) states the planning process will address the safety of the transportation system for the public.
State: None

Recommendations (Should)
Federal: Title 23 CFR Part 450.306(d)(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 450.324(h) states the RTP should include a safety element that incorporates or summarizes the priorities, goals, countermeasures, or projects for the MPOs region contained in the SHSP.

6.20 Transportation Security

In developing the RTP, MPOs are required to consult with agencies and officials responsible for other planning activities within 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 MPO 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 number 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. Airport Use – Airports can be used as staging areas for medical and food supplies as well as evacuation

Requirements (Shall)
Federal: Title 23 CFR Part 450.306(b)(3) states the planning process will address the security of the transportation system for the public. 23 CFR 450.316(b) requires MPOs to consult with agencies and officials responsible for planning natural disaster risk reduction.

Recommendations (Should)
Federal: Title 23 CFR Part 450.324(h) states that RTPs should be consistent with 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.

6.21 Assessment of Capital Investment and Other Strategies

RTPs are required to 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 metropolitan area's transportation system.

Requirements (Shall)
Federal: 23 CFR 450.324(f)(7)

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 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 6.27** and **Appendix G** 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 corridor plans. The RTP should include by corridor all multimodal strategies, actions and improvements identified in the adopted corridor plan 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, invest in and encouraging the use of alternative modes (such as transit, rail, bicycling and walking), encouraging smart land use, 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.

Title 23 CFR Part 450.322 applies only to the MPOs below and are federally designated Transportation Management Areas (TMAs). These TMAs shall develop a congestion management process that results in a multimodal system performance measures and

strategies that can be reflected in the RTP. TMAs are defined as an urbanized area with a population over 200,000 as defined by the U.S. Census Bureau. California MPOs that are currently designated TMAs are:

1. SCAG
2. MTC
3. SANDAG
4. SACOG
5. FresnoCOG
6. KernCOG
7. SJCOG
8. StanCOG
9. TCAG
10. SBCAG
11. TRPA

Congestion Management Plan

MPOs serving a TMA may develop a congestion management plan that includes projects and strategies that will be considered in the FTIP. If developed, the MPO shall consult with employers, private and nonprofit providers of public transportation, transportation management organizations, and organizations that provide job access reverse commute projects or job-related services to low-income individuals.

If an MPO elects to develop the congestion management plan, it shall consist of the following:

- Develop regional goals to reduce VMT during peak commuting hours and improve transportation connections between areas with high job concentration and high concentrations of low-income households
- Identify existing public transportation services, employer-based commuter programs, and other existing transportation services that support access to jobs in the region; and,
- Identify proposed projects and programs to reduce congestion and increase job access opportunities.

Requirements (Shall)
Federal: Title 23 CFR Part 450.322(d) states the congestion management process shall be developed, established and implemented as part of the planning process.

Recommendations (Should)
Federal: Title 23 CFR Part 450.322(b) states the congestion management process should result in performance measures that can be reflected in the RTP. 23 CFR 450.322(h) provides MPOs the framework for developing a congestion management plan.

Regional GHG Emissions Requirements and Considerations in the RTP

6.23 GHG Emissions and Targets Background

The California Air Resources Board (CARB) set regional targets, for 2020 and 2035, to help achieve GHG emission reductions from changed land use patterns and improved transportation needed to achieve the State's climate goals, as well as statewide public health and air quality objectives. Metropolitan planning organizations (MPOs) shall prepare a sustainable communities strategy (SCS) that will achieve these regional targets, if feasible to do so. Current law requires CARB develop and update the regional GHG emission reduction targets every eight years. CARB first set regional targets in September 2010. In March 2018, CARB updated each MPO's targets for automobile and light trucks for 2020 and 2035.
To view targets by MPO region see:
https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/regional-plan-targets

SCS Background

Integrating transportation, land use, and housing, in the planning process is vital to reducing regional GHG emissions from cars and light trucks. The Sustainable Communities Strategy or SCS, was added as a new component of the RTP following the passage of SB 375 in September 2008, pursuant to GC Section 65080(b)(2).

For over 30 years, the primary purpose of the RTP has been to identify the transportation projects, programs and services needed to address both current conditions as well as future regional growth and to specify the major transportation projects to be programmed given the financial resources available. Pursuant to GC Section 65080(b)(2)(B), the SCS requires MPOs to work with local land use authorities and other appropriate entities to address regional land uses, regional housing needs, regional resource areas and farmland, as well as regional transportation needs in the RTP.

GC Section 65080(b)(2)(B)(vii) requires the SCS to set forth a forecasted development pattern for the region that when integrated with the transportation network, and other transportation measures and policies, will reduce regional GHG emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the regional GHG emission reduction target set by CARB. GC Section 65080.01(c) defines feasible as "capable of being accomplished in a successful manner within a reasonable period of time, considering economic, environmental, legal, social, and technological factors.

If the RTP, including the SCS, does not achieve the regional GHG reduction target, the MPO can elect to either revise the SCS or prepare an APS (APS) that is separate from the RTP. If a region must prepare an APS, that alternative scenario must describe why the development pattern, measures, and policies in the APS are the most practicable

choices for achievement of the GHG emissions reduction targets as required by GC Section 65080(b)(2)(I)(iii).

GC Section 65080(b) requires that the RTP be an internally consistent document. This means that the contents of the Policy, Action, Financial, and SCS elements of the RTP shall be consistent with one another. As a result, transportation investments and the forecasted development pattern in the SCS should be complementary and not contradictory. For information regarding transportation projects exempt from the internal consistency provisions of SB 375 pursuant to GC Section 65080(b)(2)(L) please refer to **Section 6.16** of these Guidelines.

Requirements of a SCS

California GC Section 65080(b)(2)(B) requires that all MPOs shall prepare a SCS, subject to the requirements of Part 450 of Title 23, and Part 93 of Title 40 of the CFR, including the requirement to utilize the most recent planning assumptions considering local general plans and other factors. The SCS shall:

1. Identify the general location of uses, residential densities, and building intensities within the region.
2. Identify areas within the region sufficient to house all the population of the region, including all economic segments of the population, over the course of the planning period of the RTP considering net migration into the region, population growth, household formation and employment growth.
3. Identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region pursuant to GC Section 65584.
4. Identify a transportation network to service the transportation needs of the region.
5. Gather and consider the best practically available scientific information regarding resource areas and farmland in the region as defined in GC Section 65080.01(a) and (b).
6. Consider the state housing goals specified in GC Sections 65580 and 65581.
7. Set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the GHG emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the GHG emission reduction targets approved by the state board.
8. Allow the RTP to comply with Section 176 of the federal Clean Air Act (Title 42 U.S.C. 7506)

In addition, GC Section 65584.01(i)(1) states that it is the intent of the Legislature that housing planning be coordinated and integrated with the RTP. To achieve this goal the allocation plan shall allocate housing units within the region consistent with the development pattern included in the SCS.

Requirements (Shall):
Federal: Title 23 CFR Part 450 and Title 40 CFR Part 93
State: GC Section 65080, and 65584.04(i)(1)

6.25 SCS Development

This section is intended to describe methods for the implementation of the statutory requirements for the development of an SCS recognizing that there is great variation among the 18 MPOs within the state and that flexibility is an important component in SCS development. The SCS shall be prepared in such a way as to allow for the quantification of regional GHG emissions reduction required pursuant to GC Section 65080(b)(2)(H).

Visualization and Mapping

Pursuant to Title 23 CFR Part 450.316(a), an RTP is required to include visualization techniques such as GIS-based information, graphs, maps, charts, and other visual aids that are useable and understandable to the public. Additionally, GC Section 65080(b)(2)(F)(iii) requires that public workshops held during the development of the SCS, to the extent practicable, shall include urban simulation computer modeling to create visual representations of the SCS, and APS if applicable. Visualization techniques associated with SCS development should be documented and included in the final SCS. These visualization techniques may build upon existing federal and state requirements for the RTP and could include maps, illustrations, diagrams, and other visual aids which illustrate the SCS requirements as outlined in GC Section 65080(b)(2)(B).

SCS Planning Assumptions

As required by GC Section 65080(b)(2)(B)(i) and (vii), the SCS shall identify the general location of uses, residential densities, and building intensities within the region as well as a forecasted development pattern for the region that is based upon the most recent planning assumptions considering local general plans and other factors. In addition, according to GC Section 65080(b)(2)(viii), the SCS must allow the RTP to comply with Section 176 of the Federal Clean Air Act (42 U.S.C. Section 7506). Federal air quality conformity regulations require that land use, population and employment model assumptions are based upon the best available information and that there is a reasonable relationship between the expected land use and the envisioned transportation system. The reasonableness of a particular planning assumption is determined through consultation involving the FHWA and EPA in addition to state, local, and MPO representatives. MPOs should refer to Title 23 CFR Part 450 and Title 40 CFR Part 93 as well as the EPA document *Guidance for the Use of Latest Planning Assumptions in Transportation Conformity Determinations (Revision to January 18, 2001 Guidance Memorandum)* (see link provided below) for more information about consultation and the use of current planning assumptions.

https://www.fhwa.dot.gov/environment/air_quality/conformity/policy_and_guidance/lpa_guid08.pdf

Pursuant to GC Section 65080(b)(2)(K), neither the SCS nor the APS regulates the use of land and does not supersede the land use authority of cities and counties within the

region. City and county land use policies and regulations, including general plans, are not required to be consistent with the RTP, SCS or the APS.

In developing an SCS, an MPO shall consult with cities and counties about their existing general plans and foreseeable changes to their general plans over the period covered by the RTP, including RHNA, residential zoning, and programmatic actions addressed in the local housing element and status of housing element update requirements MPOs are also required by GC Section 65080(b)(2)(G) to consider spheres of influence that have been adopted by the Local Agency Formation Commissions (LAFCOs) within the region during development of the SCS. Further, MPOs should consult with LAFCOs within the region regarding municipal service review boundaries, foreseeable changes to those boundaries and service capacities over the period covered by the RTP as well as any local LAFCO adopted policies regarding preservation of agricultural and open space land, island annexations, annexations, service extensions and sphere changes. MPOs are also encouraged to request the most recent Municipal Service Reviews for local agencies providing services in the region, as well as, LAFCO-prepared GIS maps, if available, for all local agency boundaries and spheres of influence in the region.

The legislative findings for SB 375 identify that: "GHG emissions from automobiles and light trucks can be substantially reduced by new vehicle technology and by the increased use of low carbon fuel. However, even taking these measures into account, it will be necessary to achieve significant additional GHG reductions from changed land use patterns and improved transportation. Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." The legislative findings of SB 375 also recognize that: "California local governments need a sustainable source of funding to be able to accommodate patterns of growth consistent with the state's climate, air quality, and energy conservation goals." (Chapter 728, Statutes of 2008, Section 1(c) and (i))

In addition to the need for the SCS to be designed to achieve GHG emissions reductions, there are many other reasons why planning assumptions can be different than historical trends or existing plans and boundaries. The following is a non-exclusive list of circumstances when it may be appropriate or necessary to assume that is different from historical trends or existing plans and boundaries:

1. The assumption accounts for new demographic, market, regulatory, or environmental trends that are likely to influence development choices, particularly in circumstances when it has been several years since a general plan has been updated.
2. The assumption accounts for adopted blueprints, habitat conservation plans or other plans which may accurately reflect likely future growth patterns.
3. The assumption accounts for general uses and densities within general plans that may be required to comply with state law. Examples required pursuant to Article 10.6 of the Planning and Zoning Law (housing element law) include: achieving an adequate housing site inventory for the previous or new planning period in order to meet the housing needs of all economic segments of the population; existing general plans do not yet include land use designations with zoning to accommodate the existing RHNA and cannot accommodate the next RHNA

without amendment of land use designations and rezoning; local governments have not yet completed a scheduled rezoning program of an adopted housing element; or existing plans reflect ordinances, policies, voter-approved measures, or other standards which prevent the jurisdiction from accommodating the RHNA.

4. The assumption accounts for differences in the time horizons between the RTP (20 to 40 years or more) and local general plans (often 15 - 20 years).
5. The assumption accounts for increases or decreases in state, federal, or local funding of programs that influence the extent to which a program may or may not be implemented.
6. The assumption accounts for statutory requirements or other reasons identified through consultation with federal, state, and local agencies.

When planning and land use assumptions are made that are significantly different than historical trends, federal, state, and local agencies should be consulted as to whether the assumptions are reasonable, best available, and consistent with the transportation system set forth in the plan. The MPO should base its assumptions on the most reasonable forecasts considering changing population demographics and market demand over the life of the RTP. To the extent that they are reasonable and consistent with federal requirements, an MPO may base an SCS on planning assumptions that differ from historical trends, existing plans, and boundaries. The MPO should document the assumptions made to develop the SCS.

Addressing Housing Needs in the SCS

The passage of SB 375 increased the linkage of the Regional Housing Need Allocation (RHNA) process required by State Housing Element Law with the RTP development and adoption process. RTPs are to be updated at least every four years for nonattainment areas, and every five years for attainment areas unless an election was made to update every four years pursuant to GC 65580(b)(2)(M). Housing element updates are now to be adopted every 8 years for jurisdictions within nonattainment areas, except for those which must update every four years if they fail to adopt their housing element update within 120 days of the due date pursuant to GC Section 65588(e)(4). Housing elements for jurisdictions within attainment area MPOs not within MPOs are to continue to be adopted every 5 years except in those regions that elect to adopt an RTP every four years pursuant to GC Section 65080 (b)(2)(M).

The SCS shall accommodate the RHNA pursuant to GC Section 65584 and consider the state housing goals specified in GC Section 65580 and 65581. The development pattern of the SCS shall consider existing residential zoning obligations to accommodate the RHNA of the current housing element planning period as well as residential density implications for the pending RHNA with which the SCS is being coordinated. The SCS development pattern shall not preclude an individual community from accommodating its existing or pending RHNA.

Pursuant to GC Section 65080(b)(2)(B)(ii), the SCS shall identify areas within the region sufficient to house all the population of the region, including all economic segments of the population, over the course of the planning period of the RTP, considering net

migration into the region, population growth, household formation, and employment growth. This is separate from the requirement pursuant to 65080(b)(2)(B)(iii) to identify areas sufficient to house an eight-year projection of the housing need pursuant to the RHNA process in Section 65584 *et seq.*

Unlike the RHNA process which allocates the amount and economic distribution of housing to be accommodated within the housing element planning period, there are not comparable, formal parameters for the entire RTP planning period. The planning period for the RTP is at least 12 years longer than the housing element planning period accommodated in the RTP.

Thus, MPOs should include an analysis within the SCS that looks forward over the entire planning period and reasonably addresses what the housing need may be and where the region can meet its housing needs for all economic segments of the population over the course of the RTP planning period. This analysis should assume a variety of housing types and densities including multi-family densities in each jurisdiction. Documentation to support this analysis should be prepared and may include a narrative description, map, data, or other resources (or any combination thereof) that identifies where within the region this need can be met. Like all planning assumptions, assumptions related to identifying housing needs beyond the RHNA allocation period should be reevaluated each time the RTP is updated.

GC Section 65080(b) (2)(B)(iii) requires that the SCS identify areas within the region sufficient to house the projection of the regional housing need for the region pursuant to GC Section 65584. The RHNA process establishes the amount of existing and projected housing need for each city's and county's housing element. Each city and county must demonstrate this capacity with adequate sites, and development standards and programs to accommodate the RHNA within the planning period of an updated housing element. The RHNA process includes many steps and statutorily required deadlines which are included in more detail in **Appendix E**. The following MPOs are Councils of Governments (COGs) or are within or coterminous with MPO boundaries: FresnoCOG, KCOG, SACOG, SJCOG, SLOCOG, StanCOG. Key steps of the RHNA process for COGs are as follows:

1. Consultation with HCD regarding HCD's determination of RHNA (at least 26 months prior to local governments' housing element due date). HCD issues a final RHNA determination to the COG at least 24 months prior to the housing element due date.
2. Proposed Methodology for COG's RHNA Plan (at least 24 months before housing element due date): the COG, with survey information and participation of its local governments and the broader public, develops a proposed methodology for allocation of the region's housing need determination. The COG must submit the draft methodology to HCD for review to determine whether the methodology furthers the objectives listed in subdivision (d) of Section 65584 within 60 days of the public comment period.
3. Distribution of draft RHNA (at least 18 months before housing element due date): the COG, based on the Draft RHNA Plan, distributes the draft RHNA of housing unit need to each city and county government in the region. The Draft RHNA

Plan is first subjected to requests for revision followed by opportunity for local government appeals. This plan is developed concurrently with development of the RTP, including the SCS.

4. Final RHNA Allocation Plan Adoption (at least one year before housing element due date): the COG is required to hold a public hearing to adopt a Final RHNA Allocation Plan and within three days submit the RHNA Plan to HCD for review.
5. HCD Approval of Final RHNA Plan (HCD's finding for the Final RHNA Plan is due within 30 days of receipt): the final RHNA Plan is subject to review and approval by HCD for consistency of the plan with its (prior) housing need determination for the region. If not, HCD is authorized to revise the determination of the COG to attain consistency.
6. Local Government Housing Elements (must be updated within 18 months of adoption of the RTP, provided that this deadline is no more than eight years after the deadline for the previous housing element): each local government within the region must adopt an updated housing element specifying housing sites, policies, and programs that will accommodate its allocation of units from the Final RHNA Plan approved by HCD.

For the eight-year planning period for housing element revisions, the COG shall allocate housing units to cities and counties within the region consistent with the development pattern included in the SCS as required by GC Section 65584.04 (m). GC Section 65584.09 (a)(b)(c) also requires that if a city or county in the prior planning period failed to identify or make available adequate sites to accommodate that portion of the regional housing need allocated pursuant to Section 65584, then the city or county shall, within the first year of the planning period of the new housing element, zone, or rezone adequate sites to accommodate the un-accommodated portion of the RHNA from the prior planning period. Further, the law requires that this shall be in addition to any zoning or rezoning required to accommodate the jurisdiction's share of the regional housing need pursuant to Section 65584 for the new planning period.

Requirements (Shall):
Federal: Title 23 CFR Part 450 and Title 40 CFR Part 93
State: GC 65080, GC 65584.01 (c) & (d), G C 65583.2 (c), GC 65584.04 (d), (f) & (i), GC 65584.05 (g) & (h)

Relevant Links:

Appendix 1 of HCD Memorandum: Amendment of State Housing Element Law – AB 2348, Listing of Default Densities by Jurisdiction: https://www.hcd.ca.gov/grants-funding/active-funding/iigp/docs/ab2348stat04ch724.pdf

Addressing Regional Transportation Needs

GC Section 65080 (b)(2)(B)(iv) requires that an SCS identify a transportation system to service the transportation needs of the region. While the SCS requirements for the RTP do not change the process used to establish transportation needs for the region, the SCS forecasted development pattern and transportation network, measures, and policies should complement one another to reduce regional GHG emissions from light

duty trucks and automobiles. Decisions to expand or modify the transportation system should be made in recognition of the effects of transportation on development location and density, and in recognition of the following relationships between land use and transportation:

- Transit investments need supporting levels of land use density and intensity.
- The speed of the network and the cost of travel may influence the location choices of new development.
- Placing land uses closer together and minimizing unnecessary barriers to circulation increases travel choices such that transit, walking, and bicycling become viable while also reducing transportation sector energy use and GHG emissions.

The SCS may also include transportation policies designed to reduce GHG emissions such as strategies for Transportation Demand Management (TDM) and Transportation System Management (TSM). Additional information regarding TDM, TSM and other strategies is available **in Section 6.28** and **Appendix G**.

Addressing Resource Areas and Farmland

The SCS is required pursuant to GC Section 65080(b)(2)(B)(v) to gather and consider the best practically available scientific information regarding resource areas and farmland in the region as defined in GC Section 65080.01 (a) and (b), listed below:

(a) "Resource areas" include:

(1) All publicly owned parks and open space.
(2) Open space or habitat areas protected by natural community conservation plans, habitat conservation plans, and other adopted natural resource protection plans.
(3) Habitat for species identified as candidate, fully protected, sensitive, or species of special status by local, state, or federal agencies or protected by the federal Endangered Species Act of 1973, the California Endangered Species Act, or the Native Plan Protection Act.
(4) Lands subject to conservation or agricultural easements for conservation or agricultural purposes by local governments, special districts, or nonprofit 501(c)(3) organizations, areas of the state designated by the State Mining and Geology Board as areas of statewide or regional significance pursuant to Section 2790 of the Public Resources Code, and lands under Williamson Act contracts.
(5) Areas designated for open-space or agricultural uses in adopted open-space elements or agricultural elements of the local general plan or by local ordinance.
(6) Areas containing biological resources as described in Appendix G of the CEQA Guidelines that may be significantly affected by the SCS or the APS; and
(7) An area subject to flooding where a development project would not, at the time of development in the judgment of the agency, meet the requirements of the National Flood Insurance Program or where the area is subject to more protective provisions of state law or local ordinance.

(b) "Farmland" means farmland that is outside all existing city spheres of influence or city limits as of January 1, 2008, and is one of the following:

(1) Classified as prime or unique farmland or farmland of statewide importance.
(2) Farmland classified by a local agency in its general plan that meets or exceeds the standards for prime or unique farmland or farmland of statewide importance.

The SCS may include a narrative description, map, data, or other resources (or any combination thereof), developed in consultation with the appropriate resource agencies including cities and counties, which identifies regional resource areas and farmland.

Additionally, **Sections 5.3, 5.4**, and **Appendix G** of the Guidelines include more information regarding the consideration of regional environmental resource areas and farmland and advanced resource mitigation planning in RTP development.

Designing a Forecasted Development Pattern in the SCS

MPOs are required to develop a forecasted development pattern for the region that, when integrated with the regional transportation network and other transportation measures and policies, will reduce regional GHG emissions from cars and light trucks to achieve, if there is a feasible way to do so, the regional targets set by CARB. In preparing the forecasted development pattern, empirical relationships between land use, transportation and the resulting GHG emissions should be considered. Such factors may include, but are not limited to:

- Destination-proximity, or the accessibility of an area to other activities.
- Density and clustering of land uses, typically measured by the number of dwelling units, shops, and/or employees per acre or square mile, floor area ratio (FAR), and other similar measurements.
- Diversity or mixture of land uses, including residential, commercial, and business land uses within buildings and/or in proximity to one another.
- Distance to transit, including rail, bus, and/or ferry.
- Design and layout of an area's transportation facilities to accommodate multiple modes of transportation.

In developing the forecasted development pattern for the SCS, local context should also be considered. MPOs, local jurisdictions, and other stakeholders should strive to create a supportive consensus on an SCS, so that the SCS may guide local jurisdictions in future general plan updates.

Considering Social Equity in the SCS

The inclusion of the entire range of community interests in the development of the RTP (including the SCS) is a key element in the process and is required by state and federal law. Providing more quality and accessible 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 MPO is encouraged to develop, enhance, and use visioning tools during the SCS development process enabling the public and policy makers to clearly understand social equity impacts of various planning scenarios and make informed choices. Some MPOs include disadvantaged groups that are not defined by the low income and minority groups, such as groups identified as disadvantaged due to environmental impacts identified under CalEnviroScreen (established pursuant to SB 535, Chapter 830, Statutes of 2012). Social equity impacts include air quality, access to transit, access to electric vehicle charging, household transportation costs, housing costs and overall housing supply. Additional information regarding specific statutory requirements for Title VI and environmental justice considerations in the RTP is available in **Section 4.2** and additional information regarding social equity factors in the public participation process is available in **Section 4.3**.

Considering Rural Communities in the SCS

Regulatory and financing mechanisms such as GC Section 65080, Reduction Fund programs, CEQA incentives etc. provide a framework and incentives for infill and transit-oriented development policies and projects that contribute to the achievement of regional per capita GHG emissions reductions in the RTP/SCS. The consideration of rural communities within the region in the development of the RTP (including the SCS) is a key element in the process, to ensure that regional GHG reductions and associated co-benefits such as improved access to jobs and services are not achieved at the expense of small towns and rural communities where high frequency transit and/or high-density development is not feasible. The RTP process should consider policies and programs for investments in rural communities that improve sustainability and access to jobs and services and that protect resource areas, farmland, and agricultural economies. For additional information on addressing resource areas and farmland in the RTP, please see the preceding section entitled "Addressing Resource Areas and Farmland."

GC Section 65080 (b)(4)(C) states that the MPO or county transportation agency, whichever entity is appropriate, shall consider financial incentives for cities and counties that have resource areas or farmland, as defined in GC Section 65080.01, for the purposes of, for example, transportation investments for the preservation and safety of the city street or county road system and farm to market and interconnectivity transportation needs. The MPO or county transportation agency, whichever entity is appropriate, shall also consider financial assistance for counties to address countywide service responsibilities in counties that contribute towards the GHG emission reduction targets by implementing policies for growth to occur within their cities.

In recognition of limited regional financial resources, MPOs are encouraged to pursue and assist their partner agencies in the pursuit of discretionary state and other funding sources to address resource areas, farmland, and rural sustainability in the RTP process.

Requirements (Shall):
Federal: None
State: GC Section 65080

Specific SCS Development Requirements for MPOs in Multi-County Regions

There are five Multi-County MPO's within California:

- AMBAG: covers a three-county region.
- MTC: covers a nine-county region in the San Francisco Bay Area.
- SCAG: covers a six-county region.
- SACOG: covers a six-county region.
- TRPA: covers a portion of Placer and El Dorado Counties.

GC Section 65080(b)(2)(C), (D) and (N) assigns certain responsibilities and collaboration requirements or options for the development of an SCS in multi-county MPO regions and in the San Joaquin Valley. The AMBAG and SACOG multi-county MPO regions are not specifically addressed in 65080(b)(2)(C), (D) or (N) however, RTPAs within these regions should work closely with the appropriate MPO when developing their RTPs for inclusion in the MPOs RTP, as these multi-county MPO regions are still required to fully comply with the SCS requirements outlined in 65080(b)(2)(B).

San Francisco Bay Area – Pursuant to GC Section 65080(b)(2)(C)(i), within the nine county San Francisco Bay Area region, the Association of Bay Area Governments (ABAG) is responsible for the land use and housing related issues in the SCS. The MTC is responsible for identifying the regional transportation needs. ABAG and MTC are jointly responsible for setting forth a forecasted development pattern for the region that, when integrated with the transportation network, measures, and policies, will reduce GHG emissions from passenger vehicles and if, feasible, achieve GHG reduction targets set by CARB.

SCAG – Within the SCAG region, there are six County Transportation Commissions (CTCs) and fourteen sub-regional COGs. GC Section 65080(b)(2)(C) allows a COG and a CTC to jointly develop a SCS and APS (if needed). SCAG has developed a document titled: "*Framework and Guidelines by the SCAG for the Development of a Sub-Regional SCS/APS*". This document is intended to provide guidance for the development of a sub-regional SCS or APS and should be consulted prior to any SCS/APS related work. SCAG shall include the sub-regional work within their overall SCS contained in SCAG's RTP, to the extent that the sub-regional work is consistent with the provisions of GC 65080 and federal law. Please see GC 65080 (b)(2)(C) for specific requirements.

San Joaquin Valley - The following eight counties constitute the MPOs located in the San Joaquin Valley: Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus and Tulare. These eight counties are located in one air quality basin and the MPOs have a long history of collaborating on the preparation of their respective RTPs particularly as it relates to the federal air quality conformity determination. GC section 65080 (N) stipulates that two or more of these MPOs may work together on the development of a joint SCS or APS, should they choose to do so.

TRPA – Pursuant to GC Section 65080(b)(2)(C)(ii), within the jurisdiction of the TRPA, as defined in Sections 66800 and 66801, TRPA shall use the Regional Plan for the Lake Tahoe Region as the SCS, provided it complies with GC Section 65080(b)(2)(B)(vii) and (viii).

Requirements (Shall):
Federal: Title 23 CFR Part 450, Title 40 CFR Part 93, and Title IV of the Civil Rights Act of 1964
State: Government Code Sections 11135 and 65080

6.26 SCS Process, Review and Determination

Regional GHG Emissions Reduction Targets

State statute requires CARB to set regional GHG emissions reduction targets for each MPO. Before setting the target for a region, CARB will exchange technical information with each MPO and the respective air quality management district. The MPO may recommend a target for its region during this process. Advanced and continuous communication and consultation between CARB and each MPO is highly recommended until the final target is adopted.

Questions regarding regional GHG emission reduction targets should be directed to CARB.

SCS Public Participation and Input/Consultation with Local Elected Officials

SB 375 increased the minimum level of public participation in the regional transportation planning process as well as the consultation required with local elected officials during the development of a SCS (and APS, if applicable). For more detailed information regarding these requirements for the development of an SCS (and an APS, if applicable) please refer to **Sections 4.7** and **4.8** of the RTP Guidelines.

CARB Review of the SCS

Prior to starting the public participation process adopted pursuant to GC 65080 (b)(2)(F), the MPO shall submit a description to the state board of the technical methodology it intends to use to estimate the GHG emissions from its SCS and, if appropriate, its APS. CARB shall respond to the MPO in a timely manner with written comments about the technical methodology, including specifically describing any aspects of the methodology it concludes will not yield accurate estimates of GHG emissions, and suggested remedies. The MPO is encouraged to work with CARB until the state board concludes that the technical methodology operates accurately.

After adoption of the RTP, a MPO shall submit a SCS or an APS, if one has been adopted, to CARB for review, including the quantification of the GHG emission reductions the strategy would achieve and a description of the technical methodology

used to obtain that result. Review by CARB shall be limited to acceptance or rejection of the MPO's determination that the strategy submitted would, if implemented, achieve the GHG emission reduction targets established by CARB. CARB shall complete its review within 60 days.

If CARB determines that the strategy submitted would not, if implemented, achieve the GHG emissions reduction targets, the MPO shall revise its strategy or adopt an APS, if not previously adopted, and submit the strategy for review pursuant to the paragraph above. At a minimum, the MPO must obtain CARB acceptance that an APS would, if implemented, achieve the GHG emission reduction targets established for that region by the state board.

Advanced and continuous communication and consultation between each MPO and CARB is encouraged until the final SCS, or APS if applicable, is adopted.

A flowchart depicting the RTP Development/Approval Process for MPOs including CARB review of the SCS, and APS if applicable, is available in **Section 2.8**. For additional information on the SCS Review process please refer to the CARB SB 375 Implementation website:

https://www.CARB.ca.gov/cc/sb375/sb375.htm

6.27 Land Use and Transportation Strategies to Address Regional GHG Emissions

Better land use and transportation strategies will continue to be important to MPOs in developing their RTPs to meet local, regional, and statewide mobility and economic needs while meeting the requirements of SB 375 and AB 32 to reduce regional GHG emissions. 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 are suggested methods that may help the MPO to reduce regional GHG emissions.

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

- Mixed use, infill, and higher density development projects.
- 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. 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 in the SCS, MPOs 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.

Planning Practice Examples: To be included in Appendix G in second public draft

6.28 APS Overview

Pursuant to California GC Section 65080(b)(2)(H), if the SCS, prepared in compliance with 65080(b)(2)(B) or (C), is unable to reduce GHG emissions to achieve the GHG

emission target established by CARB, the MPO shall prepare an APS to the SCS showing how that GHG emissions target would be achieved through alternative development patterns, infrastructure, or additional transportation measures and policies. The APS shall be a separate document from the RTP. In preparing the APS, the MPO:

1. Shall identify the principal impediments to achieving the targets within the SCS
2. May include an alternative development pattern for the region pursuant to 65080 (b)(2)(B) to (F) inclusive,
3. Shall describe how the GHG emissions reduction targets would be achieved by the APS, and why the development pattern, measures, and policies in the APS are the most practicable choices for achievement of the GHG emission reduction targets,
4. An alternative development pattern set forth in the APS shall comply with Part 450 of Title 23 of, and Part 93 of Title 40 of, the CFR, except to the extent that compliance will prevent achievement of the GHG emission reduction targets approved by CARB,
5. For purposes of the CEQA, an APS shall not constitute a land use plan, policy or regulation, and the inconsistency of a project with an APS shall not be a consideration in determining whether a project may have an environmental effect.

Adaptation of the Regional Transportation System to Climate Change

This section is intended to provide background on climate adaptation for MPOs to consider in the development of RTPs. First, an overview of climate adaptation is provided for informational purposes. Next, EO, legislation, and policy on climate adaptation are discussed to provide a critical framework for MPOs, as well as summary of coastal permitting requirements. Lastly, a comprehensive list of climate adaptation tools and resources are provided for MPOs to consider for use in adaptation planning.

The Governor's Office of Planning and Research (OPR)'s Integrated Climate Adaptation and resiliency Program (ICARP) defines adaptation as "an adjustment in natural or human systems to a new or changing environment" that "moderates harm or exploits beneficial opportunities" brought about by the change. California, the third-largest state in terms of land area, has a diverse range of geographies, including deserts, mountains, coastal regions, and floodplains, all of which are impacted by the changing climate in a variety of complex ways. Transportation infrastructure is continuously under more strain and exposure due to climate change, necessitating more frequent maintenance and advancements in adaptation strategies and solutions. Given the observed and projected changes in climate, it is imperative to update design and maintenance standards to utilize future climate projections, not historic weather conditions.

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 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 need 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).

6.29 Climate Adaptation and Resilience Policy Landscape

In 2015, Governor Brown signed SB 246 (Wieckowski), which directed OPR form ICARP. The Program is designed to develop a cohesive and coordinated response to the impacts of climate change across state, local, and regional levels. One main component of the Program is developing guidance and providing a centralized source of information and resources to assist decision-makers at the state, tribal, regional, and local levels when planning for and implementing climate adaptation and resiliency efforts across California. To this end, ICARP and the California Governor's Office of Emergency Services (CalOES) have collaborated on the Adaptation Planning Guide

(APG) intended to guide adaptation planning for local and regional agencies. MPOs should use this guidance as a starting point to begin adaptation planning and integration of climate risk into transportation projects. Additional information from the APG is provided in the Guidance and Tools subsection below.

Also, in 2015, building off the foundation set in previous state efforts towards climate preparedness and GHG reductions, EO B-30-15 created a roadmap for progress in climate adaptation. Public Resources Code 71155 requires that State agencies consider the current and future impacts of climate change when planning, designing, building, operating, maintaining, and investing in state infrastructure. The EO led to the creation of a Guidebook for State agencies, Planning & Investing for a Resilient California. This guidance includes overarching principles for adaptation planning that are suited to all agencies pursuing adaptation planning and projects. The principles are reflected in the next section.

Other key driving bills for MPOs include:

- **AB 1482:** Directs ongoing updates to the State Climate Adaptation Strategy (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. The latest version, released in 2021, identifies six priorities and sixteen goals.
- **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 2017 edition of the General Plan Guidelines).

The following table summarizes various other EOs and bills that include climate adaptation components, some more related to metropolitan planning than others:

Bill or EO	Year	Climate Adaptation Component
S-13-08	2008	Directed state agencies to complete the first CA Sea Level Rise (SLR) Assessment Report and to consider a range of SLR scenarios for years 2050 and 2100 for construction projects in areas vulnerable to future SLR. Also triggered first State Climate Adaptation Strategy and related land-use planning guidance.
AB 2800	2016	Redoubles requirement for state agencies to consider the current and future impacts of climate change when planning, designing, building, operating, maintaining, and investing in state infrastructure. Also required CNRA to establish a Climate-Safe Infrastructure Working Group for the purpose of examining how to integrate scientific data concerning projected climate change impacts into state infrastructure engineering and make specified recommendations to the Legislature and the SGC.
AB 1282	2017	Required CalSTA and the California Natural Resources Agency (CNRA) to establish a Transportation Permitting Task Force to develop a process for early engagement for all parties in the development of transportation projects, establish reasonable deadlines for permit approvals, and provide for greater certainty of permit approval requirements.

SB 1	2017	To the extent deemed cost effective, and where feasible, in the context of both the project scope and the risk level for the asset due to global climate change, requires Caltrans, cities, and counties receiving funds under SB 1 to include features in projects to better adapt the asset to withstand the negative effects of climate change and make the asset more resilient to impacts such as fires, floods, and SLR.
SB 1035	2018	Redoubles requirement for the safety element of long-term general plans to be reviewed and revised as necessary to address climate adaptation and resiliency strategies, and ties safety element revisions to housing element or local hazard mitigation plan revisions to promote alignment towards climate adaptation goals in planning and zoning.

Additional Tools and Resources can be found in **Appendix F.**

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Chapter 7

Transportation Performance Management

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Chapter 7 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. Federal law requires States 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, EO, 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 monitor safety, physical asset condition, travel time reliability and air quality. Performance metrics include measured field data such as fatalities or injuries resulting from crashes, physical condition, travel times, and carbon dioxide (CO2) emissions.

7.1 Federal Performance Goals and Measures

The cornerstone of the federal highway program transformation is the transition to a performance and outcome-based program. The Moving Ahead for Progress in the 21st Century Act (MAP-21), signed into law in 2012, included several provisions that collectively are transforming the Federal surface transportation program to be focused on the achievement of performance outcomes. IIJA further integrated performance into many federal transportation programs. States and MPOs will invest resources in projects to achieve individual targets established in Caltrans' Transportation Asset Management Plan (TAMP) that collectively will make progress toward national goals. The national performance goals for the Federal highway programs as established in 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 Transportation Management Program (TPM), as summarized below. 23 U.S.C. 150 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. FTA is responsible for developing rules related to public transportation and transit asset management.

To assist MPOs in meeting key reporting deadlines, please review the Performance Measures & Asset Management Plan - Key Implementation Dates.

FHWA Performance Measures

The federal performance measures defined by FHWA are categorized into three performance management (PM) focus areas. Each focus area includes an associated set of metrics for which statewide and regional targets must be set. Each MPO must

incorporate these short-range performance targets into their planning and programming processes, including the RTP.

PM1: Safety

Safety Performance (PM 1) federal ruling was published on March 15, 2016, with an effective date of April 14, 2016. The Highway Safety Improvement Program (HSIP) is a core Federal-aid program meant to achieve significant reduction in fatalities and serious injuries on all public roads. The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads and focuses on performance. The HSIP regulation under 23 CFR 924 establishes FHWA's HSIP policy, as well as program structure, planning, implementation, evaluation and reporting requirements for states to successfully administer the HSIP. The overarching highway safety plan for the State of California is the Strategic Highway Safety Plan (SHSP). In January 2020, California updated its SHSP, which is a statewide, coordinated traffic safety plan that provides a comprehensive framework for reducing roadway fatalities and serious injuries on California's public roads.

PM 1 supports the data-driven performance focus of the HSIP and establishes five performance measures as the five-year rolling averages to include:

Motor Vehicles Collisions:

- Number of Fatalities
- Rate of Fatalities per 100 million VMT
- Number of Serious Injuries
- Rate of Serious Injuries per 100 million VMT

Non-Motorized Fatalities and Serious Injuries

- Number of Non-motorized Fatalities and Non-motorized Serious Injuries

These safety performance measures are applicable to all public roads regardless of ownership or functional classification. The Safety Performance final rule also established a common national definition for serious injuries.

States must establish statewide targets for each of the safety performance measures annually. For three of the five safety performance measures (number of fatalities, rate of fatalities and number of serious injuries), targets must be identical to the targets established for the National Highway Traffic Safety Administration (NHTSA) Highway Safety Grants Program. The State Departments of Transportation (DOT) must also coordinate with the MPOs in the state on establishment of targets, to the maximum extent practicable. Caltrans must report the safety targets to FHWA in the HSIP report due in August of each year. Since the safety targets are applicable to all public roads in California, regional jurisdictions are involved in the process of establishing safety targets. Toward this end, Caltrans holds annual coordination workshops with stakeholders.

A state is considered to have met or made significant progress toward meeting its safety targets when at least four of the five performance targets are met or the outcome for the performance measure is better than the baseline performance the year prior to the target being set. States must also develop a HSIP Implementation Plan.

The California HSIP is available at:

https://dot.ca.gov/programs/local-assistance/fed-and-state-programs/highway-safety-improvement-program

PM 2: National Highway System (NHS) Pavement and Bridge Condition

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 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:

NHS Pavement Condition

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.

PM 3: NHS Performance, Interstate System Freight Movement, and CMAQ Program Performance

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 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 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:

NHS Performance

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

Interstate Freight Movement

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

CMAQ Program Performance

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.

MPOs are required to establish targets and report progress for the performance measures related to CMAQ. The latest FHWA Applicability Determination: CMAQ Traffic Congestion and CMAQ On-Road Mobile Source Emissions Measures (23 CFR 490.707 and 490.807) can be found at: https://www.fhwa.dot.gov/environment/air_quality/cmaq/measures/cmaq_applicability/october_2021/#toc75274157

FTA Performance Measures

Transit Asset Management (TAM)

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
- Facilities

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

Resources for Implementing Performance Based Planning

1. PBPP FHWA CA Resource Document (Add Hyperlink)- The purpose of this document is to assist Caltrans and the California MPOs in the implementation of performance-based planning and programming (PBPP), including the incorporation of transportation performance management (TPM).
2. **Assessment on the Effectiveness of Performance-Based Planning and Programming** - This report presents the findings of a study on how performance-based planning and programming influences transportation planning and programming decisions at 52 State departments of transportation and 85 MPOs. Research was conducted throughout 2020 using online reviews of planning and programming documents, interviews and peer exchanges with practitioners, and a survey of FHWA Division and FTA Region staff. This report documents current practices and identifies opportunities for enhancements.
3. Example Practices for Performance-Driven Programming - This report highlights how State Departments of Transportation (DOTs) and MPOs are implementing performance-driven programming processes and aligning transportation investment decisions with the Federal performance areas for safety, infrastructure condition, and system performance. The FHWA is sharing these examples to help advance the state of the practice for performance-driven programming. The research included review of planning documents from four State DOTs and five MPOs, and agency discussions, to examine how agencies are using performance-driven programming processes to guide resource allocation to achieve goals, objectives, and performance targets. The findings do not constitute an inventory; instead, this report aims to characterize the approaches and investment strategies agencies are applying in their planning and programming processes to make progress toward performance target achievement.

Additional resources can be located here: Implementation Resources for Transportation Performance Management (TPM) and Transportation Asset Management (TAM) (ca.gov).

7.2 Federal Performance-Based Approach and RTP Requirements

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 MPOs to implement the performance-based approach in the scope of the metropolitan transportation planning process. First, MPOs, in coordination with the State and public transportation providers, will establish, to the maximum extent practicable, an appropriate target setting framework. Federal regulations define the implementation timeline for satisfying the new requirements for MPOs 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. Two years on or after the effective date of each rule establishing performance measures, an MPO may only adopt an RTP that has been developed according to the provisions and requirements of IIJA Act as specified in the respective Final Rules.

This section is intended to provide a summary of the additional requirements specific to RTP development. 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 MPO in meeting the performance targets in comparison with system performance recorded in previous reports, including baseline data; and,
    b. For MPOs 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 and 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 450.306 (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 (Shall)
Federal: 23 CFR 450.306; 23 CFR 450.324(f)(3) & (4); 23 CFR 450.340(e) & (f)

7.3 State Goals and Performance Measures

Pursuant to 23 CFR 450.324(f)(3), every RTP shall include a description of the performance measures and performance targets used in assessing the performance of the transportation system in accordance with §450.306(d) which requires that the long-range planning process provide for the establishment and use of a performance-based approach to transportation decision-making to support national goals. Additionally, SB 375 requires MPOs to demonstrate how to achieve regional GHG emissions reduction targets, if feasible, established by CARB. SB 743 revised CEQA to "[m]ore appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of GHGs." Pursuant to SB 743, the Governor's Office of Planning and Research is required to provide an alternative to Level of Service (LOS) for analyzing transportation impacts under CEQA to balance the needs of congestion management more appropriately with statewide goals related to infill development, promotion of public health through active transportation, and reduction of GHG emissions. To accomplish this, OPR is currently updating the CEQA Guidelines. Please see Chapter 5 for more information on incorporating CEQA requirements into the RTP process. MPOs shall identify performance measures, according to available resources and capacity. As part of the public process of developing the RTP, MPOs are strongly encouraged to consider and discuss regional performance measures that integrate established state policies and goals, according to the region's available resources and capacity.

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, goals and related performance measures are developed through a bottom-up process that involves input from stakeholders in the region, including the MPO member jurisdictions and the public. The RTP, including goals and performance measures, are formally adopted at the discretion of the MPO governing board. Some regional performance measures are based on the regional Blueprint plans which were the predecessors of the SCS under SB 375. The number and type of measures that a region chooses can vary widely depending on the region's unique vision, goals, and an assessment of feasibility to measure. Tradeoffs between performance measure thresholds should be clearly identified and priorities set to avoid confusion about plan objectives, because some of these measures may compete or conflict with one another. The following are state policies and goals that MPOs are encouraged to use in the development of their

performance measures. This is not an exclusive list, and MPOs may establish additional measures 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 MPOs, 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 measured, how it is measured 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 FTIP/RTIP and ITIP should be linked and consistent with the goals and objectives of the RTP. Performance measures in the RTP set the context for judging the effectiveness of the FTIP as a program, by furthering the RTP goals and objectives, whereas the STIP Guidelines address performance measures of specific projects. GC 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: https://dot.ca.gov/programs/financial-programming/office-of-capital-improvement-programming-ocip

In the context of SB 375, performance measures are essential to assessing and comparing alternative transportation and land use scenarios before selecting the preferred RTP/SCS scenario that, if feasible, not only meets the region's GHG reduction target, but also provides substantive co-benefits while supporting social equity. They are also critical for tracking the progress of an SCS. CARB staff analyzes performance measures that are related to the land use and transportation strategies in the SCS to determine whether they provide supportive, qualitative evidence that the SCS could meet its GHG targets. The more robust the MPO's performance measurement, the better an MPO can substantiate its GHG determinations. MPOs are encouraged to

clearly communicate the elements of the SCS (both strategies and investments) that are driving change in the region and resulting in the forecasted outcomes.

Caltrans coordinates its performance measure activity with MPOs. MPOs are encouraged to develop and implement their own performance measures above and beyond the federal requirements for regional roads, transit, rail, bicycle, and pedestrian facilities, etc.

Requirements (Shall)
State: California GC Section 65080(b)(2) (SB 375 Targets)

Planning Practice Examples: To be included in Appendix G in second public draft

7.4 Performance Monitoring

Regions should also consider using performance monitoring indicators to measure plan performance. Pursuant to GC 65080(b)(1)(A-F), the Policy element of MPOs with populations that exceed 200,000 persons may quantify a set of indicators including, but not limited to measures of mobility and traffic congestion; road and bridge maintenance and rehabilitation needs; means of travel; safety reliability and security; and equity and accessibility to destinations. The level of detail and qualitative or quantitative nature of the indicators should be determined by modeling capacity and data availability. The requirements of GC Section 65080(b)(1)(A-F) specify that this section may be met utilizing existing sources of information. No additional traffic counts, household surveys, or other sources of data shall be required.

In 2011, the SANDAG received grant funding from the SGC 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* (RCTF, 2015), available at:
https://www.nctc.ca.gov/documents/Reports/RCTF/RCTF%20Final%20Report%20Performance%20Monitoring%20Indicators%20Study%20Sept.%202015%20Kittelson%20and%20Assoc..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 RTPAs as outlined in the report, *Transportation Performance Measures for Rural Counties in California* (Rural Counties Task Force, 2015), at:

https://www.nctc.ca.gov/documents/Reports/RCTF/RCTF%20Performance%20Measures%20Fact%20Sheet%209-16-15%20from%20Kittelson.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
VMT Per Capita By Locality By Facility Ownership Local vs. Tourist	Mobility Reporting	https://dot.ca.gov/programs/traffic-operations/mpr
	California DOF	https://dof.ca.gov/reports/demographic-reports/
	HPMS	https://dot.ca.gov/programs/research-innovation-system-information/highway-performance-monitoring-system
Peak V/C Ratio or Thresholds	Traffic Counts: K and D Factors	https://dot.ca.gov/programs/traffic-operations/census
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	https://tims.berkeley.edu/
	SWITRS TASAS	https://www.chp.ca.gov/programs-services/services-information/switrs-internet-statewide-integrated-traffic-records-system
Transit Operating Cost per Revenue Mile	Local Transit Providers	
Distressed Lane Miles Total and % Total By Jurisdiction By Facility Type	FHWA	http://www.fhwa.dot.gov/tpm/rule/pmfactsheet.pdf
	Regional or local pavement management system	https://www.federalregister.gov/documents/2022/07/15/2022-14679/national-performance-management-measures-assessing-performance-of-the-national-highway-system
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

Recommendation (Should)
State: California GC Section 65080.

Planning Practice Examples: To be included in Appendix G in second public draft

APPENDICES

A. RTP Checklist (to be completed by MPO prior to submitting the draft and final RTP to Caltrans and CTC)

B. MPO Air Quality Conformity Checklist

C. RHNA and RTP Development Information

D. Glossary of Transportation Terms

E. AB 441 – Promoting Health and Health Equity in MPO RTPs

F. Tools and Resources

G. Planning Practice Examples

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Appendix A: RTP Checklist

Appendix A: RTP Checklist

Regional Transportation Plan Checklist for MPOs
(Revised March 2018)

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

Name of MPO: _____

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 MPO 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 450.324(a))		
2. Does the RTP include both long-range and short-range strategies/actions? (23 CFR 450.324(b))		
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 address the 10 issues specified in the Sustainable Communities Strategy (SCS) component as identified in Government Code Sections 65080(b)(2)(B) and 65584.04(i)(1)?		
a. Identify the general location of uses, residential densities, and building intensities within the region?		
b. Identify areas within the region sufficient to house all the population of the region, including all economic segments of the		

population over the course of the planning period of the regional transportation plan taking into account net migration into the region, population growth, household formation and employment growth?		
c. Identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region pursuant to Government Code Section 65584?		
d. Identify a transportation network to service the transportation needs of the region?		
e. Gather and consider the best practically available scientific information regarding resource areas and farmland in the region as defined in subdivisions (a) and (b) of Government Code Section 65080.01?		
f. Consider the state housing goals specified in Sections 65580 and 65581?		
g. Utilize the most recent planning assumptions, considering local general plans and other factors?		
h. Set forth a forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce the greenhouse gas emissions from automobiles and light trucks to achieve, if there is a feasible way to do so, the greenhouse gas emission reduction targets approved by CARB?		
i. Provide consistency between the development pattern and allocation of housing units within the region (Government Code 65584.04(i)(1)?		
j. Allow the regional transportation plan to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Section 7506)?		
5. Does the RTP include Project Intent i.e. Plan Level Purpose and Need Statements?		
6. Does the RTP specify how travel demand modeling methodology, results and key assumptions were developed as part of the RTP process? (Government Code 14522.2)		
7. Does the RTP contain a System Performance Report? (23 CFR 450.324 (f))		
a. Does the report include a description of the performance measures and performance targets used in assessing the performance of the transportation system?		
b. Does the report show the progress achieved in meeting performance targets in comparison with the performance in previous reports?		
c. Does the report include an evaluation of how the preferred scenario has improved conditions and performance, where applicable?		
d. Does the report include an evaluation of how local policies and investments have impacted costs necessary to achieve identified performance targets, where applicable?		

Consultation/Cooperation

	Yes/No	Page #
1. Does the RTP contain a public involvement program that meets the requirements of Title 23, CFR 450.316(a)?		
(i) Providing adequate public notice of public participation activities and time for public review and comment at key decision points, including a reasonable opportunity to comment on the proposed metropolitan transportation plan and the TIP;		
(ii) Providing timely notice and reasonable access to information about transportation issues and processes;		
(iii) Employing visualization techniques to describe metropolitan transportation plans and TIPs;		
(iv) Making public information (technical information and meeting notices) available in electronically accessible formats and means, such as the World Wide Web;		
(v) Holding any public meetings at convenient and accessible locations and times;		
(vi) Demonstrating explicit consideration and response to public input received during the development of the metropolitan transportation plan and the TIP;		
(vii) 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;		
(viii) Providing an additional opportunity for public comment, if the final metropolitan transportation plan or TIP differs significantly from the version that was made available for public comment by the MPO and raises new material issues that interested parties could not reasonably have foreseen from the public involvement efforts;		
(ix) Coordinating with the statewide transportation planning public involvement and consultation processes under subpart B of this part; and		
(x) Periodically reviewing the effectiveness of the procedures and strategies contained in the participation plan to ensure a full and open participation process.		
2. Does the RTP contain a summary, analysis, and report on the disposition of significant written and oral comments received on the draft metropolitan transportation plan as part of the final metropolitan transportation plan and TIP that meets the requirements of 23 CFR 450.316(a)(2), as applicable?		
3. Did the MPO/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))		
		Yes/No	Page #
4.	Did the MPO/RTPA who has federal lands within its jurisdictional boundary involve the federal land management agencies during the preparation of the RTP? (23 CFR 450.316(d))		
5.	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 450.324(g))		
6.	Did the RTP include a comparison with the California State Wildlife Action Plan and (if available) inventories of natural and historic resources? (23 CFR 450.324(g)(1&2))		
7.	Did the MPO/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 450.316(c))		
8.	Does the RTP address how the public and various specified groups were given a reasonable opportunity to comment on the plan using the participation plan developed under 23 CFR part 450.316(a)? (23 CFR 450.316(a)(i))		
9.	Does the RTP contain a discussion describing the private sector involvement efforts that were used during the development of the plan? (23 CFR 450.316(a))		
10.	Does the RTP contain a discussion describing the coordination efforts with regional air quality planning authorities? (23 CFR 450.316(a)(2)) **(MPO nonattainment and maintenance areas only)**		
11.	Is the RTP coordinated and consistent with the Public Transit-Human Services Transportation Plan? (23 CFR 450.306(h))		
12.	Were the draft and adopted RTP posted on the Internet? (23 CFR 450.324(k))		
13.	Did the RTP explain how consultation occurred with locally elected officials? (Government Code 65080(D))		
14.	Did the RTP outline the public participation process for the sustainable communities strategy? (Government Code 65080(E))		

15.	Was the RTP adopted on the estimated date provided in writing to State Department of Housing and Community Development to determine the Regional Housing Need Allocation and planning period (start and end date) and align the local government housing element planning period (start and end date) and housing element adoption due date 18 months from RTP adoption date? (Government Code 65588(e)(5))		

Title VI and Environmental Justice

1.	Does the public participation plan describe how the MPO will seek out and consider the needs of those traditionally underserved by existing transportation system, such as low-income and minority households, who may face challenges accessing employment and other services? (23 CFR 450.316 (a)(1)(vii))		
2.	Has the MPO conducted a Title VI analysis that meets the legal requirements described in Section 4.2?		
3.	Has the MPO conducted an Environmental Justice analysis that meets the legal requirements described in Section 4.2?		

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 MPOs and 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	Yes/No	Page #
1.	Is the RTP consistent (to the maximum extent practicable) with the development of the regional ITS architecture? (23 CFR 450.306(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 450.324(f)(11)?		
2.	Does the RTP contain a consistency statement between the first 4 years of the fund estimate and the 4-year STIP fund estimate? (65080(b)(4)(A))		
3.	Do the projected revenues in the RTP reflect Fiscal Constraint? (23 CFR part 450.324(f)(11)(ii))		
4.	Does the RTP contain a list of financially constrained projects? Any regionally significant projects should be identified. (Government Code 65080(4)(A))		
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))		
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? (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)		
9.	Does the RTP address the specific financial strategies required to ensure the identified TCMs from the SIP can be implemented? (23 CFR part 450.324(f)(11)(vi) (**nonattainment and maintenance MPOs only**)		

Environmental	Yes/No	Page #
1. Did the MPO/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 contain a discussion of SIP conformity, if applicable?		
4. Does the RTP specify mitigation activities? (23 CFR part 450.324(f)(10))		
5. Where does the EIR address mitigation activities?		
6. Did the MPO/RTPA prepare a Negative Declaration or a Mitigated Negative Declaration for the RTP in accordance with CEQA guidelines?		
7. 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 MPO Executive Director or designated representative)

Date

Print Name

Title

Appendix B: MPO Air Quality Conformity Checklist

Appendix B: MPO Air Quality Conformity Checklist

Conformity Analysis Documentation

Checklist for MPO TIPs/RTPs

Updated 4/2023

40 CFR	Criteria	Ch, Section, 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.		
§93.102 (b)(2)(iii)	PM10 areas: document whether EPA or state has found VOC and/or NOx to be a significant contributor or if the SIP establishes a budget		
§93.102 (b)(2)(iv)	PM2.5 areas: document if both EPA and the state have found that NOx is not a significant contributor to the PM 2.5 nonattainment problem or that the SIP does not establish a budget (otherwise, conformity applies for NOx)		
§93.102 (b)(2)(v)	PM2.5 areas: document if both EPA and the state have found VOC, SO2, and/or NH3 to be a significant contributor or if the SIP establishes a budget		
§93.104 (b, c)	Document the date that the MPO officially adopted, accepted or approved the TIP/RTP and made a conformity determination. Include a copy of the MPO resolution. Include the date of the last prior conformity finding.		
§93.104 (e)	If the conformity determination is being made to meet the timelines included in this section, document when the new motor vehicle emissions budget was approved or found adequate.		
§93.106	If the metropolitan planning area is in a serious, severe, or extreme ozone nonattainment area and/or serious carbon monoxide nonattainment area **and** contains an urbanized population over 200,000, then RTP must specifically describe the transportation system envisioned for future years called "horizon years." Document that horizon years are no more than 10 years apart ((a)(1)(i)). Document that the first horizon year is no more than 10 years from the base year used to validate the transportation demand planning model ((a)(1)(ii)). Document that the attainment year is a horizon year, if in the timeframe of the plan ((a)(1)(iii)). Document that the last year of the transportation plan's forecast period is a horizon year ((a)(1)(iv)).		

40 CFR	Criteria	Ch, Section, Page	Comments
§93.106 (a)(2)(ii)	Describe the regionally significant additions or modifications to the existing transportation network that are expected to be open to traffic in each analysis year. Document that the design concept and scope of projects allows adequate model representation to determine intersections with regionally significant facilities, route options, travel times, transit ridership and land use.		
§93.108	Document the TIP/RTP is fiscally constrained consistent with DOT's metropolitan planning regulations at (23 CFR 450) in order to be found in conformity.		
§93.109 (a, b)	Document that the TIP/RTP complies with any applicable conformity requirements of air quality implementation plans (SIPs) and court orders.		
§93.109 (c-k)	Provide either a table or text description that details, for each pollutant and precursor, whether the interim emissions tests and/or the budget test apply for conformity. Indicate which emissions budgets have been found adequate by EPA, and which budgets are currently applicable for what analysis years.		
93.109 (e)	Document if the area has a limited maintenance plan and from where that information is found		
93.109 (f)	Document if motor vehicle emissions are an insignificant contributor and in what SIP that determination is found		
§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 vehicle registration data. Document the date upon which the conformity analysis was begun.		
USDOT/EPA guidance	Document thatplanning assumptions are less than 5 years old at the time the conformity analysis begins. If assumptions are older than 5 years include justification for not reviewing and updating assumptions at least every 5 years.		
§93.110 (c,d,e,f)	Document any changes in transit operating policies and assumed ridership levels since the previous conformity determination (c). Document the use of the latest transit fares and road and bridge tolls (d). Document the use of the latest information on the effectiveness of TCMs and other SIP measures that have been implemented (e). Document the key assumptions and show that they were agreed to through Interagency and public consultation (f).		
§93.111	Document the use of the latest emissions model approved by EPA. If the previous model was used and the grace period has ended, document that the analysis began before the end of the grace period.		

40 CFR	Criteria	Ch, Section, 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 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	Document timely implementation of all TCMs in approved SIPs. Document that implementation is consistent with schedules in the applicable SIP and document whether anything interferes with timely implementation. Document any delayed TCMs in the applicable SIP and describe the measures being taken to overcome obstacles to implementation.		
§93.114	Document that the conformity analyses performed for the TIP is consistent with the analysis performed for the Plan, in accordance with 23 CFR 450.324(f)(2).		
§93.115	Describe how the projects come from a conforming RTP and TIP. If this criterion is not satisfied, the project must satisfy all criteria in Table 1 of §93.109(b) for a project not from a RTP and TIP.		
§93.118 (a, c, e)	For areas with SIP budgets: Document that emissions from the transportation network for each applicable pollutant and precursor, including projects in any associated donut area that are in the Statewide TIP and regionally significant non-Federal projects, are consistent with any adequate or approved motor vehicle emissions budget for all pollutants and precursors in applicable SIPs.		
§93.118 (b)	Document for which years consistency with motor vehicle emissions budgets must be shown.		
93.118 (c)	Document and demonstrate consistency with motor vehicle emissions budgets for each pollutant or pollutant precursor for which the area is in nonattainment or maintenance and for which the applicable SIP plan establishes a motor vehicle emissions budget.		
§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 (a, b, c, d)[1]	For areas without applicable SIP budgets: Document that emissions from the transportation network for each applicable pollutant and precursor, including projects in any associated donut area that are in the TIP and regionally significant non-Federal projects, are consistent with the requirements of the "Action/Baseline" or "Action/Baseline Year" emissions tests as applicable.		
93.119 (e)	Document the appropriate baseline year.		
93.119 (f)	Document the use of appropriate pollutants and if EPA or the state has made a finding that a particular precursor or component of PM10 is significant or insignificant.		

40 CFR	Criteria	Ch, Section, Page	Comments
§93.119 (g)	For areas without applicable SIP budgets: Document the use of the appropriate analysis years in the regional emissions analysis for areas without applicable SIP budgets. The regional emissions analysis must be performed for analysis years that are no more than ten years apart. The first analysis year must be no more than five years beyond the year in which the conformity determination is being made. The last year of the timeframe of the conformity determination (as described under §93.106(d)) must also be an analysis year.		
§93.119 (h,i)	For areas without applicable SIP budgets: 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 it will be open to traffic. Document that VMT for non-regionally significant Federal projects is accounted for in the regional emissions analysis		
§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, 7)	For nonregulatory measures that are not included in the TIP, 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. Document the method(s) used to estimate VMT on off-network roadways within the urban transportation planning area, and on roadways outside the urban transportation planning area.		
§93.122 (b)(1)(i) [2]	Document that a network-based travel model is in use that is validated against observed counts for a base year no more than 10 years before the date of the conformity determination. Document that the model results have been analyzed for reasonableness and compared to historical trends and explain any significant differences between past trends and forecasts (for per capita vehicle-trips, VMT, trip lengths mode shares, time of day, etc.).		

40 CFR	Criteria	Ch, Section, Page	Comments
§93.122 (b)(1)(ii) [2]	Document the land use, population, employment, and other network-based travel model assumptions.		
§93.122 (b)(1)(iii) [2]	Document how land use development scenarios are consistent with future transportation system alternatives, and the reasonable distribution of employment and residences for each alternative.		
§93.122 (b)(1)(iv) [2]	Document use of capacity sensitive assignment methodology and emissions estimates based on a methodology that differentiates between peak and off-peak volumes and speeds, and bases speeds on final assigned volumes.		
§93.122 (b)(1)(v) [2]	Document the use of zone-to-zone travel impedances to distribute trips in reasonable agreement with the travel times estimated from final assigned traffic volumes. Where transit is a significant factor, document that zone-to-zone travel impedances used to distribute trips are used to model mode split.		
§93.122 (b)(1)(vi) [2]	Document how travel models are reasonably sensitive to changes in time, cost, and other factors affecting travel choices.		
§93.122 (b)(2) [2]	Document that reasonable methods were used to estimate traffic speeds and delays in a manner sensitive to the estimated volume of travel on each roadway segment represented in the travel model.		
§93.122 (b)(3) [2]	Document the use of HPMS, or a locally developed count-based program or procedures that have been chosen through the consultation process, to reconcile and calibrate the network-based travel model estimates of VMT.		
§93.122 (d)	In areas not subject to §93.122(b), document the continued use of modeling techniques or the use of appropriate alternative techniques to estimate vehicle miles traveled		
§93.122 (e, f)	Document, in areas where a SIP identifies construction-related PM10 or PM 2.5 as significant pollutants, the inclusion of PM10 and/or PM 2.5 construction emissions in the conformity analysis.		
§93.122 (g)	If appropriate, document that the conformity determination relies on a previous regional emissions analysis and is consistent with that analysis. The new plan and TIP contain all the projects that must be started to achieve the highway and transit system envisioned by the plan ((g)(1)(i)) All plan and TIP projects are included in the transportation plan with design concept and scope adequate to determine their contribution to emissions in the previous determination; (g)(1)(ii)) The design concept and scope of each regionally significant project in the new plan/TIP are not significantly different from that described in the previous (g)(1)(iii))		

40 CFR	Criteria	Ch, Section, Page	Comments
§93.124	Document if there are subarea budgets established, and for which areas (93.124(c)). Document if there is a safety margin established, and what are the budgets with the safety margin included (93.124(a)). Document if there has been any trading among budgets, and if so, which SIP establishes the trading mechanism, and how it is used in the conformity analysis (93.124(b)). If there is more than one MPO in the area, document whether separate budgets are established for each MPO (93.124(d)). The previous regional emissions analysis meets 93.118 or 93.119 as applicable ((g)(1)(iv))		
§93.126, §93.127, §93.128	Document all projects in the TIP/RTP that are exempt from conformity requirements or exempt from the regional emissions analysis. Indicate the reason for the exemption (Table 2, Table 3, traffic signal synchronization) and that the interagency consultation process found these projects to have no potentially adverse emissions impacts.		

[1]**Note that some areas are required to complete both interim emissions tests.**
[2] **40 CFR 93.122(b) refers only to serious, severe and extreme ozone areas and serious CO areas above 200,000 population**

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 is in no way intended to replace or supercede 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 in nonattainment or maintenance areas. 40 CFR Parts 51 and 93 contain additional criteria for project-level conformity determinations.

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Appendix C: RHNA and RTP Development Information

The following table was prepared by the California Department of Housing and Community Development (HCD). Questions regarding the RHNA process should be directed to HCD using the contact information located at:

http://hcd.ca.gov/contact.html

Appendix C: RHNA and RTP Development Information

RHNA/Housing Element and RTP Statutory Process Timelines

Regional Housing Need Allocation (RHNA) *Government Code (GC) Sections 65584-65589*	**Regional Transportation Plan (RTP) (Sustainable Communities Strategy -SCS)**
A. REGIONAL CONSULTATION & DETERMINATION *1.* COG/MPO provides HCD written notice of estimated RTP adoption date: at least 12 months prior to estimated adoption date. GC 65588(e)(5). *NOTE: RTP adoption later than estimated date can cause (1) misalignment between RHNA projection period (based on "estimated" adoption date) & HE planning period & due date (18 months from "actual" adoption date) & (2) shortage of required housing unit allocation over period past "estimated" adoption date. GC 65588(e)(2)* 2. HCD & COG/MPO begin RHNA consultation: at least 26 months before due date of local government Housing Element (HE). GC 65584.01(c)(1). *(COG Subregion optional formation and notification: at least 28 months before HE due date. GC 65584.03.)* 3. HCD issues final RHNA**:** at least 24 months before HE due date. GC 65584(b).	*(Regional variations exist for some MPOs in San Joaquin Valley, Bay Area, and Southern California and for congestion management agency-subregion processes)* 1. MPO gathers data, develops models, begins update of regional growth forecast 2. MPO adopts public participation plan for SCS and possibly an APS 3. Prior to public participation process, MPO submits proposed methodology for estimating GHG reduction from its SCS (and APS, if desired) to CARB for review and comment
B. COG/MPO RHNA DISTRIBUTION METHODOLOGY & PLAN 4. COG/MPO begins developing distribution methodology: at least 24 months before HE due date *(allowing 60-day public comment period & public hearing)*. GC 65584.04(a). 5. COG/MPO adopts final distribution methodology for all income category RHNA consistent with development pattern of Regional Transportation Plan Sustainable Communities Strategy. GC 65584.04(h).	4. MPO conducts outreach & public workshops, at least 1-3 workshops per county 5. MPO conducts inter-agency consultation pursuant to federal conformity requirements 6. MPO prepares draft SCS which must accommodate HCD's RHNA determination 7. Draft EIR/RTP is prepared & reviewed by public and agencies for comment
C. COG/MPO ISSUES DRAFT RHNA DISTRIBUTIONS 6. COG/MPO distributes Draft RHNAs: at least 18 months before HE due date. GC 65584.05(a). 7. Jurisdictions may request draft RHNA revision: within 60 days from receipt of draft RHNA. GC 65585.05(b)-(c)	*MPO must issue Draft SCS not less than 55 days before RTP adoption; must hold SCS public hearing (for single-county at least 2 public hearings& for multi-county at least 3 hearings)*
D. JURISDICTION APPEAL PROCESS & COG/MPO ACTION 8. Jurisdictions may appeal draft RHNA: within 60 days from date COG/MPO establishes to hear appeals at public hearing. GC 65585.05(d)-(e) 9. COG/MPO reviews and responds to appeal requests and issues proposed Final RHNA (at least equal to HCD income category RHNA): within 45 days after appeal hearing. GC 65584.05(f)-(g). **10.** COG/MPO holds Public Hearing and adopts and submits Final RHNA Plan: Adopt Plan within 45 days from issuing proposed Final RHNA distribution Plan. Submit Plan within 3 days from adoption to HCD to review/approve within 60 days from receipt. GC 65584.05(h).	8. MPO makes any revisions to Draft SCS/responds to DEIR comments 9. MPO Certifies EIR & Adopts RTP within either 4 years of its prior conformity date, or 5 years. of its prior adoption date, if attainment MPO 10. MPO submits RTP to FHWA/FTA for conformity 11. After adoption, MPO submits SCS for review to CARB. CARB has 60 days to accept or reject the MPO's determination that strategy, if implemented, will achieve region's GHG target

E. HCD REVIEW & APPROVAL OF COG/MPO RHNA PLAN 11. Review of Final RHNA by HCD: within 60 days of receipt of COG's Final RHNA Plan (*HCD may revise COG's RHNA Plan if not consistent with initial regional determination)* GC 65584.05(h)	********** *For non-attainment regions, subsequent SCS (4 yrs. hence) must integrate with prior RHNA as RHNA determinations are made for 8-yr intervals (every other 4-yr RTP update).*
JURISDICTION 8-YEAR HOUSING ELEMENT DUE DATE: within 18 months from *actual* RTP adoption date. *NOTE: consequence for late adoption past 120 days from due date is interruption of 8-year HE cycle and 4-yr update by due date for at least two consecutive 4-year intervals.* GC 65588(e)(4)	*If approved by FHWA, FTA & EPA, federal approval starts RTP update timetable for non-attainment MPOs: RTP must be updated within 4 years*

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Appendix D: Glossary of Transportation Terms

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AGAIP — Airport Ground Access Improvement Program, shall address the development and extension of mass transit systems and any other ground access improvement projects the planning agency deems appropriate.

ALUC — Airport Land Use Commission, conducts airport land use compatibility planning to protect public health, safety, and welfare by ensuring the orderly expansion of airports.

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.

BIL/IIJA — Bipartisan Infrastructure Law also known as the Infrastructure Investment and Jobs Act (IIJA) was signed into law on November 15, 2021. This bill provides $550 billion over fiscal years 2022-2026 in new Federal Infrastructure investment.

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.
CFMP	California Freight Mobility Plan, provides a long-term vision for California's freight future. This is a comprehensive plan that governs the immediate and long-range planning activities along with capital investments.
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 capital 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.

Corridor Planning — Corridor planning is a multimodal planning approach that recognizes that transportation needs are based on the complex geographic, demographic, economic, and social characteristics of communities.

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.

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.

HSIP

Highway Safety Improvement Program is a core Federal aid program with the purpose of achieving significant reductions in fatalities and serious injuries on all public roads.

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 a 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.
PEL	Planning and Environmental Linkages is a process that allows information, analysis and decisions made during planning to be used or relied upon during environmental review.
RHNA	Regional Housing Needs Allocation, is required to be updated every 8 years. The objectives of this are to increase housing supply, promote infill development, improve jobs to housing balance, balance household income distribution, and further fair housing.
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.
SFAP	Sustainable Freight Action Plan, looks to integrate investments, policies, and programs across several State agencies to realize a singular vision for Freight transport.

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-capital 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.
SHSP	Strategic Highway Safety Plan, is the overarching highway safety plan for the State of California.
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.
SMF	Smart Mobility Framework, is a starting point for those working to implement multimodal and sustainable transportation strategies in California.
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 E: Promoting Health and Health Equity in MPO RTPs

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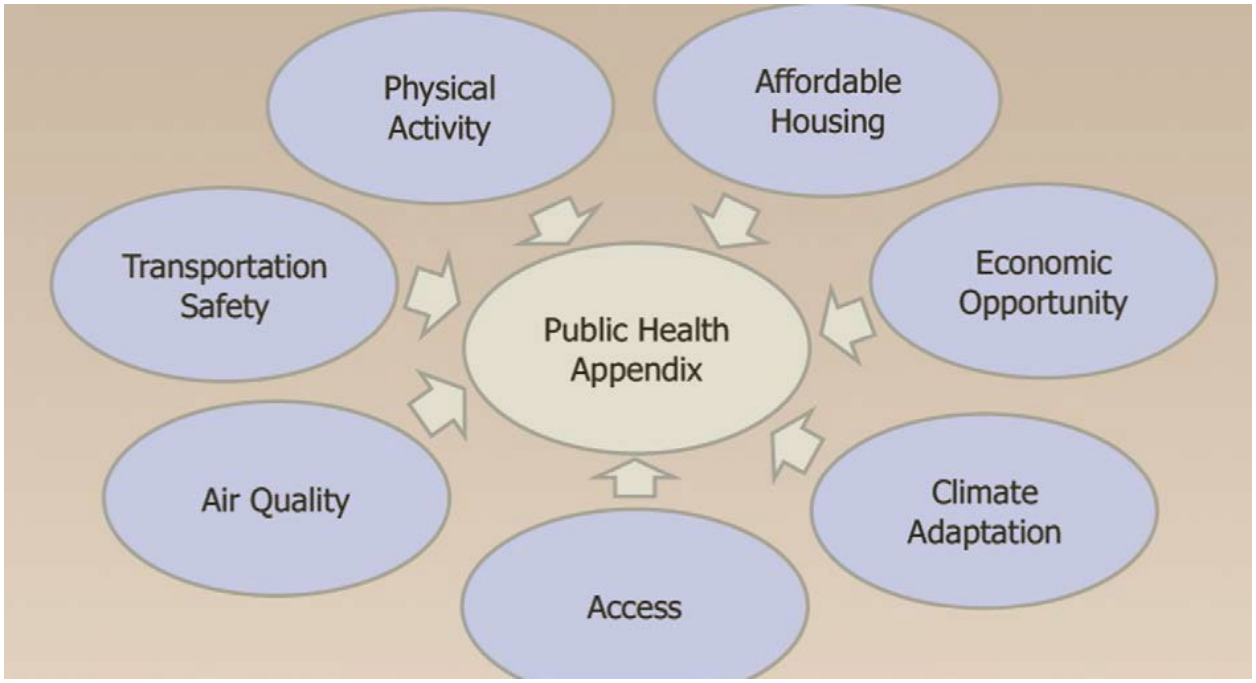
Introduction: Public Health and Transportation Planning

Many factors combine to affect the health of individuals and communities. Within the public health field the circumstances and conditions in which people are born, grow up, live, work, play and age are called the social determinants of health (SDoH) and are recognized to have a significant impact on health outcomes and health equity.[6] These social determinants of health include socioeconomic status, education, employment, social support networks, and the built environment and have been shown to have a greater impact on health than health care or genetics.[7] Transportation is a key social determinant of health and the RTPs determine long-term investments in the built environment over extensive geographies. These plans can impact public health through multiple pathways, including economic opportunity, access to essential destinations, and the safety of communities and transportation options, as illustrated in the graphic below.



Credit: Southern California Association of Governments 2016-2040 RTP/ SCS Public Health Appendix

[6] Mark R. Cullen, Clint Cummins, and Victor R. Fuchs, "Geographic and Racial Variation in Premature Mortality in the U.S.: Analyzing the Disparities," *PLoS ONE* 7, no. 4 (April 17, 2012): e32930, doi:10.1371/journal.pone.0032930.

[7] Schroeder, SA (2007). We can Do Better---Improving the Health of American People. NEJM. 357:12221-8.

A 2012 report, "*Creating Healthy Regional Transportation Plans: A Primer for California's Public Health Community on Regional Transportation Plans and Sustainable Communities Strategies,*"[1] (2012, TransForm & CA Dept. of Public Health) identified direct and indirect effects of transportation projects and policies that are developed at both the regional and local level:

Direct Effects

- **Physical Activity and Active Transportation.** Active transportation (walking, biking, and wheeling to destinations) has a direct health benefit, and can reduce the risk of heart disease, improve mental health, lower blood pressure, and reduce the risk of overweight and obesity-related chronic disease such as Type 2 Diabetes. Public transit is considered active transportation because it generally involves an active mode at the beginning or the end of the trip.

- **Collision Injuries and Fatalities**. Motor vehicle collisions are a major cause of death and injury and are the leading cause of death among those ages 5-34. In 2009, traffic injuries caused 3,063 deaths, 25,328 hospitalizations, and 221,454 emergency department treatments in California. 18 percent of deaths, 19 percent of the hospitalizations, and 9 percent of the emergency department treatments were pedestrians and bicyclists. Road design, "Complete Streets," speed reduction, and other strategies can all reduce the toll of motor vehicle collisions.

- **Air Pollution**. Auto emissions impact air quality and contribute to impaired lung development, lung cancer, asthma and other chronic respiratory problems, and heart disease. Cleaner fuels and more efficient vehicles can reduce emissions, but strategies that reduce driving are also important for air quality because some pollutants, like particulate matter from re-entrained road dust, are directly related to how much people drive.

- **Climate Change**. The transportation sector causes 38 percent of California's total gross GHG emissions. Minimizing transportation's contribution to climate change will limit the health effects of climate change, such as heat illness, effects of higher ozone levels, impacts of extreme weather events, and changes in vector-borne diseases.

- **Stress and Mental Health**. Commuting during rush-hour traffic can be highly stressful for drivers. Unreliable and infrequent transit service can also

cause stress, especially for low-income employees who depend solely on transit to get to their jobs on time. Reducing commute times and increasing public transportation reliability through effective transportation planning can reduce stress and improve mental health.

Indirect Effects

- **Access to Jobs**. For low-income families who cannot afford a car, public transit can be a lifeline to jobs. Social service agencies have found that inadequate transportation is one of the top three barriers to the transition from welfare to work. Transportation planning can help residents reach jobs, education, social services, and medical care by walking, biking or public transportation in a timely manner.

- **Access to Services and Medical care**. When getting to health care or other essential services is difficult—and this is especially true for lower-income residents, seniors, and people with disabilities, who don't have access to a car or effective public transportation—patients often miss appointments or delay care until a condition deteriorates and requires emergency attention.

- **Household Expenses**. The Average American Family spends an astounding 32 percent of household income on housing and 19 percent on getting from place A to place B[8]. Low-income families are hit the hardest because housing and transportation expenses account for a larger proportion of their income. This leaves much less for savings or investing in education, healthful food, etc. Regions can support increased economic stability and access to community necessities by assuring that all populations, and especially vulnerable populations such as youth, older adults, and low-income residents, have access to affordable and accessible transportation options. Affordable transportation options enable low-income households to invest in savings, education, and healthier food options—all factors that contribute to greater individual and community health.

- **Displacement/Gentrification**. Transportation improvements, especially new rail lines and stations to low-income communities, can increase access to opportunities. But they can also result in much higher property values and an increase in the cost of owning and renting property, inadvertently displacing existing residents and businesses. Being forced to

leave a home is a stressful, costly and traumatic life event, especially when affordable housing is so limited. There is a growing recognition of tools and strategies that can be implemented alongside community investments to reduce displacement.

- **Social Cohesion and Social Networks**. Transportation planning and community design that facilitates active transportation, including public transportation, tends to increase social interaction and community cohesion. Increased neighborly interactions can help reduce crime, depression, and poverty, provide support and safety, and increase property values. Community cohesion and supportive transportation services are particularly important for vulnerable populations, including the elderly and disabled.

Health-focused transportation plans can help reduce the number of injuries and fatalities from collisions. When streets are designed to safely accommodate walking and biking, more people may 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.[9] 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.

While local governments have primary control over streets and roads in their jurisdictions, and county transportation agencies can generate funding by placing transportation sales taxes before voters, the interaction of transportation and land use happens most profoundly at a regional scale. Many health, equity and environmental benefits of smarter planning and investment – from creating access to jobs for low-income communities, to protecting open space, to reducing air pollution – can be realized at a regional scale through the collaborative planning process between regional and local governments. MPOs play a significant role in engaging residents and stakeholders in the regional

[9] "At the Intersection of Active Transportation and Equity." Safe Routes to School National Partnership. 2015. <http://saferoutespartnership.org/sites/default/files/resource_files/at-the-intersection-of-activetransportation-and-equity.pdf>.

transportation planning process to ensure the improvement of health outcomes for all segments of the population. A timely opportunity to address public health outcomes is early during the RTP development process and MPOs are encouraged to consider health priorities in selection of projects for the RTP.

Policies, Programs, and Projects that Promote Health and Health Equity in RTPs

This section serves to identify examples of innovative policies, programs, and projects that California MPOs of varying size have employed to consider health and health equity in the RTP. This section encourages a regionally-appropriate approach to addressing health and health equity in the planning process. For example, regions with limited resources, especially rural regions, may be best served by selecting a few high-priority strategies where there is greatest opportunity to affect regional outcomes.

Goals and Policies

Health in All Policies

The identification of regional goals and policies is an important part of the RTP development process. The Health in All Policies (HiAP) approach is one mechanism that facilitates the consideration of health in the RTP. HiAP is a collaborative strategy that aims to improve public health outcomes by including health considerations in the planning process across sectors and policy areas. The five key tenets of HiAP as defined by the California Department of Public Health include:

- Promote Health Equity and Sustainability
- Support Inter-Agency Collaboration
- Benefit Multiple Partners
- Engage Stakeholders
- Create Structural or Procedural Change

Urban MPO Example:

The regional planning process serves as a valuable forum for inter-agency collaboration and is uniquely suited for a HiAP approach. SCAG incorporated the use of the HiAP policy framework in its 2016- 2040 RTP/SCS. SCAG identified seven focus areas for further analysis and implementation related to the built environment's impact on health outcomes:

1. Access to Essential Destinations
2. Affordable Housing

3. Air Quality
4. Climate Adaptation
5. Economic Opportunities
6. Physical Activity
7. Transportation Safety

SCAG developed a comprehensive Public Health Appendix which features an in-depth discussion of the focus areas, a simple and clear graphic connecting the RTP goals to each of these focus areas, identification of the challenges and opportunities in these areas, adoption of guiding principles for the integration of public health considerations in the plan, a detailed report of plan performance in the public health focus areas, and examples of regional and local initiatives.

Regional and Local Active Transportation Planning

Active Transportation planning promotes bicycling and walking as a means to decrease auto dependency, reduce traffic congestion, facilitate development of new sidewalks and trails, and improve connectivity. Infrastructure that welcomes walking and biking as modes of transportation provides opportunity for increased physical activity and associated health benefits and contributes to an environment that is ultimately safer for those traveling by bicycle or on foot. Local and regional governments have expanded the level of planning and investment in active transportation. Some examples of regional and local active transportation planning throughout California are highlighted below:

<u>Large/Urban MPO Examples:</u>

SCAG 2016 RTP/SCS

Chapter 5 and the Active Transportation Appendix to the 2016 RTP/SCS, represents how the region plans to use active transportation to help meet these challenges over the next 25 years, including longer-trip strategies for commuters and active recreation, integrating active transportation with transit, short-trip strategies for utilitarian trips (shopping, school, local retail), and safety/encouragement. It presents the background, existing conditions, progress since the 2012 RTP/SCS, new strategies, and actions making it easier and safer to walk and bike in Southern California.

SANDAG's Active Transportation Grant Program (ATGP)

The *TransNet* sales tax measure Extension Ordinance provides funding for two competitive grant programs that support local efforts to increase walking, biking, and transit usage throughout the region: the Smart Growth Incentive Program

(SGIP) and the Active Transportation Grant Program (ATGP). The ATGP also is funded with Transit Development Act (TDA) funds.

The goal of the ATGP is to encourage local jurisdictions to plan and build facilities that promote multiple travel choices for residents and connectivity to transit, schools, retail centers, parks, work, and other community gathering places. The grant program also encourages local jurisdictions to provide bicycle parking, education, encouragement, and awareness programs that support pedestrian and bicycle infrastructure.

Small/Medium/Rural MPO Examples:

Linking Tahoe Active Transportation Plan

TRPA prepared the "Linking Tahoe Active Transportation Plan" (ATP). The ATP is a toolbox for planning, designing, constructing and maintaining a safe, comfortable and efficient roadway for users of all ages and abilities such as pedestrians, bicyclists, transit riders, motorists, commercial and emergency vehicles. The ATP helps plan a network that provides connectivity, improves safety, supports consistent project implementation and increases awareness.

StanCOG Bicycle/Pedestrian Advisory Committee (BPAC)

The BPAC is one of the StanCOG Standing Committees. This committee, created in 2009, advises the Policy Board on bicycle and pedestrian-related issues. It reviews transportation projects and recommends planning efforts that enhance non-motorized transportation opportunities in the Stanislaus region.

Walk 'n' Bike Tulare County Active Transportation Plan

The TCAG has begun to develop the first Regional Active Transportation Plan (RATP) for the county, called "Walk 'n Bike Tulare County." The plan seeks to make walking and biking in Tulare County safer and more convenient. Most importantly, it will identify the highest priority pedestrian and bicycle improvements for the County and its eight cities for the next ten years and will aim to position those projects to compete well for grant funds. Also, the plan will make up the pedestrian and bicycle component of the Tulare County RTP.

Local Government General Plans and Policies

Local jurisdictions are instrumental partners in the preparation of the RTP/SCS and are vital to its successful implementation. Local governments have exclusive land use authority and general plans are the mechanism by which long range planning is conducted to provide for the public health and welfare of cities and

counties within MPO regions. Local general plans serve as critical sources of information in the development of the RTP/SCS. The 2016 Draft General Plan Guidelines (GPG) prepared by the Governor's Office of Planning and Research (OPR) acknowledge this relationship and provides guidance on the relationship between the General Plan and regional plans.

The general plan development process has evolved to include elements beyond the seven mandated areas of land use, circulation, and housing, open space, air quality, safety, and noise – for example, elements dedicated to health and equity. Chapter 5 of the 2016 Draft General Plan Guidelines (GPG) prepared by the Governor's Office of Planning and Research (OPR) identifies the following health considerations for the General Plan development process:

1. Health and Economic Opportunity
2. A Changing Climate and Resiliency
3. Active Living and Recreation
4. Social Connection and Safety
5. Housing
6. Nutrition and Food Systems
7. Environmental Health; and
8. Health and Human Services

The GPG also provide guidance, strategies and approaches for:

1. Incorporating Health Considerations into General Plans
2. Innovative Partnerships and Collaboration
3. Sources of Support and Information for Health Considerations
4. Health Data and Mapping; and
5. OPR Recommended Policies

Chapter 6 of the GPG addresses Social Equity, Environmental Justice, and Community Resilience in the General Plan including relevant statutory requirements and definitions, examples of incorporating a social equity "lens" for the plan, government funding perspectives, data, mapping, and tools, examples of community engagement, incorporation of supportive policies and strategies for addressing community resilience.

Programs

Collaboration with Non-Transportation Agencies

Data development and technical analyses to consider public health and health equity in the RTP are very resource intensive and are often beyond the fiscal reach of small and rural agencies. One practical and non-resource intensive approach MPOs can use to understand regional public health and health equity issues is to engage in focused consultation with the local public health community and county public health departments, representatives from local school districts, community based organizations, and other non-transportation agencies This type of outreach can yield valuable insight regarding identifying regional needs, opportunities for greatest impact, areas of existing community and decision-maker support as well as alignment with current and emerging policy direction and funding programs. This consultation should happen early in the development of the RTP/SCS to ensure that feedback from public health practitioners can be meaningfully integrated into the RTP/SCS, especially any data analysis, identification of performance measures, scenario modeling and selection of transportation projects for funding.

Near-Road Air Quality Analysis and Mitigation

While transportation agencies must conduct analysis of the air quality impacts of their proposed projects through the NEPA or CEQA processes, the RTP planning process also offers an opportunity for MPOs to consider the cumulative near-roadway air quality impacts of the existing transportation system as well as potential impacts of new transportation projects on sensitive lands uses. An example of this type of analysis is the "Emissions Impacts Along Freeways and Highly Traveled Corridors" that SCAG included in the Environmental Justice Appendix of its 2016/2040 RTP. This analysis looked at the emissions exposure in areas within 500 feet of freeways and high-volume roads in the SCAG region, and cross-referenced this information with demographic information about people residing in those areas to determine potential environmental justice impacts. SCAG also included in this Appendix an "Environmental Justice Toolbox" that included examples of potential mitigation for air quality impacts along freeways and heavily traveled corridors, and potential mitigation for public health impacts that transportation agencies could use as mitigation options for project impacts.

Bicycle and Pedestrian Non-Infrastructure Programs

Non-infrastructure programs that promote public health, especially safe walking and biking, are just as essential as infrastructure projects that improve the built environment. Many people are uncomfortable or unfamiliar with how to navigate their communities on foot or bike or feel unsafe doing so. Non-infrastructure programs are also essential to reducing GHG emissions because they make users more comfortable and familiar with how to walk and bike, thereby taking more cars and school buses off the road. Programs such as Safe Routes to School, bike safety education programs and Vision Zero are some examples of non-infrastructure programs that can advance public health in the RTP.

Safe Routes to School

The Safe Routes to School movement is focused around six "E"s: engineering, education, encouragement, enforcement, evaluation and equity. The first E, engineering, is focused on infrastructure projects that improve the built environment around schools. This is of particular importance in the RTP process given its focus on identifying transportation projects for funding. The second and third Es are the heart of the non-infrastructure work with Safe Routes to School, and focus on getting more children to understand how to walk and bike safely to school and in their communities, and have fun doing it. Enforcement focuses on making sure existing traffic safety laws are enforced and partnering with law enforcement and regulatory agencies to create safer environments for walking and bicycling. Evaluation looks at how effective the overall Safe Routes to School efforts are at increasing walking and bicycling. Finally, equity focuses on ensuring that students of all backgrounds and abilities can walk and bike safely, with a particular focus on disadvantaged communities, where there are often higher rates of students walking and biking, as well as higher rates of injuries and fatalities.

Safe Routes to School non-infrastructure efforts can be integrated into RTPs in several ways. First, MPOs can create Regional Safe Routes to School Plans that identify strategies for increasing walking and bicycling to school across the region. These plans would identify routes that are safe and convenient for walking and bicycling, as well as infrastructure improvements that could improve the commute for students making these trips. The plans would then be a resource when MPOs make decisions about where to prioritize transportation funding. Second, MPOs can integrate Safe Routes to School into the active transportation and complete streets sections of their RTPs, identifying strategies to increase walking and bicycling and improve safety as part of the overall active transportation goals. Third, Safe Routes to School can be a primary strategy to improve public health and health equity, because they focus on children and future generations living within the region.

Safe Routes to School is a mechanism to promote physical activity and thereby reduce obesity. It can also be a land use consideration in the SCS process, since

the location of schools is a primary driver of how many students can walk or bike instead of being driven in a car or school bus. Safe Routes to School can also be a part of VMT reduction strategies, since around 10-14% of morning congestion is attributable to cars and buses driving children to school. Finally, MPOs can create distinct Safe Routes to School funding programs to allocate resources to communities and schools to run Safe Routes to School education and encouragement activities, as well as infrastructure improvements. It is important to note that many regions do not have the financial resources to undertake such a program; however, MPOs are encouraged to strategically partner and pursue discretionary funding from the Active Transportation Program or other sources to develop non-infrastructure plans and programs to address regional health and health equity issues. Many more strategies can be found in the Safe Routes to School National Partnership's Primer for Regional Governments.

Safety Education Programs.

Vision Zero. "Vision Zero" is a campaign to reduce the number of pedestrian deaths to zero. It involves a culture change to reclaim streets for people rather than cars, and relies on significant collaboration across agencies, organizations, and community residents to work towards improving street safety. Vision Zero campaigns are an emerging non-infrastructure strategy; as of this writing, no Vision Zero initiatives have been adopted by an MPO. SCAG is working in partnership to support the City of Los Angeles' Vision Zero campaign by sharing data, tracking efforts, assisting in the pursuit of funding, and including supportive language in the RTP. This is an example of one way in which an MPO could support local jurisdictions efforts in this area.

<u>Urban MPO Examples</u>

SCAG "Go Human"

"Go Human" is a community outreach and advertising campaign with the goals of reducing traffic collisions in Southern California and encouraging people to walk and bike more. The program seeks to create safer and healthier cities through education, advocacy, information sharing and events that help residents re-envision their neighborhoods. Go Human is a collaboration between SCAG and the health departments and transportation commissions from the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. Go Human was launched with a $2.3 million grant from the 2014 Active Transportation Program.

MTC One Bay Area Grant Program

The MTC One Bay Area Grant (OBAG2) Program provides specific funding opportunities for jurisdictions in the nine-county Bay Area region to invest in Safe Routes to School projects. Under OBAG2, MTC provides $5 million per year, distributed to each of the nine counties based on school enrollment for Safe Routes to School infrastructure projects and Non-Infrastructure programs. Each

County CMA determines the details on how the SRTS funds are spent. It should be noted that this example is unique to a large urbanized MPO with substantial discretionary funding sources. Not all regions have the fiscal resources to undertake this type of program

Rural MPO Example:

Healthy Shasta

SRTA collaborates with the "Healthy Shasta" partnership to promote healthy and active living among north state residents through increased biking and walking. For more information please visit: http://healthyshasta.org/

Complete Streets Programs

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.

MPOs 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, MPO 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.

Strengthening Stakeholder Engagement in Communities Affected by Health Inequities

MPOs can strengthen stakeholder engagement in communities most affected by health inequities by identifying and proactively seeking the input of these households and by making meetings as accessible as possible. Engagement strategies may include:

- Proactively working with and/or providing financial support (if feasible) 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.

- Forming 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.
- Creating 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.
- Ensuring that community residents have the opportunity to deliberate together to achieve consensus on their most pressing needs and recommendations.
- Creating a feedback loop to provide community members information about how their input was included in any drafts and reasons for including/excluding the input;
- Ensuring that there is agreement between residents and the local planning authority about what community engagement includes.
- Educating and building capacity of community members on issues such as data, evaluation, storytelling, and mentoring community members new to the process.
- Ensuring Meetings are Convenient and Accessible:
    - ✓ Hold multiple public meetings at times and locations that allow a diverse range of individuals and organizations, including communities with various family and work schedules, to attend such as meetings in the evening and on the weekends.
    - ✓ Consider holding meetings at public facilities such as libraries, community centers, or neighborhood organizations that people are already familiar with and which are convenient to other destinations they may have to go before or after the meeting.
    - ✓ Avoid holding public meetings during the day if feedback from the community is sought.
    - ✓ Avoid government office buildings that require photo ID and security to enter.
    - ✓ Ensure that interpreters are available when holding meetings in communities with a large population of people with English as a second language or who do not speak English at all.
    - ✓ Translate materials, including electronic communications and invitations, to Spanish and other languages where appropriate.
    - ✓ Provide childcare, food, and other amenities, or resource local community groups to do so.
- Adding to the meeting agendas of neighborhood/community based organizations to facilitate a meeting where residents will be available, providing resources to the organization to assist.
- Using meeting locations within access to public transportation, walking and biking routes in addition to parking when selecting a facility. Many times agencies choose locations based on access to parking and busy

routes like freeways, which are not as convenient for people who depend on public transportation or other modes. Neighborhood and community based organizations and schools may let you use their meeting space.
- Considering neutral professional facilitation of public meetings to manage conflict and keep the meetings running on time.
- As part of public process, providing materials ahead of time and sharing draft work product.
- Public participation should also include ability to access underlying data on populations (household and person files) and travel patterns (trip lists with time and distances of trip segments) to statistically describe the baseline and alternative scenarios by mode and other characteristics. This approach may better address specific questions of the public and complement limited analytic resources of MPOs.
- Expanding 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.
- Using a community health worker or promotora model to identify resident leaders.
- Using facilitators with experience in race and power inequities at community meetings.
- Working 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.
- Ensuring meetings are attended by MPO decision makers in addition to MPO staff.

Public Health Planning Activities and Projects

Using a Health and Health Equity Lens in Decision-Making[10]

Using a "health lens" is a systematic way of finding opportunities to improve health and equity and embed these principles in decision-making. The utilization of a health lens simply means providing evidence that allows people to consider the positive and negative health and equity consequences of their decisions during the decision-making process. It can be carried out at a high level to

[10] Rudolph, L., Caplan, J., Ben-Moshe, K., & Dillon, L. (2013). Health in All Policies: A Guide for State and Local Governments. Washington, DC and Oakland, CA: American Public Health Association and Public Health Institute.

identify broad connections with health, or can address the potential adverse or beneficial health consequences of a policy or program at a more detailed level.

Analysis using a health lens can take many forms and the approach will vary depending on the circumstances. The choice between more or less structured analyses rests in many cases on resources, including availability of staff with appropriate skills, or funding to obtain such staff. One example of a more structured analysis is a Health Impact Assessment.

Health Impact Assessment

A Health Impact Assessment (HIA) is "a process that helps evaluate the potential health effects of a plan, project, or policy before it is built or implemented. HIA brings potential positive and negative public health impacts and considerations to the decision-making process for plans, projects, and policies that fall outside traditional public health arenas, such as transportation and land use. An HIA provides practical recommendations to increase positive health effects and minimize negative health effects."[11]

The major steps in conducting an HIA include:

- Screening (identifying plan, project, or policy decisions for which an HIA would be useful).
- Scoping (planning the HIA and identifying what health risks and benefits to consider).
- Assessment (identifying affected populations and quantifying health impacts of the decision).
- Recommendations (suggesting practical actions to promote positive health effects and minimize negative health effects).
- Reporting (presenting results to decision makers, affected communities, and other stakeholders).
- Monitoring and evaluation (determining the HIA's impact on the decision and health status).

Data, Tools, and Metrics that Promote Health and Health Equity in RTPs

While this is a dynamic and evolving policy area, research has demonstrated a clear connection between public health and transportation. Accordingly, the tools and strategies to promote health in transportation continue to be improved, and it is recommended that state, regional and local agencies all

integrate the consideration of public health into their transportation and planning policies, programs, and projects as appropriate.

MPOs are encouraged to include strategies and policies in the RTP to obtain data and develop tools which would facilitate health and equity analysis and measurements. Agencies are also encouraged to build partnerships to leverage financial and technical resources as appropriate. Regions with limited resources, especially rural regions, may be best served by selecting a few high-priority strategies where there is greatest opportunity to affect performance metrics/outcomes over a larger geographic region, or taking a more comprehensive approach over a smaller, more focused geographical area. Appropriate scale is important for the effective application of resources to quantitatively address public health and health equity in the planning process.

Performance Measures/Metrics/Indicators for Health and Health Equity

One critical opportunity though which health and equity considerations into an RTP is development of health related performance measures that can be used in comparing alternative scenarios. Extensive research and early applications have demonstrated that physical activity as measured through active transportation (i.e. minutes of walking and biking) can reap substantial public health benefits, in addition to other co-benefits such as reducing GHG emissions. Further, physical activity as measured by minutes of active transportation is also one of the easiest health impacts to measure using existing tools and methods. Activity Based Models can provide outputs of bicycle and pedestrian trips that serve as key inputs into health models (such as those listed above in the "Modeling Tools to Capture Health and Health Equity Impacts" section). Additionally, if and when MPOs evaluate specific projects and scenarios based on cost effectiveness, including increased active transportation per dollar invested, those projects that increase active transportation are found to have substantial, and sometime larger, monetary benefits compared with traditional transportation performance measure such as vehicles hours of delay.

The significant monetary benefit of increased physical activity is based on extensive evidence from the public health research that increasing active transportation and therefore physical activity reduces rates of colon cancer, breast cancer, lung cancer, respiratory disease, diabetes and dementia. These diseases are among the top causes of death in the United States.

Modeling Tools to Capture Health and Health Equity Impacts

This section provides background information on some modeling tools currently being used to capture health and equity impacts in the regional transportation planning process. It is important to note that these tools are dynamic and continually evolving. The tools below are described for informational purposes only and MPO's are encouraged to use the most regionally appropriate tools and approach, taking into consideration regional demographics, as well as the technical and fiscal capacity of their agency. It is also important to note that models capturing the impacts of public health are oftentimes only as good as the inputs provided by regional travel demand models. **Chapter 3** of the RTP Guidelines provides technical detail and additional planning practice examples regarding travel models used in RTP development.

Health Economic Assessment Tool (HEAT)

The Health Economic Assessment Tool (HEAT) was developed by the World Health Organization (WHO) to assist in economic assessment of the health benefits of walking or bicycling. The tool estimates the value of reduced mortality that results from specified amounts of walking or bicycling. HEAT is best used for planning new bicycle or walking infrastructure, evaluating the reduced mortality from past and/or current levels of bicycling or walking, and providing input for health impact assessments (HIA). The data needed to run HEAT are: an estimate of how many people are walking or bicycling, an estimate of the average time spent walking or bicycling, mortality rate, and a value of statistical life number. The tool is designed for adult populations between the ages of 20-65 years old due to the fact that the model is designed to be used for activities such as commuting. The segment of the population age 65 and older is considered to be retirement age and not participating in a regular commuting and walking/bicycling routine.

Uses	HEAT estimates the economic value of reduced mortality rates from increased walking and bicycling for a given population. The model is not calibrated to any country or region so the results should be used appropriately. The online tool models the effects of cycling or walking on the levels of physical activity in a population group. Based on these estimates, the tool estimates the mortality benefits from current levels of cycling or walking for a neighborhood or city. Results from the tool can provide input into more comprehensive cost–benefit analyses, or prospective health impact assessments: for instance, to estimate the mortality benefits from achieving national targets to

	increase cycling or walking, or to illustrate potential cost consequences of a decline in current levels of cycling or walking.
Data Inputs Needed	Average duration of trip by walking or biking (in minutes) per day/week/month; and number of adults below the age of 65 years in the population.
Lowest Applicable Level of Geography	Population size across any geography

Integrated Transport and Health Impact Model (ITHIM)

The Integrated Transport and Health Impact Model (ITHIM) was developed at the University of Cambridge, England, in 2009. ITHIM is a scenario-based health risk analysis tool that models three health pathways related to travel behavior: physical activity from active transportation, road traffic injuries, and Particulate Matter (PM) 2.5 concentrations. Health outcomes are expressed in terms of change in deaths and years of life-shortening and of living with disability from major chronic diseases and road traffic injuries. ITHIM has 15 inputs aggregated from travel and health surveys, travel demand and air pollution models, mortality and disease data, and road traffic injuries. ITHIM is a free, open-source, spreadsheet tool (Excel) with detailed technical documentation for use, calibration, and integration with travel demand models. Extensions are available for cost-benefit, equity, and downscaling. Analysis can be conducted at the county or regional scale.

The California version of ITHIM was co-developed in 2011 by the California Department of Public Health and the University of Cambridge with assistance from the University of California, Davis. ITHIM has been calibrated for the major MPO regions of California (MTC, SACOG, SCAG, SANDAG, San Joaquin Valley), incorporating the latest data from the California Household Transportation Survey 2012.

ITHIM has been field-tested on behalf or in collaboration with several California MPOs. These include SANDAG, MTC, and FresnoCOG. In carrying out this work, interfaces between MPO travel demand models and ITHIM have been created. The use-cases of ITHIM include quantifying MPO preferred and alternative scenarios during SCS development. At MTC, where a specific health goal was set for project performance, ITHIM was used to quantify the health benefits of achieving that goal. MTC has also used ITHIM to assess health and equity impacts of scenarios on high and low income groups. ITHIM has examined the health impacts of scenarios using backcasted goals for physical activity based on the U.S. Surgeon General's recommendation for daily physical activity for adults and for specific carbon reductions. UC Davis has participated in local implementations of ITHIM in Fresno and Sacramento counties with community-based organizations.

Outside of California, ITHIM has been in routine use since 2012 in Oregon by the Oregon state health department and the Oregon Department of Transportation (GreenStep model). In collaboration with the Centers for Disease Control, the Nashville, TN MPO implemented ITHIM as part of their 2013 RTP update. Different types of technical and development support are being provided by the California Department of Public Health, other state health departments, MPOs that have implemented ITHIM, and an international ITHIM developer's group, which include academic and independent researchers.

The following table provides general information and resources for ITHIM:

Uses	Estimates how changes in active and motorized travel across a population will impact premature mortality, chronic disease, and road traffic injuries, due to changes in physical activity, traffic-related fine particulate pollution, and traffic collisions. The model monetizes prevented deaths and disability using two different methods: cost of illness and value of a statistical life
Data Inputs Needed	ITHIM uses regional data from health surveys, traffic collision databases, vital statistics, and the results of regional models for travel demand, vehicle emissions, and air pollution.
Lowest Applicable Level of Geography	The model has been calibrated for the major regions in California that correspond to the counties served by MTC, SCAG, SANDAG, and SACOG. There is a Fresno County and San Joaquin Valley versions. Regional results can be geographically downscaled to counties and city level. The model is not yet suitable for project level assessments, but has used output of travel demand models to assess equity of health outcomes in economically disadvantaged subpopulations within regions.

California Statewide Public Health Assessment Model (C-PHAM)

The California Statewide Public Health Assessment Model (C-PHAM) was developed by Urban Design 4 Health (UD4H). It is a neighborhood/city scale public health scenario modeling tool for California's five major urban centers: San Francisco Bay Area, Los Angeles, San Diego, Sacramento, and Fresno. C-PHAM can be run from the land-use matrix developed using the Urban Footprint Scenario Planning tool, allowing quick approximations of public

health co-benefit from land use changes suggested through local or MPO planning processes. C-PHAM is an evolving tool and currently the model does not include potential health risks from air pollution exposure and potential bicycle/pedestrian injury. At present, the model uses adult data but expansion to include the demographic cohorts of children and seniors is being pursued.

Uses	Provides rough, small area estimates of health benefits from land use and transportation changes.
Data Inputs Needed	-Urban Footprint Scenario Planning model forecasted land use changes OR -Minutes of Transportation-related physical activity in baseline and plan/project scenario.
Lowest Applicable Level of Geography	-ballpark estimates can be provided at a very small (neighborhood level) geography. Results are more reliable at larger (zip code) geographies.

Key Terms

a. **Community Resilience:** A measure of the sustained ability of a community to utilize available resources to respond to, withstand, and recover from adverse situations[12].

b. **Disadvantaged Community:** See Vulnerable Populations definition. Disadvantaged Community refers to communities that are currently experiencing or have experienced historic disadvantage due to income, race, ethnicity, language, residency status, environment, education, or other indicators of social status. Today in California, the term Disadvantaged Community is being used by state, regional, and some local agencies to allocate funding.

c. **SB 535 Disadvantaged Community:** Senate Bill 535 (De Leon, Chapter 830, Statutes of 2012) added Section 39711 of the Health and Safety Code which specifies that Disadvantaged Communities are identified based on geographic, socioeconomic, public health, and environmental hazard criteria, and may include, but are not limited to, either of the following:

   (a) Areas disproportionately affected by environmental pollution and other hazards that can lead to negative public health effects, exposure, or environmental degradation.

   (b) Areas with concentrations of people that are of low income, high unemployment, low levels of homeownership, high rent burden, sensitive populations, or low levels of educational attainment.

d. **Displacement:** Displacement manifests itself in many forms from physical (i.e. demolition, evictions or service disruption) to economic (i.e. rent increases). Displacement can result from gentrification when neighborhoods become out of reach for people or can occur at earlier stages through disinvestment, increasing vacancies and facilitating demographic turnover[13]. The detrimental effects of displacement include relocation costs, longer commutes, disruptions to health care, loss of community support networks, and homelessness. All of this impacts mental and psychological well-being[14].

e. **Environmental Justice:** Efforts to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of programs, policies, and activities on low-income and minority populations. 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*

[12] Community Resilience. RAND Corporation. http://www.rand.org/topics/community-resilience.html
[13] http://www.urbandisplacement.org/resources
[14] "Development without Displacement: Resisting Gentrification in the Bay Area." Causa Justa :: Just Cause and Alameda County Public Health Department, Place Matters Team. August 2014.

full and fair participation by all potentially affected communities in the transportation decision-making process."

f. **Gentrification:** Gentrification is generally described as that which happens in neighborhoods that are seeing decreases in the number of low-income people and people of color due to an influx of high-income individuals and families who are willing and able to pay higher rents.[15]
g. **Health:** Refers to physical, mental, and oral health.[16]
h. **Health Equity:** Efforts to ensure that all people have full and equal access to opportunities that enable them to lead healthy lives.[17]
i. **Health Inequity:** Disparities in health that are not only unnecessary and avoidable but, in addition, are considered unfair and unjust.[18] Health inequities are rooted in social and environmental injustices that make some population groups more vulnerable to poor health than other groups.[19]
j. **Healthy Communities:** A healthy community as described by the U.S. Department of Health and Human Services Healthy People 2010 report is one that continuously creates and improves both its physical and social environments, helping people to support one another in aspects of daily life and to develop to their fullest potential. Healthy places are those designed and built to improve the quality of life for all people who live, work, worship, learn, and play within their borders -- where every person is free to make choices amid a variety of healthy, available, accessible, and affordable options.[20]
k. **Social Equity:** The just and fair inclusion into a society in which all can participate, prosper, and reach their full potential[21].
l. **Vulnerable Population:** Includes the economically disadvantaged, racial and ethnic minorities, the uninsured, low-income children, the elderly, the homeless, those with human immunodeficiency virus (HIV), and those with other chronic health conditions, including severe mental illness[22].

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[15] "Development without Displacement: Resisting Gentrification in the Bay Area." Causa Justa :: Just Cause and Alameda County Public Health Department, Place Matters Team. August 2014.
[16] "The Landscape of Opportunity: Cultivating Health Equity in California." California Pan-Ethnic Health Network. October 2016.
[17] http://www.cdph.ca.gov/programs/Documents/CDPHOHEDisparityReportAug2015.pdf
[18] "The Concepts and Principles of Equity and Health." World Health Organization Regional Office for Europe. 2000.
[19] "The Concepts and Principles of Equity and Health." World Health Organization Regional Office for Europe. 2000.
[20] "Health and Healthy Places." U.S. Centers for Disease Control & Prevention. https://www.cdc.gov/healthyplaces/about.htm
[21] PolicyLink, Equity Definition: http://www.policylink.org/about
[22] "Vulnerable Populations: Who Are They?" American Journal of Managed Care, 2006. http://www.ajmc.com/journals/supplement/2006/2006-11-vol12-n13suppl/nov06-2390ps348-s352

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Appendix F: Tools and Resources

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PROTECT Program and Local Transportation Climate Adaptation Program

With the passage of IIJA in 2021, the FHWA is now administering a first of its kind federal aid program dedicated to improving surface transportation resilience to natural hazards, including climate change, known as the Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Program. The State Legislature responded to IIJA and PROTECT with the passage of trailer bill SB 198 (Chapter 71, Statutes of 2022), setting requirements for the administration of PROTECT formula funds in California to align with existing state policy and guidance, including the Adaptation Planning Guide (APG) and State Climate Adaptation Strategy.

The CTC is overseeing the Local Transportation Climate Adaptation Program (LTCAP) to fund resilience improvements, created by SB 198. Eligible applicants include transportation planning agencies, amongst other Tribal, local, and regional governments and transportation authorities.

The PROTECT Program allows for development of a State Resilience Improvement Plan (SRIP), an optional component of PROTECT that, when approved by FHWA, will reduce the state or local cost-share by up to 10% for identified projects. The SRIP aims to represent how existing climate risk-based assessment resources and tools like the District Vulnerability Assessments and Adaptation Priority Reports have set the state up to strategically administer PROTECT funds. Additionally, the SRIP will include a project priority list for the State and Local portions of the PROTECT Program, a key requirement that will be driving future coordination between Caltrans and the MPOs for incorporating PROTECT projects and the SRIP in RTPs.

Climate Adaptation and Resilience Guidance and Tools

The ICARP and CalOES have collaborated on the APG for local and regional agencies, intended to guide adaptation planning. MPOs should use this guidance and the four-phase approach as a starting point to begin adaptation planning and integration of climate risk into transportation projects.

MPOs should work to align transportation adaptation planning with other State, local, and regional guidance and plans. This can include consulting the State Climate Adaptation Strategy, the California Coastal Commission (CCC) Sea Level Rise Policy Guidance and Critical Infrastructure 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.

MPOs should consider adaptation planning and state agency efforts which include:

1. Take climate change into account in planning and investment decisions, including consideration of:

- prioritizing 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,
- prioritizing 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).

2. Employ full life-cycle cost accounting on infrastructure projects to evaluate and compare investments and alternatives for climate risk and adaptation needs.
3. Reevaluate design and planning standards to address future conditions.

In addition to the APG, the State has developed various tools and guidance to help inform and empower local decision-makers to incorporate consideration of climate impacts into their work.
Of particular utility to MPOs, Cal-Adapt 4.0 is an online platform originally created in 2011 (and periodically updated since) 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 following table summarizes various other tools and guidance regarding sea level rise (SLR), equity, and the safety element of the general plan guidelines:

Title	Type	Year	Owner	Description
2020 Adaptation Planning Guide	Guidance	2020	CalOES	Provides guidance to cities, counties, tribal, and regional governments on local adaptation and resiliency planning.
CCC SLR Policy Guidance	Guidance	2015	CCC	Provides an overview of the best available science on SLR for California and recommended methodology for addressing SLR in Coastal Commission planning and regulatory actions.
SLR Coastal Adaptation Planning Guidance for Critical Infrastructure	Guidance	2021	CCC	Recommendations on how to plan effectively for the impacts of SLR on coastal infrastructure, focusing on transportation and water.

Ocean Protection Council (OPC) Sea Level Rise Guidance*	Guidance	2018	OPC	Assists decision makers at state and local levels in planning for, and making decisions about, SLR and related coastal hazards in light of the current state of the science.
Cal-Adapt 4.0	Tools	2019	Multiple	Provides high-quality, peer-reviewed climate data and tools related to CA's climate change assessments including SLR, wildfires, droughts, storms, and extreme heat.
CalEnviroScreen 4.0	Tool	2022	CA Office of Environmental Health Hazard Assessment	Mapping tool that helps identify California communities that are most affected by many sources of pollution, and where people are often especially vulnerable to pollution's effects.
Healthy Places Index 3.0	Tool	2022	Public Health Alliance of Southern California	Open and accessible data and policy platform created to advance health equity for various governmental and non-governmental users.
Caltrans Transportation Equity Index	Tool	TBD	Caltrans	A Census block scale, transportation-focused tool to help address and mitigate inequities in the transportation system.
Federal Climate and Economic Justice Screening Tool	Tool	2022	Council of Environmental Quality	Mapping tool that identifies disadvantaged and partially disadvantaged communities by census tract, including tribal nations.
General Plan Guidelines Required Elements	Guidelines	2017	OPR	See Safety Element for how climate change is considered in general plans, as well as Chapter 8 (Climate Change) of the overall guidelines.

Coastal Permitting and Adaptation Planning

[To be added: overview/summary of Local Coastal Programs, planning requirements, and project permitting requirements for adaptation projects from the California Coastal Commission (CCC) and Bay Area Conservation and Development Commission (BCDC).]

[Will include highlighting SLR Coastal Adaptation Planning Guidance for Critical Infrastructure as key relevant guidance on SLR infrastructure projects for MPOs. (Recommendations on how to plan effectively for the impacts of SLR on coastal infrastructure, focusing on transportation and water.)]

Additional State Resources and Tools

Title	Type	Year	Owner	Description
Planning and Investing for a Resilient California	Guidance	2018	OPR	Product of the Technical Advisory Group formed under EO B-30-15, lays out a universal process for state agencies to address resilience in planning and investing.
Caltrans Statewide Vulnerability Assessments (VAs)	Tool	2019	Caltrans	Projections for six climate stressors and identified sections by post mile of the State Highway System (SHS) exposed to that event or condition. Products include a summary report, technical report, and interactive map for each Caltrans District.
Caltrans Statewide Adaptation Priority Reports (APRs)	Tool	2020	Caltrans	Systematic prioritization of exposed bridges, culverts, and roadways on the SHS identified in the 2019 VAs based on various weighted metrics, and associated scores.
Caltrans Climate Change Adaptation Strategy Report	Strategy	2020	Caltrans	A "how-to" guide for integrating climate change adaptation into agency activities and decision-making across functional areas.
Corridor Planning Guidance: Climate Change Emphasis Area Guide	Guidance	2022	Caltrans	An eight-step guide for integrating climate adaptation principles into the corridor planning process on the SHS.
Climate Change Communication Guide	Guidance	2020	Caltrans	Articulates best practices that Caltrans can use to educate, inform, and strengthen collaboration within Caltrans, among external partners, and with the public on the topic of climate change.
Guidance on Incorporating Sea Level Rise	Guidance	2011	Caltrans	2011 version focuses on PID phase. Pending update will apply latest available science and external SLR guidance to all phases of Caltrans project delivery.
Caltrans Highway Design Manual	Manual	2020	Caltrans	Technical design manual for accounting for impacts of SLR on the SHS.

Chapter 880 – Sea Level Rise				
Design Manual for Hybrid Coastal Protection Strategies	Manual	2022	Caltrans	Complementary resource to Section 880 of the Highway Design Manual; provides design guidance focused on nature-based adaptation strategies which rely on ecological and physical processes that offer protection to the built, inland, or backshore environment while providing benefits to coastal resources.

Appendix G: Planning Practice Examples

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Appendix G to be updated with contemporary tools, resources, and planning practice examples for RTP development.