September

2016 Draft

Regional Transportation Plan Guidelines for Metropolitan Planning Organizations

California Transportation Commission

Page Left Intentionally Blank

Draft 2016
Regional Transportation Plan Guidelines for Metropolitan Planning Organizations

Adopted by the California Transportation Commission
on XXXX XX, XXXX

Pursuant to California Government Code Section 14522

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

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

Page Left Intentionally Blank

Dear Reader,

As you read the 2016 Draft Regional Transportation Plan (RTP) Guidelines, please be aware of the following:

1. This is a working draft that incorporates comments as stated in the comment log posted on the Caltrans website at:
   http://www.dot.ca.gov/hq/tpp/offices/orip/rtp/index.html
2. The majority of comments were incorporated as much as possible, with the goal of balancing multiple stakeholder interests and the legal requirements of the RTP. If there are questions regarding how comments were addressed, please contact staff whom will respond as soon as possible.
3. Black text indicates language accepted in the July 2016 Draft RTP Guidelines and existing language from the 2010 RTP Guidelines;
4. Red text reflects new/proposed language for the 2016 RTP Guidelines;
5. Red stricken-through text means these areas are anticipated for removal, moved to other locations, and/or replaced with new information;
6. “Best Practices” are red stricken-through text and complied in Appendix M;
7. Section 1.8 provides a list of key updates for the 2016 Draft RTP Guidelines;
8. Based on comments received from multiple stakeholders and advocacy groups, a new Chapter 7, Performance Measures, provides the appropriate emphasis on the RTP as a performance-driven plan for which performance measures are developed and used by the MPO for plan development, implementation, and monitoring.
9. For further information, please go to the Caltrans website at:
   http://www.dot.ca.gov/hq/tpp/offices/orip/rtp/index.html.

Page Left Intentionally Blank

Table of Contents

Page#

Chapter 1 - Introduction

1.0	Applicability of the Regional Transportation Plan (RTP) Guidelines	3
1.1	Why Conduct Long-Range Transportation Planning	4
1.2	Regional Transportation Plans and the California Transportation Plan	7
1.3	Background and Purpose of the RTP Guidelines	9
1.4	Metropolitan Planning Organizations in California	12
1.5	Purpose of the Regional Transportation Plan	14
1.6	California Transportation Planning and Programming Process	16
1.7	~~SAFETEA-LU~~ MAP-21/FAST Act Items Impacting the Development of RTPs	17
1.8	Key Additions to the 2016 RTP Guidelines	20

Chapter 2 – Regional Transportation Plan Process

2.1	State Requirements	25
2.2	Background on State Climate Change Legislation & Executive Orders	26
2.3	Promoting Public Health and Health Equity	30
2.4	Federal Requirements	32
2.5	Relationship Between the RTP, OWP, FTIP & STIP	33
2.6	Consistency with Other Planning Documents	34
2.7	Coordination with Other Planning Processes	35
2.8	RTP Development Sequencing Process	43
2.9	Adoption – Update Cycles and Amendments	45
2.10	RTP Checklist	46

Chapter 3 – Regional Transportation Plan Analysis and Modeling

3.1	Introduction	51
3.2	Modeling in the RTP Development Process Transportation and Land Use Models	52
3.3	Requirements for RTP Analysis	53
3.4	Regional Travel Demand Modeling Quality Control and Consistency	55
3.5	RTP Modeling Improvement Program/Best Practices	66
3.6	RTP Travel Analysis Groupings – Federal/State Laws	75

Chapter 4 – RTP Consultation and Coordination

4.1	Consultation and Coordination	93
4.2	Title VI & Environmental Justice Considerations in the RTP	94
4.3	Social Equity Factors	97
4.4	Participation Plan	99
4.5	Private Sector Involvement	103
4.6	Consultation with Interested Parties	104
4.7	Input & Consultation with Local Elected Officials on Sustainable Communities Strategy (SCS) Development	105
4.8	Interagency Coordination on SCS Development	106

4.9 Native American Tribal Government Consultation & Coordination 107
4.10 Consultation with Resource Agencies 108
4.11 Coordinated Public Transit/Human Services Transportation Plans 111

Chapter 5 – Environmental Considerations

5.1 Introduction 115
5.2 Environmental Documentation 115
5.3 Federal Environmental Requirements 118
5.4 Federal Environmental Recommendations 119
5.5 Key Resource Areas for Avoidance and Mitigation ~~Environmental Considerations for Best Practices~~ 120
5.6 Project Intent Statements/Plan Level Purpose and Need Statements 125
5.7 Air Quality and Transportation Conformity 126
5.8 Achievement of SB 375 Greenhouse Gas Targets 131

Chapter 6 - Regional Transportation Plan Contents

6.1 Summary of RTP Components 135
6.2 Financial Overview 139
6.3 Fiscal Constraint 141
6.4 Listing of Constrained and Un-Constrained Projects 142
6.5 Revenue Identification and Forecasting 142
6.6 Estimating Future Transportation Costs 143
6.7 Asset Management 145

Modal Discussion

6.8 Highways 147
6.9 Local Streets & Roads 148
6.10 Transit 149
6.11 Bicycle & Pedestrian – Including AB 1396 California Coastal Trail 138
6.12 Goods Movement (Maritime, Rail, Trucking, Aviation) 152
6.13 Regional Aviation System 155
~~6.13 Bicycle & Pedestrian – Including AB 1396 California Coastal Trail 155~~
MOVED TO 6.11

Programming/Operations

6.14 Transportation System Operations and Management 161
6.15 Coordination with Programming Documents 162
6.16 Transportation Projects Exempted from SB 375 163
6.17 Regionally Significant Projects 165
6.18 Regional ITS Architecture 165
~~6.18 Performance Measures~~ MOVED TO CHAPTER 7 ~~168~~
6.19 Future of Transportation and New Technology 168
6.20 Transportation Safety 170
6.21 Transportation Security 172
6.22 Assessment of Capital Investment & Other Strategies 173
6.23 Congestion Management Process 174

Greenhouse Gas Emissions Requirements & Considerations in the RTP

6.24 Greenhouse Gas Emissions (GHG) and Targets Background 176
6.25 Contents of the Sustainable Communities Strategy (SCS) 176
6.26 SCS Development 178
6.27 SCS Process, Review and Acceptance 190
6.28 Land Use & Transportation Strategies to Address Regional GHG Emissions 191
6.29 Alternative Planning Strategy (APS) Overview 192
6.30 Adaptation of the Regional Transportation System to Climate Change 193

Chapter 7 - Performance Measures (MOVED FROM SECTION 6.18)

7.1 Performance Measures 201
7.2 Performance Based Approach 204

Appendices

A Federal and State Transportation Planning Process Flowchart 209

B State and Federal Programming Process Flowchart 213

C Regional Transportation Plan Checklist 217

D Title 23 CFR Part 450 Appendix A – Linking the Transportation Planning and NEPA Processes 225

E Integration of the Planning and NEPA Processes 241

F MPO Air Quality Conformity Checklist 261

G Senate Bill 375 and Senate Bill 575 Statutory Language 267

H Alternative Planning Strategy (APS) 287

I Land Use and Transportation Strategies to Address Regional GHG Emissions 291

J Regional Housing Needs Assessment (RHNA) and RTP Development Information 297

K Glossary of Transportation Terms 301

L AB 441, MPO Health Policies, Practices, or Projects Reflected in RTP 311

M Examples and Planning Practices that Exceed Statutory Authority 333

Page Left Intentionally Blank

Chapter 1

Introduction

Page Left Intentionally Blank

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), is an important policy document that is based on the unique needs and characteristics of a region, helps shape the region's economy, environment and social future, and communicates regional and vision to the state and federal government. As fundamental building blocks of the State's transportation system, the RTP must also support state goals for transportation, environmental quality, economic growth, and social equity.

~~The Regional Transportation Plan (RTP) Guidelines for Metropolitan Planning Organizations (MPOs) focus on the MPOs' perspective when developing, completing, adopting and implementing their RTPs. State and federal requirements, "Shoulds", "Shalls," and "Best Practices" are provided for the eighteen MPOs throughout California to better assist them as they update their RTPs every four years (with an option of every five years in attainment regions).~~

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

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

There are some MPOs that also serve as Regional Transportation Planning Agencies (RTPAs); however, these MPOs are required to follow the RTP Guidelines for MPOs.

These eighteen MPOs, in alphabetical order, are:

Association of Monterey Bay Governments, Butte County Association of Governments, Fresno Council of Governments, Kings County Association of Governments, Kern Council of Governments, Merced County Association of Governments, Madera County Transportation Commission, Metropolitan Transportation Commission, Sacramento Area Council of Governments, San Diego Association of Governments, San Joaquin Council of Governments, San Luis Obispo Council of Governments, Santa Barbara County Association of Governments, Shasta Regional Transportation Agency, Southern California Association of Governments, Stanislaus Council of Governments, Tulare County Association of Governments, and Tahoe Metropolitan Planning Organization.

(MOST NEW TEXT BELOW MOVED FROM SECTION 1.3)

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 2016 RTP Guidelines continue to use the words "Shall" and "Should", a convention established by the previous RTP Guidelines. Where the RTP Guidelines reflect a state or federal statutory or regulatory requirement, the word "Shall" is used with a statutory or

regulatory citation. The word "Should" is used where the Guidelines reflect a permissive or optional statutory reference such as "May" or "Should." Each section ends with federal and state requirements (Shalls), federal and state recommendations (Shoulds), and refers to Appendix M for Planning Practices that Exceed Statutory Authority ~~"Best Practices" discussions~~ where appropriate. In select cases, a "shall" or "should" is determined by a combination of general statutory authority of Government Code Section 14522 combined with direction provided to state agencies from Governor's executive orders.

Changes to federal statute are implemented by the Code of Federal Regulations (CFRs) that are also known as the "final rules". The most recent transportation planning statutes are codified in the final rule that was issued for Title 23 CFR Parts 450 and 771 and Title 49 CFR Part 613 on May 27, 2016. The Federal Highway Administration (FHWA) is still in the process of finalizing the remaining rules for implementation of the Moving Ahead for Progress in the 21st Century (MAP-21) and the Fixing America's Surface Transportation (FAST) Act. Unless otherwise noted, the RTP Guidelines will show the CFRs for ~~SAFETEA-LU and~~ MAP-21/FAST. The majority of citations in these guidelines refer to the implementing regulations, i.e., the CFR section.

~~As RTPA RTPs are updated every five years (not including RHNA cycle adjustments), and~~ 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 2016 RTP Guidelines. All RTP updates started after the 2016 RTP Guidelines are adopted by the CTC must use the new RTP Guidelines.

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

Over the past ten years, combating climate change has emerged as a key goal for the state of California. Starting with the passage of Assembly Bill 32 – The California Global Warming Solutions Act of 2006, (AB 32, Chapter 488, Statutes of 2006), the state has set aggressive goals to reduce greenhouse gas (GHG) emissions responsible for climate change. AB 32 requires a reduction in state GHG emission by limiting state greenhouse gas emissions in 2020 to no more than the 1990 state emission levels. ~~As approximately half of GHG emissions in California come from the transportation sector, (approximately forty percent from tailpipe emissions alone, and additional emissions from road construction and maintenance, petroleum~~

~~refining for transportation fuel, and vehicle manufacture)~~ Recently, the California Global Warming Act of 2006, was amended by SB 32 (Chapter 249, Statutes of 2016), to require a further reduction of GHG emissions to achieve at least a 40 percent reduction below 1990 levels by 2030. Governor Schwarzenegger's Executive Order S-3-05 and Governor Brown's Executive Order B-30-15 target a reduction of greenhouse gas emission to achieve at least a reduction of 80 percent below 1990 levels by 2050. Enacted legislation, SB 391 (Chapter 585, Statutes of 2009) directs Caltrans to model how to achieve the 80 percent reduction in greenhouse gas emissions by 2050, and that modeling was included in the California Transportation Plan 2040, which as released in June 2016. According to the California Air Resources Board (ARB) 2014 Climate Change Scoping Plan, the transportation system accounts for about 36 percent of GHG emissions in California. As such, the long-range transportation planning process in metropolitan areas has evolved to address climate change amongst many other goals in the balance.

In 2008, transportation planning and land use planning became further linked following the passage of Senate Bill 375 (SB 375, Chapter 728, Statutes of 2008). SB 375 requires metropolitan regions to meet regional GHG emissions reduction targets through the planned transportation network, forecasted development patterns, and transportation measures and policies within the RTP. In 2013, the connection between ~~land use planning,~~ higher-density development ~~transportation infrastructure investment,~~ and GHG reduction was strengthened further yet with the passage of SB 743 (Chapter 386, Statutes of 2013), required an update in the California Environmental Quality Act (CEQA) transportation metrics ~~towards alignment~~ to align with climate and planning goals.

~~And more recently, in 2015, Governor Brown issued Executive Order B-30-15 establishing a California GHG reduction target of 40 percent below 1990 levels by 20530 which is being addressed through the development of the statewide long-range transportation plan, the California Transportation Plan (CTP) 2040. Modeling undertaken by the California Air Resources Board (ARB) shows that Vehicle Miles Traveled (VMT) will have to be kept to a 5.5 percent increase through 2030 in order to satisfy the executive order.~~ In addition, Executive Order B-30-15 ~~recommends that the~~ directs State Agencies to ~~shall~~ take climate change into account in planning and investment decisions, and employ full life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives. Planning and investment shall be guided by the following principles:

- Priority should be given to actions that both build climate preparedness and reduce greenhouse gas emissions;
- Where possible, flexible and adaptive approaches should be taken to prepare for uncertain climate impacts;
- Actions should protect the state's most vulnerable populations; and,
- Natural infrastructure solutions should be prioritized.

The Regional Transportation Plan (RTP), also called a Metropolitan Transportation Plan (MTP) or Long-Range Transportation Plan is the mechanism used in California for Metropolitan Planning Organizations (MPOs) to conduct long-range (minimum of 20 years) ~~integrated land use and~~ transportation planning, integrated with local jurisdiction's land use planning, in their regions to achieve local and regional goals, in consideration of ~~and~~ state and federal goals. Because transportation infrastructure investments have ~~substantial~~ effects on travel patterns, smart investments play a key role in meeting climate targets. As a result of state legislation and executive orders, GHG emission reduction, transportation electrification, and climate resilience

have also ~~has~~ become one of the key priorities in the statewide and regional transportation planning process, in addition to improving transportation mobility, addressing federal air quality criteria pollutants and ensuring that the statewide regional transportation system addresses tribal, local, regional, and statewide mobility and economic needs.

~~Transportation infrastructure investment affect travel patterns, mode choice, and VMT. Numerous studies show that investments in roadway capacity increase tend to cause increases in VMT and GHGs. These studies are summarized in materials available on the following Caltrans and ARB websites:~~
~~National Center for Sustainable Transportation Research Brief:~~
~~http://www.dot.ca.gov/newtech/researchreports/reports/2015/10-12-2015-NCST_Brief_InducedTravel_CS6_v3.pdf~~
~~Air Resources Board Brief:~~
~~http://www.arb.ca.gov/cc/sb375/policies/hwycapacity/highway_capacity_brief.pdf~~
~~Air Resources Board Technical Background Document:~~
~~http://www.arb.ca.gov/cc/sb375/policies/hwycapacity/highway_capacity_bkgd.pdf~~

~~Accurate assessment of VMT resulting from transportation infrastructure investments is important for a variety of reasons, including assessing environmental impact, including VMT. In its recent *Mobile Source Strategy*, the ARB has assessed the statewide VMT growth possible without exceeding California's science-based 2030 and 2050 GHG emissions targets. Infrastructure investments in the state should not exceed those GHG levels.~~

Equally important to consider in long-range transportation planning is how transportation can affect human health in many ways, for example: safety – reduction of collisions; air quality – reduction of vehicle emissions; physical activity – increasing biking and walking; access to goods, services, and opportunities – increasing livability in communities; and noise – designing road improvements to decrease sound exposure. A timely opportunity to address public health outcomes is early during the RTP development process. MPOs can consider health priorities in selection of projects for the RTP and FTIP. MPOs also 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. Recent legislation geared at achieving this, AB 441 Monning (Chapter 365, Statutes of 2012), was passed to capture the work that MPOs are doing in their RTPs to promote health and health equity. Pursuant to AB 441, the 2016 RTP Guidelines includes a new attachment, Appendix L, that highlights the various health and health equity-promoting projects, programs, and policies currently employed in MPO RTPs in California. Public health is further discussed in Section 2.3.

Lastly, long-range transportation planning provides the opportunity to compare alternative improvement strategies, track performance over time, and identify funding priorities. The CTP defines this as performance management that helps ensure efficient and effective investment of transportation funds by refocusing on established goals, increasing accountability and transparency, and improving project decision-making. To further reach this end, MAP-21/FAST require 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, executive order, and legislative intent language, numerous state goals for the transportation system, the environment, the economy, and social equity. RTPs are developed to reflect regional and local priorities and goals, but they are also regional instruments for achieving federal and state transportation system goals. Inclusion of goal setting in RTPs allows the federal and state governments to both understand regional goals, and track progress toward federal and state goals.

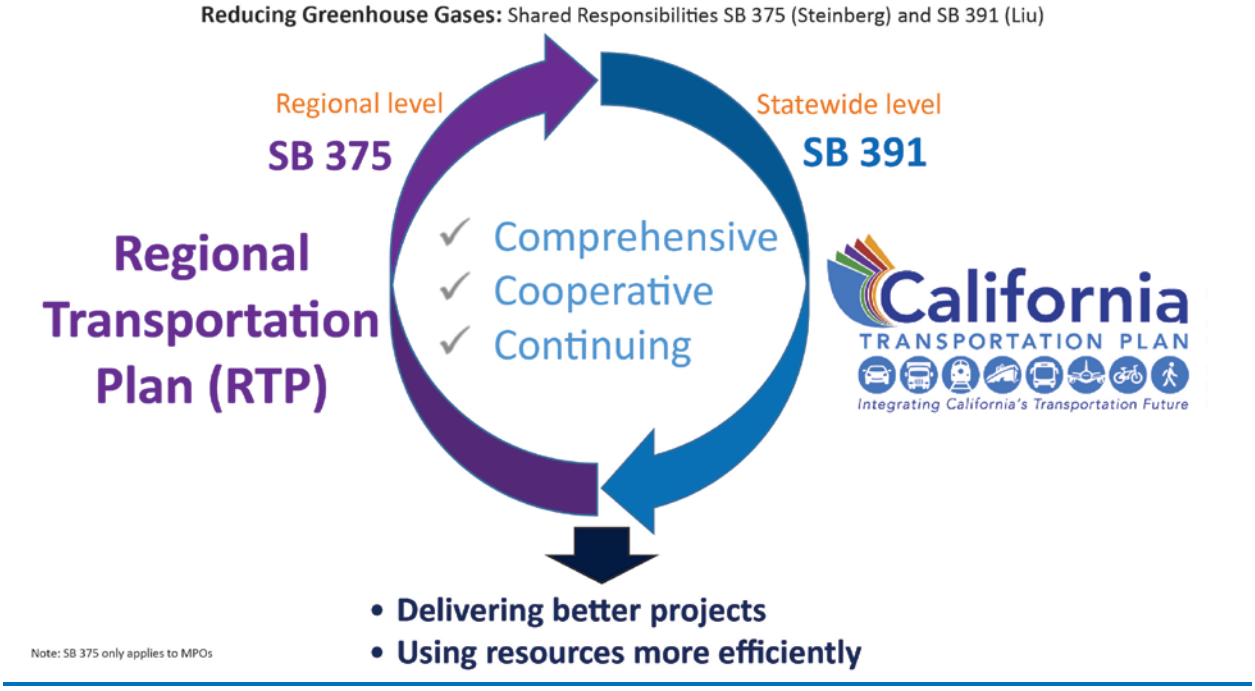
Performance-based planning is the application of performance management within the planning process to help the federal government, states and regional agencies achieve desired outcomes for the multimodal transportation system. The benefits of well-designed and appropriately used performance measures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

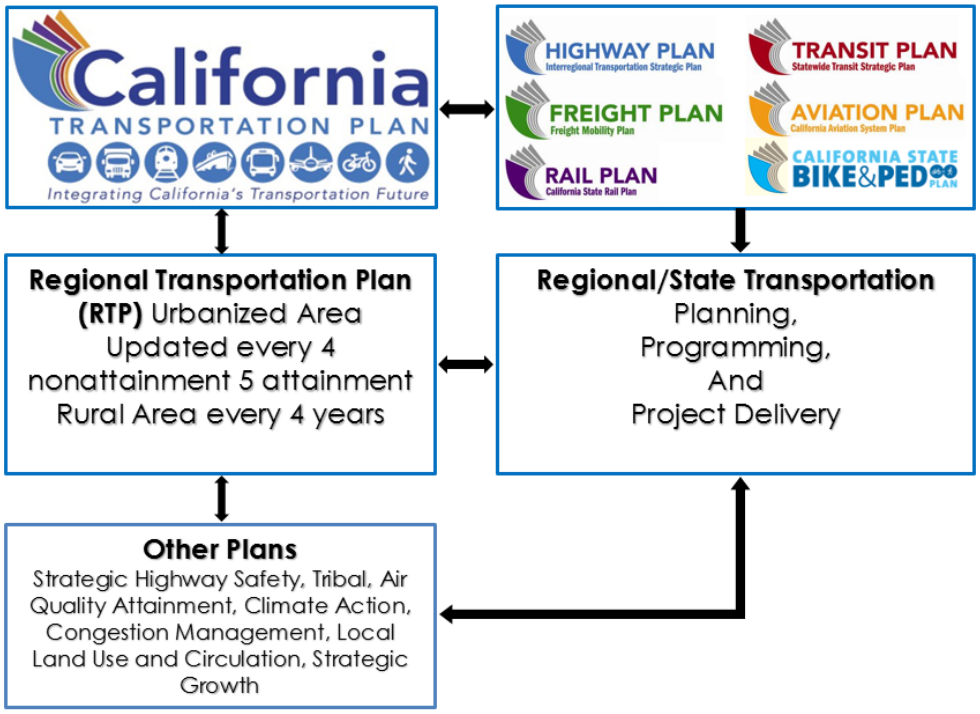
1.2 Regional Transportation Plans and the California Transportation Plan

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

The CTP is a core document that addresses some of the 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. It is not project specific or subject to both federal air quality conformity regulations and CEQA, but it does look at how SCS implementation will influence the statewide multimodal transportation system, as well as how the state will achieve sufficient emission reductions in order to meet AB 32 and SB 391. While the CTP is prepared by Caltrans, it is developed in collaboration with various stakeholders~~,~~ and ~~includes~~ public involvement. Furthermore, the CTP is a fiscally unconstrained aspirational policy document that integrates and builds upon six Caltrans modal plans (Interregional Plan, Freight Plan, Aviation Plan, Transit Plan, and Bicycle and Pedestrian Plan) as well as the RTPs prepared by the MPOs and the RTPAs. RTPAs and MPOs address transportation from a regional perspective, while the CTP, building on regional plans, addresses the connectivity and/or travel between regions and applies a statewide perspective for transportation system. Therefore, it is important that there is consistency between RTP and CTP as well as their respective guidelines, providing greater mobility choices for travelers not

only within regions but across regions. The CTP and the RTP can be developed in a cyclical pattern aligning one with another using comprehensive, cooperative and continuing planning. This should result in delivering better projects and using resources more efficiently. The following diagrams illustrate the relationship between the CTP and RTP. (NEW TEXT MOVED FROM SECTION 1.3)





1.3 Background and Purpose of the RTP Guidelines

The purpose of the RTP Guidelines is 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 Federal Transportation Improvement Program (FTIP). The FTIPs are prepared by MPOs and identify the next four years of transportation projects to be funded for construction. The California Transportation Commission (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 Government Code Sections 14522 and 65080 which state:

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

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

The 1999 revision of the Guidelines was prepared to achieve conformance with state and federal transportation planning legislation and was based on the Federal Transportation Equity Act for the 21st Century (TEA-21) and California SB 45 (Chapter 622 Statutes 1997). A 2003 Supplement was also prepared that was based on a 2003 RTP Evaluation Report completed for the CTC. The ~~latest~~ federal surface transportation reauthorization bill called the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (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 greenhouse gas emission reduction targets specified by the California Air Resources Board (ARB) through their RTP planning processes.

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

~~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. Recommendations and suggestions for providing documentation that is needed to meet the project eligibility requirements of the Federal Transportation Improvement Program (FTIP) and the State Transportation Improvement Program (STIP) are also included.~~ (MOVED TO SECTIONS 1.0 AND 1.6)

2015 MPO RTP Review Report

The 2016 RTP Guidelines update was prepared to incorporate Recommendations that were included in the December 2015 MPO RTP Review Report. This Report can be found at: **http://www.dot.ca.gov/hq/tpp/offices/orip/rtp/index.html**. One of these Recommendations called for an MPO focused RTP Guidelines document addressing just the requirements for MPOs when developing, completing, adopting and implementing an RTP. In addition, the 2016 update reflects the data and analysis needs of the ARB to evaluate the Sustainable Communities Strategy (SCS) component of an MPO's RTP.

~~The 2016 RTP Guidelines continue to use the words "Shall" and "Should", a convention established by the previous RTP Guidelines. Where the RTP Guidelines reflect a state or federal statutory or regulatory requirement, the word "Shall" is used with a statutory or regulatory citation. The word "Should" is used where the Guidelines reflect a permissive or optional statutory reference such as "May" or "Should." Each section ends with federal and state requirements (Shalls), federal and state recommendations (Shoulds), and "Best Practices" discussions where appropriate.~~ (MOVED TO SECTION 1.0)

~~Changes to federal statute are implemented by the Code of Federal Regulations (CFRs) that are also known as the "final rules". MAP-21/FAST transportation planning statutes are codified in the final rule that was issued for Title 23 CFR Parts 450 and 771 and Title 49 CFR Part 613 on May 27, 2016. The FHWA is still in the process of finalizing the rules for implementation of MAP-21/FAST. Unless otherwise noted, the RTP Guidelines will show the CFRs for SAFETEA-LU and MAP-21/FAST. The majority of citations in these guidelines refer to the implementing regulations, i.e., the CFR section.~~ (MOVED TO SECTION 1.0)

~~As RTPA RTPs are updated every five years (not including RHNA cycle adjustments), and MPO RTPs are updated every four years (or five years in attainment regions), there is a continuous cycle of RTPs in the development and adoption stages. If an RTP is currently in one of these stages while the 2016 RTP Guidelines are being updated, use of the existing 2010 RTP Guidelines is acceptable until the 2016 RTP Guidelines are adopted by the CTC as anticipated in December 2016. An RTP that begins the update process after the 2016 RTP Guidelines are adopted by the CTC must use the new RTP Guidelines.~~ (MOVED TO SECTION 1.0)

~~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 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. In a similar fashion, the federal terminology for congestion management program is also referred to in this document as a congestion management process or plan.~~ (MOVED TO SECTION 1.6)

~~The State of California addresses some of the federal statewide planning regulations through the California Transportation Plan (CTP). The CTP is a policy document prepared by the California Department of Transportation (Caltrans). It is not project specific, but it does look at how SCS implementation will influence the statewide multimodal transportation system, as well as how the state will achieve sufficient emission reductions in order to meet AB 32 and SB 391. While the CTP is prepared by Caltrans, it is developed in collaboration with various stakeholders, and includes public involvement.~~ (MOVED TO SECTION 1.2)

1.4 Metropolitan Planning Organizations in California

In cooperation with the Governor, there are 18 federally designated Metropolitan Planning Organizations (MPOs) that prepare Regional Transportation Plans in California. MPOs must adhere to federal planning regulations during the preparation of their RTPs. California statutes and the RTP Guidelines identify the RTP requirements for MPOs.

Federal legislation passed in the early 1970's required 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. One of the core functions of an MPO is to develop an RTP through the planning process.

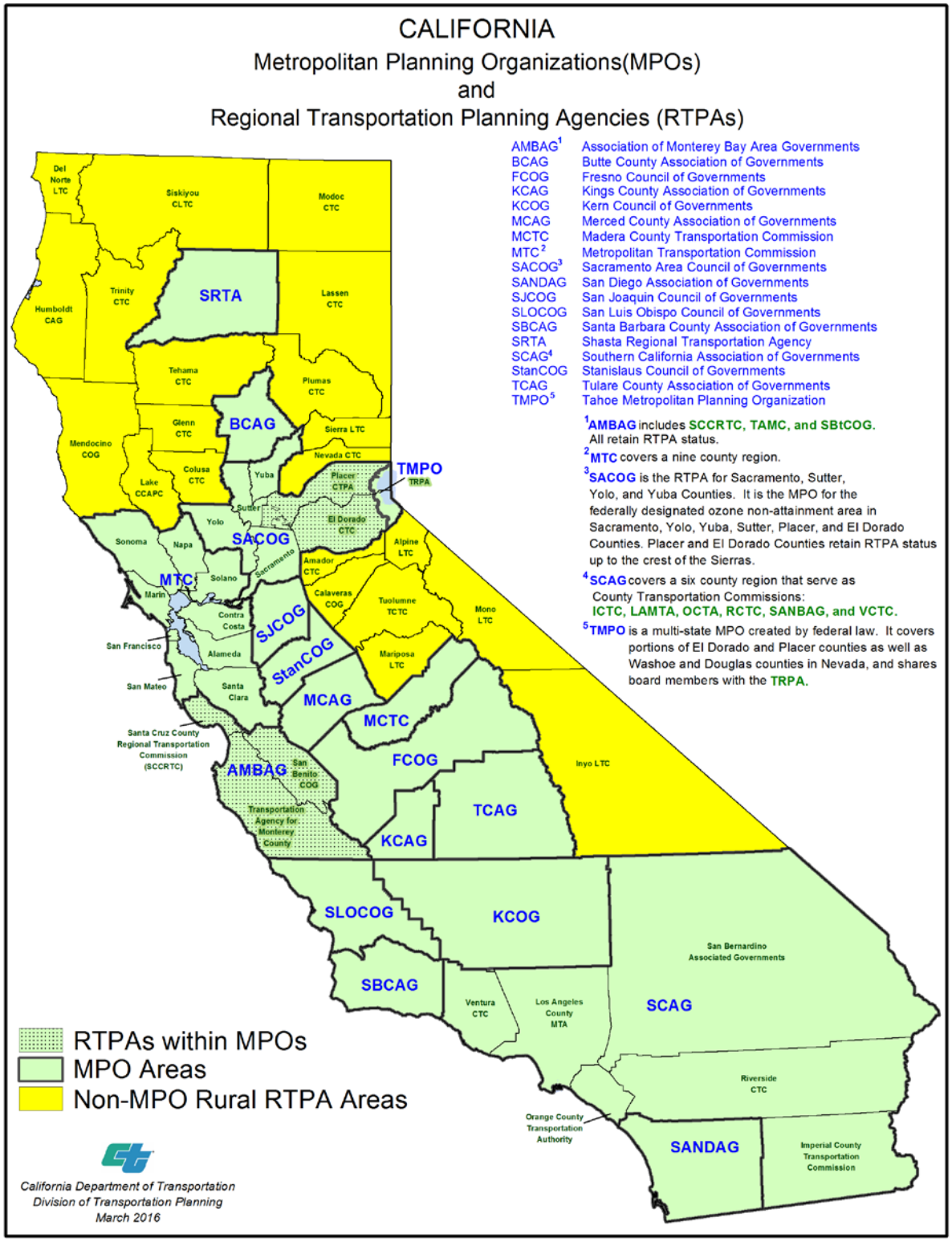
An MPO has five core functions:

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; and,
5. Develop a Transportation Improvement Program (~~F~~TIP).

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 the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA).

The California Government Code sets forth the requirements for an RTP to be an internally consistent document that contains a 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 in a collaborative discussion about alternate scenarios for the region's future.

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


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

1.5 Purpose of the Regional Transportation Plan

RTPs are planning documents developed by MPOs in cooperation with Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Caltrans and other stakeholders, including system users. Following the passage of SB 375, MPOs also need to work closely with the California Air Resources Board (ARB) and the California Department of Housing and Community Development (HCD) (Government Code 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 using the term "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 SIP for air quality."*

The regional transportation planning led by the MPOs is a collaborative process~~, led by the MPO,~~ that is widely participated by the federal, state, local and tribal governments/agencies, as well as ~~and~~ other key stakeholders and the general public ~~in the regional transportation system~~. 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 the state and transit operators. It is essential to extend public participation to include people who have been traditionally underserved by the transportation system and services in the region. Neglecting public involvement early in the planning stage can result in delays during the project stage.

While ~~specific~~ new federal MAP-21/FAST Act requirements are addressed in Section 1.6 of these guidelines, the traditional steps undertaken during the regional planning process include:

1. Providing a long-term (20 year) visioning framework;
2. Monitoring existing conditions;
3. Forecasting future population and employment growth;
4. Assessing projected land uses in the region and identifying major growth corridors;
5. Identifying alternatives and needs and analyzing, through detailed planning studies, various transportation improvements;
6. Developing alternative capital and operating strategies for people and goods;
7. Estimating the impact of the transportation system on air quality within the region; and,
8. Developing a financial plan that covers operating costs, maintenance of the system, system preservation costs, and new capital investments.

The overall scope of the RTP prepared by MPOs has expanded as a result of SB 375 to require the inclusion of a Sustainable Communities Strategy (SCS):

1. Transportation projects, ~~non-auto~~ mobility strategies, and land use ~~projections~~ scenarios identified in the RTP must be modeled to determine their impacts on regional greenhouse gas (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. Off-model methods are discussed further in Chapter 3.
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 the California Air Resources Board (ARB). The MPO will need to increase its coordination with cities and counties within the region to work towards strategies that will reduce regional GHG emissions.
3. The MPO must prepare an Alternative Planning Strategy (APS) if the SCS is unable to reduce GHG emissions to achieve the GHG emissions reduction targets established by the ARB. The APS shall be a separate document from the RTP, but it may be adopted concurrently with the RTP.

The RTPs are developed to provide a clear vision of the regional transportation ~~and land use~~ 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 Federal Transportation Improvement Program (FTIP), and the State Transportation Improvement Program (STIP), (b) Facilitation of the National Environmental Protection Act (NEPA)/404 integration process and (c) Identification of project purpose and need;
6. Employing performance measures that demonstrate the effectiveness of the transportation improvement projects ~~and land use policies~~ in meeting the intended goals;
7. Promotion of consistency between the California Transportation Plan, the regional transportation plan 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 ~~and land use~~ issues which transcend regional boundaries; and,
9. Involving community-based organizations as part of the public, Federal, State and local agencies, California Tribal Governments, as well as local elected officials, early in the transportation planning process so as to include them in discussions and decisions on the social, economic, air quality and environmental issues related to transportation.

1.6 California Transportation Planning 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 ~~initiated~~ 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 Federal Transportation Improvement Program (FTIP) and the State Transportation Improvement Program (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. In a similar fashion, the federal terminology for congestion management program is also referred to in this document as a congestion management process or plan. (MOVED FROM SECTION 1.3)

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

1. The process is as open and transparent as possible;
2. Environmental considerations are addressed; and,

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

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

~~**Anticipated Future Change to Transportation Analysis**~~
~~A change to transportation analysis in environmental review under CEQA occurred with the Governor's approval of SB 743 (Chapter 386, Statutes of 2013). It requires an update in the metric of transportation impact used in CEQA from Level of Service and vehicle delay to one that promotes the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses. Per ARB Vision Model results, reductions in VMT growth are needed to achieve sufficient greenhouse gas emissions reduction for climate stabilization, as reflected in executive orders on 2030 and 2050 greenhouse gas targets. The regulatory language (CEQA Guidelines changes) to implement the law are pending, though VMT has been identified by the Governor's Office as the preferred metric to determine significant impacts. A future update of the RTP Guidelines will capture any "shoulds" or "shalls" resulting from the formal rulemaking process. In the meantime, MPOs can anticipate guidance in the final "Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA" document when it is released.~~

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

This section is intended to outline the new federal requirements resulting from MAP-21/FAST and the Final Rule issued May 27, 2016 for Statewide and Nonmetropolitan Transportation Planning *and* Metropolitan Transportation Planning. Only the items that have a direct impact on RTP development are listed. Other sections may contain optional requirements that could have impacts to the overall regional transportation planning *process*.

As specified in 23 CFR 450.340(a), prior to May 27, 2018, an MPO may adopt an RTP that has been developed using the SAFETEA-LU requirements or the provisions and requirements of 23 CFR 450. On or after May 27, 2018, an MPO may not adopt an RTP that has not been developed according to the provisions of 23 CFR 450.

Two New Planning Factors (Section 2.4) – MPOs shall consider and implement two new planning factors added to the scope of the transportation planning process: Improve resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation; and enhance travel and tourism. 23 CFR 450.306 (b)(9) and (10)

Performance-Based Planning Approach (Section 7.2) – MPOs are required to integrate the goals, objectives, performance measures, and targets described in other performance-based plans into their RTPs. However, the timeline for implementation of this requirement is still under development. Once performance measures and resulting plans are completed, the RTP Guidelines may well be amended. 23 CFR 450.306; 23 CFR 450.324 (f)(3) and (4)

Assessment of Capital Investment and Other Strategies (Section 6.22) – RTPs are required to include an assessment of capital investment and other strategies to: (1) preserve the existing

and projected future transportation infrastructure, (2) provide for multimodal capacity increases based on regional needs and priorities, and (3) reduce vulnerability of the existing infrastructure to natural disasters. 23 CFR 450.324 (f)(7)

Consideration of Public Transportation Facilities and Intercity Bus Facilities (Section 6.10) – RTPs must also consider the role of intercity bus systems, including systems that are privately owned and operated, in reducing congestion, and including transportation alternatives. 23 CFR 450.324 (f)(8)

Interested Parties, Public Participation, and Consultation (Sections 4.4, 4.6, and 6.21) – In addition to the interested parties listed, MPOs must also provide public ports with a reasonable opportunity to comment on the RTP. MPOs should also consult with officials responsible for tourism and natural disaster risk reduction when developing RTPs and FTIPs. 23 CFR 450.316(a) and (b); 23 CFR 450.324(j)

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

~~**Public Participation Plan/Outreach** – Each MPO shall provide residents, affected public agencies, representatives of public transportation employees, freight shippers, private transportation providers, representatives of public transportation users, representatives of pedestrian walkways and bicycle transportation facilities users, representatives of the disabled, and other interested parties with a "reasonable opportunity" to comment on the RTP. The public participation plan must be developed prior to updating the RTP and FTIP and shall provide for input from interested stakeholders, including California Tribal Governments if applicable, during its preparation. (Title 23 CFR Part 450.316)~~

~~**Changes to Federal Planning Factors** – The planning factor to "protect and enhance the environment, promote energy conservation and improve quality of life" was expanded to also include "promote consistency between transportation improvements and State and local planned growth and economic development patterns." Equally important, safety and security were separated into individual planning factors to highlight the importance of each issue. (Title 23 CFR Part 450.306)~~

~~**Contents of the Participation Plan Shall Include**: Development of the RTP in consultation with all interested parties; provision that all interested parties have reasonable opportunities to comment on the contents of the RTP; all public meetings are held at convenient and accessible locations; employment of visualization techniques to describe the RTP (such as geographic information systems (GIS), maps, graphs, charts and other visual methods of interpreting data and information); and, making the information available to the public in electronic accessible format and means, such as the in order to afford a reasonable opportunity for all parties including the general public to comment on the RTP. A minimum public comment period of 45 days shall be provided before the initial or revised participation plan is adopted by the MPO. (Title 23 CFR Part 450.316)~~

~~**RTP Cycle Updates** – An RTP shall be updated every four years, or more frequently, if the MPO elects to do so. In attainment regions, MPOs may elect to update their RTPs every five years. (Title 23 CFR Part 450.322(c))~~

~~**Identify Transportation Facilities** – An RTP shall include an identification of transportation facilities, including major roadways, multimodal and intermodal facilities, and intermodal connectors. (Title 23 CFR Part 450.322(f)(2))~~

~~**Identify Mitigation Activities** – An RTP shall include a discussion of types of potential environmental mitigation activities and potential areas to carry out these activities that may have the greatest potential to restore and maintain the environmental functions affected by the plan. (Title 23 CFR Part 450.322(f)(7))~~

~~**Consultation and Coordination** – The RTPs environmental mitigation discussions shall be developed in consultation with federal, state and tribal land management, wildlife, and regulatory agencies (Title 23 CFR Part 450.322(f)(7)). Additional consultation, as appropriate, with state and local agencies responsible for land use, natural resources, environmental protection, conservation and historic preservation during development of RTP is required. (Title 23 CFR Part 450.322(g))~~

~~**Financial Plan** – A Financial Plan shall demonstrate how an adopted RTP can be implemented, indicate resources that can reasonably be expected to be available to carry out the plan, and recommend any additional financing strategies for needed projects and programs. Total dollar amount for projects included in the FTIP must take into account a projected rate of inflation. The MPO, transit operators and state shall cooperatively develop estimates of funds that will be available to support plan implementation. (Title 23 CFR Part 450.322(f)(10))~~

~~**Identify Operational and Management Strategies** - Operational & Management Strategies shall be included in order to improve the performance of the existing transportation facilities, to relieve vehicular congestion and maximize the safety and mobility of people and goods. (Title 23 CFR Part 450.322(f)(3))~~

~~**Identify Capital Investment Strategies** – Capital investment strategies and other strategies shall be included to preserve the existing and projected future metropolitan transportation infrastructure, and provide for multimodal capacity increases based on regional priorities and needs. (Title 23 CFR Part 450.322(f)(5))~~

~~**Congestion Management Process** – The Congestion Management Process (CMP) should be an integral part of developing RTPs and FTIPs for MPOs that also serve as Transportation Management Areas (TMAs). (Title 23 CFR Part 450.320(c))~~

~~**Visualization Techniques and RTP/MTP Publication** – An RTP shall include visualization techniques such as GIS-based, graphs, maps, bar charts, pie charts and other visual aids that a public participant understands without great technical detail. The RTP shall be available on a website and for the life of the plan. (23 CFR Part 450.316(a))~~

~~**Safety Issues** – separated "safety" and "security" as planning factors. (Title 23 CFR Part 450.322)~~

~~**Security Issues** – RTPs should include a safety element that incorporates and summarizes the goals, priorities, and projects that are contained in the California Strategic Highway Safety Plan as well as emergency relief and disaster preparedness plans that support homeland security and the personal security of the public. (Title 23 CFR Part 450.322(h))~~

~~**Public Transit/Human Services Transportation Plan** – A public transit/human services transportation plan as required by 49 U.S.C. 5310, 5316 and 5317 should be consistent with the metropolitan transportation planning process. (Title 23 CFR Part 450.306(g))~~

1.8 Key Additions to the 2016 RTP Guidelines

Key Additions to the 2016 RTP Guidelines include the following items:

1. Separating RTP Guidelines, one for the MPOs and one for the RTPAs to better address the specific requirements for their RTPs.
2. Appendix C – Adds questions to the RTP Checklist for Title VI compliance.
3. Appendix L, AB 441 Monning – For the first time in the RTP Guidelines, this Appendix highlights the various public health and health equity-promoting policies incorporated within the MPO RTPs.
4. Appendix M, Examples Practices that Exceed Statutory Authority – the "Best Practices" component of RTP Guidelines is accessible by topic in the new Appendix M.
5. Updates for the MAP-21/FAST Act throughout the RTP Guidelines.
6. Section 1.0 – Provides guidance on applicability of the RTP Guidelines and defines, "shalls" and "shoulds."
7. Section 1.2 – Defines the relationship between the RTP and the California Transportation Plan.
8. Section 1.7 – Outlines MAP-21/FAST items with a direct impact on RTP development.
9. ~~Section 1.1 – Acknowledges the anticipated change in CEQA when SB 743 was chaptered moving away from Level of Service and vehicle delay when identifying and mitigating significant transportation impacts.~~
10. Section 2.2 – Includes updates to State Climate Change Legislation and Executive Orders
11. Section 2.3 – Provides an introduction to Appendix L, the public health and health equity-promoting policies that are found throughout the MPO RTPs.
12. Section 2.6 – Adds local, regional, and State prepared plans that MPOs should consult with during RTP preparation.
13. Section 2.7 – Includes Planning and Environmental Linkages (PEL), updates Context Sensitive Solutions, and additional System Planning documents that are used in partnership with MPOs in the transportation planning process.
14. Chapter 3 – Updates the Modeling Chapter from the 2010 version.
15. Chapter 4 – Includes new legislation highlighting the required Native American Tribal Government Consultation and Coordination process.
16. Section 4.2 – Describes Title VI considerations in the RTP, Principles of Environmental Justice (EJ), Title VI Analysis & EJ Analysis, and Title VI requirements for subrecipients of federal funds.
17. Section 4.3 – Adds several public engagement strategies for MPOs to ensure involvement of disadvantaged communities.
18. Section 4.4 – Includes Periodic Evaluation of the Public Participation Plan to evaluate the effectiveness of the procedures and strategies for developing the RTP.

19. Section 4.6 – Adds representatives of public health and public ports to the list of interested parties.
20. Chapter 5 – Describes SB 743 (Chapter 386, Statutes of 2013) and the anticipated future change to transportation analysis for transit priority areas.
21. Section 5.5 – Adds Habitat Connectivity and Air Quality Impacts to the list of environmental resources that typically require avoidance alternative and mitigation.
22. Chapter 6 – Introduces the California Freight Mobility Plan (CFMP) and the California Sustainable Freight Action Plan (CSFAP).
23. Chapter 6 – Provides preliminary information on MAP-21/FAST impacts on Asset Management.
24. Section 6.8 – Adds items to consider in the highways discussion of the RTP, including zero-emission vehicles, widespread transportation electrification, community impacts their participation in project development.
25. Section 6.10 – Adds first/last mile transit connectivity to the transit discussion of the RTP as well as the MAP-21/FAST requirement to discuss the role of intercity buses in reducing congestion, pollution, and energy consumption.
26. Section 6.12 – Adds 6 items to the goods movement discussion of the RTP.
27. Section 6.18 – Moves Performance Measures to Chapter 7, as noted below.
28. Section 6.19 – New Section 6.19 provides a summary of federal and State legislation to prepare for new technologies and innovations for the future of transportation.
29. Section 6.20 – Updates Transportation Safety for MAP-21/FAST.
30. Section 6.21 – Updates Transportation Security for the MAP-21/FAST requirement to consult with agencies and officials responsible for natural disaster risk reduction.
31. Section 6.22 – Adds new RTP requirement for an Assessment of Capital Investment & Other Strategies.
32. Section 6.23 – Updates Congestion Management Process for the MAP-21/FAST framework for developing a Congestion Management Plan.
33. Section 6.26 – Updates a significant amount of information for MPOs to consider, such as SCS planning assumptions, addressing housing needs, resources areas and farmland, and considering social equity in the SCS.
34. Section 6.28 – Adds many transportation strategies to address regional GHG emissions, including employer-sponsored shuttle services, active transportation plans, and coordinating with school district plans and investments.
35. Section 6.30 – Updates for Climate Adaptation background, State legislation, executive orders, and planning resources for MPOs.
36. Chapter 7 – A new chapter, ~~and~~ Performance Measures, provides the appropriate emphasis on the RTP as a performance-driven plan for which performance measures must be developed and used by the MPO for plan development, implementation, and monitoring. This chapter includes updates for MAP-21/FAST requirements for MPOs to implement the performance based approach into the scope of the metropolitan planning process, including the RTP.

Page Left Intentionally Blank

Chapter 2

Regional Transportation Plan Process

Page Left Intentionally Blank

2.1 State Requirements

California statute relating to the development of the RTP is primarily contained in Government Code Section 65080.

Just like federal legislation, Government Code Section 65080 also requires that MPOs located in nonattainment regions update their RTPs at least every four years. State statute ~~requires~~ 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 California Transportation Commission (CTC) pursuant to Government Code Section 65080(d). In addition, the CTC cannot program projects in the State Transportation Improvement Program (STIP) that are not identified in an RTP.

Section 65080 states RTPs shall ~~address~~ include the following:

1. Policy Element
2. Sustainable Communities Strategy
3. Action Element
4. Financial Element

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

Government Code Section 65080.1 – 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.

Government Code 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 of the alternative planning scenario is to address attempts to reduce growth in traffic congestion, make more efficient use of existing transportation infrastructure, and reduce the need for costly future public infrastructure.

Government Code Section 65080.5 - Prior to adoption of the RTP, a public hearing shall be held after publishing notice of the hearing. After the RTP is adopted by the 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.

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

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

2.2 Background on State Climate Change Legislation & Executive Orders

AB 32 – The California Global Warming Solutions Act of 2006

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

AB 32 identifies greenhouse gases as specific air pollutants that are responsible for global warming and climate change. This is particularly relevant to the RTP Guidelines because, as of 20~~09~~14, the transportation sector represents ~~approximately half~~ 37% of Carbon Dioxide (CO2) emissions in California ~~(including tailpipe emissions, which comprise 37% of state emissions)~~. California has focused on six GHGs (CO2, Methane, Nitrous Oxide, Hydro fluorocarbons, perfluorocarbons, and Sulfur Hexafluoride). CO2 is the most prevalent greenhouse gas. All other greenhouse gases are referenced in terms of a CO2 equivalent.

AB 32 directed the California Air Resources Board to develop actions to reduce greenhouse gases, including the preparation of a scoping plan to identify how best to reach the 2020 goal. According to the scoping plan, the framework for achieving greenhouse gas emissions reductions from land use and transportation planning includes implementation of SB 375.

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

The bill extends AB 32's required reductions of greenhouse gas emissions by requiring a GHG reduction of at least 40 percent of 1990 levels no later than December 31, 2030.

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

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

1. Requires the ARB to develop regional GHG emission reduction targets for cars and light trucks for each of the 18 MPOs in California.
2. Through their respective planning processes, each of the MPOs during the next update of their RTPs is required to prepare a sustainable communities strategy (SCS) that will specify how the GHG emissions reduction target set by ARB ~~will~~ can be achieved for the region. If the target cannot be met through the SCS, then an alternative planning strategy (APS) shall be prepared.
3. Provides streamlining of California Environmental Quality Act (CEQA) requirements for specific residential and mixed-use developments that are consistent with an SCS or APS

that has been determined by ARB to achieve the regional GHG emissions reduction target.

4. Synchronizes the Regional Housing Needs Assessment (RHNA) process with the RTP process; requires local governments to update the housing element of their general plans and to rezone consistent with the updated housing element generally within three years of adoption; and provides that RHNA allocations must be consistent with the development pattern in the SCS. Housing element updates are moved from five year cycles to eight year cycles for member jurisdictions of all MPOs, classified as nonattainment or maintenance (required to adopt an updated RTP every four years) and for jurisdictions within other MPOs and RTPAs that elect to ~~adopt an~~ change the RTP adoption schedule from five years to every four years pursuant to Government Code Section 65080 (b)(2)(M). MPOs should carefully estimate a realistic RTP adoption date in providing the 12 month notice to HCD and not adopt a RTP at a later date. RTP adoption past the estimated adoption date relied on by HCD in determining new housing unit allocation for a specific planning period creates a conflict and shifts the housing element planning period to an ending period that lacks a requisite housing unit allocation.
5. Requires the California Transportation Commission (CTC) to maintain guidelines for the use of travel demand models used in the development of regional transportation plans that, taking into consideration MPO resources, account for: 1.) the relationship between land use density, household vehicle ownership, and vehicle miles traveled (VMT), consistent with statistical research, 2.) the impact of enhanced transit service on household vehicle ownership and VMT, 3.) likely changes in travel and land development from highway or passenger rail expansion, 4.) mode splitting that allocates trips between automobile, transit, carpool, bicycle and pedestrian trips, and 5.) speed and frequency, days, and hours of operation of transit service. (Government Code Section 14522.1)

AB 1482 – Climate Adaptation

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

1. Requires the Natural Resources Agency to update the state's Climate Adaptation Strategy (CAS) by July 1, 2017, and every three years thereafter.
2. Requires the Strategic Growth Council to identify and review activities and funding programs of state agencies that may be coordinated to meet the goals of the strategies and priorities in the plan, including
    a. "Recommend policies and investment strategies and priorities to the Governor, the Legislature, and to appropriate state agencies to encourage the development of sustainable communities, such as those communities that promote equity, strengthen the economy, protect the environment, and promote public health and safety, consistent with subdivisions (a) and (c) of Section 75065."
    b. "Provide, fund, and distribute data and information to local governments and regional agencies that will assist in developing and planning sustainable communities."
    c. "Manage and award grants and loans to support the planning and development of sustainable communities, pursuant to Sections 75127, 75128, and 75129."

AB 246 – Climate Change Adaptation

AB 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 - Transportation Electrification

SB 350 (Chapter 547, Statutes of 2015) describes the importance of widespread transportation electrification for meeting climate goals and federal air quality standards. MPOs are encouraged to invest in and plan for widespread transportation electrification and the infrastructure necessary to support it.

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."

MPOs are encouraged to incorporate the directives from SB 350 in their planning processes. MPOs can prioritize widespread transportation electrification by including significant investment in transportation electrification in their plans for disadvantaged communities, as well as low- and moderate-income communities. These investments should be sufficient to develop infrastructure to support widespread transportation electrification that will advance California toward the standards and goals outlined in Public Utilities Code Section 740.12(a)(1). These include:

- Reducing emissions of greenhouse gases 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 greenhouse gas emission reduction goals.
- Attracting investments and high quality jobs.

Recommendations (Shoulds)
State: Pub. Util. Code § 740.12, Health and Safety Code Section 44258.

Best Practices: California Sustainable Freight Action Plan.

SB 379 – Land Use: General Plan: Safety Element

SB 379 (Chapter 608, Statutes of 2015) amends Section 65302 of the California Government Code to require a legislative body of a city or county to adopt a comprehensive, long-term general plan that includes a safety element. This safety element provides protection of the community from unreasonable risks associated with the effects of various geologic hazards, flooding, and wildland and urban fires. When creating this safety element, the legislative body shall consider advice provided in the Governor's Office of Research and Planning General Plan Guidelines and include a variety of sources of climate

scenarios, including Cal-Adapt and the most recent version of the Adaptation Planning Guide.

Executive Orders on Climate Change Issues

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

http://www.climatechange.ca.gov/

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

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

In addition, Executive Order B-30-15 established ~~1.~~ a new interim statewide greenhouse gas emission reduction target to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030 to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050. ~~2.~~ All state agencies with jurisdiction over sources of greenhouse gas emissions shall implement measures, pursuant to statutory authority, to achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reductions targets. Furthermore, ~~6.~~ State agencies shall take climate change into account in their planning and investment decisions, and employ full life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives. State agencies' planning and investment shall be guided by the following principles:

- Priority should be given to actions that both build climate preparedness and reduce GHG emissions;
- Where possible, flexible and adaptive approaches should be taken to prepare uncertain climate impacts;
- Actions should protect the states most vulnerable populations;
- Natural infrastructure solutions should be prioritized; and,
- Lastly, the State Five-Year Infrastructure Plan will take current and future climate change impacts into account in all infrastructure projects.

These Executive Orders are available at:

B-16-12: https://www.gov.ca.gov/news.php?id=17472

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

Requirements (Shalls)
State: Government Code Section 65080; Government Code Section 14522 as directed by Executive Order B-30-15

2.3 Promoting Public Health and Health Equity

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

Appendix L 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 AB 441, Gov. Code 14522.3. Appendix L focuses on examples from existing RTPs, in keeping with the legislative intent of AB 441 as expressed in Section 1(a)(d) of the bill: "The Legislature intends that projects, programs, and practices that promote health and health equity in regional transportation plans that are employed by metropolitan planning organizations be shared in the voluntary state guidance on regional transportation planning."

The role of transportation in public health is increasingly recognized by health advocates and transportation providers alike. Federal, ~~Regional,~~ 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. ~~Transportation decisions can prioritize~~ If a higher level of investment is made on active transportation ~~investments~~, ~~and that in turn increase~~ the walk and bike mode shares could be increased, which could ~~and~~ help a community to lower its rates of obesity, hypertension, and other chronic diseases. However, local jurisdictions primarily lead the planning and implementing of active transportation infrastructure and supportive land uses, and land use patterns play at least as large a role in encouraging more active mode choices. ~~As some health advocates have said, we want to make the healthy choice the easy choice.~~

Another role of the RTP, in addressing public health, is to demonstrate transportation air quality conformity (further described in Section 2.4), 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. Of particular note, are strategies that address criteria pollutants, which are scientifically shown to be detrimental to health. Key strategies

controlled by local implementing agencies include pricing, 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 greenhouse gas emissions.

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

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

Additional examples of how transportation planning can promote health include:

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

Here are some examples of how RTPs can integrate public health:

- Identify the current near-roadway health impacts form the existing transportation system (e.g., Where are there high volume freight corridors adjacent to communities? Where, and at what time, are there conflicts between agricultural trucking and communities?);
- Identify how the planned transportation network was designed to minimize near-roadway health effects to communities; and,
- Identify specific mitigation measures that the MPO is taking to reduce health impacts from the transportation sector.

Best Practices: See Appendix L

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. These federal regulations incorporating both MAP-21/FAST changes were updated by FHWA and FTA and published in the May 27, 2016 Federal Register.

The final guidance is commonly referred to as the Final Rule. In the Final Rule, the 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 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 ~~transportation~~ 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.

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 (42 U.S.C. 7506(c), and the related requirements of 23 U.S.C. 109(j), "transportation conformity" requirement ensures that federal funding and approval are given to transportation plans, programs and projects that are consistent with the air quality goals established by a State Implementation Plan (SIP). For MPO nonattainment regions, the MPO, FHWA, and FTA are responsible for making the RTP conformity determination. Under the US Department of

Transportation (US DOT) Metropolitan Planning Regulations (Title 23 CFR Part 450) 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, ~~and~~ 4.3, and 4.4.

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

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

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

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

2. Overall Work Program – The OWP lists the transportation planning studies and tasks to be performed by the 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. Federal Transportation Improvement Program – The FTIP is a financially constrained four-year program listing all federally funded and regionally significant and non-regionally significant projects in the region.

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

4. State Transportation Improvement Program – The STIP is a biennial program adopted by the California Transportation Commission. Each STIP covers a five year period and includes projects proposed by regional agencies in their regional transportation improvement programs (RTIPs) and by Caltrans in its interregional transportation improvement program (ITIP).
    a. Regional Transportation Improvement Program – The RTIP is a five year program of projects prepared by the RTPAs and County Transportation Commissions. Each RTIP should be based on the regional transportation plan 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 regional transportation plan(s).

Key Planning 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*

Requirements (Shalls)
Federal: Title 23 CFR Part 450.32~~4~~6(a) requires MPOs to prepare a transportation improvement program (TIP)
State: California Government Code Sections 65082, 14526, 14527 and 14529 require the preparation of the STIP, RTIPs and ITIP.

2.6 Consistency with Other Planning Documents

It is very important that the RTP be consistent with other plans prepared by local, state, federal agencies and Native American Tribal Governments. Consistency can be described as a balance and reconciliation between different policies, programs, and plans. This consistency will ensure that no conflicts would impact future transportation projects. While preparing an updated RTP, MPOs should, as appropriate, incorporate or consult such local/regionally prepared documents as:

1. General Plans (especially the Circulation and Housing Elements);
2. Airport Land Use Compatibility Plans;
3. Air quality State Implementation Plans (SIPs);
4. Short- and Long-Range Transit Plans;
5. Habitat Conservation Plans/Natural Community Conservation Plan including an integrated regional mitigation strategy (if applicable);

6. Urban Water Management Plans;
7. Local Coastal Programs (if applicable);
8. Public Agency Trail Plans (if applicable);
9. Local Public Health Plans;
10. Regional Bicycle and Pedestrian Plans
11. Americans with Disabilities Act Transition Plans;
12. Master Plans, Specific Plans;
13. Impact Fee Nexus Plans;
14. Local Capital Improvement Programs;
15. Mitigation Monitoring Programs; and,
16. Countywide Long-Range Transportation Plans (if applicable).

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

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

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

1. Draft Environmental Goals and Policy Report;
2. State Wildlife Action Plan;
3. Safeguarding California Plan; and,
4. Safeguarding California: Implementation Action Plans.

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 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 and best practices for how MPOs can integrate the planning processes associated with the Smart Mobility Framework, Complete Streets, Context Sensitive Solutions, Planning and Environmental Linkages (PEL), and system planning documents ~~including~~ specifically Transportation Concept Reports (TCRs), Corridor System Management Plans (CSMPs), District System Management Plans (DSMPs), the Interregional Transportation Strategic Plan (ITSP), and other transportation plans into development of the RTP. These initiatives and

implementation tools work toward achieving the California Transportation Plan ~~2040~~ goals. They also align with the principles of the federal Partnership for Sustainable Communities. As the RTP is bound to fiscal constraints, the strategies, actions, and improvements described in this section are intended to provide guidance and should be considered to the maximum extent feasible in the development of the RTP.

Smart Mobility Framework

The Caltrans Smart Mobility Framework[1] (SMF) is a key strategic tool for integrating transportation with land-use, to develop healthy and livable communities through multi-modal travel options, reliable travel times, and safety for all users of the transportation system. The SMF supports the goals of climate change intervention and energy security while supporting the goals of the California Transportation Plan (CTP) ~~2040~~, and the federal Livability Principles for Sustainable Communities[2].

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

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

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

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

Complete Streets

~~A~~ The term "Complete Streets" ~~is~~ refers to a transportation ~~facility~~ 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.

---

[1] Smart Mobility Framework: http://www.dot.ca.gov/hq/tpp/offices/ocp/smf.html

[2] Livability Principles for Sustainable Communities: https://www.sustainablecommunities.gov/mission/livability-principles

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

Multimodal transportation networks, using complete streets best practices, can lead to safer travel for all roadway users. Designing streets and travel routes that consider safe travel for all modes can reduce the occurrence and severity of vehicular collisions with 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 greenhouse gas emissions. Providing community residents with an option that gets them out of their cars is a proven strategy for improving communities, reducing air pollution, and generating local business. Similarly, Complete Streets consider Safe Routes to School, a public health strategy connecting communities to schools, includes but is not limited to child safety, reducing traffic congestion, sidewalks, crosswalks and bicycle lanes.

Creating integrated, multimodal transportation networks can improve economic conditions for both business owners and residents. A network of Complete Streets can be safer and more appealing to residents and visitors, which can benefit retail and commercial development. Multimodal transportation networks can improve conditions for existing businesses by helping revitalize an area attracting new economic activity. Equally important to sustain economic vitality are commercial vehicles and their operational needs. Vibrant urban environments cannot function without commercial vehicles delivering goods that sustain the economic activities that take place.

Integrating the needs of all users can also be cost-effective by reducing public and private costs. Accommodating all modes reduces the need for larger infrastructure projects, such as additional vehicle parking and road widening, which can be more costly than Complete Streets retrofits.

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

MPOs should also integrate Complete Streets policies into their RTPs, not only as a means to develop a Sustainable Communities Strategy, 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~~3~~.

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

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 (Shoulds)
State: According to Government Code 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.

Best Practices: Available in Appendix M

~~Complete Streets policies and practices are best implemented with a comprehensive and integrated approach of all agencies involved, taking advantage of opportunities for synergies and cost savings such as restriping when repaving.~~

~~Additional information regarding Complete Streets is available at the following links:~~

~~http://www.smartgrowthamerica.org/2010/05/17/complete-streets-best practices~~

~~https://www.opr.ca.gov/s_generalplanguidelines.php~~

~~http://assets.aarp.org/rgcenter/il/2009_02_streets_5.pdf~~

~~http://assets.aarp.org/rgcenter/ppi/liv-com/2009-12-streets.pdf~~

~~http://www.aarp.org/livable-communities/info-2014/complete-streets-southeast-toolkit.html~~

~~http://planning.org/research/streets/~~

~~http://www.mtc.ca.gov/planning/bicyclespedestrians/routine_accommodations.htm~~

~~http://mtc.ca.gov/our-work/plans-projects/bicycle-pedestrian-planning/complete-streets~~

~~http://www.californiatransportationplan2040.org/~~

~~http://www.californiatransportationplan2035.org/Content/10029/Complete_Streets.html~~

~~http://www.completestreets.org/~~

~~http://www.smartgrowthamerica.org/documents/factsheets/cs-economic.pdf~~

~~Case Studies:~~

~~http://www.smartgrowthamerica.org/leadership-institute/case-studies~~

~~http://smarthgrowthamerica.org/documents/case-studies/davis_casestudy.pdf~~

~~http://smarthgrowthamerica.org/documents/case-studies/richmond_casestudy.pdf~~

~~http://smarthgrowthamerica.org/documents/case-studies/ranchocordova_casestudy.pdf~~

~~The following link contains a case study in the SCAG region of how MPOs can integrate neighborhood electric vehicles into a complete streets policy:~~

~~http://www.scag.ca.gov/sb375/pdfs/FS/cs-SouthBayStrategy.pdf~~

Context Sensitive Solutions

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

The context of all projects and activities being planned is a key factor in reaching sustainable decisions. The context should be considered for all transportation and support facilities when defining issues and~~,~~ developing~~,~~ and evaluating ~~options~~ alternatives. When considering the context, issues such as worker safety, funding feasibility, maintenance feasibility, accessibility needs of all users, needs of the community, traffic demand, impact on alternate routes, impact on safety, predicted climate change impacts, and relevant laws and regulations should be addressed.

When considering the urban context, communities may want transportation projects to provide opportunities for improved quality of life by providing enhanced non-motorized travel and livable public spaces. In natural areas, projects should fit aesthetically into the surroundings by including contour grading, aesthetic bridge railings, and special architectural and structural elements. Use the defined project goals, issues and values identified by stakeholders to develop the purpose and need, and when creating an evaluation framework, includes these issues as "criteria" for evaluating alternatives that best solve the "issues" of the problem. Consider that the criteria should reflect the range of stakeholder values.

~~Context Sensitive Solutions for~~ 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 ~~Context Sensitive Solutions~~ collaboration and consensus building with these stakeholders to address these new demands.

In towns and cities across California, the State highway may ~~be the only through street or may function as a~~ also function as a community ~~local~~ 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. ~~In urban areas, communities may want transportation projects to provide opportunities for enhanced non-motorized travel and visual quality. In natural areas, projects can fit aesthetically into the surroundings by including contour grading, aesthetic bridge railings, and special architectural and structural elements.~~ Addressing all these needs throughout the planning and development process will help ensure that transportation solutions meet more than transportation objectives.

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

~~http://www.dot.ca.gov/hq/oppd/context/index.htm~~

http://www.contextsensitivesolutions.org/

Planning and Environmental Linkages

Federal regulations outline a process to streamline the environmental review and approval process for transportation projects, referred to as Planning and Environmental Linkages (PEL). 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.

Specifically, these studies may result in producing any of the following for a proposed transportation project:

1. Purpose and need or goals and objective statement(s);
2. General travel corridor and/or general mode(s) definition (e.g., highway, transit, or a highway/transit combination);
3. Preliminary screening of alternatives and elimination of unreasonable alternatives;
4. Basic description of the environmental setting; and/or
5. Preliminary identification of environmental impacts and environmental mitigation.

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.

PEL should be considered in RTP development. Additional information to further explain the linkages between the transportation and project development/NEPA processes is provided in Section 5.4 and Appendix D. The FHWA's Environmental Review Toolkit, PEL Program Overview also provides information, available at
:
https://www.environment.fhwa.dot.gov/integ/index.asp

Recommendations (Shoulds)
Federal: 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

District System Management Plans (DSMPs)

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

Interregional Transportation Strategic Plan (ITSP)

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

~~Completed Caltrans System Planning documents can be downloaded from:~~

~~http://www.dot.ca.gov/hq/tpp/corridor-mobility/~~

Transportation Concept Reports (TCRs)

Caltrans prepares Transportation Concept Reports (TCRs), long-range transportation planning documents, that guide the development of California's State Highway System (SHS) as required by Government Code 65086, Title 23 CFR Part 450 Subpart B[1], and the transportation needs of the public, stakeholders, and SHS users. The comprehensive planning document for each highway route and the corresponding transportation corridor provides a focused look at the existing conditions and performance of the route, future transportation needs and demands, integrates and aligns with the State Wildlife Action Plan (SWAP), habitat conservation plans and regional green-prints (where applicable), and articulates improvements necessary to address those needs within the context of the communities and rural areas the highways traverse. Caltrans meets this need through the development of the TCRs. Each Caltrans District is delegated the responsibility to create a TCR for the SHS routes within their respective district boundaries.

Corridor System Management Planning (CSMP)

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

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

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

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

With regard to corridor system planning, ~~T~~the RTP should:

- Include by corridor all strategies, actions and improvements identified in system planning documents taking into consideration statewide and regional objectives which can include but are not limited to: multi-modal mobility, accessibility, environmental protection, and greenhouse gas reduction.

[1] ~~http://www.fhwa.dot.gov/hep/23cfr450.htm~~

- Describe how the corridor will be managed across jurisdictions and modes to preserve corridor productivity based upon performance measurement.
- Include a reasonable time-line for each corridor to determine the need for each region to consider multiple objectives regarding corridor mobility.
- Identify funding by corridor to implement the corridor objectives.
- 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.

Requirements (Shalls)
Federal: Federally required metropolitan planning process (23 USC Section 134).
~~**State:** None~~

Best Practices: Available in Appendix M

~~Caltrans Corridor Mobility page – http://www.dot.ca.gov/hq/tpp/corridor-mobility~~

2.8 RTP Development Sequencing Process

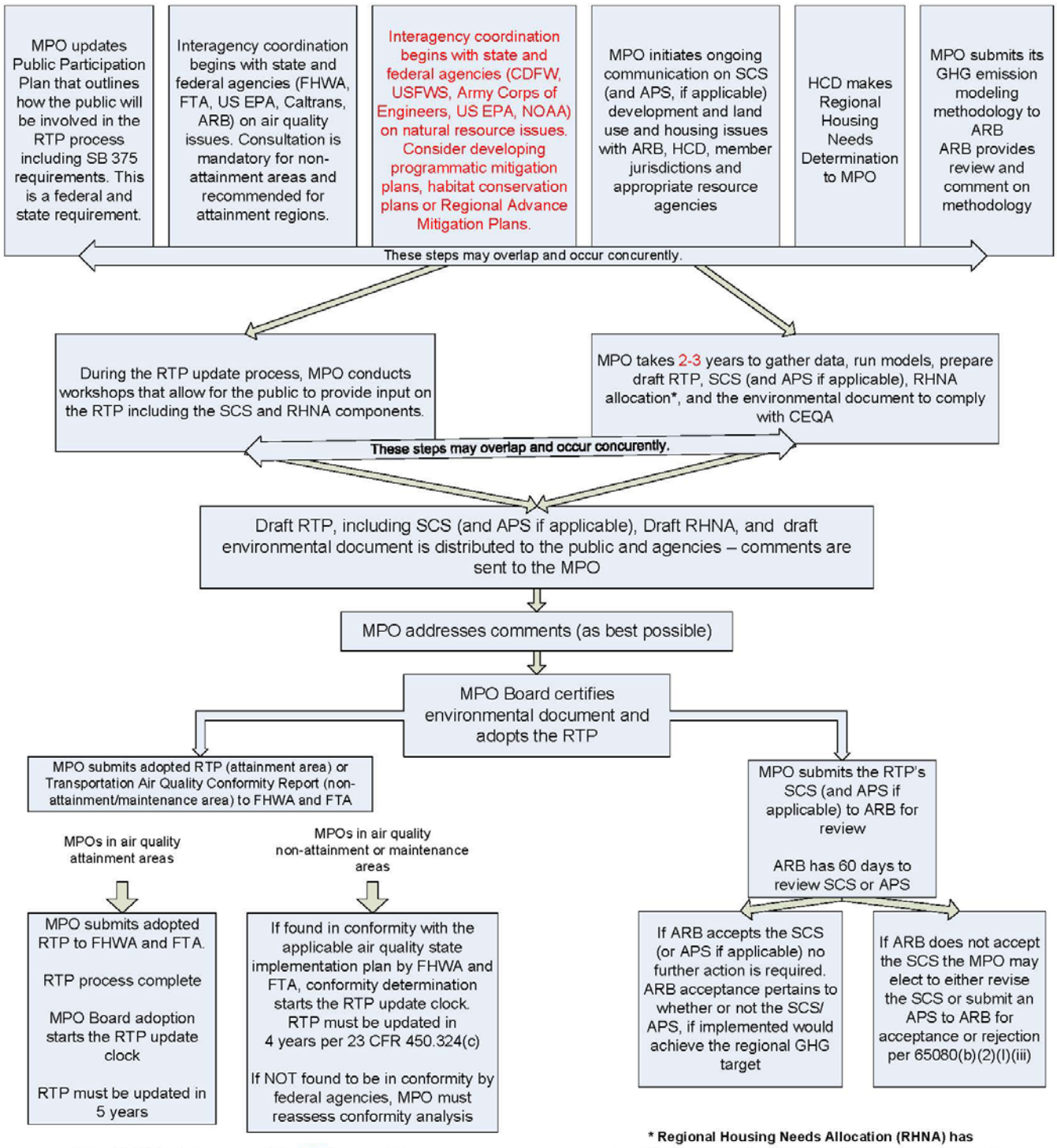
Following the passage of SB 375 several years ago, MPOs will need to continue to coordinate with the ARB and HCD. MPOs are encouraged to continue to communicate with ARB as early in the RTP development as possible to obtain input. ARB must review the SCS and possibly an APS after the documents are prepared. Communication between the MPO and HCD should also take place as early in the RTP process as possible to ensure the regional housing needs assessment (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 ARB 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 state implementation plan (for nonattainment and maintenance regions) and that has received acceptance by ARB that the SCS/APS, if implemented, would achieve the region's greenhouse gas 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 (Shalls)
Federal: Title 23 CFR Part 450
State: Government Code Section 65080 and 65588(e)(5)

RTP Development/Approval Process for MPOs



Note: All MPOs that are one of the ten Transportation Management Agencies (TMA) in CA must address all capacity increasing projects in the Congestion Management Process (CMP) before they are included in the RTP

*** Regional Housing Needs Allocation (RHNA) has specifically statutorily driven timelines and review periods; MPO needs to work closely with HCD and local agencies to address these requirements. See Government Code 65580 and Appendix J of the RTP Guidelines for RHNA – SCS coordination information.**

2.9 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, (Government Code 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 regional transportation plan not less than every five years, may elect to adopt the plan not less than every four years in order that their member cities and counties can revise their housing elements every 8 years pursuant to Government Code Sections 65080 (b)(2)(M) and 65588(b)**.**

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 US 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.

RTP Amendment (major)

RTPs must be amended whenever a plan revision takes place such as the addition or deletion of a project or a major change in project scope, cost and schedule. Other potential triggers for an RTP Amendment could include changing programmed project phases or any major change in design concept or design scope (e.g. changing project termini or the number of through traffic lanes). Amendments require public review for possible comments, demonstration of fiscal constraint and conformity determination (for MPOs located in nonattainment and maintenance areas).

RTP Administrative Modification (minor)

Federal regulations define ~~As stated in SAFETEA-LU,~~ Administrative Modification as ~~means~~ 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 FTIPs. 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.

~~Amendments Prior to an Approved SCS (Grace Period):~~

~~An MPO is not required to implement an SCS or other consistency requirements until the first 4 or 5 year complete RTP update after the greenhouse gas emissions reduction targets are adopted for their region.~~

Requirements (Shalls)
Federal: Title 23 CFR Part 450.322(a) and (c), mandatory RTP update cycles for MPOs.

Best Practices: Available in Appendix M
~~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.~~

2.10 RTP Checklist

The RTP Checklist is contained in Appendix C of this document. The purpose of the RTP Checklist is to establish a minimum standard for developing the RTP. The checklist of

transportation planning requirements has been updated in order to conform to federal and state RTP requirements.

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 (Shalls)
Federal: None
State: Pursuant to California Government Code Section 14032(a), which authorizes the CTC to request an evaluation of all RTPs statewide to be conducted by Caltrans. All MPOs are required to submit an RTP Checklist with their **Draft** and **Final** RTP when the document is submitted to Caltrans and the CTC.

Page Left Intentionally Blank

Chapter 3

Regional Transportation Plan Analysis and Modeling

(MPOs Only)

Page Left Intentionally Blank

Please note that this version of Chapter 3 is a working draft. Due to the magnitude of comments received, we are continuing to review and incorporate them as appropriate into this and future drafts, therefore some comments have not yet been addressed. If you wish to see the status of your comments, please visit the Draft RTP website. If you have further questions regarding how your comment(s) were addressed, please contact us and we will responded as quickly as we can.

2016 RTP Guidelines Update
http://www.dot.ca.gov/hq/tpp/offices/orip/rtp/index.html

✵Please note that this draft reflects changes from July 6, 2016 to September 15, 2016. The chapter has been reorganized based on public comments and technical workgroup recommendations. Specific federal and state statutory requirements included in the previous sections 3.1 to 3.5 have been consolidated under Section 3.6. Items that were identified as "shoulds" and "shalls" and were not followed by a specific federal / state statutory requirement or recommendation were changed to "consider, encouraged to, or may" and were moved under Section 3.5 (pending specific statutory citation). Best practices included under Sections 3.1 to 3.4. Section 3.5 were consolidated under Section 3.5. The section was also re-organized to reflect only MPO best practices (RTPA best practices have been removed)

3.1 Introduction

The purpose of this guidance is to provide clear and relevant direction to Metropolitan Planning Organizations (MPOs) ~~and Regional Transportation Planning Agencies (RTPAs/as applicable)~~ for use in developing their travel demand models (TDMs) used to support regional transportation plan (RTP) analysis, determine federal ~~RTP~~ air quality conformity, and for SB 375 Sustainable Community Strategy (SCS) development ~~implementation~~ . ~~It is also to ensure consistent, and transparent guidance related to modeling methodologies between state, regional, and local agencies.~~

~~This~~ The ~~draft of the~~ 2016 RTP guidelines builds upon ~~on~~ the 2010 guidelines, ~~and~~ reflects changes in federal and state law, ~~and encourages best practices in transportation modeling. Achieving California's transportation, air quality and climate objectives is in large part depend on effective modeling practices and consistency and coordination of modeling among state, regional and local agencies.~~ ~~This chapter~~ reflects current modeling information, the experience gained with the application of TDM during development of the first round of SCS, and uses the

most recent and relevant "living documents" such as Recommendations of the Regional Target Advisory Committee (RTAC) Pursuant to SB-375, ~~and~~ the Description of Methodology for ARB Staff Review GHG Reductions from SCS Pursuant to SB 375, and input received from various agencies.

Organization of this Chapter

- Sections 3.1 to 3.5 - Provides transportation professionals the background and context of regional transportation plan analysis as well as general descriptions of terminology, technical and polices tool, and best modeling practices.
- Section 3.6 – Lists federal and state statutory or regulatory requirements and recommendations that MPO Modeling practitioners need to implement.

Key Chapter 3 Revisions (from 2010)

Language to be determined.

Federal/State Requirements, Recommendations, and Best Practices Terminology

This chapter follows the convention for "Shalls", "Shoulds", and "Best Practices" as defined in Section1.3 of this document.

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

"Should" 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.

"Best Practices": reflect federal/state guidelines, state of the practices, good modeling practices. They are not federal or state statutory or regulatory requirements or recommendations. Where Chapter 3 reflects "

3.2 Modeling in the RTP ~~Modeling as a Policy Tool~~ Development Process Transportation and Land Use Models~~/ Projecting Future Demand~~

During the regional transportation planning process ~~During the~~ ~~T~~transportation planners and engineers utilize analytical tools to assist in the policy formation and decision making process. ~~various transportation analysis tools (models) as both policy and technical tools during the regional transportation planning process.~~

Policy Tools:

- Improve the decision-making process by assisting the public~~,~~ and decision-makers in evaluating the strategies that best address the transportation needs of their jurisdiction.
- Present ~~Describe~~ market strategies to the public/stakeholders. Some models such as GIS, have excellent graphical and animation displays, which ~~could~~ can be used as tools to show "what if" scenarios to the public and/or stakeholders.
- ~~Provide reasonable transparency to that modeling and analytical process.~~
- ~~Provide a clear explanation of the modeling and analytical techniques applied in assessing the implications of the land use scenarios or other alternatives studied.~~

Technical Tools:

- Provide a clear explanation of the modeling and analytical techniques applied in assessing the implications of the land use scenarios or other alternatives studied.
- Provide an understanding of the sensitivity of the forecast results to various policy assumptions.~~,~~ ~~F~~for example, they provide ~~where feasible, offering~~ estimates of the

elasticities and cross elasticities of demand for various modes of travel with respect to critical variables such as access time, travel time, reliability, safety, and cost.

- Improves the decision-making process by helping practitioners arrive at better planning/engineering decisions for complex transportation problems. Models are used to estimate the impact of the deployment of traffic management and other strategies, and to help set priorities among competing projects. In addition, they can provide a consistent approach for comparing potential improvements or alternatives.
- Assist with the evaluat~~etion~~ and prioritizatione~~e~~ of planning~~-and-~~operational alternatives. ~~This typically involves comparing "no-build" conditions with alternatives, which include various types of potential improvements. The impacts are reported as performance measures and are defined as the difference between the no-build and alternative scenarios. The results can be used to select the best alternative or prioritize improvements, increasing the odds of having a successful deployment.~~
- ~~Pertinent insights gained through research into the variables that influence consumer choice of transit vs. single occupant vehicles, particularly in transit oriented and mixed use development.~~
- Assist in the operate~~e~~ion and management of existing roadway capacity. Some models provide optimization capabilities, recommending the best design or control strategies to maximize the performance of a transportation facility.

SB 375 requires each MPO to document its technical methodology to quantify greenhouse gas emissions prior to beginning public outreach. Additional RTP specific information for each MPO can be found at the following link: https://www.arb.ca.gov/cc/sb375/sb375.htm.

3.3 Requirements for RTP Analysis

Federal legislation requires each ~~metropolitan planning organization (~~MPO~~)~~ to develop a ~~regional transportation plan (~~RTP~~)~~ as part of its transportation planning process [23 USC 134(g) and 49 USC. 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 also~~ requires ~~-~~each MPO ~~transportation agencies identified under California Government Code sections 29532 or 29532.1~~ to ~~-~~prepare ~~develop RTPs, and requires MPOs~~ a ~~Sustainable Community Strategies (~~SCS~~-~~ ~~as part their RTP (Gov. Code, § 65080). State law~~ subject~~s~~ ~~the development of the SCS~~ to the requirements of Part 450 of Title 23 of, and Part 93 of Title 40 of, the Code of Federal Regulations, including the requirements to utilize the most recent planning assumptions considering local general plans and other factors (Gov. Code, § 65080(b)(2)(B)).

~~Regional transportation plan analysis is also used as a policy tool used to test alternative scenarios, to assist decision makers in developing polices, and to inform the public. During the RTP development, transportation planners and engineers estimate future transportation demand, vehicle travel, congestion, emissions, and access to jobs utilizing various analysis tools (models) such as:~~

~~Regional~~ Travel Demand Model (~~R~~TDM)

~~MPOs are required under 23 CFR 450.322(f) to include projected transportation demand (person/trips), future transportation facilities (major roadways, transit, multimodal and intermodal, pedestrian walkways, bicycle facilities, and intermodal connectors) within their RTPs. They are also required to include operational and management strategies, consider the~~

~~congestion management process (CMP) results in transportation management areas (TMAs), assess capital investments and other strategies that preserve the existing and projected transportation infrastructure and provide for multimodal capacity~~.

~~R~~TDM Regional travel demand model~~ing~~ is utilized by transportation planners and engineers to comply with federal and state requirements identified in Section 3.6. They are also crucial tools used for ~~developing~~ evaluating alternative strategies as part of a regional transportation plan and to quantify ~~for reducing~~ GHG emission~~s~~ reductions associated with SCS ~~and testing the strategies to identify if SCS meets ARB's emission reduction targets~~ *(See section 6.23 6.27).*

~~including air quality conformity analysis and meeting their SCS GHG emissions targets~~. ~~R~~ A travel demand model is a series of ~~use~~ mathematical equations that forecast ~~to predict human~~ travel behavior and ~~to forecast~~ transportation services demand in a given region. The output to a TDM includes, but is not limited to, ~~They allocate estimates of regional~~ population, employment, and land use and transportation network. t~~o person/vehicle-trips by travel mode, route, and time period.~~ The outputs are used to assist decision-makers in developing polices and strategies that inform the public, in NEPA and CEQA processes, and for many other purposes. *(For additional guidance see, the latest CARB, Methodologies for Review of GHG Reduction for SCSs Pursuant to SB 375 Document).*

California Statewide Travel Demand Model (CSTDM):

Interregional travel is defined as 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 ~~affect~~ 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 California Statewide Travel Demand Model 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. Regional transportation planning agencies can use this data if they do not have access to a ~~R~~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 ~~will~~ act as a point of reference which the MPO regional models should reasonably consider. Caltrans will act as 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 Technics and Sketch Modeling of Scenarios

Pursuant to 23 CRF 450.316(a) an RTP is required to include visualization techniques such as GIS-based information, maps charts, and other visual aids that are useable and understandable to the public. Furthermore, MPOs are required (Gov. Code 65080(b)(2)(F)(iii) during their SCS public workshops to use to extend practical urban simulation computer modeling to create visual representations of the SCS or APS *(See 2010 RTP Guidelines, Regional Greenhouse Gas Emissions Requirements and consideration in the RTP, Visualization and Mapping, page 127 for additional information related to SCS development.)*

~~**Regional Economic & Land Use Model**~~

~~Land use models are used to forecast land use changes and allocations. These changes are then~~ and ~~incorporate those changes into RTDMs, to determine economic and environmental impacts of land-use transportation policies, and to capture the interactive relationship between land use and transportation~~.

- ~~**See Regional Greenhouse Gas Emissions Requirements and Considerations in the RTP, Section 6.25, Appendix I, and** "SB 375 Regional Targets Advisory Committee Final Report." September 29, 2009 California Air Resources Board **for additional SCS land use guidance**~~
- ~~**Consider using socioeconomic models to measure the impacts of transportation investments on low income and minority communities and to project employment indicators (including jobs by sector and income).**~~
- ~~**Consider developing land use models that are sensitive to transportation scenarios so the effects of land use and transportation policies can interact with feedback in an integrated transportation model.**~~
- ~~**Consider using micro economic land use modes for use with activity-based travel demand models**~~
- ~~**Consider population growth based on birth, mortality, and international and domestic migration within the RTDM.**~~

EMFAC Model

The EMFAC emissions model is developed and used by ARB to assess emissions from on-road vehicles including cars, trucks, and buses in California, and to support ARB's regulatory and air quality planning efforts in ~~to~~ meeting the Federal Highway Administration's transportation planning requirements. The most recent approved version ~~is EMFAC2014~~ (Federal Register Notice). The mobile source emissions inventory is ARB's tool for assessing the vehicle population, activity, and emissions from mobile sources. These inventories are constantly being revised and updated to support the latest air quality plans and regulations. (http://www.arb.ca.gov/msei/categories.htm#onroad_motor_vehicles)

3.4 ~~R~~TDM Quality Control and Consistency

Regional Travel Demand Modeling consistency and quality control is essential for creating confidence in modeling results. ~~tool used to determine a regions air quality conformity status and to effectively implementing SCSs. The conformity 40 CFR 93.105 requires that an interagency consultation process involving MPOs, State and local air quality planning agencies, State and local transportation agencies, EPA, and the USDOT for the following:~~

- ~~Evaluating and choosing a model (or models) and associated methods and assumptions to be used in hot-spot analysis and regional emissions analysis (40 CFR 93.105(c) (1) (i)).~~
- ~~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 (40 CFR 93.105(c) (1) (ii)).~~

~~Furthermore, it is essential that MPOs, State Agencies, technical experts, have a voice in developing and determining realistic, relevant, and transparent model input assumptions,~~ variables and factors, and sensitivity.

~~Consistency~~

- ~~Modeling practices (including but not limited to SB 375) are encouraged to be consistent between State Agencies, MPOS, RTPAs, cities, counties, and CMAs.~~
- ~~Agencies using MPOs models other than for regional planning are encouraged ensure that the model provides that appropriate scale and sensitive for applications (i.e. corridor, sub-area, or local planning studies). Below the regional leave, model refinements are likely necessary to ensure the model meets the validation targets established in the guidelines and is appropriately sensitive to smaller scale charges associated with sub-regional studies.~~
- ~~The same land use used in the RTP modeling is encouraged to be used in the impact assessment for the No Action alternative, the Proposed Plan alternative, and the Environmentally Preferable Alternative.~~
- ~~Assumptions, model inputs, data, and methodologies are encouraged be the same for modeling for federal air quality conformity and for SB 375 GHG emission reduction targets. The results provided to the federal government for ozone, carbon monoxide, particulate matter and nitrogen dioxide are encouraged come from the same emissions model run as the GHG emissions provided to ARB.~~
- ~~MPOs are encouraged strive to use common data definitions, sources, and performance measures for date including but not limited to population, employment and house estimates, and provides, labor force ages, and VMT.~~
- ~~Post-processing of modeling results can be accompanied the modeling limitations being overcome and how the limitations were identified.~~
- ~~Consider developing a "Best Management Practices (BMP)" List that includes a comprehensive list of land use and transportation policies and practices that result in regional GHG reductions. Consider developing a BMP spreadsheet tool to assist in determine the approximate level of reduction that would be achieved by implementing a particular policy or set of strategies in a particular setting *(For more information see the Recommendations of the RTAC Pursuant to SB 375, September 2009).*~~

Model Inputs and Assumptions

Model inputs and assumptions are a necessary part of running a TDM. ~~transportation demand modeling and determining it the MPO will meet air quality conformity or its GHG emissions reductions targets. Assumptions must 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 United States Environmental Protection Agency (EPA) and the United States Department of Transportation (DOT) encourage nonattainment and maintenance areas to review and update their planning assumptions on a regular basis. Although regular updates of assumptions are not required by the transportation conformity rule, nonattainment and maintenance areas are strongly encouraged to review and update planning assumptions at least every five years, especially for population, employment, and vehicle registration assumptions, or to justify in the conformity determination why planning assumptions have not been reviewed and updated at least every five years[2].

1) [2] Guidance for the Use of Latest Planning Assumptions in Transportation Conformity Determinations, Revision to January 18, 2001 Guidance Memorandum, EAP, December 2008, page 8.

~~Planning assumptions are required be reviewed through the interagency consultation process to determine whether they are adequate for conformity purposes (see 40 CFR 93.105(c) (1) (i)). The review of latest planning assumptions typically occurs in conjunction with transportation plan and TIP conformity determinations. The results of the review of the planning assumptions and consultation process would evaluating and choosing assumptions that are be documented in the conformity determination.~~

~~The interagency consultation process is also the forum for used in conformity determinations in isolated rural nonattainment and maintenance areas (40 CFR 93.105(c) (1) (VI)).Interagency consultation procedures shall also include the following specific processes (40 CFR 93.105(c)) listed below.~~[3]

- ~~A process involving at least the MPO(s), State and local air quality planning and transportation agencies, EPA, and the Department of Transportation (DOT) for the following (40 CFR 93.105(c)(1));~~
- ~~Evaluating and choosing models and associated methods and assumptions for hot-spot and regional emissions analyses (40 CFR 93.105(c)(1)(i));~~
- ~~Determining which minor arterials and other projects are "regionally significant"6 for the regional emissions analysis (in addition to those functionally classified as principal arterials or higher or fixed guide way systems or extensions that offer an alternative to regional highway travel) (40 CFR 93.105(c)(1)(ii)); and~~
- ~~Determining which projects should be considered to have a significant change in design concept and scope from the RTP or TIP (40 CFR 93.105(c)(1)(ii)).~~
- ~~A process involving at least the MPO and State and local air and transportation agencies for (40 CFR 93.105(c)(2));~~
- ~~Evaluating events that will trigger new conformity determinations in addition to those required by 40 CFR 93.104 (40 CFR 93.105(c)(2)(i));~~
- ~~Consulting on emissions analysis for transportation activities which cross borders of MPOs, nonattainment areas or air basins (40 CFR 93.105(c)(2)(ii)).~~
- ~~Section 93.110(a) of the transportation conformity rule requires conformity determinations to be based on the "most recent planning assumptions in force at the time the conformity analysis begins." Section 93.110(a) of the conformity rule also requires that, "New data that becomes available after an analysis begins is required to be used in the conformity determination only if a significant delay in the analysis has occurred, as determined through interagency consultation."~~
- ~~Assumptions must 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 (40 CFR 93.110(b))~~
- ~~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 (40 CFR 93.110(c)).~~
- ~~The conformity determination must include reasonable assumptions about transit service and increases in transit fares and road and bridge tolls over time (40 CFR 93.110(d)).~~
- ~~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 (40 CFR 93.110(e)).~~

[3] Guidance for the Use of Latest Planning Assumptions in Transportation Conformity Determinations, Revision to January 18, 2001 Guidance Memorandum, EAP, December 2008, pages 8 -9).

- ~~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)).~~
- ~~Each MPO shall prepare a SCS, subject to the requirements of 23 USC 450 and 40 CFR 93 including the requirement to utilize the most recent planning assumptions considering local general plans and other factors (Gov. Code 65080(b)(B)).~~
- ~~Consider providing an explanation of what model limitations are being overcome and how the limitation are defined along with the post- processing results.~~
- ~~Assumptions, model inputs, data, and methodologies are strongly encouraged be the same for modeling for federal air quality conformity and for SB 375 GHG emission reduction targets.~~
- ~~For transparent information exchanges between ARB and MPOs, the RTAC recommends that MPOs and ARB clearly identify the key underlying assumptions included in both the targets and the MPOs determination how well it meet the targets. *(For more guidance see, Air Resource Board Staff Report, SB 375 Greenhouse Gas Emissions Reduction Targets update Process, Technical Issues, October 2014, page 6-7).*~~

Data

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

For additional guidance see the latest CARB, Methodologies for Review of GHG Reduction for SCSs Pursuant to SB 375.

- ~~Interagency consultation procedures shall include 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 (40 CFR 93.105(b)(6)).~~
- ~~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) (40 CFR 93.105(b)(7).~~
- ~~MPOs, the State, and the public transportation operators shall validate date utilized in preparing other existing modal plans for providing input into the transportation plan ((23 CFR §450.322(e)).~~
- ~~MPOs shall to base their RTP update on the latest available estimates and assumptions for population, land use, travel, employment, congestion, and economic activity (23 CFR §450.322(e)).~~
- ~~Each MPO model shall include auto operating cost in forecasting the travel. Auto operating cost is a key parameter in various steps of the travel demand model. Auto operating cost shall consist of fuel (primarily gasoline) cost and non-fuel-related costs,~~

~~including repair, maintenance, tires, and accessories. This shall also include the effective fuel efficiency of the vehicle fleet.(SB 375 Chapter 728[4])~~

- ~~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.~~
- ~~Whenever Highway Performance Monitoring System (HPMS) data is used for current and future years in conformity analyses, consider using the most recently available HPMS estimates of vehicle miles traveled (VMT).~~
- ~~Areas that rely on the U.S. Census for certain planning assumptions are encouraged use the most recent estimates available from the Census Bureau.~~
- ~~Areas that are using assumptions based on data collected through local or state surveys or other mechanisms are encouraged to use the consultation process to determine whether older state or local data is more appropriate than the most recently available U.S. Census[5].~~
- ~~The congestion management process as developed, established, and implemented as part of the metropolitan transportation planning process shall include the establishment a coordinated program of data collection and performance monitoring To the extent possible, this data collection should be coordinated with existing data source (23 CFR 450.320(c)(30)~~
- ~~Regional agencies are encouraged to use common data definitions, sources, and performance measures including but not limited to population, employment, housing estimates and projections, labor force ages, and VMT.~~
- ~~If travel survey samples are limited for a given region MPO shall look into other available travel surveys, such as the National Household Travel Survey, American Community Survey, or trip rates associated with a region that is similar in size, demographic and socioeconomic characteristics. If funding is available, MPO can allocate investment in conducting a regional survey to study regional travel characteristics and patterns.~~
- ~~As new technology and new data sources (i.e. "big data") become available, regional transportation agencies are encouraged consider ways to incorporated them into their analysis and modeling practices.~~

Model Calibration and Validation

Calibration is used to adjust the model parameters until the model matches observed regional travel pattern 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 are compared with observed or empirical travel data and the 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.

Since emission estimates are sensitive to vehicle speed changes, EPA and US DOT suggests ~~recommend~~ that areas using network-based travel models compare the speeds estimated in the

2) [4] SB 375 Chapter 728.

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

3)

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.[6]

EPA and US DOT also suggest that ~~E~~every component of a model must be validated, as well as the entire model system[7]. Nonattainment and maintenance areas using network-based travel models are encouraged by EPA and US DOT to establish criteria for validating the congestion speeds predicted by the transportation model with ~~updating the~~ observed speed data ~~that are used to validate the speeds predicted by the transportation model. The criteria should identify the schedule on which speed data will be collected given the pace of growth in the urban area, the magnitude of changes to the highway system, and any fundamental changes in speed-related conditions such as a change in the federal or the state's maximum speed limit.~~[8]

- ~~At the TAZ level MPOs should check the average population and auto ownership per household. In addition, MPOs should evaluate auto ownership distributions, median income, average income distributions, age distributions and employment distributions by sector.~~
- ~~Roadway network should be validated by facility type, and by speed limits. If a model has a transit network, it should be validated for frequency, and duration of travel time.~~
- ~~Trip production and attraction rates should be compared with national research (e.g., NCHRP 716) to ensure that trip rates within reasonable range.~~
- ~~The average trip length by purpose should be validated both in terms of time and distance. In addition trip length frequency distribution should be validated with the observed data.~~
- ~~Number of trips by mode and vehicle occupancy should be validated with the observed data.~~
- ~~Transit ridership and transit trip length should be validated.~~

4) [6] Guidance for the Use of Latest Planning Assumptions in Transportation Conformity Determinations, Revision to January 18, 2001 Guidance Memorandum, EAP, December 2008, page 9

5) [7] Travel Model Validation and Reasonableness Checking Manual second edition, page 1-6, September 24, 2010

6) [8] Guidance for the Use of Latest Planning Assumptions in Transportation Conformity Determinations, Revision to January 18, 2001 Guidance Memorandum, EAP, December 2008, page 9.

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.

It is recommended MPOs meet the below recommended static validation and recommended transit assignment validation thresholds. Where an MPO model does not meet the below thresholds, the MPO documentation should clearly document impediments to meeting the thresholds.

Recommended Static Validation ~~Criteria and~~ Thresholds

Validation Metric ~~Item~~	Criteria for Acceptance
Percent of links with volume-to-count ratios within Caltrans deviation allowance	To be reviewed
Correlation Coefficient	To be reviewed
Percent Root Mean Squared Error (RMSE)	To be reviewed

The table below specifies possible transit assignment validation criteria that can be applied to transportation models.

Recommended Transit Assignment Validation Thresholds ~~Criteria~~

Validation Metric ~~Item~~	Criteria for Acceptance
Difference between actual counts and ~~to~~ model results for a given year by route group (i.e., Local Bus, Express Bus, etc.)	To be reviewed
Difference between actual counts and ~~to~~ model results for a given year by Transit Mode (i.e., Light Rail, Bus, etc.)	To be reviewed

- ~~Consider documenting key model validation statistics by reporting the correspondence of the model prediction for a validation year to empirical data.~~
- ~~The Vehicle Miles Traveled (VMT) by facility type and by county should be compared against the observed data (e.g., HPMS or observed data)~~
- ~~MPOs should backcast to previous base year of the model (e.g. 2008 and 2004) and compare to traffic counts, transit boardings and /or other characteristics.~~

~~*(For additional guidance see, For additional guidance see, Federal Highway Administration, ―The Travel Model Validation and Reasonableness Checking Manual,‖ Second Edition, September 2010 the latest CARB, Methodologies for Review of GHG Reduction for SCSs Pursuant to SB 375 Document.)*~~

- ~~MPOs shall develop roadway network based on actual geometry of roadways (including curvature and terrain). Link speeds are a key parameter in various steps of the travel~~

demand model. MPOs shall consider parameters such as number of lanes, median type, shoulder width, availability of on-street parking, and adjacent land use type in estimating free-flow link speeds[1] Senate Bill 375, Chapter 728.[9].

- MPOs shall have minimum three trip purposes in the model: home-based work (HBW), home-based other (HBO), and nonhome-based (NHB) trips. However, it is encouraged to include more trip purposes such as home-based school (HBS), home-based university (HBU), home-based shopping (HBSh) and other trip purposes as appropriate. NCHRP 716[10]

The following requirements relate only to regional emissions analysis in serious, severe, and extreme ozone nonattainment areas and serious CO nonattainment their metropolitan planning area contains an urbanized area population over 200,000 (40 CFR 93.122(b).

- 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 (40 CFR 93.122(b)(1));
- 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 (40 CFR 93.122(b)(1)(i));
- Land use, population, employment, and other network-based travel model assumptions must be documented and based on the best available information (40 CFR 93.122(b)(1)(ii));
- 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 (40 CFR 93.122(b)(1)(iii));
- 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 (40 CFR 93.122(b)(1)(iv));
- 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 (40 CFR 93.122(b)(1)(v));
- Network-based travel models must be reasonably sensitive to changes in the time(s), cost(s), and other factors affecting travel choices (40 CFR 93.122(b)(1)(vi));
- 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 (40 CFR 93.122(b)(2);
- 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

7) [9] Senate Bill 375, Chapter 728.
8) [10] NCHRP 716

~~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). (40 CFR 93.122(b)(3)).~~

Model Sensitivity Analysis ~~Tests~~

Sensitivity testing is the application of the model~~s~~ and the model set using alternative input data or assumptions. Sensitivity analysis ~~testing~~ of individual model components can include the estimation of the elasticities and cross-elasticities of model coefficients. However, sensitivity analysis ~~testing~~ can ~~should~~ also be applied ~~include~~ ~~the application of~~ to the entire set of models ~~et~~ using alternative assumptions regarding the ~~input~~ demographic and ~~data,~~ socioeconomic input data, or changes in transportation system to determine if the model results are plausible and reasonable. [11]

~~Model~~ S~~s~~ensitivity testing includes ~~several important types of checks including~~ 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. ~~Sensitivity testing can also include model application using alternative demographic, socioeconomic, transportation supply, or policy assumptions to determine the reasonableness of the resulting travel forecasts.[12]~~ 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 ~~may~~ 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 ~~could~~ include total VMT, mode share, number of 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 or 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, sophistication of transit system, degree of model sophistication, and the presence of pricing variables, among other characteristics.

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

Highway Network: Add or delete lanes to a link, c~~C~~hange link speeds, and c~~C~~hange link capacities

Land use: Residential and employment density (households and number of jobs), p~~P~~roximity to transit, r~~R~~egional accessibility, and l~~L~~and use mix

Pricing: Increase/d~~D~~ecrease auto-operating costs, ~~Increase/Decrease~~ parking price, and ~~Increase/Decrease~~ toll rates

---

9) [11] *Travel Model Validation and Reasonableness Checking Manual Second Edition, September 2010,* 1-5

10) [12] *Travel Model Validation and Reasonableness Checking Manual Second Edition, September 2010,* 1-5

Demand Management: Increase/d~~D~~ecrease telecommute and ~~Increase/Decrease~~ vanpooling and c~~C~~hange HOV Lanes/policy

Transit: Increase/d~~D~~ecrease transit fares, ~~Increase/Decrease~~ transit capacity - (BRT, Express bus, Regular bus, and a combination of all bus types), and ~~Increase/Decrease~~ transit frequency

Socioeconomic: Change in demographics and ~~Change in~~ economic growth, and h~~H~~ousehold income distribution

(For additional guidance see Federal Highway Administration, The Travel Model Validation and Reasonableness Checking Manual,‖ Second Edition, 10.2 Sensitivity Testing September 2010, the latest CARB, Methodologies for Review of GHG Reduction for SCSs Pursuant to SB 375 Document, the Recommendations RTAC Pursuant to SB 375, September 2009.)

Calculating Vehicle Miles Traveled (VMT)

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

~~In all areas not otherwise subject to 40 CFR 93.122 (b), regional emissions analyses must use those procedures described in paragraph 40 CFR 9.2122 (b) if the use of those procedures has been the previous practice of the MPO. Otherwise, areas not subject to paragraph (b) 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 (40 CFR 93.122(c)).~~

Performance Indicators

Performance indicators are critical for tracking the progress of SCS. They are sets of real world data that can be tracked over time, and used in performance evaluation of the system. The RTAC Committee recommended performance indicators in funding, land use, transportation, pricing and TDM/TSM to keep track of the progress of land use and transportation changes after the implementation of SCS (see RTAC report, pages 45-46). ~~ARB staff analyze performance indicators to determine whether they provide supportive, qualitative evidence that the SCS could meet its GHG targets. Performance indicators should be related to strategies used in the plan.~~ *(See the Recommendations of the RTAC Pursuant to SB 375 pp. 44-46 and the latest CARB, Methodologies for Review of GHG Reduction for SCSs Pursuant to SB 375 Document)*

Co-benefits of SCS

MPOs are encouraged to quantify, to the extent possible, the co-benefits associated with the achievement of their greenhouse gas reduction targets, as a means of increasing public understanding and support. ~~MPOs should also promote the development and use of planning models that can accurately estimate the potential global warming and co-benefits of various land use scenarios in the development of the targets and the SCS. Co-benefits include the following:~~

- ~~Increased Mobility: Congestion relief, more transportation choices, reduced commute time, and increased productivity.~~
- ~~Economic Benefits: Traveler savings, taxpayer savings, neighborhood economic development, and lower up-front infrastructure costs.~~

- ~~Reduced Air and Water Pollution: Less air pollution and improved water supply and quality.~~
- ~~Conservation of Open Space, Farm Land and Forest Land: These resources are capable of sequestering carbon in plant and tree matter as well as in soil. Small parks can obviate the need for automobile trips.~~
- ~~Healthier, More Equitable and Sustainable Communities: More opportunities for active lifestyles, less dependence on foreign oil, improved safety, greater housing choices, and more equitable communities.~~

(See the Recommendations of the RTAC Pursuant to SB 375 pp. 42-44 for addition guidance)

Documentation

Quality documentation is key to providing planners, engineers, and decision-makers with a better understanding of the reliability of the tools used to produce the forecast. In addition to documenting the key modeling processes (model estimation, calibration, and validation), it is also important to identify model limitations and document how they are addressed within the post-processing model (if an off-model strategy is used. *For more guidance see, "CARB, Off-Model Strategies Adopted by California's in Sustainable Communities Strategies as of April 29, 2016, http://www.arb.ca.gov/cc/sb375/mpo_off-model_strategies.pdf)*

- ~~Interagency consultation procedures shall also include the following specific processes (40 CFR § 93.105(c)). (7) 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.~~
- ~~Consider documenting TDMs, regional economic and land use models (if applicable), including all statistical goodness-of-fit measures derived from sub-model specification and placed on the agency's website.~~
- ~~Consider including documenting a comprehensive list of output metrics and to the extent practical, the potential uses for each metric. Also consider document model limitations and how they were identified and addressed with the post-processing model results.~~
- ~~Consider documenting sensitivity testing.~~
- ~~MPOs shall approve transportation plan contents and supporting analyses produced by a transportation plan update (23 CFR 450.322(e))~~
- ~~MPOs shall disseminate the methodology, results ,and key assumptions of whichever travel demand model it uses in a way that would be usable and understandable to the public (Gov. Code 14522.1(a)).~~
- ~~If an off-model strategy is used to reduce GHG emissions, the MPO should document the modeling assumptions and methodology used in quantifying the reductions in GHG emissions. The document should also identify the relevant literature and data sources. *(for more guidance see, "CARB, Off-Model Strategies Adopted by California's in Sustainable Communities Strategies as of April 29, 2016, http://www.arb.ca.gov/cc/sb375/mpo_off-model_strategies.pdf)*~~

~~*(For additional guidance see, California Air Resource Board, the latest CARB, Methodologies for Review of GHG Reduction for SCSs Pursuant to SB 375 Document. Also see the Recommendations of the RTAC Pursuant to SB 375, Travel Model Assessment and Documentation, page 18)*~~

Model Peer Review / Peer Advisory Committee

~~Transportation agencies are encouraged to have an on-going model improvement programs that support model calibration and validation activities by focusing on increasing model accuracy, policy sensitivity, and data development and acquisition programs.~~

~~Best Practices~~

~~Furthermore each agency is~~ MPOs are encouraged to formally seek out peer reviews from Californian transportation modelers from ~~including~~ other agencies of similar size during model development ~~and during forecasting at least every 10 years~~ or after a major modeling enhancement. In addition to the review by peers, agencies can ~~are also encouraged to~~ 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 ~~they~~ are using support the applications ~~they are used for.~~

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

~~MPOs should describe how they plan to improve the regional model based on comments received from previous model update.~~

- Transportation agencies are encouraged have an on-going model improvement program to focus on increasing model accuracy and policy sensitivity, including on-going data development and acquisition programs in support of model calibration and validation activities.

~~Best Management Practices~~

~~The RTAC recommended the development of the Best Management Practices List supported by the scientist literature and relevant case studies, where feasible and supported by data, the list should include elasticities associated with BMP. Minimally, ARB is encouraged work with the land use and transportation technical experts to identify a range or general scale of the possible GHG benefits of the policies and practices identified in the BMP list. The "Best Management Practices (BMP)" List consist of comprehensive list of land use and transportation policies and practices that result in regional GHG reductions. The BMP spreadsheet tool would be used to assist in determine the approximate level of reduction that would be achieved by implementing a particular policy or set of strategies in a particular setting. *(For more information see the Recommendations of the RTAC Pursuant to SB 375, September 2009)*~~

3.5 RTP Modeling Improvement Program(MIP)/Best Practices

Analysis and forecasting tools, as well as transportation ~~modeling~~ technologies are not static; ~~change over time,~~ therefore it is important that state, regional, local, and air quality agencies ~~planners~~ have an 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~~.~~

~~evaluate existing transportation modeling capabilities and access future modeling needs~~. The RTP MIP ~~following program of improvement~~ includes best practices that take~~s~~ into account ~~such~~ factors such as the MPO's size and available resources ~~of the regional transportation agencies~~ and consider all modeling related to ~~the development of~~ RTP~~s~~ development (e.g. ~~including~~ **air** quality conformity and ~~SB 375,~~ SCS ~~analysis)~~.

❋ For all ~~See the next section (3.6 RTP Travel Analysis Groupings) for the delineation of~~ federal and state statutory and regulatory ~~law~~ requirements and recommendation ~~for MPOs and RTPAs. It is important to note that pursuant to California Government Code Section 14522.2(b), transportation planning agencies that are not federally designated MPOs are encouraged, but not required, to utilize travel demand models that are consistent with the guidelines in the development of their regional transportation plans~~ please refer to Section 3.6 – RTP Travel Analysis Groupings.

~~These Improvement Program Best Practices are cumulative.~~

Region 1 – MPOs ~~Counties~~ 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, small population, and no urbanized area or transit having more than a minimal potential impact on VMT, plus rural isolated non-attainment areas due to transport.**

These counties are not federally recognized MPOs subject to federal air quality conformity analysis as part of the RTP development and are not required under state law to develop SCSs. They do not need to run a network travel model. ~~Road congestion is not increasing rapidly. Emission changes from higher miles per gallon vehicles can be factored or derived from the ARB inventory.~~

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

Region 2 – MPOs with moderate to rapid growth, non-attainment AQ, or the potential for transit to significantly reduce VMT.

Consider the best practices 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 MPO uses a gravity model in trip distribution step, different friction factor can be used for each trip purpose. For example, home-based school trips can consider 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 the model: home-based work (HBW), home-based other (HBO), and nonhome-based (HHB) trips. However, it is encouraged to include more trip purposes such as home-based school (HBS), home-based university (HBU), home-based shopping (HBSh) and other trip purposes as appropriate.
- Each MPO model includes an auto operating cost in forecasting the travel. Auto operating cost is a key parameter in various steps of the travel demand model. Auto operating cost can consist of fuel (primarily gasoline) cost and non-fuel-related costs, including repair, maintenance, tires, and accessories. This can also include the effective fuel efficiency of the vehicle fleet.
- The models can have sufficient temporal resolution (at least three time period) to adequately model peak and off-peak periods.
- MPOs can consider developing a logit based destination choice model as part of trip distribution step.
- Consider including percentage share of all trips (work and non-work) made by all single occupant vehicle, multiple occupant vehicle, 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 model can be segmented by vehicle availability or household income.
- Because such variables as walk time and parking cost are important elements in mode choice, walk access and auto access 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.
- ~~If using a three-step model, consider running a reasonable convergence towards equilibrium.~~
- ~~TAZ structure is important for any travel demand model and it should contain homogenous land use as much as possible. The average population in each TAZ should be between 1200 and 3000 and it should not generate more than 15000 person trips per day. The average size of each TAZ should be between 0.25 and 1 square miles NCHRP 716.~~
- ~~MPOs shall develop roadway network based on actual geometry of roadways (including curvature and terrain). Link speeds and capacity are key parameters in various steps of the travel demand model. MPOs shall consider parameters such as number of lanes, median type, shoulder width, availability of on-street parking, and adjacent land use type in estimating free-flow link speeds and capacity.~~
- ~~If MPO uses a gravity model in trip distribution step, different friction factor should be used for each trip purpose. For example, home-based school trips should consider school district areas in developing the friction factors and should be calibrated based on the local household travel survey~~
- ~~MPOs shall have minimum three trip purposes in the model: home-based work (HBW), home-based other (HBO), and nonhome-based (NHB) trips. However, it is encouraged to include more trip purposes such as home-based school (HBS), home-based university (HBU), home-based shopping (HBSh) and other trip purposes as appropriate.~~
- ~~The models shall account for the effects of land use characteristics on travel, either by incorporating effects into the model process or by post-processing.~~
- ~~Each MPO model shall include auto operating cost in forecasting the travel. Auto operating cost is a key parameter in various steps of the travel demand model. Auto operating cost shall consist of fuel (primarily gasoline) cost and non-fuel-related costs, including repair, maintenance, tires, and accessories. This shall also include the effective fuel efficiency of the vehicle fleet.~~
- ~~For models with a mode choice step, if the travel demand model is unable to forecast bicycle and pedestrian trips, another means shall be used to estimate those trips.~~
- ~~The models shall have sufficient temporal resolution (at least three time period) to adequately model peak and off-peak periods.~~
- ~~MPOs should consider using different friction factors for each trip purpose. For example, home-based school trips should consider school district areas in developing the friction factors and should be calibrated based on the local household travel survey.~~
- ~~MPOs should consider developing a logit based destination choice model as part of trip distribution step.~~
- ~~Consider including percentage share of all trips (work and non-work) made by all single occupant vehicle, multiple occupant vehicle, or carpool, transit, walking, and bicycling in the measures of means of travel.~~
- ~~To the extent practical, consider calibrating using the most recent observed data including household travel diaries, traffic counts, gas receipts, Highway Performance Monitoring System (HPMS), transit surveys, and passenger counts.~~

- ~~For models with a mode choice step, if the travel demand model is unable to forecast bicycle and pedestrian trips, consider another means to estimate those trips.~~
- ~~Consider including speed and frequency, days, and hours of operation of service as inputs when modeling the transit mode.~~
- ~~Represent the entire regional transit network when modeling the transit mode.~~
- ~~Consider using models that account for the effects of land use characteristics on travel, either by incorporating effects into the model process or by post-processing.~~[13]
- ~~Consider augment current models (as necessary) with other methods to achieve reasonable levels of sensitivity~~
- ~~Mode choice model should be segmented by vehicle availability or household income.~~
- ~~In mode choice step, walk and drive access to transit should be explicitly represented. In calculating the duration of a transit trip should include, walk time, drive time, wait time, and in-vehicle travel time NCHRP 716.~~[14]
- ~~MPO models shall account for the effects of land use characteristics on travel, either by incorporating effects into the model process or by post-processing.~~[15]
- ~~Apply post-processing to adjust model outputs where the models lack capability, or are insensitive to a particular policy or factor. The most commonly referred to post-processor is a "D's" post-processor, but post-processors could be developed for other non-D factors and policies, too.)~~

Visualization Technics and Sketch Modeling of Scenarios

- Consider developing GIS capabilities such as creating parcel and land use date layers ~~that lead to simple land use models.~~
- Consider using an urban scenario model to calculate environmental impacts on terrestrial and aquatic ecosystems and/or inform the land use model of areas to be avoided in order to help locate alternative development.
- ~~Consider entering all natural resources data into the GIS.~~
- ~~Consider developing parcel data and creating a land use data layer.~~
- ~~Consider addressing changes in regional demographic patterns.~~

Freight Model:

- Consider developing a simple freight model.

Policy analysis capabilities:

- Can define and evaluate trend forecast, combined general plans, and preferred RTP scenario.
- Models can ~~may~~ be used to evaluate increased density and mix, urban growth limits, improved neighborhood walkability and bikeability, and 1 or more transit improvement proposals, as well as demand management, pricing strategies, and housing affordability.
- Can evaluate policies for their effects on 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.

Region~~s~~ 3 that are nonattainment in ozone or CO, with a metropolitan planning area containing a population over 200,000.

---

11)
12) [14] NCHRP 716
13)

Can consider ~~A~~all the ~~B~~best ~~P~~practices identified in ~~of the~~ region~~s~~ 2 and those listed below ~~above~~.

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 ~~shall~~ be developed and used. Vehicle ownership model is used ~~critical~~ to determine the number of motor vehicles available for use by household members. MPOs can ~~shall~~ consider variables such as household size, income, 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.
- In calculating the duration of a transit trip should include, walk time, drive time, wait time, and in-vehicle travel time.
- Time of day model can ~~should~~ be developed and used to allocate daily trips. ~~This will help to understand the temporal distribution of trips in a region.~~
- Vehicle occupancy rate can ~~should~~ be varied based on the trip purpose and time of day
- ~~Regions are encouraged to develop 4-step travel models and use post-processing...~~
- ~~Consider running the travel model set to a reasonable convergence towards equilibrium across all model steps.~~
- ~~Mode choice model should be segmented by vehicle availability or household income.~~
- ~~Consider sufficient temporal resolution when modeling peak and off-peak periods.~~
- ~~Agencies are encouraged to investigate their model's volume-delay function and ensure that speeds outputted from the model are reasonable.~~
- ~~Consider using several employment types along with several trip purposes.~~

~~Visualization Technics and Sketch Modeling of Scenarios:~~

- ~~Consider using an urban scenario model to calculate environmental impacts on terrestrial and aquatic ecosystems and/or inform the land use model of areas to be avoided in order to help locate alternative development.~~

Regional Economic & Land Use Model:

- 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.
- Consider collecting floor space rent data in the case where an agency is anticipating development of an integrated economic/land use (or microeconomic land use) model.
- ~~Consider developing economic, market-based land use models that recognize the effects of transportation on development location.~~

Freight Model:

- Consider implementing freight or commodity flow models.

Policy analysis capabilities:

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

- ~~More policy scenarios can be run. The same policies the region(s) above could be run, plus one or more transit improvement proposals, as well as demand management, pricing strategies, and housing affordability.~~
- ~~In addition to the policies and performance measures these agencies can evaluate policies for their effects on 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.~~

~~Travel Demand Models:~~

- ~~Consider developing a four-step models with full feedback across travel model steps and some sort of land use modeling.~~
- ~~In addition to the conformity requirements, consider adding an auto ownership step and make this step and the mode choice equations for transit, walking and bicycling and the trip generation step sensitive to land use variables and transit accessibility.~~
- ~~Consider explicitly representing walk and bike modes.~~
- ~~Consider using small Traffic Analysis Zones (TAZ) to increase sensitivity to infill potential near to rail stations and in Bus Rapid Transit (BRT) corridors. Also, consider parking quantity and cost in the travel model.~~
- ~~Consider including the carpool mode along with access-to-transit sub modes.~~
- ~~Consider using feedback loops to take into account the effects of corridor capacity, congestion and bottlenecks on mode choice, induced demand, induced growth, travel speed and emissions.~~

~~Regional Economic & Land Use Model:~~

- ~~Consider implementing simple land use models that recognize the effects of transportation on development location and density and develop formal economic 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.~~
- ~~Consider collecting floor space rent data in the case where an agency is anticipating development of an integrated economic/land use (or microeconomic land use) model.~~

~~Freight Model:~~

~~Policy analysis capabilities:~~

- ~~A full range of performance and impact measures could be developed, for economic, environmental, and equity effects, as required by FAST Act, National Environmental Policy Act, CEQA, and other laws. Traveler welfare could be measured and, if possible, locator welfare. Various measures of economic development could also be created, such as wages, jobs, production, and exports.~~

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

Can consider ~~A~~all the ~~B~~best ~~P~~practices identified in ~~of the~~ regions 2 and 3 and those listed below ~~above~~.

Travel Demand Models:

- MPOs are encouraged to transition to activity-based TDM

- Technology is significantly influencing the travel behavior. Many times technology may substitute for travel, but on the other hand ~~and sometimes~~ it can ~~may~~ also lead to more travel. Consider reflecting the interactions between technology and travel behavior within the TDM. ~~Travel demand model should be capable of reflecting the interactions between technology and travel behavior.~~

Regional Economic & Land Use Model:

- 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 study 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).
- ~~MPOs are encouraged to investigate and developed, if feasible micro-simulation of households and firms.~~

Freight Model:

- 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 coordination with statewide efforts.
- ~~Consider commercial movements with truck and van tours could be accommodated in a commodity flow model.~~
- ~~Consider documenting assumptions about freight growth and mode choice that impact truck VMT.~~
- ~~MPOs are encouraged to coordinated freight data collection programs with coordination with statewide efforts.~~

Data:

- Household travel surveys could be activity-based and include a tour table. GPS sampling is encouraged or extra emphasis should be placed on accurate geocoding of households, workplace locations, and stops. Regions are encouraged to take care in the design and data collection procedures of the survey to ensure survey results are appropriate to the type of model being utilized. Coordination with Caltrans' travel survey efforts is encouraged.
- ~~Stated preference surveys of households and firms could be performed, as necessary, for use in location choice models.~~

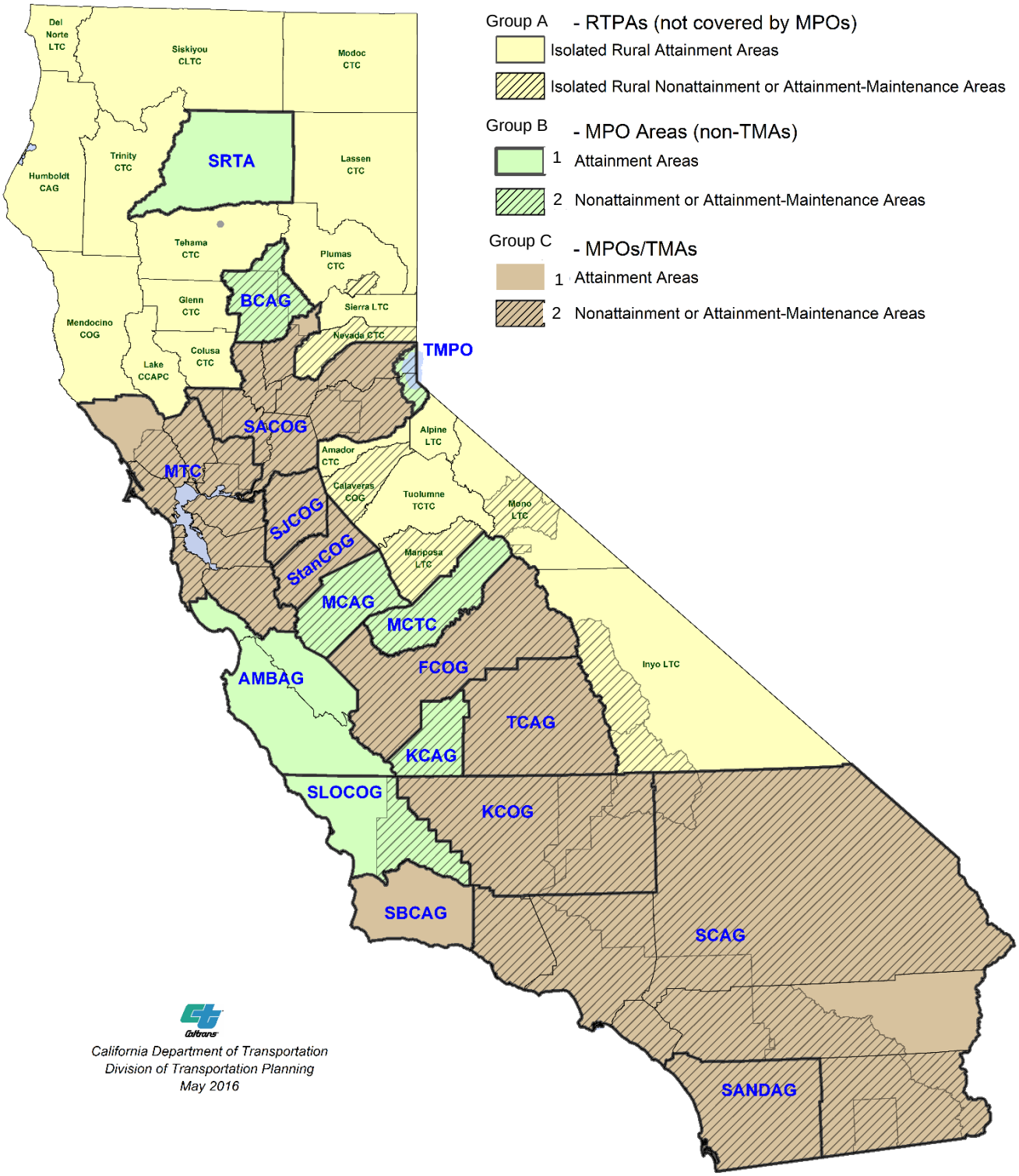
Policy analysis capabilities:

- 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 could include change in welfare by household income class. Economic development impacts may be comprehensively evaluated with this model set. Time-of-day road tolls 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 will advise policy makers on needed transit capital and operating funding levels.

3.6 RTP Travel Analysis Groupings

MPOs, regional transportation planning agencies (RTPAs), and congestion management agencies (CMAs) are organized into travel analysis groups based on federal and state laws (see map below). Group A includes RTPAs (not located within a federally designated metropolitan planning area) that are not required under federal or state law to conducted modeling as part of



their RTP development. Group B includes federally recognized MPOs that are not located in an urbanized area designated as a transportation management area (TMA). Group B is divided into two categories, (B (1)) attainment areas and (B (2)) nonattainment and attainment-maintenance areas based on federal air quality conformity laws. Group C includes MPOs that are located within TMAs. This group is also divided into two categories, (C (1)) attainment areas and (C (2)) nonattainment and attainment-maintenance. ~~It is important to note that the requirements and recommendations are cumulative (e.g., Group C (1) is subject to all requirements and recommendations of Groups A, B (1 and 2), & C (1 and 2)).~~

Group A RTPAs (not covered by a MPO)

This group includes both isolated rural attainment and isolated rural nonattainment and attainment-maintenance areas. For more information on RTPA modeling and analysis, see the 2016 RTP Guideline for RTPAs.

Requirements (Shalls)
Federal: None
State:

Gov. Code §65080(a) Transportation planning agency designed under California Government Code sections 29532 or 29532.1 are required prepare and adopted a RTP that consider factors specified in 23 USC 134.

Gov. Code, §65080(b)(1) The RTP is required to be internally consistent and include a policy element that describes regional transportation issues, identifies and quantifies regional needs, and describes the desired short and long range transportation goals, objectives, and policy statements

Gov. Code §65080(b)(2)(4)(C)(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 c).

Recommendations (Shoulds):
Federal: None
State:

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

Transportation planning agencies (over 200,000 pop.) may set indicators for measuring mobility, traffic congestion, means of travel, measures of equity and accessibility and may prepare an "Alterative Planning Scenario" for presentation to local officials, agency board members, and the public during the development of the triennial regional transportation plan and the hearing (Gov. Code, § § 65080 (b)(1)), 65080.3(a)).

Group B MPOs – Non TMAs *(1) Attainment Areas:*

Federal Requirements (Shalls)
~~**Federal:** All Group A 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

§93.104

(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.

§93.105

(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.

(b) Interagency consultation procedures: General factors.

(6) Interagency consultation procedures shall include 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).

(c) The interagency consultation process is also the forum for used in conformity determinations in isolated rural nonattainment and maintenance areas (40 CFR 93.105(c)(1)(vi)).Interagency consultation procedures shall also include the following specific processes (40 CFR 93.105(c)) listed below.

(1) A process involving at least the MPO(s), State and local air quality planning and transportation agencies, EPA, and the Department of Transportation (DOT) for the following;

(i) Evaluating and choosing models and associated methods and assumptions for hot-spot and regional emissions analyses;

(ii) Determining which minor arterials and other projects are "regionally significant"6 for the regional emissions analysis (in addition to those functionally classified as principal arterials or higher or fixed guide way systems or extensions that offer an alternative to regional highway travel.

§93.110

(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(a) MPOs are required use the latest emissions estimate model to for conformity determination.

Title 23 CFR §450

§450.306(c) Consideration of the planning factors (23 CFR §450.306(b)) shall be reflected, as appropriate, in the metropolitan planning process.

§450.316 (a)(1)

(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

(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) MPOs in attainment areas are required to review and update the RTP at least every 5 years to confirm the plan's validity and consistency with current and forecasted transportation and land use conditions and trends and to extend the forecast period to a minimum 20-year horizon, and the MPO shall approve the transportation plan (and any revisions) and submit it for information purposes to the Governor. Copies of any updated ore 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

~~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 (23 CFR 450.316 (a)(1)(iii)).~~

~~MPOs are required to develop RTPs that address a minimum of 20-year horizon, 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, and address current and future transportation demand (23 CFR §450.322(b)).~~

~~MPOs in attainment areas are required to review and update the RTP at least every 5 years to confirm the plan's validity and consistency with current and forecasted transportation and land use conditions and trends and to extend the forecast period to a minimum 20-year horizon (23 CFR §450.322(c)).~~

~~Title 23 Code of Federal Regulations part 450.322(e) requires MPOs, the State, and the public transportation operators to validate data utilized in preparing other existing modal plans for providing input into the RTP. MPOs are also required to base their updates the latest available estimates and assumptions for population, land use, travel, employment, congestion, and economic activity and to approve the plans contents and supporting analysis produced by the plans update.~~

~~The RTP is required to include the projected transportation demand of persons and goods in the MPA over the period of the plan (23 CFR 450.322(f)(1)). Each RTP is required to meet federal conformity before the plan is approved by the MPO or accepted by DOT (40 CFR §93.104). MPOs are required to base the analysis on the most recent planning assumptions in force at the time the conformity analysis begins. 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) (40 CFR §93.110(a)). 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 (40 CFR §93.110(b)).~~

~~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)). MPOs are required use the latest emissions estimate model to for conformity determination (40 CFR §93.111(a)).~~

Group B MPOs – Non TMAs *(1) Attainment Areas*
State requirements (Shalls)

~~**State:** All Group A requirements.~~

Gov. Code.§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 useable and understandable to the public

Gov. Code §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.

(2) A sustainable communities strategy prepared by each metropolitan planning organization as follows:

(A) No later than September 30, 2010, the State Air Resources Board shall provide each affected region with greenhouse gas emission reduction targets for the automobile and light truck sector for 2020 and 2035, respectively.

(i) No later than January 31, 2009, the state board shall appoint a Regional Targets Advisory Committee to recommend factors to be considered and methodologies to be used for setting greenhouse gas emission reduction targets for the affected regions. The committee shall be composed of representatives of the metropolitan planning organizations, affected air districts, the League of California Cities, the California State Association of Counties, local transportation agencies, and members of the public, including homebuilders, environmental organizations, planning organizations, environmental justice organizations, affordable housing organizations, and others. The advisory committee shall transmit a report with its recommendations to the state board no later than September 30, 2009. In recommending factors to be considered and methodologies to be used, the

advisory committee may consider any relevant issues, including, but not limited to, data needs, modeling techniques, growth forecasts, the impacts of regional jobs-housing balance on interregional travel and greenhouse gas emissions, economic and demographic trends, the magnitude of greenhouse gas reduction benefits from a variety of land use and transportation strategies, and appropriate methods to describe regional targets and to monitor performance in attaining those targets. The state board shall consider the report prior to setting the targets.

(ii) Prior to setting the targets for a region, the state board shall exchange technical information with the metropolitan planning organization and the affected air district. The metropolitan planning organization may recommend a target for the region. The metropolitan planning organization shall hold at least one public workshop within the region after receipt of the report from the advisory committee. The state board shall release draft targets for each region no later than June 30, 2010.

(iii) In establishing these targets, the state board shall take into account greenhouse gas emission reductions that will be achieved by improved vehicle emission standards, changes in fuel composition, and other measures it has approved that will reduce greenhouse gas emissions in the affected regions, and prospective measures the state board plans to adopt to reduce greenhouse gas emissions from other greenhouse gas emission sources as that term is defined in subdivision (i) of Section 38505 of the Health and Safety Code and consistent with the regulations promulgated pursuant to the California Global Warming Solutions Act of 2006 (Division 25.5 (commencing with Section 38500) of the Health and Safety Code).

(iv) The state board shall update the regional greenhouse gas emission reduction targets every eight years consistent with each metropolitan planning organization's timeframe for updating its regional transportation plan under federal law until 2050. The state board may revise the targets every four years based on changes in the factors considered under clause (iii). The state board shall exchange technical information with the Department of Transportation, metropolitan planning organizations, local governments, and affected air districts and engage in a consultative process with public and private stakeholders prior to updating these targets.

(v) The greenhouse gas emission reduction targets may be expressed in gross tons, tons per capita, tons per household, or in any other metric deemed appropriate by the state board.

(B) Each metropolitan planning organization shall prepare a sustainable communities strategy, subject to the requirements of Part 450 of Title 23 of, and Part 93 of Title 40 of, the Code of Federal Regulations, including the requirement to utilize the most recent planning assumptions considering local general plans and other factors. The sustainable communities strategy shall

(i) identify the general location of uses, residential densities, and building intensities within the region,

(ii) 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,

(iii) identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region pursuant to Section 65584,

(iv) identify a transportation network to service the transportation needs of the region,

(v) 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 Section 65080.01,

(vi) consider the state housing goals specified in Sections 65580 and 65581,

(vii) 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 the state board, and

(viii) allow the regional transportation plan to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Sec. 7506).

(F) Each metropolitan planning organization shall adopt a public participation plan, for development of the sustainable communities strategy and an alternative planning strategy, if any, that includes all of the following:

(iii) Workshops throughout the region to provide the public with the information and tools necessary to provide a clear understanding of the issues and policy choices. At least one workshop shall be held in each county in the region. For counties with a population greater than 500,000, at least three workshops shall be held. Each workshop, to the extent practicable, shall include urban simulation computer modeling to create visual representations of the sustainable communities strategy and the alternative planning strategy.

(G) In preparing a sustainable communities strategy, the metropolitan planning organization shall consider spheres of influence that have been adopted by the local agency formation commissions within its region.

(H) Prior to adopting a sustainable communities strategy, the metropolitan planning organization shall quantify the reduction in greenhouse gas emissions projected to be achieved by the sustainable communities strategy and set forth the difference, if any, between the amount of that reduction and the target for the region established by the state board.

(I) If the sustainable communities strategy, prepared in compliance with subparagraph (B) or (D), is unable to reduce greenhouse gas emissions to achieve the greenhouse gas emission reduction targets established by the state board, the metropolitan planning organization shall prepare an alternative planning strategy to the sustainable communities strategy showing how those greenhouse gas emission targets would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies. The alternative planning strategy shall be a separate document from the regional transportation plan, but it may be adopted concurrently with the regional transportation plan. In preparing the alternative planning strategy, the metropolitan planning organization:

(i) Shall identify the principal impediments to achieving the targets within the sustainable communities strategy.

(iii) Shall describe how the greenhouse gas emission reduction targets would be achieved by the alternative planning strategy, and why the development pattern, measures, and policies in the alternative planning strategy are the most practicable choices for achievement of the greenhouse gas emission reduction targets.

(iv) An alternative development pattern set forth in the alternative planning strategy shall comply with Part 450 of Title 23 of, and Part 93 of Title 40 of, the Code of Federal Regulations, except to the extent that compliance will prevent achievement of the greenhouse gas emission reduction targets approved by the state board.

(v) For purposes of the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code), an alternative planning strategy shall not constitute a land use plan, policy, or regulation, and the inconsistency of a project with an alternative planning strategy shall not be a consideration in determining whether a project may have an environmental effect.

(J) (i) Prior to starting the public participation process adopted pursuant to subparagraph (F), the metropolitan planning organization shall submit a description to the state board of the technical methodology it intends to use to estimate the greenhouse gas emissions from its sustainable communities strategy and, if appropriate, its alternative planning strategy. The state board shall respond to the metropolitan planning organization in a timely manner with written comments about the technical methodology, including specifically describing any aspects of that methodology it concludes will not yield accurate estimates of greenhouse gas emissions, and suggested remedies. The metropolitan planning organization is encouraged to work with the state board until the state board concludes that the technical methodology operates accurately.

(ii) After adoption, a metropolitan planning organization shall submit a sustainable communities strategy or an alternative planning strategy, if one has been adopted, to the state board for review, including the quantification of the greenhouse gas emission reductions the strategy would achieve and a description of the technical methodology used to obtain that result. Review by the state board shall be limited to acceptance or rejection of the metropolitan planning organization's determination that the strategy submitted would, if implemented, achieve the greenhouse gas emission reduction targets established by the state board. The state board shall complete its review within 60 days.

(iii) If the state board determines that the strategy submitted would not, if implemented, achieve the greenhouse gas emission reduction targets, the metropolitan planning organization shall revise its strategy or adopt an alternative planning strategy, if not previously adopted, and submit the strategy for review pursuant to clause (ii). At a minimum, the metropolitan planning organization must obtain state board acceptance that an alternative planning strategy would, if implemented, achieve the greenhouse gas emission reduction targets established for that region by the state board.

(K) Neither a sustainable communities strategy nor an alternative planning strategy regulates the use of land, nor, except as provided by subparagraph (J), shall either one be subject to any state approval. Nothing in a sustainable communities strategy shall be interpreted as superseding the exercise of the land use authority of cities and counties within the region. Nothing in this section shall be interpreted to limit the state board's authority under any other provision of law. Nothing in this section shall be interpreted to authorize the abrogation of any vested right whether created by statute or by common law. Nothing in this section shall require a city's or county's land use policies and regulations, including its general plan, to be consistent with the regional transportation plan or an alternative planning strategy. Nothing in this section requires a metropolitan planning organization to approve a SCS that would be inconsistent with Part 450 of Title 23 of, or Part 93 of Title 40 of, the Code of Federal Regulations and any administrative guidance under those regulations. Nothing in this section relieves a public or private entity or any person from compliance with any other local, state, or federal law.

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

~~Gov. Code 65080((b)(1). Transportation planning agencies with populations over may quantify the following set of indicators with the policy element of their RTP. (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.~~

~~Gov. Code 65080(b)(2)(B): (B) Each metropolitan planning organization shall prepare a sustainable communities strategy, subject to the requirements of Part 450 of Title 23 of, and Part 93 of Title 40 of, the Code of Federal Regulations, including the requirement to utilize the most recent planning assumptions considering local general plans and other factors. The sustainable communities strategy shall (i) identify the general location of uses, residential densities, and building intensities within the region, (ii) 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, (iii) identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region pursuant to Section 65584, (iv) identify a transportation network to service the transportation needs of the region, (v) 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 Section 65080.01, (vi) consider the state housing goals specified in Sections 65580 and 65581, (vii) 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 the state board, and (viii) allow the regional transportation plan to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Sec. 7506).~~

~~MPOs are required to include SCS within their RTPs and to adopt a SCS or APS public participation plan (PPP) that is consistent with the agencies' adopted Federal PPP (Gov. Code, § § 65080(b)(2), 65080 (b)(2)(F)).~~

~~Prior to adopting a SCS, the MPO shall quantify the reduction in GHG emissions projected to be achieved by the SCS, and set forth the difference, if any between the amount that reduction an d the target for the region established by the state board (*Gov. Code* § *65080(b)(2)(H))*~~

Group B MPOs (Non TMAs) *(1) Attainment Areas*

Federal Recommendations (Shoulds):
Title 23 CFR §450

§450.306(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(c) MPOs may update or revise their RTPs at any time using the procedures in this section without a requirement to extend the horizon year.

~~**Recommendations (Shoulds):**~~

~~**Federal** All Group A (1) recommendations.~~

~~The degree of the consideration and analysis of the planning factors (40 CFR §450.306(a)) should be based on the scale and complexity of the many issues, including transportation system development, land use, employment, economic development, and human and natural environment, and housing and community development 40 CFR §450.306(b)).~~

~~MPOs may update or revise their RTPs at any time (23 CFR 450.322(c)).~~

~~MPOs may consider to include projects and strategies that address areas or corridors where current or projected congestion threatens the efficient function of key elements in the metropolitan area's transportation system (23 CFR 450.322(f)(5)).~~

Group B MPOs – Non TMAs *(1) Attainment Areas*
State Recommendations (Shoulds)

This section includes all of Group A (see Map on page 13) state recommendations. No new recommendations are identified in this section.

~~**State**: All Group A recommendations.~~

Group B MPOs – Non TMAs *(2) Nonattainment and Attainment Maintenance Areas*

Federal Requirements (Shalls)

~~**Federal:** All Group A and B (1) requirements.~~ This section includes all of Group B (1) federal requirements and the following requirements.

Title 40 CFR §93

§93.106(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) 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. 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

(a)(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.

(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) 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).

(c) In all areas not otherwise subject to 40 CFR 93.122 (b), regional emissions analyses must use those procedures described in paragraph 40 CFR 9.2122 (b) if the use of those procedures has been the previous practice of the MPO. Otherwise, areas not subject to paragraph (b) 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

§450.324(c) MPOs in nonattainment and maintenance areas are required to review and update their RTPs at least every 4 years to confirm the plan's validity and consistency with current and forecasted transportation and land use conditions and trends and to extend the forecast period to a minimum 20-year horizon.

§450.324(d) MPOs designated as nonattainment for ozone or carbon monoxide shall coordinate the development the RTP with the process for developing transportation control measures in the State Implementation Plan.

~~MPOs in nonattainment and maintenance areas are required to review and update their RTPs at least every 4 years to confirm the plan's validity and consistency with current and forecasted transportation and land use conditions and trends and to extend the forecast period to a minimum 20-year horizon (23 CFR §450.322(c)).~~

~~MPOs designated as nonattainment are required to coordinate the development of the RTP with the process for developing transportation control measures in the State Implementation Plan (23 CFR 450.322(d)).~~

Group B MPOs – Non TMAs *(2) Nonattainment and Attainment Maintenance Areas*

State Requirements (Shalls)

This section includes all of Group A and B (1) state requirements. No new requirements are identified in this section.

~~**State:** All Group A and B (1) requirements.~~

Group C Federally recognized MPOs/ (TMAs) *(1) Attainment Areas*

Federal Requirements (Shalls)

This section includes all Group B federal requirements and the following requirements.

~~*Group C – Federally recognized MPOs/ (TMAs)*~~

~~*(1) Attainment Areas*~~

~~**Requirements (Shalls)**~~
~~**Federal:** All Group A and B (1 & 2) requirements.~~

Title 23 CFR §450

§450.322(a) The transportation planning process within a TMA is required to address congestion management through a process that provides for the safe and effective integrated management and operation of the multimodal transportation system.

§450.322(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 in 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.

~~The transportation planning process within a TMA is required to address congestion management through a process that provides for the safe and effective integrated management and operation of the multimodal transportation system (23 CFR §450.320(a)).~~

~~MPOs/TMAs are required to develop, establish, and implement the CMP as part of their transportation planning process (23 CFR 450.320(c)) and establish a coordinated program for data collection (23 CFR 450.320(c)(3)).~~

Group C Federally recognized MPOs/ (TMAs) (1) Attainment Areas

State Requirements (Shalls)

Includes all state requirements in Group B. No new requirements are identified in this section.
~~**State:** All Group A and B (1 & 2) requirements.~~

Group C Federally recognized MPOs/ (TMAs) (1) Attainment Areas

Federal Recommendations (Shoulds)

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

Title 23 CFR §450

§450.322(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).

(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.

(4) When identifying and evaluated the anticipated performance and expected benefits of appropriate congestion management strategies. The following categories of strategies, or combinations of strategies, are some examples of what should be appropriately considered for each area.

- **(i)** Demand management measures, including growth management, and congestion pricing;
- **(ii)** Traffic operational improvements;
- **(iii)** Public transportation improvements;
- **(iv)** ITS technologies as related to the regional ITS architecture; and
- **(v)** Where necessary, additional system capacity.

§450.322(f) MPOs may consider to include projects and strategies that address areas or corridors where current or projected congestion threatens the efficient function of key elements in the metropolitan area's transportation system

~~**Recommendations (Shoulds)**~~

~~**Federal:** All Group A and B (1 & 2) recommendations. 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 (23 CFR 450.320(c)(3)).~~

Group C Federally recognized MPOs/ TMAs *(1) Attainment Areas*

State Recommendations (Shoulds)

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

~~**State:** All Group A and B (1 & 2) recommendations.~~

Group C Federally recognized MPOs/ TMAs *(2) Nonattainment and Attainment Maintenance Areas*

Federal Requirements (Shalls)

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

Title 23 CFR §450

§450.322(f) In MPOs/TMAs designated as nonattainment, the CMP is required to provide an appropriate analysis of reasonable (including multimodal) travel demand reduction and operational management strategies for the corridor in which a project that will resulting in a significant increase in capacity for SOVs is proposed to be advanced with federal.

~~***(2) Nonattainment and Attainment Maintenance Areas***~~

~~**Requirements (Shalls)**~~

~~**Federal:** All Group A, B (1 & 2), and C (1) requirements.~~

~~In MPOs/TMAs designated as nonattainment, the CMP is required to provide an appropriate analysis of reasonable (including multimodal) travel demand reduction and operational management strategies for the corridor in which a project that will resulting in a significant increase in capacity for SOVs is proposed to be advanced with Federal funds (23 CFR 450.320(e)).~~

Group C Federally recognized MPOs/ TMAs *(2) Nonattainment and Attainment Maintenance Areas*

State Requirements (Shalls)

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

~~**State:** All Group A, B (1 & 2), and C (1) requirements.~~

~~**Recommendations (Shoulds)**~~

Group C Federally recognized MPOs/ TMAs *(2) Nonattainment and Attainment Maintenance Areas*

Federal Recommendations (Shoulds)

Includes all federal recommendations in Group B and C (1). No new recommendations are identified in this section.

~~**Federal:** All Group A, B (1 & 2), and C (1) recommendations.~~

Group C Federally recognized MPOs/ TMAs *(2) Nonattainment and Attainment Maintenance Areas*

State Recommendations (Shoulds)

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

~~**State:** All Group A, B (1 & 2), and C (1) recommendations.~~

Page Left Intentionally Blank

Chapter 4

RTP Consultation and Coordination

Page Left Intentionally Blank

Consultation and Coordination

4.1 Consultation & 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, projecting future land use in conjunction with local jurisdictions, assessing needs, developing capital and operating strategies to move people and goods, and developing a financial plan. The required planning processes are designed to foster involvement by all interested parties, such as the business community, community groups, walking and bicycling representatives, public health departments and public health non-governmental organizations, environmental organizations, the Native American community, neighboring MPOs and the general public through a proactive public participation process.

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, 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~~9~~.

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 vehicle counts for emissions inventories. They also develop methods 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 California Air Resources Board, Caltrans, local transportation agencies, EPA, and US DOT 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).

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.

Consultation shall not be limited to a public hearing notice to the general public and stakeholders. Providing access to information to the general public, incorporating public comments and input on plans, programs and policies should also be embraced.

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 (Shalls)
Federal: Transportation Conformity Regulations of Title 40 CFR Part 93.105
State: Government Code Section 65080(b)(2)(E)

Recommendations (Shoulds)
Federal: Title 23 CFR Part 450.316 encourages 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: None

Best Practices: Available in Appendix M
~~By documenting how specific comments are considered, the MPO can demonstrate its responsiveness to community input during the consultation and coordination process associated with development of the RTP. To the extent that it is practicable and resources are available, the Draft RTP as well as any comments received to the draft could be posted on the MPO website in a way that is easily accessible to the public. Responsiveness to community input provides increased assurance of an open and collaborative planning process. The links below provide examples of plans that demonstrate extensive consultation, coordination and consideration of public input.~~

~~http://www.sjcog.org/Programs%20&%20Projects/Transportation_files/RTP.htm~~

~~http://www.mtc.ca.gov/planning/2035_plan~~

4.2 Title VI & Environmental Justice Considerations in the RTP

The inclusion of the entire range of community interests in the development of the RTP is a key element in the process and is required by both federal and state law. Providing more

transportation and mobility choices such as increased transit, bicycle, and pedestrian facilities, as well as appropriate housing choices near job centers increases opportunities for all segments of the population at all income levels. Each region is required by federal regulation and state law to plan for and implement transportation system improvements that will benefit all residents. Title VI of the federal Civil Rights Act of 1964, Section 11135 of the California Government Code, and Executive Order 12898 on Environmental Justice (EJ) require MPOs to be sensitive to how all residents, particularly low-income communities and minority communities ~~of color~~, may be impacted by possible transportation and land use changes identified in the RTP. Existing federal regulations require MPOs to ensure that any planned regional transportation improvements do not have a disproportionately high and adverse impact on low income or other under-represented groups, and that minority and low-income populations receive equal benefits, on an equally timely basis, as other populations.

While Title VI and EJ are often paired, FTA Circular 4703.1, "*Environmental Justice Policy Guidance for FTA Recipients,"* provides an understanding of the overlap and distinction between the statutory obligation and the administrative directive, respectively. Title VI prohibits discrimination by recipients of federal assistance on the basis of race, color, and national origin. As such, Title VI is one of the tools used by Federal agencies to implement the administrative directive. The clear objective of the Executive Order on EJ is to ensure that Federal agencies promote and enforce nondiscrimination. Furthermore, the Executive Order on EJ extends its protections not only to "minority populations" but also to "low-income populations." The word, "populations" rather than the more specific word "communities," extends not only to the residents of a geographically-contiguous neighborhood but also to "populations" composed of residents who do not live in the same neighborhood but are similarly-situated with respect to the benefits or burdens of a plan or project. Thus, the Executive Order on EJ defines "Minority Population" to mean "any readily identifiable groups of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed persons who will be similarly affected by a proposed transportation program, policy or activity." This is especially relevant in the transportation context, as the "geographically dispersed" users of a particular portion of the transportation network who are "similarly affected" by an RTP investment or policy may comprise a minority population, a low-income population, or both.

Principles of Environmental Justice

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."

The first principle protects low-income populations and minority populations against bearing an *unfair share of the adverse impacts* of the RTP and its investments; the third principle ensures that they receive a *fair share of the benefits* of the RTP and its investments, and receive those

benefits in an equally timely manner; and the second principle ensures that they themselves have the "full and fair" opportunity, among other things, to define the needs that they prioritize, rather than have those needs defined for them by others.

Title VI Analysis & EJ Analysis

As defined 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. If any disparate impacts are found, then the analysis would determine 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. However, it must be noted that the Title VI analysis is applicable to the MPO activities as a whole; although the RTP would be a component of the analysis, it is not a statutory requirement of the RTP.

Similarly, but specific to low-income and minority populations is to conduct an EJ analysis. As described in FTA Circular 4703.1n 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 engagement plan will then guide the rest of the analysis as consideration of whether the proposed programs, policies and activities will result in disproportionately high and adverse human health or environmental effects on EJ populations.

There may be some overlap between EJ and Title VI analyses; however, engaging in EJ analysis under federal transportation planning 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, not solely those which may have adverse human health or environmental effects on communities.

Title VI & Subrecipients of Federal Funds

Subrecipients of federal funds are held to the same requirements as primary recipients, such as MPOs. As MPOs are developing the RTP/SCS and TIP, their subrecipients must also (a) implement an accountable, inclusive and transparent process that complies with the region's adopted Public Participation Plan; (b) conduct an appropriate Title VI and Environmental Justice analysis of alternatives before selecting that project or adopting that program of projects, with the participation of affected low-income and minority residents, and, with respect to a program of projects; and, (c) determine that it will provide a fair and equally timely share of benefits to low-income residents and residents of color, and will not impose on them an unfair share of its burdens.

Requirements (Shalls)
Federal: Title 23 CFR Part 450.316(a)(1); Title VI of the federal Civil Rights Act of 1964, Title 49 CFR Part 21.5, Title 42 USC Chapter 21 Section 2000(d); FTA Circular 4702.1B – Title VI Requirements and Guidelines for FTA Recipients; implementing orders under Executive Order 12898 on Environmental Justice (1994): US DOT Order 5610.2(a) (~~1997~~2012) and US DOT Order 6640.23 (1998).
State: Government Code Section 11135

Recommendations (Shoulds)
Federal: FTA Circular 4703.1 – EJ Policy Guidance for FTA Recipients; US DOT EJ Order 5610.2(a)

Best Practices: Available in Appendix M
~~Federal guidance for Environmental Justice analysis can be found at:~~

~~http://www.fhwa.dot.gov/environment/environmental_justice/index.cfm~~

~~Chapter 6 of Kern Council of Government's 2007 RTP provides a good example of an Environmental Justice analysis within an RTP:~~

~~http://www.kerncog.org/docs/rtp/2007_RTP.pdf~~

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 ~~minority households~~, who may face challenges accessing employment and other services.

~~As a best practice,~~ MPOs can ensure the involvement of low-income communities and communities of color ~~minority households~~ by proactively seeking the input of these households and by making public meetings as accessible as possible. ~~Recommended practices~~ Public engagement strategies may include:

- Conduct education and outreach before beginning the formal input process;
- Provide all materials related to the update with adequate time for public review and input.
- Provide early and ongoing drafts for public review to ensure transparency.
- Proactively work with and/or provide financial support 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. The Fresno COG competitively awarded small amounts ($1,000 - $3,000) of competitive funding to such organizations during the development of their 2014 regional transportation plan/sustainable strategy for this purpose and the results were promising.
- Form an advisory group on Environmental Justice, Social Equity and/or Disadvantaged Communities that includes policy and community-based organizations that are focused on social equity in the region to provide feedback throughout the RTP process.
- Ensure that community residents have the opportunity to deliberate together to achieve consensus on their most pressing needs and recommendations.

- Holding meetings at accessible locations and outside of traditional working hours (e.g. evenings and weekends);
- Locating meetings in low-income communities and communities of color;
- Locating meetings at sites accessible via affordable transit;
- Translating meeting materials for non-English speakers;
- Consider the needs to low-income and individuals with limited English proficiency when translating outreach materials and ensuring that documents are easy to understand (i.e. evaluate the reading level of the materials and quality of translations);
- Technology and the Internet can reach many people, but recognize that not everyone has access to the Internet and an email address and that efforts should be made to reach individuals in other ways;
- Providing interpretation at meetings for non-English speakers;
- Create resident advisory committees or roles within existing committees with decision-making authority and identify opportunities for disadvantaged communities to serve as representatives on decision-making bodies;
- Expand the list of potential partners to include: schools, the faith community, agriculture and food hubs, local business or chambers of commerce, health providers and public health sectors, funders/philanthropy, academia, and environmental health/justice advocates, libraries, law enforcement, parks and recreation, and the technology industry;
- Create a feedback loop to provide community members information about how their input was included in any drafts and reasons for including/excluding the input;
- Make sure that there is agreement between residents and the local planning authority about what community engagement includes;
- Educate and build capacity of community members on issues such as data, evaluation, storytelling, and mentoring community members new to the process;
- Use a community health worker or promotora model to identify resident leaders;
- Use facilitators with experience in race and power inequities at community meetings;
- Work with community-based and membership organizations across the region to jointly plan public workshops on the RTP, especially the Title VI and Environmental Justice analyses. They know the communities impacted by the RTP transportation projects and can assist with recruiting residents, businesses and other affected stakeholders. Be proactive in asking for their participation instead of waiting for them to come to you; and,
- Ensuring meetings are attended by MPO decision makers in addition to MPO staff.

Ideally, MPOs could also prioritize transportation projects that recruit, train, and/or hire individuals with barriers to employment and that utilize workforce development and hiring strategies that are designed to achieve these outcomes such as:

- Project labor agreements with targeted hire commitments
- Community workforce agreements
- High-road agreements
- Caltrans' Local Labor Hiring Program
- Partnerships with community-based workforce development and job training entities that have a track record of success serving disadvantaged populations and/or have demonstrated a high job placement rate among trainees from disadvantaged communities.
- Partnerships with pre-apprenticeship, state certified community conservation corps, "earn-while-you-learn" models, and/or YouthBuild programs; and/or registered apprenticeship programs that lead to industry recognized credentials, certifications and/or references for the long term unemployed.

- Partnerships with local Workforce Development Board programs serving disadvantaged populations.

This will ultimately boost education and employment outcomes for the state, grow local and regional economies, and support our national transportation objective to create ladders of opportunity as directed by the US DOT's Local Hire Pilot Program. This also creates greater alignment with the workforce goals of California's Sustainable Freight Action Plan and the Workforce Innovation Opportunity Act state plan administered by the California Workforce Development Board.

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.

Best Practices: MOVED TO BODY OF THIS SECTION ABOVE

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 regional transportation plans 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: http://www.dot.ca.gov/hq/tpp/offices/osp/ppp_files/CTPE_PPP_Final_052913_dg_29.pdf#zoom=75. 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 ~~as a result of SAFETEA-LU~~. MPOs that currently have a public participation plan per federal requirements do not need to adopt another plan to meet new SB 375 requirements for additional public participation. The public participation requirements for development of the Sustainable Communities Strategy, 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 regional transportation plans 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; and,
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 (TCR) as a new, separate, and distinct resource to be analyzed in the CEQA process. A project that causes an adverse change to a TCR 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 ~~mandates that agencies must consult with tribes regarding impacts to Tribal Cultural Resources as an impact under CEQA~~. 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 Sustainable Communities Strategy (see Sections ~~4.6 and~~ 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, 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.

The MPO shall adopt a Public Participation Plan in advance of developing an SCS and/or APS to include:

- Outreach efforts encouraging the active participation of a broad range of stakeholders in the planning process, consistent with the agency'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.

Pursuant to Government Code Section 65080 (b)(2)(A)(ii), the MPO shall hold at least one public workshop within the region, after receiving the Regional Targets Advisory Committee (RTAC) recommendation report regarding methods and factors for setting regional GHG targets (which was released on September 29, 2009).

This public participation plan is not required to be reviewed or approved by any state agency ~~and is not necessary to be included as part of the RTP~~, 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.

For additional information on the consultation process with elected officials please refer to Section 4.7~~6~~.

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 (Shalls)

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: Government Code Section 65080; Public Resources Code Section 5097.94, and Sections 21073 through 21084.3.

Best Practices: Available in Appendix M

~~http://www.mtc.ca.gov/get_involved/participation_plan.htm~~

~~http://www.mtc.ca.gov/planning/2035_plan/outreach.htm~~

~~http://www.sandag.org/programs/transportation/comprehensive_transportation_projects/2030rtp/2007rtp_C_final.pdf~~

~~http://www.sandag.org/index.asp?publicnoticeid=141&fuseaction=notices.detail~~

~~http://www.sjcog.org/Programs%20&%20Projects/Transportation_files/RTP.htm~~

4.5 Private Sector Involvement

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

In urbanized areas of California, the number of trucks on the highway system has substantially increased. This has had a direct impact on traffic congestion within these areas. An increased level of truck activity has also had an impact in rural areas of the state, although primarily on the principal routes in rural counties. For these reasons, an RTP that does not include the “Private Sector” in the planning process is not a viable plan. The impact of the private 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 include any major long-range plans of these organizations that may have an impact on the regional transportation system. The purpose is to provide private sector transportation providers a process of communication and involvement into the region’s transportation planning process. The specific outreach techniques developed and ultimately used is dependent on the size and composition of the region. These efforts to solicit input into the long-range regional transportation planning process should be documented in the RTP.

Requirements (Shalls)
Federal: Federal regulations require private sector involvement as a component of the regional transportation planning process. Title 23 USC Part 134 (g)(4), Title 23 USC 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 (Shoulds)
State: California Government Code Section 14000(d) recommends that a comprehensive multimodal transportation planning process should be established which involves all levels of government and the private sector in a cooperative process to develop coordinated transportation plans.

Best Practices: Available in Appendix M

~~http://www.sacog.org/regional-plans~~

~~http://www.nhi.fhwa.dot.gov/training/course_search.aspx?sf=0&course_no=139009~~

4.6 Consultation with Interested Parties

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

The US DOT definition of "interested parties" to be engaged in statewide and metropolitan transportation planning has been expanded. 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 local public health;
4. Representatives of public transportation employees;
5. Public ports;
6. Freight shippers;
7. Private providers of transportation;
8. Representatives of users of public transportation;
9. Representatives of users of pedestrian walkways and bicycle transportation facilities;
10. Representatives of people with disabilities;
11. Providers of freight transportation services; and,
12. Other interested parties.

Requirements (Shalls)
Federal: Consulting with interested parties on plans, programs and projects shall include individuals or organizations that are mentioned in Title 23 CFR Part 450.316(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.
~~**State:** None~~

~~**Recommendations (Shoulds)**~~
~~**Federal:** None~~
~~**State:** None~~

Best Practices:

~~http://www.sjcog.org/index.aspx?nid=181~~

~~http://rtpscs.scag.ca.gov/Pages/default.aspx~~

~~http://www.nhi.fhwa.dot.gov/training/course_search.aspx?sf=0&course_no=139009~~

4.7 Input & Consultation with Local Elected Officials on SCS Development

This section applies only to federally-designated Metropolitan Planning Organizations that are required to prepare a Sustainable Communities Strategy (SCS), and Alternative Planning Strategy (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 consultation requirement has been expanded.

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 Government Code 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 Government Code 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).

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.). Approximately 10% of the state's public schools are charters schools. Many are operated separately from the district and do not have defined attendance areas allowing students from a large geographic area to attend the school. Consultation with charter school operators may provide additional information on future charter school locations and the way charter school students arrive and depart from the school.

For additional information on the consultation process please refer to Section 4.1.

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: Federal Highways Administration (FHWA), Environmental Protection Agency (EPA), and Federal Transit Administration (FTA)
2. California Department of Housing and Community Development (HCD)
3. California Air Resources Board (ARB)
4. California Department of Transportation (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.

ARB must exchange technical information with 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 ARB with region-specific target recommendations supported by modeling, technical data and analysis.

The California Transportation Commission (CTC) also encourages State agencies to work with the MPOs to provide the best data and information available as they develop their greenhouse gas emissions modeling methodology together with ARB.

MPOs are also encouraged to work with HCD to incorporate the appropriate Regional Housing Needs Allocation (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 considering carefully 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 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 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: http://dot.ca.gov/hq/tpp/offices/ocp/nalb . The 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 (Shalls)
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.

Best Practices: Available in Appendix M

~~US DOT Order 5301.1 ensures that programs, policies and procedures administered by the US DOT are responsive to the needs and concerns of Native Americans. This Order provides a very thorough overview of the various Federal regulations and Executive Orders on this subject. This Order is available at:~~

~~http://environment.fhwa.dot.gov/guidebook/vol2/5301.1.pdf~~

~~In addition to the best practice noted above, it is recommended that federally and non-federally recognized Tribal Governments be consulted when historic, sacred sites, subsistence resources or traditional collecting properties are present in the MPOs jurisdiction.~~

~~A current example of tribal government coordination in California can be found at:~~

~~http://www.sandag.org/?subclassid=105&fuseaction=home.subclasshome~~

~~A current example of tribal government coordination in a multi-MPO setting is the California Central Valley Tribal Environmental Justice Project:~~

~~http://www.catribalej.com/index.html~~

4.10 Consultation with Resource Agencies

Current federal regulations require MPOs to consult with resource agencies, State and local agencies responsible for land use management, environmental protection, conservation, and

historic preservation concerning the development of the RTP. As part of SCS development, MPOs must gather and consider the best available scientific information on resource areas and farmlands within the region 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.

~~New~~ 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, but are not limited to California Environmental Protection Agency (CalEPA), California Coastal Commission, and US Fish and Wildlife, U.S. Army Corp of Engineers, California Department of Fish and Game and California Department of Parks and Recreation.

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

An 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. Federal Highway Administration;
2. Federal Transit Administration;
3. U.S. Environmental Protection Agency;
4. U.S. Army Corps of Engineers;
5. NOAA Fisheries Services;
6. U.S. National Park Service;
7. U.S. National Marine and Fishery Service;
8. U.S. Fish and Wildlife Service;
9. California Coastal Commission;
10. California Ocean Protection Council;
11. California Energy Commission;

12. California Office of Planning and Research;
13. California Environmental Protection Agency;
14. California Natural Resources Agency;
15. California Water Resources Control Board;
16. California Regional Water Quality Control Board;
17. California Department of Fish and Wildlife;
18. California Department of Resources, Recycling, and Recovery;
19. California Air Resources Board;
20. California Department of Parks and Recreation;
21. California Department of Conservation;
22. California State Mining and Geology Board;
23. Any additional California environmental, energy, resource and permit agencies;
24. Bay Conservation and Development Commission (Bay Area);
25. Regional Air Quality Management Districts, and;
26. California Office of Historic Preservation.
27. ~~Private sector carpools / rideshare coordinators.~~

The challenge is obtaining timely response and comments to the RTP, its programs and projects. It is understandable that these efforts will depend on the specific region. MPOs in the Sacramento Valley and Southern California have chosen to send letters 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 ~~should~~ 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 5.3 Federal Environmental Requirements.

Requirements (Shalls)

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 5.3) shall be developed in consultation with Federal, State, and Tribal land management, ~~wildlife,~~ and regulatory agencies. 23 CFR 93.105 for interagency consultation for transportation conformity.

State: California Environmental Quality Act (CEQA), consultation with agencies, governments or individuals that could potentially be impacted by transportation projects in the RTP. Government Code Section 65080(b)(2)(B)(v) requires that MPOs develop a sustainable communities strategy (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 Government Code Section 65080.01.

Best Practices: Available in Appendix M

~~Two prime examples of resource agency consultation relating to Habitat conservation plans can be found at San Joaquin Council of Governments' Habitat Programs and Projects websites:~~

~~http://www.sjcog.org/Programs%20&%20Projects/Transportation_files/RTP.htm~~

~~http://www.sjcog.org/Programs%20&%20Projects/Habitat_files/Participation.htm~~

~~Butte County Association of Government's (BCAG) RTP/SCS and Regional Conservation Plan. BCAG adopted the Butte County Regional Conservation Plan (Plan), a regional Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP), adopted recently to streamline the development and mitigation associated with public and private development in the planning area. BCAG's RTP/SCS has identified Regional Conservation Plan development and implementation strategies during transportation projects. Preparation and adoption of the Regional Conservation Plan required extensive resource agency coordination with the planning signatories upon issuance of federal and state permits along with the Plan.~~

~~http://www.buttehcp.com/~~

~~The San Diego Association of Governments' *TransNet* Environmental Mitigation Program (EMP), funded by local sales tax dollars, is unique in that it goes beyond traditional mitigation for transportation projects by including a funding allocation for habitat acquisition, management, and monitoring activities as needed to help implement the Multiple Species Conservation Program (MSCP) and the Multiple Habitat Conservation Program (MHCP). Information regarding the *TransNet* EMP is available at:~~

~~http://www.sandag.org/index.asp?projectid=263&fuseaction=projects.detail~~

~~The Southern California Association of Governments' (SCAG) recently approved SCS Appendix on Natural and Farm Lands is a prime example of successful consultation with environmental agencies and stakeholders. The SCAG SCS Appendix is available at:~~

~~scagrtpscs.net/Documents/2016/final/f2016RTPSCS_NaturalFarmLands.pdf~~

~~FHWA's Integrated Eco-logical Framework (IEF) is a nine-step, voluntary framework for partners to collaborate, share data, and prioritize areas of ecological significance. Implementing IEF at a regional scale during RTP development would allow for early coordination with resource agencies and other key stakeholders to establish a Regional Ecosystem Framework.~~
~~https://www.environment.fhwa.dot.gov/ecological/ImplementingEcoLogicalApproach/default.asp~~

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 Federal Transit Administration (FTA) programs be derived from a coordinated plan: Elderly Individuals and Individuals with Disabilities Program (Title 49 U.S.C Section 5310), Job Access and Reverse Commute Program (Title 49 U.S.C Section 5316), and New Freedom Program (Title 49 U.S.C Section 5317). Information on these programs 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.

~~**Requirements (Shalls)**~~
~~**Federal:** None~~
~~**State:** None~~

Recommendations (Shoulds)
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. Parts 5310, 5316 and 5317.

Chapter 5

RTP Environmental Considerations

Page Left Intentionally Blank

RTP ENVIRONMENTAL CONSIDERATIONS

5.1 Introduction

This section will briefly discuss the context for environmental requirements, options for RTP environmental document preparation, federal requirements and recommendations, key environmental considerations for best practices and finally, a description of air quality and transportation conformity will be provided.

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

In California, the environmental review associated with the RTP and the subsequent project delivery process is two-fold. 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 RTPs and subsequent transportation projects address all environmental issue areas identified in Appendix G, Environmental Checklist Form, of the CEQA Guidelines.

A change to transportation analysis in environmental review under CEQA occurred with the Governor's approval of SB 743~~. It~~ 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. Per ARB Vision Model results, reductions in VMT growth are needed to achieve sufficient greenhouse gas emissions reduction for climate stabilization, as reflected in executive orders on 2030 and 2050 greenhouse gas targets. The regulatory language (CEQA Guidelines changes) to implement the law are pending, though VMT has been identified by the Governor's Office as the ~~preferred~~ potential metric to determine significant impacts. A future update of the RTP Guidelines will capture any "shoulds" or "shalls" resulting from the formal rulemaking process. Lead agencies should refer to existing CEQA statutes, regulations, and case law when performing CEQA analysis for their RTPs/SCSs.

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

5.2 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.

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 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. ~~Often changes to the RTP do not require the detailed analysis of an EIR.~~ 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 nauture, 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, MPOs 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 Greenhouse Gas Emissions and the Effects of Climate Change in NEPA reviews.* Section 6.28 provides further guidance for GHG reduction and addressing adaption of the regional transportation system to climate change. The full CEQ guidance is available at: *https://ceq.doe.gov/current_developments/ceq_guidance_nepa-ghg-climate_final_guidance.html.*

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

Best Practices: Available in Appendix M

~~Additional 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://ceres.ca.gov/ceqa/~~

~~http://www.califaep.org/CEQA~~

~~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/modelpolicies/CAPCOA%20Model%20Policies%20for%20Greenhouse%20Gases%20in%20General%20Plans%20-%20June%202009.pdf~~

5.3 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 5.5 for key environmental considerations for best practices as well as best practices ~~described below~~ in Appendix M.

Best Practices: Available in Appendix M

~~RTPs should 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. This discussion should be developed in consultation with Federal, State and Tribal land management, wildlife, and regulatory agencies. For additional information related to consultation with resource agencies on regional mitigation activities, see Section 4.10.~~

~~Southern California Council of Government's (SCAG) has developed a section on Environmental Mitigation pursuant to 23 USC Section 134 into their RTP/SCS and planning process. SCAG has also developed a Sustainability Program focused on natural resources and climate change strategies.~~
~~http://sustain.scag.ca.gov/Pages/LinksResources.aspx~~
~~http://rtpscs.scag.ca.gov/Pages/2012-2035-RTP-SCS.aspx~~

~~Advanced mitigation planning to identify areas for mitigation prior to project-by-project discussion is a best practice. Elkhorn Slough Early Mitigation Project and Regional Advance Mitigation Planning (RAMP) are important examples of such efforts. By coordinating early with agencies responsible for project-level permitting to evaluate the individual and cumulative impacts of one or several projects and focusing mitigation on regional priority conservation opportunities, ecosystem-scale conservation needs can be met, providing more effective conservation and mitigation. In addition, the time and cost inefficiency of project-by-project review, permitting, and mitigation can be avoided thereby making mitigation more efficient. MPOs may consider using RAMP in siting and mitigating for infrastructure projects, in order to maximize time efficiency, reduce mitigation costs, and protect regional natural resources.~~

~~The regional planning process should 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.~~

~~http://elkhornslough.ucdavis.edu/~~

~~http://www.environment.fhwa.dot.gov/ecological/eco_toc.asp~~

5.4 Federal Environmental Recommendations

Appendix A - Linking the Transportation Planning and NEPA processes

Appendix A of Title 23 CFR Part 450 encourages environmental information developed during the transportation planning process to be applied to the project delivery process. The goal is to

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

Recommendations (Shoulds)
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.

Best Practices: Available in Appendix M

~~Implementation of the strategies contained in Appendix A of Title 23 CFR Part 450 is a state of the art best practice.~~

Programmatic Mitigation

On May 27, 2016, the FHWA and Federal Transit Administration issued a final rule that updates regulations governing the development of metropolitan transportation plans including an updated section on programmatic mitigation. This rule codifies changes in 23 CFR Section 450.214 on the development of programmatic mitigation plans and indicates that "a State 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 Regional Transportation Plan update, the region can notify other stakeholders to allow for a more collaborative partnering and planning effort.

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

5.5 Key Resource Areas for Avoidance and Mitigation ~~Environmental Considerations for Best Practices~~

The intent of this section is to highlight those environmental resources that typically require avoidance alternatives 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 environmental analysis required during project delivery can work in tandem with the results of the transportation planning process informing the NEPA process. The RTP can identify plan-level environmental constraints and consider potential impacts that could allow projects in the plan to be modified to avoid or minimize impacts. For a more in-depth discussion of potential environmental impact and resource areas, please see Volume 1 of the Standard Environmental Reference at:

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

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

Wetlands

Wetlands and other waters are protected under a number of laws and regulations, including the federal Clean Water Act, federal Executive Order for the Protection of Wetlands (E.O. 11990), and state Porter-Cologne Water Quality Control Act and parts of the state Fish and ~~Game~~ 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. Environmental Protection Agency (U.S. EPA).

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

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

California Coastal Trail (CCT)

The CCT is a state-mandated trail system pursuant to the passage of SB 908 in 2001. AB 1396 in 2007 added Section 65080.1 to the Government Code, which mandates that provision for the CCT be provided in each RTP for those MPOs located along the coast. More information and guidance relative to the CCT can be found in Section 6.11~~3~~ and at:

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

www.coastal.ca.gov

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

Floodplains

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

Threatened and Endangered Species

The primary federal law protecting threatened and endangered species is the federal Endangered Species Act (ESA) (Title 16 USC 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 Federal Highway Administration, are required to consult with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NOAA Fisheries) to ensure that they are not taking actions likely to jeopardize the continued existence of listed species or destroy or adversely modify critical habitat.

California has enacted a similar law at the state level, the California Endangered Species Act (CESA) (Fish and Game Code, 2050, et seq.). CESA emphasizes early consultation to avoid

potential impacts to rare, endangered, and threatened species and to develop appropriate planning to offset project caused losses of listed species populations and their essential habitats.
http://www.dfg.ca.gov/

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

Habitat Connectivity

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

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

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

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

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

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.

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

Climate Change/GHG Emissions

State CEQA regulations require an analysis of the impacts of greenhouse gas (GHG) emissions on climate change. The transportation sector is ~~a significant~~ one of multiple sources of GHG emissions and therefore the analysis of these emissions ~~indirectly~~ resulting from ~~the implementation of RTPs~~ new growth throughout California is especially important to analyze and for RTPs to mitigate for significant impacts, as required. As a result of cleaner fuel technology, the transportation sector may become a less significant source of GHG emissions in the future. Each MPO must identify ~~thresholds of significance for GHG emissions, disclose~~ whether the RTP ~~c~~would result in ~~exceeding those thresholds,~~ significant GHG emissions impacts, and propose feasible and enforceable mitigation measures for significant impacts to reduce or minimize emissions, where applicable and appropriate. ~~Simply demonstrating that an RTP can achieve the GHG reduction targets set by the ARB is not sufficient to conclude that the RTP has no impact on climate change.~~ Agencies that take actions to control GHG emissions by reducing VMT will likely generate additional GHG reductions in the biological carbon pool. By modeling various scenarios, they will be able to estimate and take full credit for these additional GHG benefits.

Air Quality Impacts

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 can discuss the public health impact associated with the operations of on-highway, nonroad, marine and locomotive equipment and seek to promote the implementation of the lowest emission technologies available to provide the needed utility for a proposed transportation network. In addition, RTPs can also identify how the transportation network has been designed to accommodate, and promote, new technology, alternative fuels, charging stations, and zero-emission technology; include a discussion about incentives and implementation of these measures; and, identify how the proposed transportation network is meeting the goals and objectives of the State's Zero Emission Vehicle Action Plan.

Requirements (Shalls)

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: Government Code Section 65080(b)(2)(B)(v) requires that MPOs develop a sustainable communities strategy (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 Government Code Section 65080.01.

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

Best Practices: Available in Appendix M

~~Voluntarily and thoroughly addressing all of the applicable topics noted above during the preparation of the RTP would be considered as a best practice. As a best practice to comply with the requirements of CA Government Code Section 65080(b)(2)(b) as well as Title 23 CFR Parts 450.324(f)(10), 450.324(g)(1) and (2), MPOs may are strongly encouraged to develop a Regional Open Space and Conservation Area Framework that identifies and considers "resource areas" and "farmland" defined in Government Code Section 65080.01(a) and (b) as well as other key resources identified in Habitat Conservation Plans (HCPs), Natural Community Conservation Plans (NCCPs) and input from leading conservation organizations, 2) consider developing an NCCP to aid in streamlining project permitting and delivery, 3) use the Regional Open Space and Conservation Area Framework to set priorities for a regional advance mitigation planning (RAMP) program or a programmatic mitigation plan as described in MAP-21, and 4) require, as a condition of transportation funding and consistency with the SCS, that projects provide mitigation according to these priorities, including any advance acquisitions and restoration work necessary to avoid temporal gaps in habitat function. Any conservation easements acquired as part of this program should be held by an organization whose mission includes the acquisition and stewardship of conservation easements, such as a Land Trust Alliance-accredited land trust.~~

~~An excellent example of this approach is San Diego's Environmental Mitigation Program (EMP), which is funded through the region's TransNet sales tax measure. The EMP directs mitigation resources to habitat identified in adopted conservation plans, leverages funding from conservation partners, and saves additional money by acquiring habitat "early, at lower prices, and in larger parcels" (http://www.keepsandiegomoving.com/EMP/EMP-intro.aspx). For more information, please see San Diego Forward: The Regional Plan (http://www.sdforward.com/).~~

~~For additional information regarding regional open space conservation please see the following EPA website:~~

~~http://www.epa.gov/dced/openspace.htm~~

~~SCAG included a comprehensive list of air quality mitigation measures in the PEIR for the 2012-2035 RTP/SCS, available at:~~

~~http://scagrtpscs.net/Pages/FINAL2016PEIR.aspx#downloads~~

5.6 Project Intent Statements/Plan Level Purpose and Need Statements

The 2003 RTP Guidelines Supplement referred to "**Project Intent Statements**" which were defined as **Plan Level Statements of Purpose and Need**. A Plan Level Statement of Purpose and Need is a short statement, which serves as a justification for a project or a group of

projects. These brief plan level justifications would be contained in the RTP. An example of a Plan Level Statement of Purpose and Need would be the problem of reducing congestion on a specific route. The Plan Level Statements of Purpose and Need briefly identify the transportation needs or problems and describe the intended outcome of the project(s) that would meet these needs or solve the identified problems.

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

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

Best Practices: Available in Appendix M

~~http://www.stancog.org/rtp.shtm~~

5.7 Air Quality and Transportation Conformity

Federal and State Clean Air Act

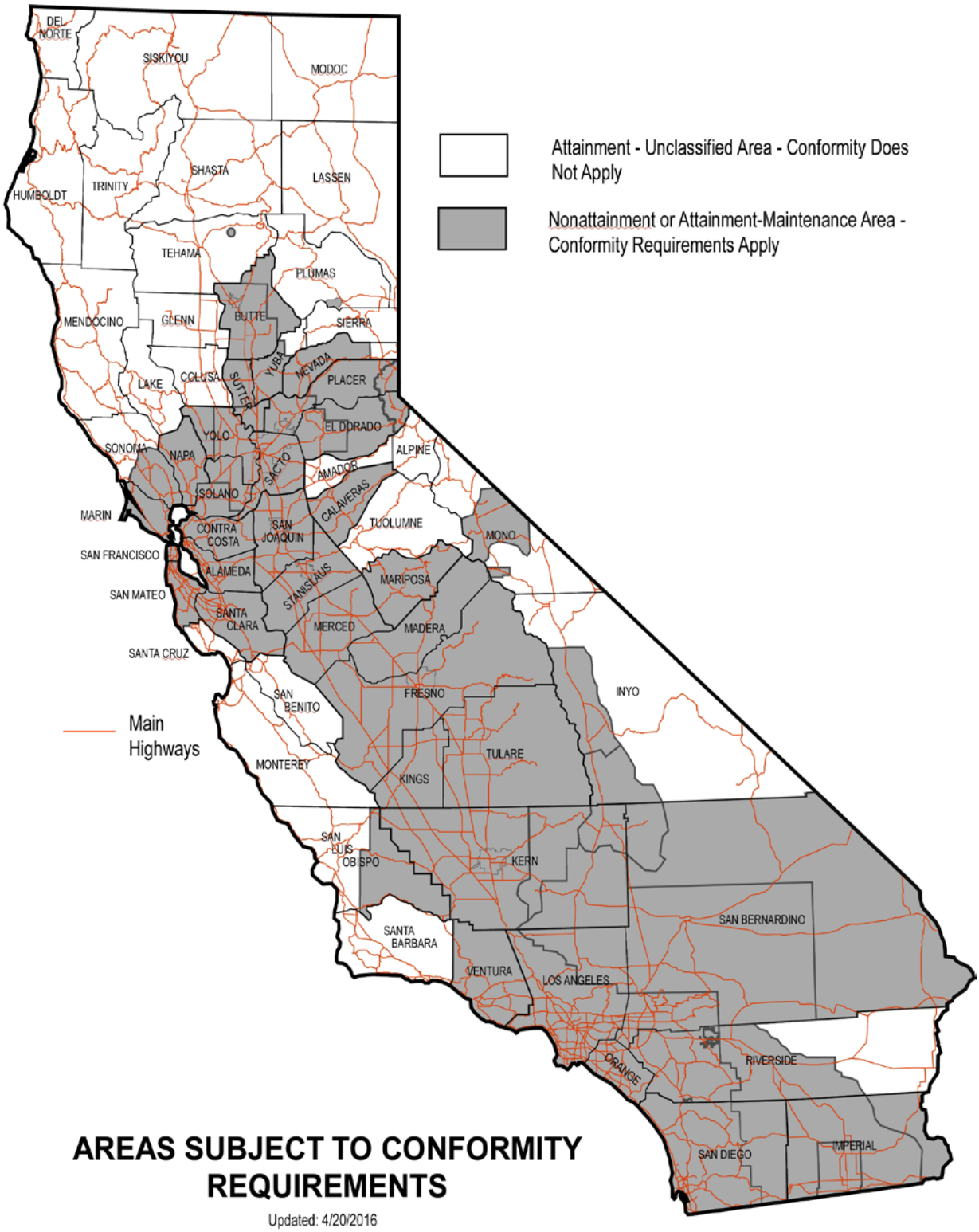
The Clean Air Act as amended in 1990 is the primary federal law that governs air quality. This law mandates the US Environmental Protection Agency (EPA) to establish the standards for the ~~quantity~~ concentrations of pollutants that can be in the air. ~~Subsequently,~~ The US EPA ~~revises~~ must review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

regional control measures, which may also include measures that affect mobile sources (e.g., fleet rules, indirect source review requirements).

There is a California Clean Air Act in the Health and Safety Code that is generally similar in concept to the Federal Clean Air Act. Under the California Clean Air Act, the California Air Resources Board 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.

~~Air pollution control and air quality management districts (~~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 State Implementation Plan (SIP) required by the Federal Clean Air Act. APCDs and AQMDs are the main implementation agencies for stationary source emission control programs.

The US EPA designates an area as “attainment” if the area meets the national ambient air quality standards (NAAQS) mandated by the Clean Air Act. If the area does not meet the NAAQS, it is designated as a nonattainment area. Once a nonattainment area attains a NAAQS, the area may develop a maintenance SIP and submit~~s~~ a re-designation request, the U.S. EPA can re-designate the area as a “maintenance” area. The shaded areas on the map below illustrate the areas of the State that have not attained, or have attained with a maintenance SIP, the National Ambient Air Quality ~~Attainment~~ Standards. 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: 4/20/2016

Copyright © 2003-2014 California Department of Transportation

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.

SIP Conformity Requirement

In nonattainment and maintenance areas, federal regulations require that RTPs, FTIPs and Federally funded or approved highway and transit projects demonstrate transportation conformity. Under the 1990 Federal Clean Air Act Amendments, the US 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 USC 7506(c)). The U.S. EPA has issued extensive regulations covering how conformity is determined for transportation planning, programming, and projects in 40 CFR 93 Subpart A. Under the EPA regulations, the RTP's regional conformity analysis must include all regionally significant transportation (road and transit) projects 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 US 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.

No new transportation conformity requirements were created by SAFETEA-LU. 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 USC 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.

Requirements (Shalls):
Federal: RTPs prepared by MPOs in areas subject to conformity requirements shall meet the requirements of Title 42 USC Section 7506(c) and Title 40 CFR Part 93 Subpart A regarding transportation conformity.

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 USC 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 USC Section 7506(c)(9) adds a one-year grace period before the consequences of a conformity lapse apply; Title 42 USC Section 7506(c)(4)(e) and Title 40 CFR Part 93.105 streamline requirements for conformity SIPs; and, Title 42 USC 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 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, ARB, 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 (Shoulds)
Federal: Title 42 USC 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.

Best Practices: Available in Appendix M

~~The conformity analysis should be prominently referenced in the RTP document. MPOs should work with air districts to develop TCMs that include mechanisms to promote movement from single occupancy vehicles to more sustainable modes of transportation, in support of the SIP. 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.fhwa.dot.gov/environment/air quality/index.cfm~~

~~http://www.epa.gov/otaq/stateresources/transconf/index.htm~~

5.8 Achievement of SB 375 GHG Targets

State law requires that an MPO demonstrate that its SCS would, if implemented, achieve the GHG reduction targets set by ARB. 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 ARB for review and concurrence with the MPO's determination. If the SCS would not achieve the targets, then the MPO must prepare and adopt an Alternative Planning Strategy, describing the obstacles to achievement of the targets and alternative measures that would need to be taken to achieve the targets.

Page Left Intentionally Blank

Chapter 6

Regional Transportation Plan Contents

Page Left Intentionally Blank

6.1 Summary of RTP Components

The development of the RTP is based on state and federal statutory and regulatory requirements in addition to CTC policy direction. As per Government Code 65080, each 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 all of the following:

The Policy Element

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

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

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

The Policy Element should clearly convey the region's transportation and land use 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 describe the SCS strategies, including land use, transportation, and other measure intended to reduce per capita GHG emissions from passenger vehicles ~~travel~~. It should also explain how the financial commitments are consistent with and support the land use pattern and personal mobility objectives of the RTP.

~~While maintaining the current transportation network is often a priority for MPOs, MPOs need to be planning ahead for a future in which technology will transform the way that people move and live. MPOs are ideally positioned to anticipate and be responsive to the needs of future generations.~~ MOVED TO SECTION 6.18 – FUTURE OF TRANSPORTATION & NEW TECH

Although not required by law, MPOs should identify a set of indicators that will be used to assess the performance of the RTP, including, but not limited to, all of the following:

A. Measures of mobility and traffic congestion;
B. Measures of impact on public health;
C. Measures of environmental quality such as air quality;
D. Measures and needs for road and bridge maintenance and rehabilitation;
E. Measures of means of travel;
F. Measures of safety reliability and security;
G. Measures of equity and accessibility;
H. Other sources of data and information may also be used, such as a regions own source/s of information and data;
I. Measures of the need for infrastructure supporting transportation electrification;
J. Measures of infrastructure supporting transportation electrification in disadvantaged communities.

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

The Sustainable Communities Strategy (SCS)

The second component of the RTP (for MPOs only) is a Sustainable Communities Strategy (SCS), as required by Government Code 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 regional transportation plan taking into account 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 Government Code 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 Government Code 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 6.25 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 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 the ARB.
9. Provide consistency between the development pattern and allocation of housing units within the region (Government Code 65584.04(i)(1)

10. Allow the regional transportation plan 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 Government Code Section 65080 states that RTPs shall have an Action Element. The Action Element of the RTP must describe the programs and actions necessary to implement the RTP, 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. 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 activities that address regional transportation issues and needs. In addition, the Action Element should also identify investment strategies, alternatives and project priorities beyond what is already programmed.

The 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 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.

Government Code 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 Government Code 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 greenhouse gas 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. ~~Now pursuant to Government Code Section 65080(b)(2), MPOs are also required to incorporate a Sustainable Communities Strategy as part of the 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 Sustainable Communities Strategy 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 Government Code Section 65080(b)(2)(L) please refer to Section 6.16 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 5.3 for Federal Environmental Requirements)

Requirements (Shalls)
Federal: Title 23 CFR Part 450.324
State: California Government Code Section 65080

Recommendations (Shoulds)
State: California Public Utilities Code Section 740.12

Best Practices: Available in Appendix M

~~Public health performance measures must be easily obtainable and measurable, such as those provided by the California Health Interview Survey (CHIS), a random-dial telephone survey with representative public health data on all 58 counties in California. The CHIS is available at:~~

~~http://healthpolicy.ucla.edu/CHIS/ABOUT/Pages/about.aspx~~

~~Southern California Council of Government's (SCAG) has developed a section on Environmental Mitigation pursuant to 23 CFR Part 450.324 into their RTP/SCS and planning~~

~~process. SCAG has also developed a Sustainability Program focused on natural resources and climate change strategies. More information is available at:~~

~~http://sustain.scag.ca.gov/Pages/LinksResources.aspx~~

~~http://rtpscs.scag.ca.gov/Pages/2012-2035-RTP-SCS.aspx~~

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 transportation improvement program 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 strategies for needed projects and programs. The Federal statutory requirements are codified in Title 23 USC 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. New funding sources and strategies shall also be identified. ~~Beginning December 11, 2007, a~~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 take into account all projects and strategies proposed for funding with Federal, State, local and private fund sources in developing the financial plan. Estimate of costs to implement the projects identified in the four year FTIP and the RTP must be included. ~~Beginning December 11, 2007, b~~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. Best practices 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 temporary 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 (Shalls)
Federal: Title 23 CFR Part 450.324(f)(11)
State: California Government Code Section 65080(b)

Best Practices: Available in Appendix M

~~http://www.mtc.ca.gov/planning/2030_plan/index.htm~~

~~http://www.bcag.org/Planning/index.html~~

6.3 Fiscal Constraint

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

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

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

Requirements (Shalls)
Federal: Title 23 CFR Part 450.324(f)(11)
State: California Government Code Section 65080(b)

Best Practices: Available in Appendix M

~~http://www.sandag.org/index.asp?projectid=292&fuseaction=projects.detail~~

~~http://www.scag.ca.gov/rtp2004/2004/FinalPlan.htm~~

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 (Shalls)
Federal: Title 23 CFR Part 450.324(f)(11) Requires a fiscally constrained list of projects.

Recommendations (Shoulds)
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.
State:

Best Practices: Available in Appendix M

~~http://www.mtc.ca.gov/planning/2035_plan/~~

~~http://www.sacog.org/mtp/2035~~

6.5 Revenue Identification and Forecasting

Revenue forecasts for RTPs can take into account new funding sources that are "reasonably expected to be available." New funding sources are revenues that do not currently exist or that may require additional steps before the 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 take into account all projects and strategies proposed for funding under Title 23 U.S.C.; Title 49 U.S.C. Chapter 53; other

Federal funds; State transportation funds; local funding sources and private sources of funds for transportation projects. Beginning December 11, 2007, funding estimates contained in the RTP must use an inflation rate to reflect "year of expenditure dollars".

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 (Shalls)
Federal: Title 23 CFR Part 450.324(f)(11)
State: California Government Code Section 65080(b)

Best Practices: Available in Appendix M

~~http://www.bcag.org/Planning/index.html~~

~~http://www.fresnocog.org/document.php?pid=320&x=272~~

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, taking into account project planning and development durations, as well as construction. Inflation rates may be different for specific cost elements (e.g. construction vs. right-of-way). The RTP should clearly specify how inflation is considered in the estimate and clearly State that the estimate is expressed in year of expenditure dollars. Consider multiple sources for determining the inflation rate, including nationwide and local references. Include consideration of any locality-specific cost factors that may reflect a growth rate significantly in excess of the inflation rate, such as land acquisition costs in highly active markets. The inflation rate(s) should be based on sound, reasonable financial principles and information, developed cooperatively by the 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 (Shalls)
Federal: Title 23 CFR Part 450.324(f)(11)
State: California Government Code Section 65080(b)

Recommendations (Shoulds)
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.

Best Practices: Available in Appendix M

~~In keeping with the Federal and State efforts to streamline the project delivery and NEPA review process at the project level by providing environmental information at the earliest point in~~

~~time, it is recommended that the RTP also include a preliminary cost estimate for the mitigation activities that are identified.~~

6.7 Asset Management

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

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

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

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

Through the use of asset management systems, engineering and economic analysis, and other tools, 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 consider including asset management principles in the development of their RTPs. The following are the benefits of applying transportation asset management during the planning process:

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

Additional information is available from the FHWA at:

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

Requirements (Shalls)
Federal: MAP-21/FAST Act establish limitations on federal funding flexibility if the aggregate bridge condition in California does not meet certain minimum conditions for National Highway System (NHS) bridges. MPOs 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 (Shoulds)
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

Best Practices: Available in Appendix M

~~To ensure a sustainable transportation system, MPOs are encouraged to address existing infrastructure condition and performance prior to considering expansion of the system. This general approach is considered a best practice that will ensure that the agencies funding for the transportation will be adequate to sustain the system into the future.~~

~~http://www.sjcog.org/Programs%20&%20Projects/Transportation_files/RTP.htm~~

~~http://www.hcaog.net/docs/RTP.2006~~

~~http://www.mtc.ca.gov/planning/2035_plan/T2035-Project_Notebook_web.pdf~~

Modal Discussion

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

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

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

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

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

6.8 Highways

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

1. An overview of the primary highway and arterial road system within the region;
2. National and State highway system, and regionally significant streets and roads;
3. Any corridor preservation processes for possible future transportation projects (i.e. right of way, historic highways, abandoned highways or rails);
4. Maintenance of State highways;
5. Data collection and other infrastructure requirement for ITS;
6. Unmet highway needs;
7. Consider CTP policy suggesting ~~to~~ strategic investing ~~strategically~~ to optimize performance; ~~and~~
8. Consider CTP policy suggesting ~~for~~ the application of sustainable preventative maintenance and rehabilitation strategies;
9. Consider investing strategically to reduce greenhouse gas emissions, by promoting the use of zero-emission vehicles on highways;
10. Consider investing strategically to advance widespread transportation electrification;
11. Consider emissions from highways, and their impact on adjacent communities; and,
12. Include community participation in the design and development of highway transportation projects.

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

Recommendations (Shoulds)
State: Public Utilities Code Section 740.12; Health and Safety Code Section 44258.4(b)

Best Practices:

~~http://www.scrtpa.org/RTplan.htm~~

~~http://www.pctpa.org/library/rtp2027/rtp2027_final.htm~~

~~http://www.trpa.org/default.aspx?tabindex=13&tabid=317~~

6.9 Local Streets & Roads

Local streets and roads are critical to provide an interconnected, multi-modal transportation system where every trip begins and ends. Investment in local streets and roads is an investment in public safety, economic growth, goods movement and farm to market needs. According to 2013 California Public Road Data compiled by Caltrans Division of Research, Innovation & System Information, counties and cities maintain 81 percent of the maintained miles within the State of California and carry 45 percent of the total annual miles of vehicle travel. The condition of local streets and roads continue to deteriorate due to the funding shortfalls and will be further challenged by the escalating repair costs in future years. Adequately investing in the local system is critical to protect the public's current investment. The local system will become ever more important in supporting the goals of climate change and building sustainable communities, as local streets and roads serve as the right-of-way for transit, bicycle and pedestrian travel.

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

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

7. The benefits of active transportation and how the RTP supports active transportation planning.

References

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

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

Requirements (Shalls)

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

State: Government Code 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 greenhouse gas emissions that contribute to global warming. Transit systems also play an important role in the mobility for those who are unable to drive, including youth and the elderly, as well as low-income individuals, and people with disabilities. Given these reasons, it is crucial for MPOs to engage in a continual and comprehensive dialogue with the transit operators within their region. The CTP highlights the positive impacts of public transportation and suggests the integration of multimodal transportation and land use development which can help establish areas within regions that can be possible locations for Transit Oriented Developments (TODs).

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

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

12. Integration with local land use plans that could increase ridership and,
13. A measure of transit capacity utilization for peak and off-peak service to evaluate service effectiveness.

In addition, MAP-21/FAST added a new requirement for RTPs to also include transportation and transit enhancement activities, including consideration of the role that intercity buses may play in reducing congestion, pollution, and energy consumption in a cost-effective manner and strategies and investments that preserve and enhance intercity bus systems, including systems that are privately owned and operated, including transportation alternatives, as defined in 23 USC 101(a), and associated transit improvements, as described in 49 USC 5302(1), as appropriate.

Requirements (Shalls)
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 MAP-21/FAST to include consideration of the role that intercity buses play in reducing congestion, pollution, and energy consumption.
State: Government Code Section 65080(a) the RTP shall be directed at achieving a coordinated and balanced regional transportation system.

Best Practices: Available in Appendix M

~~Los Angeles Metro, *First and Last Mile Strategic Plan*, identified strategies and potential funding sources for improving the areas surrounding transit stations to make it easier and safer for people to access them. SCAG incorporated some of these strategies into its 2016 RTP/SCS as well as short trips strategies to increase the number of trips under three miles that people take by foot or bike. The draft plan is available at: http://media.metro.net/projects_studies/sustainability/images/path_design_guidelines_draft_november_2013.pdf~~

6.11 ~~3~~ Bicycle & Pedestrian – Including AB 1396 California Coastal Trail

The use of bicycles and walking as a means of transportation has increased dramatically in California over the last 20 years. Both modes of transportation promote a healthy lifestyle and reduce environmental impacts. Higher levels of physical activity are associated with well-connected transportation networks 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 access and circulation is available in Section 2.7~~6~~. 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 ~~low stress~~[16] trips to destinations;

[16] ~~http://www.peopleforbikes.org/blog/entry/mapping-comfort-part-i-how-psychological-stress-influence-bike-maps~~

2. Policies, plans and programs, such as Safe Routes to Schools, used to promote the usage of bikes and walking;
3. Transit and rail interface with bicyclists and pedestrians;
4. Unmet bicycle and pedestrian needs; and,
5. Existing and potential California Coastal Trail (CCT) network segments and linkages, as well as gaps and related coastal access trail needs.

AB 1396 – California Coastal Trail

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

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

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

www.yourcoast.org

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

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

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

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

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

Requirements (Shalls)
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 USC Section 217(g)
State: Government Code Section 65080(a) requires that the RTP shall be directed at achieving a coordinated and balanced regional transportation system.
Government Code Section 65080.1 requires that transportation planning agencies whose boundaries include a portion of the California Coastal Trail or property designated for the trail, coordinate with appropriate agencies including the State Coastal Conservancy, the California Coastal Commission and Caltrans regarding development of the California Coastal Trail, and include provisions for the California Coastal Trail in their Regional Transportation Plan.

Best Practices: Available in Appendix M

~~Local and Regional plans for bicycle and pedestrian trails and related facilities, including the California Coastal Trail should be supported by RTPs. Additional best practice information regarding the California Coastal Trail is available at the following links:~~

~~*Completing the California Coastal Trail Plan* – California Coastal Conservancy~~
~~http://www.coastal.ca.gov/access/coastal-trail-report.pdf~~

~~Information regarding California Coastal Trail Definition and Design and Siting Standards is available at:~~

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

6.12 ~~1~~ 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 ~~economic~~ benefits to the regional economy, environment, public health, and community well-being. Improvements to the goods movement transportation system ~~often~~ 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~~s~~ trucks off the highway, congestion ~~is~~ could be reduced and potentially reduce~~s~~ greenhouse gas emissions. The CTP 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. 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, ~~and~~ freight carriers and shippers, local air districts, electric and gas utilities, and multiple state agencies (e.g., ARB, California Energy Commission, Caltrans, California Public Utilities Commission).

The RTP section discussing goods movement should include the following:

1. A discussion of the role of goods movement within the region (the types and the magnitudes of goods moved through the region and their economic importance);
2. An inventory of all major highway and roadway routes consistent with the National Highway Freight Network, including critical urban freight corridors;
3. An inventory of seaport facilities, air cargo facilities, freight rail lines, and major warehouses and freight transfer facilities within the region;
4. An analysis of the efficiency of the overall freight transportation system capacity, including existing land side freight ~~goods movement~~ transportation infrastructure (e.g. bottlenecks, gaps, etc.) and identification of expansion or improvement needs at seaport and airport facilities that handle cargo and issues regarding land side access to these facilities,
5. An analysis of zero-emission and near-zero-emission freight technologies available for goods movement applications;
6. An analysis of the greenhouse gas and criteria air pollutant emissions associated with goods movement in the region;
7. Identification of regional hotspots for pollution associated with goods movement;
8. An analysis of the demographics of the communities within and adjacent to regional hotspots for pollution associated with goods movement;
9. An analysis of the health impacts associated with pollution from freight, both in the region at large as well as in the identified regional hotspots;
10. Discussion of how the region's, or nation's (as some MPOs are international gateways for freight) projected population growth, consumption patterns, manufacturing practices and purchasing power of the region, nation, and world, will affect the demand for goods movement, and identification of land areas where goods movement facilities (such as intermodal facilities and warehouses) necessary to support this demand can and should be located;
11. Specific projections, by mode, of future freight demand;
12. Identification of freight-elated highway and roadway improvement needs;
13. ~~Identification of expansion or improvement needs at seaport and airport facilities that handle cargo and issues regarding land side access to these facilities~~ (COMBINED WITH #4 ABOVE);
14. Identification of expansion or improvement needs for freight rail lines within the region;
15. Identification of intermodal connection issues between different modes (e.g. freight, rail and seaport facilities), as applicable;
16. Identification of USA/Mexico border crossing issues, if applicable;
17. Discussion of ITS and advanced technology opportunities for goods movement, with the aim of maximizing operational efficiencies and minimizing emissions; ~~and,~~
18. 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; and,
19. Identification of opportunities or innovations that reduce greenhouse gas emissions and criteria air pollutant emissions associated with freight.

California Sustainable Freight Action Plan

In July 2015, Governor Brown issued Executive Order B-32-15 which prioritizes California's transition to a more efficient and less polluting freight transportation system. This transition of

California's freight transportation system is essential to supporting the State's economic competitiveness in the coming decades while reducing greenhouse gas emissions and air quality impacts. The Executive Order directed State agencies to develop an integrated action plan by July 2016 that established clear targets to improve freight efficiency, transition to zero-emission technologies, and increase the competitiveness of California's freight system. It is suggested that regional transportation agencies consult the California Sustainable Freight Action Plan when developing the freight-related strategies in their respective RTPs.

California Freight Mobility Plan (Moved from Best Practices)

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

Requirements (Shalls)
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 USC Section 134 reflects similar requirements in federal statutes.
State: Government Code Section 65080(a) requires that the RTP shall be directed at achieving a coordinated and balanced regional transportation system.

Recommendations (Shoulds)
Federal: The FAST Act continues the Metropolitan Planning program. The Program establishes a cooperative, continuous, and comprehensive framework for making transportation management decisions in metropolitan areas. Program oversight is a joint Federal Highway Administration/Federal Transit Administration responsibility, FAST Act § 1201; 23 USC 134. The FAST Act continues to encourage MPOs to consult with officials responsible for other types of planning activities, including freight.

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

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

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

- **Primary Highway Freight System (PHFS):** This is a network of highways identified as the most critical highway portions of the U.S. freight transportation system determined by measurable and objective national data. The network consist of 41,518 centerline~~s~~ 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.

Best Practices: Available in Appendix M

~~MPOs are encouraged to consider developing or updating freight plans for their region, as these plans can help MPOs improve the efficiency and sustainability of goods movement in their regions.~~

~~http://www.dot.ca.gov/hq/tpp/offices/ogm/~~

~~http://rtpscs.scag.ca.gov/Pages/default.aspx~~

~~http://www.alamedactc.org/goodsmovement~~

~~http://www.ops.fhwa.dot.ca.gov/freight/infrastructure/nfn/index.htm~~

~~http://www.sandag.org/index.asp?classid=13&fuseaction=home.classhome~~

6.13 ~~2~~ Regional Aviation System

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

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

http://dot.ca.gov/hq/planning/aeronaut/publication.htmhttp://dot.ca.gov/hq/planning/aeronaut/publication.htm

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

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

Federal laws (Title 23 CFR Part 450.324(g) and Title 23 CFR Part 450.316(a) (1)) requires MPOs to consult with stakeholders responsible for land use management, as appropriate. Although not specifically named in statute, airports and ALUCs meet this criteria, and should be included in the consultation process during the RTP development. See Section 3 for guidance on the consultation process. State law (California Government Code Section 65080(a) and California Government Code Section 65080(a)) requires a coordinated and balanced regional transportation system. State law further requires RTPAs that have a primary air carrier airport (i.e. an airport with over 10,000 annual enplanements) within their jurisdiction shall have an Airport Ground Access Improvement Program (AGAIP). Annual passenger enplanement and air cargo reports are available from either the Caltrans Division of Aeronautics or from the Federal Aviation Administration (FAA), Airports Office: Passenger Boarding (Enplanement) and All-Cargo Data for U.S. Airports. See the Division of Aeronautics web site for annual reports of both enplanement and cargo data at**:**
http://dot.ca.gov/hq/planning/aeronaut/documents/statistics/paxstats.htm

Requirements (Shalls)
Federal: Title 23 CFR 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 Government Code Section 65080(a) states that "Each transportation planning agency…shall prepare and adopt a regional transportation plan directed at achieving a coordinated and balanced regional transportation system, including…aviation facilities and services." Government Code Section 65081.1(b) requires consideration of highway, rail, and

mass transportation and states that, "The program shall address the development and extension of mass transit systems, including passenger rail service, major arterial, and highway widening and extension projects, and any other ground access improvement projects the planning agency deems appropriate."

Recommendations (Shoulds)
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.

Best Practices: Available in Appendix M

~~As a best practice, MPOs should include the following aviation planning topics in the development of their RTPs:~~

1. ~~An overview of the role that all public use airports including both commercial, and general aviation airports, heliports, and military airfields play in the region's multimodal transportation system.~~
2. ~~Describe the functional relationship between the region's airports, and heliports, and explain specific RTP policies that support and preserve the long term viability of the region's airports.~~
3. ~~Identify current airport conditions such as noise, safety, and future airport improvement projects that can be found in either an airport's layout plan, or master plans.~~
4. ~~Provide a list of all public-use airports, including their State functional class developed by the Division of Aeronautics for all commercial and general aviation airports, and military installations in the region, and a description of their facilities and uses, and a map of their location.~~
5. ~~Provide a discussion of any future airport(s) growth and improvement needs found in each airport's master plan or airport layout plan.~~
6. ~~A discussion of multimodal ground access issues and any required ground access program or plan.~~
7. ~~A separate list of short (5 year) and long-range (10 year) Airport Capital Improvement Plan (ACIP) projects within the region.~~
8. ~~Identify which governing body serves as each county's ALUC for the region established pursuant to PUC 21670(a), as well as the title and date of the most current ALUCPs, Airport Master Plans or Airport Layout Plans; and military Air Installation Compatible Use Zone Plans.~~
9. ~~Demonstrate consistency with the State of California Office of Planning and Research's document entitled *Community and Military Compatibility Planning; Supplement to the General Plan Guidelines* (December 2009) for military installations available at: https://www.opr.ca.gov/docs/Military_GPG_Supplement.pdf~~

   ~~**Additional aviation best practice studies can be found at**:~~
   ~~http://dot.ca.gov/hq/planning/aeronaut/publication.htm~~
   ~~http://www.faa.gov/airports/planning_capacity/ga_study~~
   ~~http://www.gao.gov/products/GAO-10-120~~
   ~~http://www.gao.gov/products/GAO-13-261~~

~~For questions and additional information regarding the state aviation program and its airport planning activities for a specific region please visit the Caltrans Division of Aeronautics website: http://www.dot.ca.gov/hq/planning/aeronaut/planners.htm~~

~~For additional information regarding land use compatibility concerns affecting airports please visit the Caltrans Division of Aeronautics website: http://www.dot.ca.gov/hq/planning/aeronaut/landuse.htm~~

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 le~~a~~vel rise. Each installation has plans that address environmental and sustainability needs for their installation and practices in place that protect the environment and ensure the Service's ability to execute their mission.

Military transportation needs can be broken down into three broad categories, troop transport, military cargo, and installation employees commuter needs. These needs include surge capabilities as needed. Military facilities are spread throughout California, in all sizes of communities from rural locations to heavily urbanized areas. They share the same transportation needs as their neighboring communities. Although not specifically named in planning statue and codes, the requirement to consult with all users of the transportation system apply to the military as well, see Chapter 4 RTP Consultation and Coordination for detailed discussion of users and the consultation process. In addition to transportation needs, military installations also need protection from encroachment of incompatible land uses that could hamper the facilities ability to meet its mission needs. Military installations with airfields are required by DOD to prepare Air Installation Compatible Use Zone Plan (AICUZ) that address their compatibility needs. ALUC are required to develop an ALUCP for the airfield that is consistent with the AICUZ. The federal government, Transportation Research Board, and some states (Texas, Colorado, North Carolina, New Jersey, and Virginia) offer guidance and best practices regarding how to address land use compatibility issues for military installations. General plans must be consistent with the AICUZ and ALUCP for the military airfields in their jurisdiction. California's Office of Planning and Research (OPR) publishes a guide for how to incorporate land use compatibility planning for military installations in the State. https://www.opr.ca.gov/docs/Military_GPG_Supplement.pdf.

Requirements (Shalls)

Federal: Consulting with interested parties on plans, programs, and projects shall include individuals or 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 (Shoulds)
State: ~~RTPAs~~ 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.

Best Practices: Available in Appendix M

~~As a best practice, MPOs should include a discussion of military installations transportation and land use compatibility needs in their RTPs by addressing of the following:~~

1. ~~A list and map of all military airfields and installations in the region.~~
2. ~~An overview of the role that these military airfields and installations play in the region including a brief description of the installation's current and future mission(s).~~
3. ~~Discuss the land use needs, and potential encroachment issues that each installation faces in both the near and long term.~~
4. ~~Discuss multimodal ground access needs to installations for both people and freight, as well any needed ground access programs or plans that support its needs to complete its mission(s).~~
5. ~~Demonstrate consistency with California's OPR document *Community and Military Compatibility Planning; Supplement to the General Plan Guidelines* (December 2009) available at: https://www.opr.ca.gov/docs/Military_GPG_Supplement.pdf.~~
6. ~~Integrate military installation plans with other existing plans as described in Chapter 2, Sections 2.4 through 2.6.~~
7. ~~Model installation travel demands and forecasts described in Chapter 3 as needed, especially for regions that are in nonattainment areas throughout the State.~~

~~**Additional military installation Best Practices can be found at**:~~
~~http://www.napawash.org/2009/1378-strengthening-national-defense-countering-encroachment-through-military-community-collaboration.htm~~
~~http://militarycouncil.ca.gov/s_economicdata.php~~
~~https://www.sdmac.org/ImpactStudy.htm~~
~~http://hrtpo.org/page/military-transportation-needs~~
~~http://www.nctcog.org/trans/aviation/jlus/JLUS_bkg.asp~~
~~http://hrtpo.org/page/military-transportation-needs~~
~~http://www.militarycommunitytransport.org/resources.htm~~
~~http://www.nceastmgtf.org/studies-and-analyses~~
~~www.nj.gov/.../military/docs/Military%20Task%20Force%20Report.pdf~~
~~https://www.enterpriseflorida.com/wp.../FDSTF-Report-Best-Practices-Study.pdf~~

~~For questions and additional information regarding the state aviation program and its airport planning activities for a specific region please visit the Caltrans Division of Aeronautics website:~~
~~http://www.dot.ca.gov/hq/planning/aeronaut/planners.htm~~

For additional information regarding land use compatibility concerns affecting airports please visit the Caltrans Division of Aeronautics website: http://www.dot.ca.gov/hq/planning/aeronaut/landuse.htm

~~6.13 Bicycle & Pedestrian – Including AB 1396 California Coastal Trail~~

MOVED TO SECTION 6.11

~~The use of bicycles and walking as a means of transportation has increased dramatically in California over the last 20 years. Both modes of transportation promote a healthy lifestyle and reduce environmental impacts. Higher levels of physical activity are associated with well-connected transportation networks. The CTP acknowledges that viable and equitable multimodal choices are created through Complete Streets and high quality transit access in communities. The CTP can be a helpful resource for MPOs to refer to during their RTP development. Additional information regarding the Complete Streets planning process which emphasizes bicycle and pedestrian access and circulation is available in Section 2.6. The RTP section discussing bicycle and pedestrian issues should identify the following:~~

6. ~~A well-connected transportation network within the region that includes routes with all types of bicycle and pedestrian facilities on local streets which provide low stress[17] trips to destinations;~~
7. ~~Policies, plans and programs, such as Safe Routes to Schools, used to promote the usage of bikes and walking;~~
8. ~~Transit and rail interface with bicyclists and pedestrians;~~
9. ~~Unmet bicycle and pedestrian needs; and,~~
10. ~~Existing and potential California Coastal Trail (CCT) network segments and linkages, as well as gaps and related coastal access trail needs.~~

~~AB 1396 – California Coastal Trail~~

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

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

---

[17] ~~http://www.peopleforbikes.org/blog/entry/mapping-comfort-part-i-how-psychological-stress-influence-bike-maps~~

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

~~www.yourcoast.org~~

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

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

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

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

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

~~**Requirements (Shalls)**~~
~~**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 USC Section 217(g)~~
~~**State:** Government Code Section 65080(a) requires that the RTP shall be directed at achieving a coordinated and balanced regional transportation system.~~
~~Government Code Section 65080.1 requires that transportation planning agencies whose boundaries include a portion of the California Coastal Trail or property designated for the trail, coordinate with appropriate agencies including the State Coastal Conservancy, the California Coastal Commission and the Department of Transportation regarding development of the California Coastal Trail, and include provisions for the California Coastal Trail in their Regional Transportation Plan.~~

~~**Best Practices:** Local and Regional plans for bicycle and pedestrian trails and related facilities, including the California Coastal Trail should be supported by RTPs. Additional best practice information regarding the California Coastal Trail is available at the following links:~~

~~*Completing the California Coastal Trail Plan* – California Coastal Conservancy~~
~~http://www.coastal.ca.gov/access/coastal-trail-report.pdf~~

~~Information regarding California Coastal Trail Definition and Design and Siting Standards is available at:~~

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

Programming/Operations

6.14 Transportation System Management and Operations

The RTP shall address management and operations strategies aimed at improving the performance of the existing regional transportation system in order to reduce transportation congestion issues and maximize the safety and mobility of people and goods. Examples of operational and management include: (a) Traffic incident management (b) Travel information

services(c) Roadway weather information (d) Freeway management (e) Traffic signal coordination and (f) Bicycle and transit trip planning.

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

RTPs shall include existing and proposed transportation facilities (including major roadways, transit, multimodal and intermodal facilities, pedestrian walkways and bicycle facilities and connectors) that should function as an integrated regional transportation system with emphasis on those facilities that serve important national and regional needs.
If applicable, the locally preferred alternative selected from an Alternative Analysis under the FTA's Capital Investment Grant Program (Section 5309) needs to be adopted as part of the RTP as a condition for funding under Title 49 USC Section 5309.

Requirements (Shalls)
Federal: Title 23 USC Section 134 and Title 23 CFR Part 450.324(f)(5) requires strategies for improving the regional transportation system and reducing congestion.

Best Practices: Available in Appendix M

~~A US DOT document titled; "Management & Operations in the Metropolitan Transportation Plan: A Guidebook for Creating an Objectives-Driven, Performance-Based Approach" provides a very good overview on how to integrate transportation system management and operations into the planning process. See:~~

~~http://www.ops.fhwa.dot.gov/publications/moguidebook/index.htm~~

~~In addition, the US DOT document titled, "Traffic Signal Operations and Maintenance Staffing Guidelines," provides guidelines to estimate the staffing and resource needs required to effectively operate and maintain traffic signal systems. Specifically, Chapter 1.3.1 provides a suggestion on the level of maintenance that is necessary. See:~~

~~http://ops.fhwa.dot.gov/publications/fhwahop09006/fhwahop09006.pdf~~

6.15 Coordination with Programming Documents

The Federal Transportation Improvement Program (FTIP) is a four-year prioritized listing of federally funded and non-federally funded regionally significant transportation projects that is developed and formally adopted by an MPO as part of the metropolitan transportation planning process. MPOs work cooperatively with public transportation agencies as well as other local, state, and federal agencies to propose projects for inclusion in the FTIP. Each project or project phase in the FTIP must be consistent with the approved RTP. The FTIP must be updated at least every four years. 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 State Transportation Improvement Program (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 Federal Highway Administration and Federal Transit Administration for approval. The FSTIP covers a four-year period and must be updated at least every four years. States have the option to update more frequently, if desired. Federally funded projects or non-federally funded regionally significant projects cannot be added to the FTIP or FSTIP unless they are included in the RTP. Specific requirements for the development and content of the FSTIP are contained in Title 23 CFR Part 450.218.

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

Requirements (Shalls)
Federal: Title 23 CFR Part 450.326(a) requires MPOs to prepare a transportation improvement program (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 Transportation Projects Exempted from Senate Bill 375

Government Code Section 65080 (b)(2)(L) provides that projects programmed for funding on or before December 31, 2011, are not required to be subject to the provisions required in Government Code Section 65080 (b)(2), a Sustainable Communities Strategy and Alternative Planning Strategy, if they are:

- Contained in the 2007 or 2009 Federal Statewide Transportation Improvement Program, or
- Funded pursuant to the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006, Chapter 12.49 (commencing with Section 8879.20) of Division 1 of Title 2, or

- Were specifically listed in a ballot measure prior to December 31, 2008, approving a sales tax increase for transportation projects.

Nothing in Government Code Section 65080 (b)(2)(L) shall require a transportation sales tax authority to change the funding allocations approved by the voters for categories of transportation projects in a sales tax measure adopted prior to December 31, 2010. For purposes of this subparagraph of the Government Code, a transportation sales tax authority is a district, as defined in Section 7252 of the Revenue and Taxation Code that is authorized to impose a sales tax for transportation purposes.

Programmed for funding refers to the inclusion of funding in the 2007 or 2009 FSTIP; the approval of funding for a specific project by the State Legislature or appropriate administrative agency; or the approval of funding for a specific project in an action taken by a transportation sales tax authority that implements the authority conferred in a ~~by~~ voters-approved in a sales tax expenditure plan, where all environmental review required under CEQA has been completed with respect to the project and/ or the expenditure plan.

For the purposes of Government Code Section 65080 (b)(2)(H), prior to adopting a Sustainable Communities Strategy (SCS), the MPO shall quantify the reduction in greenhouse gas emissions (GHG) projected to be achieved by the SCS and set forth the difference, if any, between the amount of that reduction and the target for the region established by the ARB. As a result, an MPO shall include exempted projects in their SCS for purposes of modeling the impacts of the RTP on regional greenhouse gas (GHG) emissions.

Pursuant to Government Code Section 65080(b), the RTP is required to be an internally consistent document. This means the contents of the Policy, Action, Financial elements, and the Sustainable Communities Strategy must be consistent with one another and with the Goals, Policies, and Objectives of the RTP as adopted by the MPO.

~~These projects~~ Projects meeting the criteria in this section, however, are exempt from these internal consistency requirements. In other words, these projects may be included in the RTP even if they are inconsistent with the SCS or other policies to reduce regional GHG emissions.

However, exempted projects must meet all federal consistency requirements. In particular, pursuant to 23 CFR. 450.306 (b)(5), the RTP "planning process shall . . . promote consistency between transportation improvements and State and local planned growth and economic development"; and pursuant to 23 CFR 450.306 (f), "An MPO shall carry out the metropolitan transportation planning process in coordination with the statewide transportation planning process required by 23 USC. 135 and 49 USC 5304," and pursuant to 23 CFR 450.104, "*Coordination* means the cooperative development of plans, programs, and schedules among agencies and entities with legal standing and adjustment of such plans, programs, and schedules to achieve general consistency, as appropriate."

A project's status as exempt does not preclude an MPO from evaluating it for inclusion in the RTP and ultimately excluding it from the RTP at its discretion based on financial constraint, policy, or other considerations.

Requirements (Shalls)
Federal: None
State: California Government 7Code Section 65080 (b)(2)(H) and (L)

6.17 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 should be specifically identified and noted in the project-listing portion of RTP.

Requirements (Shalls)
Federal: Title 23 CFR Part 450.326(f) requires all regionally significant projects be included in the TIP regardless if the projects are to be funded with federal funds or not.

6.18 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, ~~that~~ "*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 defines the responsibilities for creating and maintaining Regional ITS Architecture (RA) frameworks. Architecture maintenance is the process of updating a regional architecture with references to new projects and activities, new stakeholders; additions, retirement or replacement of

equipment; and, changes to standards and protocols. Maintenance is an ITS program responsibility under Title 23 CFR Part 940.

The intent of the federal ITS requirement is to encourage reciprocal consistency. Title 23 CFR Part 940.5, Intelligent transportation system architecture and standards, calls for the "development of the regional ITS architecture (to) be consistent with the (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 US DOT Architecture website:

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

Requirements (Shalls)
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.

Best Practices: Available in Appendix M

~~http://www.bcag.org/Planning/index.html~~

~~6.18 Performance Measures~~

MOVED TO CHAPTER 7 – PERFORMANCE MEASURES

~~Transportation performance measures consist of a set of objective, measurable criteria used to evaluate the performance and effectiveness of the transportation system, government policies, plans and programs. Performance measures use metrics to determine progress toward specific and defined objectives. This includes both evidence of fact, such as measurement of pavement surface smoothness or the percentage of transit service delivered on time (quantitative) and measurement of customer perception determined through customer surveys (qualitative). Performance measures help set goals and outcomes, detect and correct problems, evaluate multi-year trends and document accomplishments.~~

~~These performance measures in the RTP set the context for judging the effectiveness of the FTIP as a program, by further RTP goals and objectives, whereas, the STIP Guidelines address performance measures of specific projects. Government Code Section 14530.1 (b)(5) requires more detailed project specific "objective criteria for meeting system performance and cost effectiveness of candidate projects" in the STIP Guidelines (Section 19). For additional information on the State Transportation Improvement Program (STIP) and the Fund Estimate (FE), please refer to Caltrans Division of Transportation Programming website at:~~

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

~~In small urban areas or rural areas, we recommend developing partnerships with neighboring jurisdictions, and collecting data and information in order to make a good case for more funding such as for re-pavement or rehabilitation of road projects.~~

~~The policy element could mention the goals and objectives, and the Action element is what would provide the result/s. For example, the Action element should provide a comparison of what is being measured, how it is measured and the results and analysis of the eventual outcomes.~~

~~On highway projects Caltrans considers system condition and performance measurements for interregional planning and the setting of State planning and programming activities. The State performance measures will focus on interregional trips between, into and through the regions. Caltrans coordinates its performance measure activity with MPOs. MPOs should develop and implement their own performance measures on regional roads, transit, rail, bicycle and pedestrian facilities etc. Examples of performance measures include:~~

1. ~~Preserve the Transportation System;~~
2. ~~Safety & Security;~~
3. ~~Improve Mobility/Accessibility;~~
4. ~~System Reliability;~~
5. ~~Economic Well Being;~~
6. ~~Investment Equity;~~
7. ~~Cost-effectiveness;~~
8. ~~Environmental Quality; and,~~
9. ~~Customer Satisfaction.~~

~~The following criteria can measure the performance of specific projects:~~

1. ~~Reduction in vehicle occupant, freight and goods travel time or delay;~~
2. ~~Reduction in collisions and fatalities;~~
3. ~~Reduction in vehicle and system operating costs;~~
4. ~~Increase in access to jobs, markets and commerce;~~
5. ~~Increase in transit ridership resulting from increased frequency and reliability of rail/transit service;~~
6. ~~Reduction in air pollution emissions and greenhouse gas (GHG) emissions consistent with regional GHG emissions reduction targets set by ARB ;~~
7. ~~Reduction in vehicle miles traveled;~~
8. ~~Increase in bicycling and walking trips; and,~~
9. ~~Increase in freight and goods movement system efficiency.~~

~~Tradeoffs between performance measure thresholds should be clearly identified and priorities set to avoid confusion about project objectives, because some of these measures may compete or conflict with one another depending on the specific thresholds that are set.~~
~~Regions should consider the following criteria for measuring cost-effectiveness of specific projects in their RTP:~~

1. ~~Decrease in vehicle occupancy travel, freight and goods time per thousand dollars invested;~~
2. ~~Decrease in collisions and fatalities per thousand dollars invested;~~
3. ~~Decrease in vehicle and system operating cost per thousand dollar invested;~~

4. ~~Improved multimodal access to jobs, markets and commerce per thousand dollars invested;~~
5. ~~Increased frequency and reliability of rail/transit service per thousand dollars invested;~~
6. ~~Increased transit ridership per thousand dollars invested;~~
7. ~~Decrease in air pollution emissions and GHG emissions per thousand dollars invested;~~
8. ~~Increase in destinations accessible by walking, bicycling, and taking public transportation per thousand dollars invested; and,~~
9. ~~Decrease in freight and goods movement system operating costs per thousand dollars invested.~~

~~The goals and objectives in the RTP should be linked and consistent with the goals and objectives of the FTIPs/RTIP and ITIP. Each MPO and Caltrans is being asked to provide a quantitative and/or qualitative evaluation of their FTIPs/RTIP and ITIP, commenting on each of the performance indicators and performance measures outlined in Table A of the STIP Guidelines. Attachment 1 has been developed to assist agencies with this task. Furthermore, Attachment 1 will be considered the evaluation report and will fulfill the requirement outlined in Section 19 of the STIP Guidelines, which can be accessed from the Caltrans Division of Programming website at:~~

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

~~**Requirements (Shall)**~~
~~**Federal:** Update for 23 CFR 450.324(f)(3) & (4)~~
~~**State:** California Government Code Section 14530.1(b)(5) requires more detailed project specific information.~~

~~**Best Practices:**~~
~~Caltrans recommends using performance measures to measure the progress of regional projects. MPOs should take into account the benefits of using performance measures to establish a base of measurement and cross-reference the measurement with the performance measure outcome/results. These measurements can be used to justify the need for funding on specific projects. The scientific data may support regional needs and highlight the justification for funding a project that demonstrates the potential for improved performance on the Caltrans system or regional road network.~~

~~Caltrans has also developed a guidebook on how to implement performance measures in rural and small urban regions. This guidebook provides a toolbox from which to select appropriate methodologies for performance measures in your rural or small urban areas. The Guidebook on "Performance Measures for Rural Transportation Systems" can be accessed at:~~

~~http://www.dot.ca.gov/perf~~

6.19 Future of Transportation and New Technology

While maintaining the current transportation network is often a priority for MPOs, MPOs need to be planning ahead for a future in which technology will transform the way that people move and live. 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.

MPOs should also be aware of the pending guidance from the Federal Highway Administration (FHWA) to transportation infrastructure owner/operators (Caltrans; counties; and cities) on what equipment they should consider installing in their infrastructure to support both V2V and vehicle-to-infrastructure (V2I) communications, again using DSRC. The best example of this equipment is the DSRC radios. These radios provide the communication capability that is essential for V2I applications. Roadside processors may also be necessary in some cases where the applications demands heavier computing requirements.

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

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

Best Practices: Available in Appendix M

~~This document explains licensing requirements transparent and best practices accessible to any organization, public or private, seeking to deploy "Connected Vehicle" Dedicated Short Range Communications (DSRC) Roadside Units (RSU) and services that support vehicle-to-infrastructure (V2I) applications.~~

~~http://ntl.bts.gov/lib/56000/56900/56950/FHWA-JPO-16-267.pdf~~

~~This guidance is intended to assist system owner/operator staff to deploy V2I technology not only in terms Federal Aid Highway program requirements but also practices to help ensure interoperability and efficient and effective planning/procurement/operations.~~

~~http://www.its.dot.gov/meetings/pdf/V2I_DeploymentGuidanceDraftv9.pdf~~

~~SCAG's RTP/SCS Mobility Innovations Appendix:~~
~~http://scagrtpscs.net/Documents/2016/draft/d2016RTPSCS_MobilityInnovations.pdf~~

Transportation Electrification

State law encourages MPOs to promote the development of transportation electrification and the deployment of electric vehicles in their RTPs. Section 740.12 of the Public Utilities Code describes the importance of transportation electrification for meeting greenhouse gas emission reduction targets and air quality standards. Section 740.12 demands that agencies developing plans that address greenhouse gas emission reductions consider the findings included in the law, and promote greater adoption of transportation electrification.

Transportation electrification is essential to meeting the targets established in Section 44258 of the Health and Safety Code. That section, otherwise known as the Charge Ahead California Initiative, sets a target of one million zero-emission and near-zero-emission vehicles on the road by 2023. MPO RTPs should include an evaluation of how the RTPs advance the goals described in Section 740.12 and in the Charge Ahead California Initiative.

Requirements (Shoulds)
State: Public Utility Code Section 740.12, Health and Safety Code Section 44258.

6.20 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.

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

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

The public expects, and demands, that the transportation system be safe and efficient for all users. Addressing the improvement of transportation safety can help alleviate a myriad of health, financial, and quality-of-life issues for travelers. Fatalities and injuries from motor vehicles crashes are a major public health problem. Historically, transportation safety has not been included as part of the transportation planning process. A clear need has developed for safety to be considered as part of planning process instead of as a reactionary consideration as it as been. To be adequately addressed, safety must be a key goal within the process. Improving the safety of the transportation network requires an active, conscious approach to monitoring the transportation system for safety problems and anticipating problems before they occur.

Strategic Highway Safety Plan

~~SAFETEA-LU~~ 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 continues the HSIP as a core Federal-aid program and the requirement for States to develop, implement, evaluate and update an SHSP that identifies and analyzes highway safety problems and opportunities on all public roads no less than every five years. ~~As a result of new federal requirements contained in SAFETEA-LU,~~ Each State must have a Strategic SHSP in place ~~by October 1, 2007~~ 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 ~~Serves as~~ a five-year guide for the implementation of specific projects and activities ~~through 2010~~.

The California SHSP is available on the Caltrans website at:

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

Safety Performance Measures

The MAP-21/FAST Act established Safety Performance Management (PM) as part of the overall Transportation Performance Management (TPM) program, which FHWA defines as a strategic approach that uses system information to make investment and policy decision to achieve national performance goals. The Safety PM regulation supports the HSIP, as it establishes safety performance measure requirements for the purpose of carrying out the HSIP and to assess fatalities and serious injuries on all public roads.

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

1. Number of Fatalities

2. Rate of Fatalities per 100 million Vehicle Miles Traveled (VMT)
3. Number of Serious Injuries
4. Rate of Serious Injuries per 100 million VMT, and
5. Number of Non-motorized Fatalities and Non-motorized Serious Injuries.

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

The California HSIP is available at:

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

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.

6.21 Transportation Security

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

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

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

In developing the RTP, MPOs are required to consult with agencies and officials responsible for other planning activities with in the region including natural disaster risk reduction. The RTP should identify the primary agencies responsible for preparing the necessary plans should a wide scale evacuation be necessary. The 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 amount of vehicles in one direction;
7. Use of Mass Transit – Transit could be used to assist in the evacuation of the public should it become necessary; and,
8. Airport Use – Airports can be used as staging areas for medical and food supplies as well as evacuation.

Requirements (Shalls)
Federal: Title 23 CFR Part 450.306(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 (Shoulds)
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.

6.22 Assessment of Capital Investment and Other Strategies

MAP-21/FAST adds a new RTP requirement that will take years to fully implement. The timeline for implementation is outlined in 23 CFR Part 450.340. The new RTP requirement is 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 (Shalls)
Federal: 23 CFR 450.324(f)(7)

6.23 ~~2~~ Congestion Management Process

The RTP shall describe and identify the transportation system management (TSM) and operations strategies, actions and improvements it will employ to manage and operate the urban freeway system, its corridors and major local parallel arterials for highest or increased productivity. Increased productivity can include all modes, including transit, bicycles, and pedestrians. There may be many ways to increase mobility without increasing greenhouse gas 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 I of the Guidelines contain additional information on strategies that can be used to manage congestion and reduce regional greenhouse gas emissions. The approach to TSM and operations shall be integrated into system planning documents.

Coordination of Project Programming

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

Congestion Management Process in the RTP

The RTP should identify urban freeway corridors with current and projected recurrent daily vehicle hours of delay that are a priority for preparing CSMPs and TCRs. The RTP should include by corridor all multimodal strategies, actions and improvements identified in the adopted TCR or CSMP that are needed to ~~restore capacity and describe how the corridor will be managed~~ 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. The financial element of the RTP should identify funding by corridor to implement projects and strategies identified in system planning documents. Approaches to improving corridor performance can include new ~~capacity~~ 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. ~~As of 2010, there are a total of nine designed TMAs in California.~~ ~~These~~ California MPOs that are currently designated ~~as~~ TMAs are:

1. Southern California Association of Governments (SCAG);
2. Metropolitan Transportation Commission (MTC);
3. San Diego Association of Governments (SANDAG);
4. Sacramento Area Council of Governments (SACOG);
5. ~~Council of~~ Fresno County Council of Governments (~~CO~~FCOG);
6. Kern Council of Governments (KCOG);
7. San Joaquin Council of Governments (SJCOG);
8. Stanislaus Council of Governments (StanCOG);
9. Tulare County Association of Governments (TCAG); and,
10. Santa Barbara County Association of Governments (SBCAG)

Congestion Management Plan

Effective with the MAP-21/FAST Act, 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.

The congestion management plan 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 (Shalls)
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 (Shoulds)
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

6.24 ~~3~~ GHG Emissions and Targets Background

Current law requires that ~~no later than September 2018~~ the California Air Resources Board (ARB) ~~shall provide each MPO with updates to the region's GHG emissions reduction~~ update the regional GHG emission reduction targets every eight years. In 2017, ARB plans to update each MPO's targets for automobile and light trucks for 2020 and 2035, with these updated targets being effective on January 1, 2018 to meet the eight year requirement. In the resolution adopting the scoping plan, the ARB stated its intent that the SB 375 GHG emissions reduction targets will be the most ambitious achievable. In 2010, the first targets were established with consideration given to methodology recommendations from an appointed Regional Targets Advisory Committee (RTAC). The RTAC released its Recommendation Report entitled: *Recommendations of the Regional Targets Advisory Committee (RTAC) Pursuant to SB 375* on September 29, 2009 which is available at the following link:

http://www.arb.ca.gov/cc/sb375/rtac/report/092909/finalreport.pdf

6.25 4 Contents of the Sustainable Communities Strategy (SCS)

SCS Background

Integrating transportation, land use, and housing, in the planning process is vital to reducing regional greenhouse gas (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 Government Code 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 Government Code 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.

Government Code 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 ARB. Government Code Section 65080.01(c) defines feasible as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors. In its advisory report to the ARB board, the RTAC stated that, "if a SCS for a region cannot meet its target, the SCS should still be a substantial improvement over Business As Usual (BAU) land

use and transportation planning and that their regions and member cities would see substantial co-benefits as a result of implementing the SCS as planned."

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 Alternative Planning Strategy (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 Government Code Section 65080(b)(2)(I)(iii).

Government Code Section 65080(b) requires that the RTP be an internally consistent document. This means that the contents of the Policy, Action, Financial, and Sustainable Communities Strategy 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 Government Code Section 65080(b)(2)(L) please refer to Section 6.16 of these Guidelines.

Requirements of a Sustainable Communities Strategy (SCS)

California Government Code Section 65080(b)(2)(B) requires that all MPOs shall prepare a Sustainable Communities Strategy, subject to the requirements of Part 450 of Title 23 of, and Part 93 of Title 40 of the Code of Federal Regulations, including the requirement to utilize the most recent planning assumptions considering local general plans and other factors. The Sustainable Communities Strategy 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 regional transportation plan taking into account 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 Government Code 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 Government Code Section 65080.01(a) and (b);
6. Consider the state housing goals specified in Government Code 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 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 the state board;
8. Allow the regional transportation plan to comply with Section 176 of the federal Clean Air Act (42 U.S.C. 7506)

In addition, Government Code Section 65584.01(i)(1) states that it is the intent of the Legislature that housing planning be coordinated and integrated with the regional transportation plan. To

achieve this goal the allocation plan shall allocate housing units within the region consistent with the development pattern included in the sustainable communities strategy.

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

6.26 ~~5~~ 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 Government Code 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, Government Code 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 Government Code Section 65080(b)(2)(B).

For visualization and mapping, Urban Footprint is a planning tool which can reveal outcomes ranging from household costs, water and energy use, to loss or retention of open space. SCAG employed Urban Footprint in the 2012 RTP/SCS, accessible at:

http://www.scag.ca.gov/Documents/UrbanFootprintTechnicalSummary.pdf

SCS Planning Assumptions

As required by Government Code 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 Government Code Section 65080(b)(2)(viii), the SCS must allow the RTP to comply with Section 176 of the Federal Clean Air Act (42 USC 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 Federal Highway Administration and Environmental Protection Agency in addition to state, local, and

MPO representatives. MPOs should refer to Part 450 of Title 23, and Part 93 of Title 40 of the Code of Federal Regulations 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 Government Code 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, particularly regarding RHNA, residential zoning, and programmatic actions addressed in the local housing element and status of housing element update requirements MPOs are also required by Government Code 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.

MPOs should incorporate protected areas identified in the California Protected Areas Database (http://www.calands.org) and any other natural resource areas and farmland information gathered in order to avoid impacting or fragmenting areas of high conservation value and to reduce risk to project delivery.

In addition, MPOs should make use of models that predict climate impacts like sea level rise, and that estimate changes in carbon stocks from alternative project or land management activities. Recent research shows that changes in land use and management can generate GHG benefits by avoiding and reducing emissions, and by increasing carbon storage. MPOs are encouraged to refer to the Climate Action through Conservation (CATC) report at http://scienceforconservation.org/downloads/ climate_action_through_conservation. The model, method and tool presented in this report is usable at the county or regional scale, and can help MPOs to provide a more comprehensive account of their progress toward meeting the state's GHG reduction goals.

The legislative findings for SB 375 identify that: "greenhouse gas 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 greenhouse gas 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 make an assumption 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 taking into account 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. Regional Transportation Plans 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 Government Code 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 Government Code Section 65080 (b)(2)(M).

The SCS shall accommodate the RHNA pursuant to Government Code Section 65584 and consider the state housing goals specified in Government Code 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 Government Code 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 regional transportation plan, taking into account 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 ~~Regional Housing Needs Allocation (~~RHNA~~)~~ process in Section 65584 *et seq.*

Unlike the RHNA process which allocates a minimum 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.

Government Code 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 Government Code Section 65584. The ~~Regional Housing Need Allocation (~~RHNA~~)~~ process establishes a minimum amount of housing development capacity 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 J. Key steps of the RHNA process for Councils of Governments (COGs) which are MPOs, or which are within or coterminous with MPO boundaries, 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: The regional planning agency is required to distribute RHNA shares to each local government at least 12 months prior to local governments' housing element due date.
2. Methodology Development for COG's RHNA Plan (more than 24 months before housing element due date): the COG, with survey information and participation of its local governments, develops methodology for allocation of the region's housing need determination.
3. ~~Housing Need Determination for the Region (24-26 months (the later applicable for COGs using subregional delegation) prior to the housing element due date): following consultation with the COG, the Department of Housing and Community Development (HCD) issues the total housing need determination for the region.~~
4. Distribution of draft Regional Housing Need Allocations (at least 18 months before the due date for adoption of the housing element): the COG, based on the ~~develops a~~ Draft RHNA Plan ~~allocating the region's new~~, distributes the draft RHNA of housing unit need ~~among~~ to each city and county government ~~with~~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.
5. RHNA Plan Adoption (adopted at least one year before the housing element due date): the COG is required to adopt~~s~~ a Final RHNA Plan within three days submit the RHNA Plan to HCD
6. HCD Approval of Final RHNA Plan (HCD's finding for the Final RHNA Plan is due within 60 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 COG allocations for a Final RHNA Plan.
7. Local Government Housing Elements ~~are Updated~~ (must be updated within 18 months of adoption of the RTP): 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 Government Code Section 65584.04 (i). Government Code 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 regional housing need allocation 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: Government Code 65080, Government Code 65584.01 (c) & (d), Government Code 65583.2 (c), Government Code 65584.04 (d), (f) & (i), Government Code 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:

http://www.hcd.ca.gov/hpd/hrc/plan/he/ab2348stat04ch724.pdf

Best Practices: Available in Appendix M

~~To coordinate and integrate region-wide efforts regarding SCS development and implementation of SB 375 requirements, the Bay Area Joint Policy Subcommittee comprised of the Association of Bay Area Governments, the Bay Area Air Quality Management District, the Bay Area Conservation and Development Commission and the Metropolitan Transportation Commission developed *Policies for the Bay Area's Implementation of SB 375*. For additional information on this regional coordination effort please see:~~

~~http://www.abag.ca.gov/jointpolicy/jpc-sb375-implementation.htm~~

~~For information regarding the Sustainable Community Strategy development efforts in the San Diego Region coordinated by San Diego Association of Governments please see:~~

~~http://www.sandag.org/index.asp?projectid=360&fuseaction=projects.detail~~

~~For information regarding the Sustainable Community Strategy development efforts in Southern California coordinated by the Southern California Association of Governments please see:~~

~~http://www.scag.ca.gov/sb375/index.htm~~

~~As a best practice to evaluate the implementation of the land use development plan in the SCS, an on-going monitoring program and periodic reporting program could be conducted. The monitoring program should be at a sufficient spatial and temporal level of detail to satisfy several objectives: a) identify regional or sub-regional growth patterns, b) provide jurisdiction level information needed to evaluate their role in the regional plan, and c) evaluate the consistency requirement for land use projects under SB 375 CEQA streamlining.~~

~~Another best practice is for MPOs to provide financial incentives, as feasible, to those local governments that promote land-use and affordable housing production consistent with the SCS. Those incentives should make a portion of regional transportation funding available only to those local governments that (1) adopt an HCD-certified Housing Element and commit to implement its action programs and report annually on implementation progress, (2) produce a substantial portion of their lower-income RHNA need, and (3) adopt effective tenant protections and other anti-displacement policies to ensure that high-propensity transit riders are not displaced from transit-oriented locations.~~

~~MTC's OneBayArea Grant Program (OBAG) has implemented elements of this best practice approach. As amended in July 2016, OBAG provides a policy framework for awarding federal funding to projects that reflect regional transportation priorities and that support the goals set forth in Plan Bay Area.~~

Addressing Regional Transportation Needs

Government Code 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 also 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 6.27 and Appendix I.

Addressing Resource Areas and Farmland

The SCS is required pursuant to Government Code 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 Government Code 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 sustainable communities strategy or the alternative planning strategy; 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.

As a best practice to comply with the requirements of CA Government Code 65080 (b)(2)(B), MPOs, based on locally and regionally significant considerations, ~~may~~ are strongly encouraged to develop a ~~regional conservation framework~~ Regional Open Space and Conservation Area Framework that identifies and considers "resource areas" and "farmland" as defined in Government Code Section 65080.01(a) and (b). To demonstrate consideration of resource areas and farmland, the SCS could 1) identify regional priority areas for conservation and mitigation efforts, based upon existing publicly available information and developed in consultation with the appropriate resource agencies including cities and counties, 2) adopt a land use forecast structured around spatially explicit, complementary networks of priority conservation areas and priority development areas, and 3) commit discretionary funding for conservation and development incentives for such areas. For an example of this approach, see Plan Bay Area (http://planbayarea.org/the-plan/adopted-plan-bay-area-2013.html).

Another way to demonstrate consideration of resource areas and farmland is to 1) incorporate layers representing all categories of "resource areas" listed in Government Code Section 65080.01(a) and (b), as well as other key resources identified in HCPs, NCCPs and input from leading conservation organizations, and 2) treat these layers as constraints to development in land use scenarios and the adopted land use forecast. This low-cost, straightforward approach was pioneered by the Santa Barbara County Association of Governments (using a "Regional Greenprint" of GIS layers representing habitat, agricultural resources and other open space areas), and the Tulare County Association of Governments (using layers from the San Joaquin Valley Greenprint). For more information, see Santa Barbara's 2040 Regional Transportation Plan and Sustainable Communities Strategy (http://www.sbcag.org/rtp.html) and the 2014-2040 Regional Transportation Plan & Sustainable Communities Strategy for Tulare County (http://www.tularecog.org/rtp2014/).

To support and expand upon these practices, MPOs are strongly encouraged to help local jurisdictions integrate HCPs, NCCPs and other conservation plans into their general plans, and incorporate the results into future land use forecasts. Prior to preparing its 2012 MTP/SCS, for example, the Butte County Association of Governments (BCAG) helped four of six local jurisdictions update their general plans to be consistent with one another, and with the Butte Regional Conservation Plan (BRCP) then in development. Based in part on these plans, its 2012 land use forecast directs most new growth into a network of Urban Permit Areas designed to minimize conflict with the BRCP. Thus, by working on a voluntary basis with those who have land use planning authority, BCAG was able to lay the groundwork for a land use pattern that will help protect some of its region's most important habitat and open space. For more information, see Butte County Metropolitan Transportation Plan & Sustainable Communities Strategy. (http://www.bcag.org/Planning/RTP--SCS/index.html).

The following represent additional ~~best practice~~ examples of how MPOs have conducted regional conservation planning efforts focusing on resource areas and farmland:

North County Multiple Habitat Conservation Program (MHCP) coordinated by SANDAG:
http://www.sandag.org/index.asp?projectid=97&fuseaction=projects.detail

Rural-Urban Connections Strategy (RUCS) developed by SACOG:
http://www.sacog.org/rucs/

Natural and Farm Lands Appendix prepared by SCAG for its 2016 RTP/SCS: scagrtpscs.net/Documents/2016/final/f2016RTPSCS_NaturalFarmLands.pdf

Regional Greenprint Analysis prepared by AMBAG for its 2014 MTP/SCS: http://www.ambag.org/programs-services/planning/metro-transport-plan

San Joaquin Valley Greenprint, sponsored by Fresno COG: www.fresnocog.org/san-joaquin-valley-greenprint-program

To realize the benefits of natural resource assessments like these, it is essential that they be thoroughly incorporated into land use scenarios and transportation project selection. In addition to the approaches taken by the Bay Area, Santa Barbara County, Tulare County and Butte County, MPOs are encouraged to follow an approach set forth in SLOCOG's first RTP/SCS: "Give conservation plans as much weight as general plans when planning transportation investments." For more information, see http://www.slocog.org/programs/regional-planning/2014-rtpscs.

The following ~~represent possible~~ sources of information ~~to~~ can assist MPOs in gathering and considering the best practically available scientific information regarding resource areas and farmland:

Survey of conservation best practices in SCSs, with sample language, implementation steps and suggested performance measures for specific practices:

Sustainable Communities Strategies and Conservation: Results from the First Round and Policy Recommendations for the Future Round, by Adam Livingston http://www.southernsierrapartnership.org/scs-policy-report.html

Natural Community Conservation and Habitat Conservation Planning Information:

CA Department of Fish and Game Natural Community Conservation Planning information
http://www.dfg.ca.gov/habcon/nccp/

USFWS Endangered Species Habitat Conservation Planning Information
https://www.fws.gov/endangered/what-we-do/hcp-overview.html

Pacific Southwest Region USFWS Offices for Ecological Information
http://www.fws.gov/cno/es/

Sacramento FWS Office list of Regional Habitat Conservation Plans

https://www.fws.gov/sacramento/es/Habitat-Conservation-Plans/es_hcp.htm

Carlsbad FWS Office information regarding Regional Habitat Conservation Plans
http://www.fws.gov/carlsbad/HCPs/CarlsbadCFWORegionalHCPs%20.html

Ventura FWS Office information regarding Regional Habitat Conservation Plans
https://www.fws.gov/ventura/endangered/habitatconservation/index.html

Information regarding City and County Zoning Ordinances:
https://www.opr.ca.gov/docs/PZD2012.pdf

Information regarding Farmland Mapping and Williamson Act:
www.conservation.ca.gov/dlrp/fmmp

www.conservation.ca.gov/dlrp/pages/index.aspx

Information regarding adopted Open Space Elements is available through the Governor's Office of Planning and Research (OPR) California Planner's Book of Lists:
https://www.opr.ca.gov/s_publications.php

Additionally Sections 5.3, 5.4, and 5.5 of the Guidelines include more information regarding best management practices for 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 greenhouse gas emissions from cars and light trucks to achieve, if there is a feasible way to do so, the regional targets set by ARB. 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.
- Design and layout of transportation facilities to facilitate access to charging in low- and moderate-income neighborhoods, as well as wealthier neighborhoods.

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 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 see social equity impacts of various planning scenarios and make informed choices. Some MPOs include disadvantaged groups that are not defined by the traditional parameters of the low income and minority groups, such as groups identified as disadvantaged due to environmental impacts identified under CalEnvironScreen (established pursuant to SB 535, Chapter 830, Statutes of 2012) ~~These~~ Social equity ~~include~~ impacts include ~~on~~ 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 ~~social equity and~~ Title VI and environmental justice considerations in the RTP is available in Section 4.2 and additional information regarding social equity factors ~~and environmental justice issues~~ in the public participation process is available in Section 4.4~~3~~.

Considering Rural Communities in the SCS

Regulatory and financing mechanisms such as Government Code Section 65080, Greenhouse Gas 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.”

Government Code 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 Government Code 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 greenhouse gas 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: Government Code Section 65080

Specific SCS Development Requirements for MPOs in Multi-County Regions

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

- Association of Monterey Bay Area Governments (AMBAG): covers a three county region.
- Metropolitan Transportation Commission (MTC): covers a nine county region in the San Francisco Bay Area.
- Southern California Association of Governments (SCAG): covers a six county region.
- Sacramento Area Council of Governments (SACOG): covers a six county region.
- Tahoe Metropolitan Planning Organization (TMPO): covers a portion of Placer and El Dorado Counties.

Government Code 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 Government Code 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 Metropolitan Transportation Commission 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 the ARB.

Southern California Association of Governments (SCAG) – Within the SCAG region, there are six County Transportation Commissions (CTCs) and fourteen sub-regional COGs. Government Code 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 Southern California Association of Governments 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 Government Code 65080 and federal law. Please see Government Code 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. Government Code 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.

Tahoe Metropolitan Planning Organization (TMPO) – Pursuant to Government Code Section 65080(b)(2)(C)(ii), within the jurisdiction of the Tahoe Regional Planning Agency, as defined in Sections 66800 and 66801, TMPO shall use the Regional Plan for the Lake Tahoe Region as the sustainable community strategy, provided it complies with Government Code 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

6.27 ~~6~~ SCS Process, Review and Acceptance

Regional GHG Emissions Reduction Targets

State statute requires the ARB to set regional GHG emissions reduction targets for each MPO. Before setting the target for a region, ARB 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 ARB and each MPO is highly recommended until the final target is adopted.

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

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 4.3 and 4.6 of the RTP Guidelines.

California Air Resources Board Review of the SCS

Prior to starting the public participation process adopted pursuant to Government Code 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 greenhouse gas emissions from its SCS and, if appropriate, its APS. ARB 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 greenhouse gas emissions, and suggested remedies. The MPO is encouraged to work with the ARB 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 the ARB for review, including the quantification of the greenhouse gas emission reductions the strategy would achieve and a description of the technical methodology used to obtain that

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

If ARB determines that the strategy submitted would not, if implemented, achieve the greenhouse gas 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 ARB acceptance that an APS would, if implemented, achieve the greenhouse gas emission reduction targets established for that region by the state board.

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

A flowchart depicting the RTP Development/Approval Process for MPOs including ARB 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 California Air Resources Board SB 375 Implementation website:

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

6.28 ~~7~~ Land Use & 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 Greenhouse Gas (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 and in Appendix I 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: Strategies incorporating the "D factors" (See Professor Robert Cervero's research as noted in Cervero, R. and K. Kockelman (1997) "Travel Demand and the 3Ds: Density, Diversity, and Design," *Transportation Research D*, Vol. 2, pp. 199-219. Other resources used to define these factors include Fehr & Peers' *Accurate Trip Generation Estimates for Mixed-Use Projects,* and Cervero and Lee's *The Effect of Housing Near Transit Stations on Vehicle Trip Rates and Transit Trip Generation.)*
- Congestion Management improving traffic circulation to reduce vehicle idling (coordinate controlled intersections for traffic to pass more efficiently through congested areas)
- Transportation Demand Management

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

The strategy suggestions listed above, and in more detail in Appendix I are applicable to MPOs. Links to various Best Practices information are also available in Appendix I.

Best Practices: Available in Appendix I

6.29 ~~8~~ Alternative Planning Strategy (APS) Overview

Pursuant to California Government Code Section 65080(b)(2)(H), if the SCS, prepared in compliance with 65080(b)(2)(B) or (C), is unable to reduce greenhouse gas emissions to achieve the greenhouse gas emission target established by the ARB, the MPO shall prepare an APS to the SCS showing how that greenhouse gas 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 greenhouse gas 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 greenhouse gas 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 Code of Federal Regulations, except to the extent that compliance will prevent achievement of the greenhouse gas emission reduction targets approved by the ARB,
5. For purposes of the California Environmental Quality Act (CEQA), an APS shall not constitute a land use plan, policy or regulation, and the inconsistency of a project with an alternative planning strategy shall not be a consideration in determining whether a project may have an environmental effect.

For additional information on the Alternative Planning Strategy (APS) please refer to Appendix H.

6.30 ~~29~~ Adaptation of the Regional Transportation System to Climate Change

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

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

~~The impacts listed above may have negative~~ Building on decades of successful actions to reduce pollution, increase energy efficiency and mitigate the effects of climate change; California has long been at the forefront of global and national efforts to reduce the threat of a changing climate. The increasing likelihood of severe, pervasive and irreversible impacts are expected to have potentially catastrophic impacts on the transportation system ~~specifically including~~ resulting in flooded airports, interstate highways and roads, landslides ~~resulting in~~ that

disrupt~~ed~~ traffic flow and rail lines, heat waves and subsidence causing roadways to buckle; and, increased costs of transportation infrastructure operations and maintenance due to fire damage~~d~~, erosion and inundation ~~watersheds that have resulted in mudslides~~. 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.

Impacts and outcomes of a changing climate depend on unknown probabilities and immeasurable components being focused on by scientists and advanced model forecasters. The potential for consequences to life, health and safety, the environment, economic well-being, and other values needs to be assessed in terms of probable risks and exposures, the likelihood of an event occurring (probability), and the anticipated damages that would result if it did occur (consequences)~~ depends on regional and local characteristics including the natural and human built environment, as well as the location, types and functions of transportation facilities and assets~~.

In 2015, the Governor's Executive Order B-30-15 created a roadmap for climate adaptation progress around the foundation of prior state efforts to build climate preparedness and reduce greenhouse gas emissions. The Executive Order directs:

1. The preparation of implementation plans for the actions recommended in California's Adaptation Strategy, the Safeguarding California Plan and sector reports to the *California Natural Resources Agency* describing progress towards implementation.
2. State agencies to employ the following guiding principles in all planning and investment decisions:
   - prioritize actions that both build climate preparedness and reduce greenhouse gas emissions;
   - where possible, choose flexible and adaptive approaches to prepare for uncertain climate impacts;
   - protect the state's most vulnerable populations; and,
   - prioritize natural infrastructure solutions.
3. Perform a full life-cycle cost accounting on infrastructure projects to evaluate and compare investments and alternatives.
4. All infrastructure projects included in the state's annual Five-Year Infrastructure Plan must take into account the current and future impacts of climate change.
5. The establishment of a Technical Advisory Group through the *Governor's Office of Planning and Research* (OPR) to help state agencies incorporate climate change impacts into planning and investment decisions.

Additionally, three laws were signed in 2015, providing important context for RTPAs and MPOs considering climate impacts as they formulate their RTPs:

- **AB 1482** directs ongoing updates to the Safeguarding California Plan (beginning in 2017) and requires future updates (every three years) to describe the vulnerabilities from climate change in a minimum of nine specific sectors, and the priority actions needed to reduce climate risks in each of those sectors.
- **SB 246** establishes the Integrated Climate Adaptation and Resilience Program at the *Governor's Office of Planning and Research* to coordinate regional and local efforts with

the state's climate adaptation strategies; and to establish a climate adaptation clearinghouse that centralizes best scientific evidence, available climate data and information for use in planning and implementing state, regional, and local climate adaptation projects. This bill also directs the *Office of Emergency Services* to update the California Adaptation Planning Guide, within one year of an update to the Safeguarding California Plan, to provide current tools and guidance to regional and local governments and agencies that are adopting and implementing climate adaptation and community resiliency plans and projects.

- **SB 379** requires local hazard mitigation plans to incorporate climate impacts by 2021; through coordination with an update to local jurisdictions' General Plan Safety Element (see OPR's 2016 edition of the General Plan Guidelines).

The state has developed tools and resources to help inform and empower local decision-makers to incorporate climate impacts into their work. **Cal-Adapt.org**[7] is an online platform created in 2011 by the California Energy Commission to synthesize the best available climate science and generate spatially-explicit visualizations for local policymakers and the general public. Planners can find sophisticated locality-specific projections for many temperature metrics, wind and precipitation patterns, wildfire risk, snowpack and sea-level rise. The **Adaptation Planning Guide**[7], released by the Natural Resources Agency in 2012, helps regions and communities prepare for those projected impacts. *The Governor's Office of Planning and Research* has incorporated these resources into the 2016 General Plan Guidelines to create comprehensive planning processes for local governments.

~~In an effort to begin protecting these assets, Governor Schwarzenegger signed Executive Order (EO) S-13-08. This order provides direction on developing California's first statewide adaptation effort. It requires the California Natural Resources Agency (CRNA) to develop the State's first comprehensive Climate Adaptation Strategy (CAS) guide. The CAS was developed with the input of numerous stakeholders including state agencies and seven climate adaptation working groups. In 2013, CRNA released "Safeguarding California Plan" – an update to the 2009 CAS.~~

~~The CAS requests the National Academy of Sciences to establish an expert panel to report on sea level rise impacts on California every two years, and to inform state planning and development efforts in high climate change risk areas. The guide contains numerous adaptation strategies for sea level rise for new (or planned) projects and a report on existing infrastructure vulnerable to sea level rise. The strategies in the guide address water management, public health, agriculture, biodiversity and habitat, forestry, energy and transportation infrastructure.~~

~~Chapter 10 of the CAS contains the strategies for the State's transportation infrastructure. The transportation strategies address the need for significant changes in the planning, design, construction, operation and maintenance of California's infrastructure. The changes necessary to protect the State's transportation infrastructure will require collaboration between multiple state, regional and local agencies. Although the CAS focuses on state level efforts, regional planning agencies (MPOs) should also incorporate these practices in the implementation of transportation strategies in conjunction with Caltrans, to the extent that they are feasible. The CAS guide can be found at the link below.~~

~~The Safeguarding California Plan builds on the foundation of the CAS by identifying progress made on reducing emissions and addressing vulnerabilities, a review of new studies and policies, and specific actions needed to prepare for climate risks to the transportation sector.~~

~~Some of these actions include research into new technology, climate science, and geophysics that could impact the transportation system, policies to improve planning and design for climate change adaptation, and an improved platform for sharing information.~~

~~http://www.climatechange.ca.gov/adaptation/~~

References:

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

Recommendations (Shall)

State: Public Resources Code 71154 requires that state agencies ensure that state investments consider climate change impacts. Executive Order B-30-15 provides further context to this statute through its requirements to:

- All state agencies with jurisdiction over sources of greenhouse gas emissions shall implement measures pursuant to statutory authority, to achieve reductions of greenhouse gas emissions to meet the 2030 and 2050 greenhouse gas emissions reduction targets.
- Incorporate climate change impacts into all projects in the State's Five-Year Infrastructure Plan.
- Take climate change into account in all state funded planning and investment decisions (including local assistance programs).
- Employ full life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives.

Recommendations (Should)

State: California Environmental Quality Act CEQA, Public Resources Code 21000, et seq. Executive Order B-30-15, Senate Bill 246, and Assembly Bill 1482

MPOs should begin to address climate change in their long-range transportation plans using Caltrans guidance, including "Addressing Climate Change Adaptation in Regional Transportation Plans: A Guide for California MPOs and RTPAs, Cal-Adapt.org and other state resources (see Climate Adaptation Resources table). Design and planning standards should be re-evaluated to address future conditions. MPOs and RTPAs should consult Safeguarding

California's transportation chapter, the California Coastal Commission Sea Level Rise Policy Guidance, and where possible, local General Plan safety elements and Hazard Mitigation Plan documents, as well as other relevant local, regional, and state plans, resources and documents.

Executive Order B-30-15 directs that all infrastructure projects paid for in full or in part through state funds are required to consider climate adaptation, and should apply the following principles:

- Prioritize actions that both build climate preparedness and reduce greenhouse gas emissions.
- Where possible, choose flexible and adaptive approaches to prepare for uncertain climate impacts.
- Take actions that protect the state's most vulnerable populations.
- Prioritize natural infrastructure solutions.

Best Practices: Available in Appendix M

~~Regional Transportation Plans should incorporate climate impacts in conjunction with the update of local hazard mitigation plans and General Plan safety elements as jurisdictions begin compliance with Senate Bill 379 (Government Code 65302).~~

~~Notwithstanding a lack of reliable information on the future impacts of sea level rise, precipitation changes, or extreme heat events, MPOs should begin to address climate change in their long range transportation plans using Caltrans guidance, Cal-Adapt.org and other state resources (see Climate Adaptation Resources table). Design and planning standards should be re-evaluated to address future conditions. Where possible, MPOs and RTPAs should consult *Safeguarding California*'s transportation chapter, local general plan safety elements, local hazard mitigation plans, and other relevant local, regional, and state resources and documents. There are numerous ways planning agencies can begin preparing for climate change adaptation on the transportation infrastructure including preliminary mapping of infrastructure that is vulnerable to changes in precipitation, heat, and sea level rise. It is also recommended that design and planning standards be re-evaluated to accommodate potential changes. It is important to ensure that planned infrastructure is engineered and built in locations that can withstand future climate change impacts.~~

Climate Adaptation Resources for RTPAs and MPOs		
Title of Resource	*Origin and Use*	*Website*
2013 - Addressing Climate Change Adaptation in Regional Transportation Plans*: A Guide for California MPOs and RTPAs*	Caltrans	http://www.dot.ca.gov/hq/tpp/offices/orip/climate_change/documents/FR3_CA_Climate_Change_Adaptation_Guide_2013-02-26_.pdf#zoom=65
Guidance on Incorporating Sea Level Rise: For use in the planning and development of Project Initiation Documents	Caltrans	http://www.dot.ca.gov/hq/tpp/offices/orip/climate_change/documents/guide_incorp_slr.pdf#zoom=65
Cal-Adapt.org	Energy Commission	www.cal-adapt.org
Adaptation Planning Guide	Office of Emergency Services	http://resources.ca.gov/climate/safeguarding/adaptation_policy_guide/
2014 Safeguarding California Plan (California's Adaptation Strategy)	Natural Resources Agency	http://resources.ca.gov/docs/climate/Final_Safeguarding_CA_Plan_July_31_2014.pdf
2016 Safeguarding California: Implementation Action Plans, Transportation Sector	Natural Resources Agency and the State Transportation Agency	http://resources.ca.gov/docs/climate/safeguarding/Transportation%20Sector%20Plan.pdf
State of California Sea-Level Rise Document	Ocean Protection Council	http://www.opc.ca.gov/2013/04/update-to-the-sea-level-rise-guidance-document/
2016 General Plan Guidelines	Governor's Office of Planning and Research	https://www.opr.ca.gov/s_generalplanguidelines.php
Sea-Level Rise for the Coasts of CA, OR, & WA	National Academies of Sciences	https://www.nap.edu/catalog/13389/sea-level-rise-for-the-coasts-of-california-oregon-and-washington
California Coastal Commission Sea Level Rise Policy Guidance	California Coastal Commission	http://www.coastal.ca.gov/climate/slrguidance.html

Chapter 7

Performance Measures

Page Left Intentionally Blank

7.1 ~~6.18~~ Goals & Performance Measures

Regional Transportation Plans are developed to reflect regional and local priorities and goals and they are also instruments of achieving federal and state transportation system goals. A clear articulation of regional goals helps regions select project in furtherance of those goals, but also helps the federal and state government understand how the regional plans will contribute to statewide or nationwide goals. To accomplish this, RTPs shall articulate regional goals in the following areas, with some of these already required in state or federal law, and others determined important in tracking achievement toward the state's greenhouse gas reduction goals. If existing modeling and data are a limitation for some MPOs, qualitative goals may be used instead of quantitative measures:

- Preservation of transportation infrastructure
- Improved mobility and accessibility
- Greenhouse gas reduction and improved air quality
- Natural resources protection and land conservation
- Smart growth or sustainable land use development
- Affordable housing
- Jobs and housing balance
- Social equity
- Economic development
- Safety and security

Transportation performance measures consist of a set of objective, measurable criteria used to evaluate the performance and effectiveness of the transportation system, government policies, plans and programs in meeting goals. Performance measures use ~~measured~~ metrics to determine progress toward specific and defined objectives. This includes both evidence of fact, such as measurement of pavement surface smoothness or the percentage of transit service delivered on time (quantitative) and measurement of customer perception determined through customer surveys (qualitative). Performance measures help set goals and outcomes, detect and correct problems, evaluate multi-year trends and document accomplishments.

These performance measures in the RTP set the context for judging the effectiveness of the FTIP as a program, by further RTP goals and objectives, whereas, the STIP Guidelines address performance measures of specific projects. Government Code Section 14530.1 (b)(5) requires more detailed project specific "objective criteria for meeting system performance and cost effectiveness of candidate projects" in the STIP Guidelines (Section 19). For additional information on the State Transportation Improvement Program (STIP) and the Fund Estimate (FE), please refer to Caltrans Division of Transportation Programming website at:

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

In small urban areas or rural areas, we recommend developing partnerships with neighboring jurisdictions, and collecting data and information in order to make a good case for more funding such as for re-pavement or rehabilitation of road projects.

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 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. ARB 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 MPOs can substantiate GHG determinations. MPOs are encouraged to communicate in a transparent way the elements of the SCS (both strategies and investments) that are driving change in the region and resulting in the forecasted outcomes.

The policy element could mention the goals and objectives, and the Action element is what would provide the result/s. For example, the Action element should provide a comparison of what is being measured, how it is measured and the results and analysis of the eventual outcomes.

On highway projects Caltrans considers system condition and performance measurements for interregional planning and the setting of State planning and programming activities. The State performance measures will focus on interregional trips between, into and through the regions. Caltrans coordinates its performance measure activity with MPOs. MPOs should develop and implement their own performance measures on regional roads, transit, rail, bicycle and pedestrian facilities etc. Regions shall include in the RTPs performance measures required by the federal government and any others the region believes helpful to achieve regional and state goals. Regions should consider inclusion of performance measures that would evaluate the following, with the level of detail and qualitative or quantitative nature of the measures determined by modeling capacity and the level of available project detail: ~~Examples of performance measures include:~~

1. Preserve the Transportation System;
2. Safety & Security;
3. Improve Mobility/Accessibility;
4. System Reliability;
5. Economic Well Being;
6. Investment Equity;
7. Cost-effectiveness;
8. Environmental Quality;
9. Conserving Habitat, Open Space, and Working Lands
10. Ensuring Habitat Connectivity;
11. Protecting Wetlands;
12. Sequestering Carbon to Reduce GHGs;
13. Public Health;
14. Health Equity; and,
15. Customer Satisfaction.

Regions should consider use of the following criteria to ~~can~~ measure the performance of specific projects with the level of detail and qualitative or quantitative nature of the measures determined by modeling capacity and the level of available project detail:

1. Reduction in vehicle occupant, freight and goods travel time or delay;
2. Reduction in collisions and fatalities;
3. Reduction in vehicle and system operating costs;
4. Increase in access to jobs, markets and commerce;

5. Increase in transit ridership resulting from increased frequency and reliability of rail/transit service;
6. Reduction in air pollution emissions and greenhouse gas (GHG) emissions consistent with regional GHG emissions reduction targets set by ARB ;
7. Reduction in vehicle miles traveled;
8. Increase in bicycling and walking trips;
9. Decrease in acres of habitat, open space and working lands lost to conversion;
10. Percent of corridors with permeable habitat and infrastructure;
11. Percent of wetland area protected;
12. Tons of carbon sequestered or carbon dioxide emissions avoided;
13. Reduction of the disparity in health impacts in the most impacted communities relative to health impacts in less impacted communities;
14. Percentage of population within half mile of parks or open space; and,
15. Increase in freight and goods movement system efficiency.

Tradeoffs between performance measure thresholds should be clearly identified and priorities set to avoid confusion about project objectives, because some of these measures may compete or conflict with one another depending on the specific thresholds that are set.
Regions should consider the following criteria for measuring cost-effectiveness of specific projects in their RTP:

1. Decrease in vehicle occupancy travel, freight and goods time per thousand dollars invested;
2. Decrease in collisions and fatalities per thousand dollars invested;
3. Decrease in vehicle and system operating cost per thousand dollar invested;
4. Improved multimodal access to jobs, markets and commerce per thousand dollars invested;
5. Increased frequency and reliability of rail/transit service per thousand dollars invested;
6. Increased transit ridership per thousand dollars invested;
7. Decrease in air pollution emissions and GHG emissions per thousand dollars invested;
8. Increase in destinations accessible by walking, bicycling, and taking public transportation per thousand dollars invested;
9. Decrease in air pollution emissions and GHG emissions on highly impacted communities per thousand dollars; and,
10. Decrease in freight and goods movement system operating costs per thousand dollars invested.

The goals and objectives in the RTP should be linked and consistent with the goals and objectives of the FTIPs/RTIP and ITIP. Each MPO and Caltrans is being asked to provide a quantitative and/or qualitative evaluation of their FTIPs/RTIP and ITIP, commenting on each of the performance indicators and performance measures outlined in ~~Table A~~ Section 19 and Appendix B of the STIP Guidelines. ~~Attachment 1~~ Appendix B has been developed to assist agencies with this task. Furthermore, ~~Attachment 1~~ Appendix B will be considered the evaluation report and will fulfill the requirement outlined in Section 19 of the STIP Guidelines, which can be accessed from the Caltrans Division of Programming website at:

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

http://www.dot.ca.gov/hq/transprog/ocip/2016stip.htm

Requirements (Shall)
State: California Government Code Section 14522 and Governor's Executive Order B-30-15.

7.2 Performance Based Approach

New federal regulations require MPOs to implement a performance based approach in the scope of the metropolitan transportation planning process. However, 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 USC 150(c), 49 USC 5326, and 49 USC 5329 FHWA/FTA. Although this new requirement will take years to implement and FHWA is in the process of developing and finalizing the national performance management measure regulations, 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 an investments have impacted the costs necessary to achieve the identified performance targets.

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)
State: California Government Code Section 14522 and Governor's Executive Order B-30-15. ~~14530.1(b)(5) requires more detailed project specific information.~~

Best Practices: Available in Appendix M

~~Caltrans recommends using performance measures to measure the progress of regional projects. MPOs should take into account the benefits of using performance measures to establish a base of measurement and cross-reference the measurement with the performance measure outcome/results. These measurements can be used to justify the need for funding on specific projects. The scientific data may support regional needs and highlight the justification~~

~~for funding a project that demonstrates the potential for improved performance on the Caltrans system or regional road network.~~

~~Caltrans has also developed a guidebook on how to implement performance measures in rural and small urban regions. This guidebook provides a toolbox from which to select appropriate methodologies for performance measures in your rural or small urban areas. The Guidebook on "Performance Measures for Rural Transportation Systems" can be accessed at:~~

~~http://www.dot.ca.gov/perf~~

~~The following documents contain best practices for performance based planning:~~

- ~~Transform report entitled "Creating Healthy Regional Transportation Plans" (2012) contains a chapter explaining what the RTP Guidelines are, how they support healthy outcomes, and best practices for public participation. http://www.transformca.org/resource/creating-healthy-regional-transportation-plans~~
- ~~The Nature Conservancy report entitled "Sustainable Communities Strategies and Conservation" includes model policies and best practices for conservation policies in SCSs. http://www.southernsierrapartnership.org/scs-policy-report.html~~
- ~~US DOT: Management & Operations in the Metropolitan Transportation Plan: A Guidebook for Creating an Objectives-Driven, Performance-Based Approach http://www.ops.fhwa.dot.gov/publications/moguidebook/index.htm~~
- ~~FHWA Model Long-Range Transportation Plans: A Guide for Incorporating Performance Based Planning (2014) http://www.fhwa.dot.gov/planning/performance_based_planning/mlrtp_guidebook/~~

Page Left Intentionally Blank

APPENDICES

A. Federal and State Transportation Planning Flowchart

B. State and Federal Programming Process Flowchart

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

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

E. Integration of the Planning and NEPA Processes

F. MPO Air Quality Conformity Checklist

G. SB 375 and SB 575 Statutory Language

H. Alternative Planning Strategy (APS)

I. Land Use and Transportation Strategies to Reduce Regional GHG Emissions

J. RHNA and RTP Development Information

K. Glossary of Transportation Terms

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

M. Examples and Planning Practices that Exceed Statutory Authority

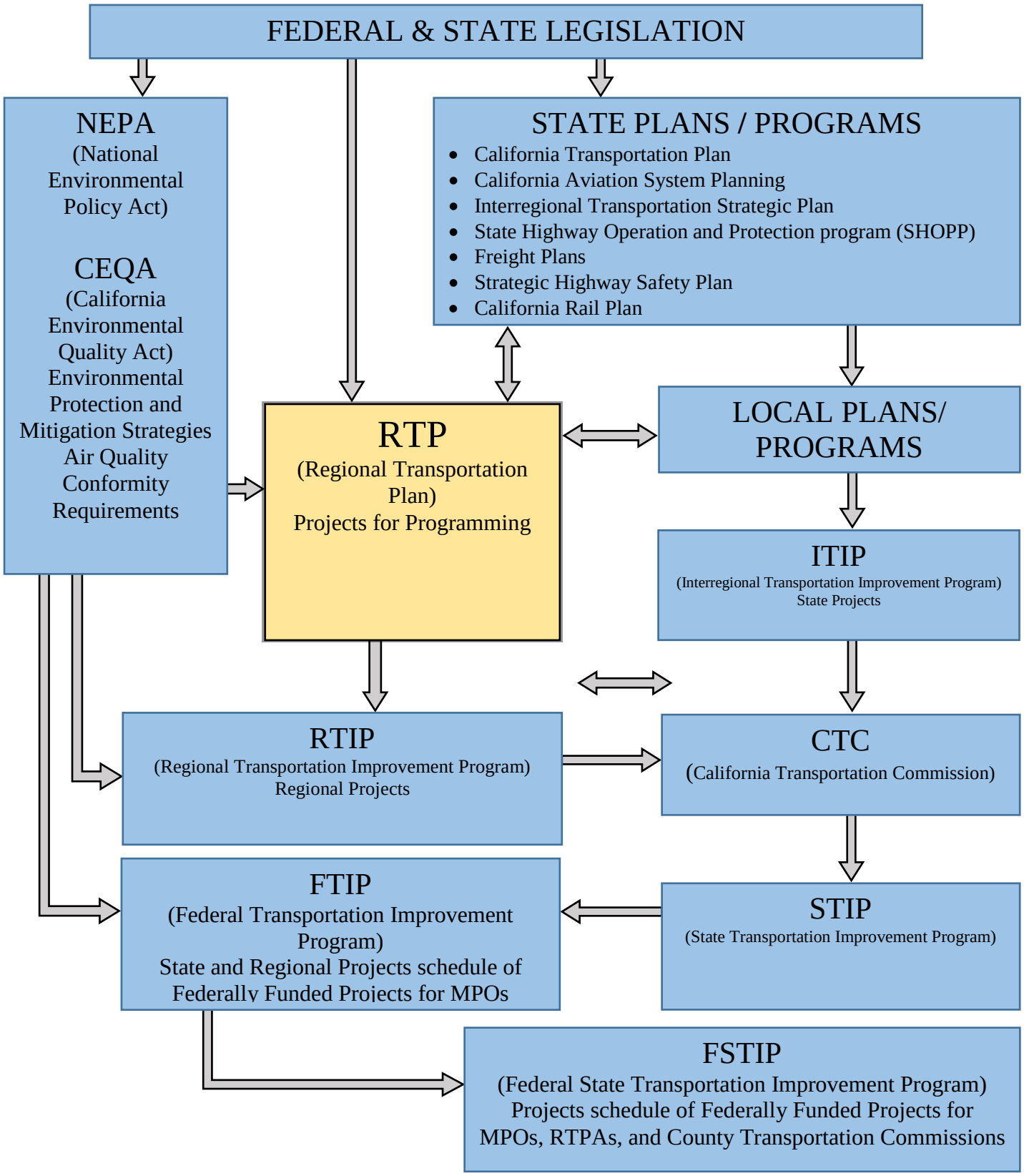
Page Left Intentionally Blank

Appendix A

Federal and State Transportation Planning Process Flowchart

Page Left Intentionally Blank

Regional Transportation Planning and Programming Process



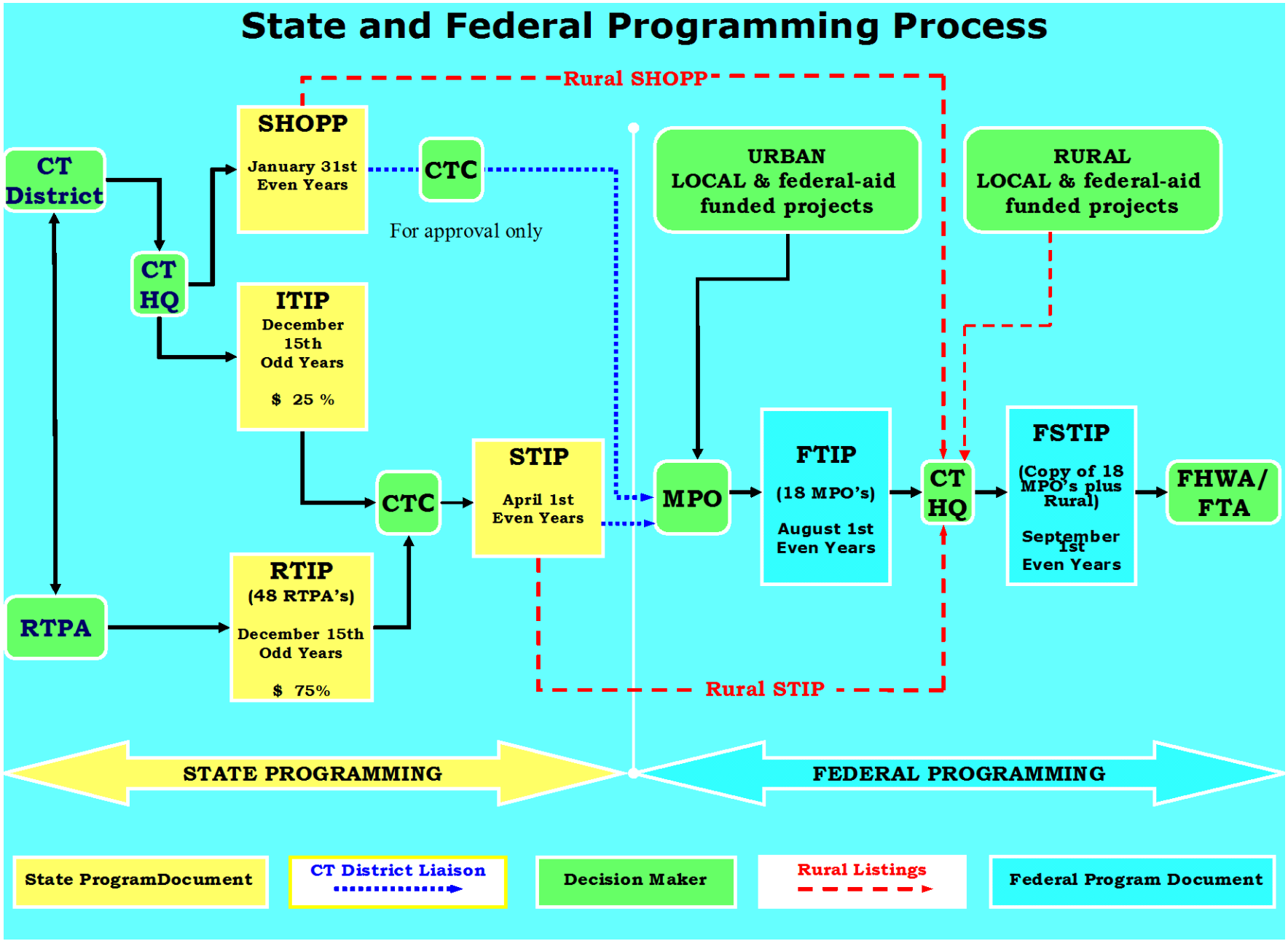
~~*Notes:*~~
- ~~Regional Projects appear in the RTP, local plans, the ITIP, and the FTIP.~~
- ~~NEPA & CEQA requirements first impact the RTP. All major projects must conform to air quality requirements in all plans and programs.~~

Page Left Intentionally Blank

Appendix B

State and Federal Programming Process Flowchart

Page Left Intentionally Blank


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

Page Left Intentionally Blank

Appendix C

Regional Transportation Plan Checklist

Page Left Intentionally Blank

Regional Transportation Plan Checklist

(Revised ~~February 2010~~ September 2016)

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

Name of MPO~~/RTPA~~: _____

Date Draft RTP Completed: _____

RTP Adoption Date: _____

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

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

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

Regional Transportation Plan Contents

General

		Yes/No	Page #
1.	Does the RTP address no less than a 20-year planning horizon? (23 CFR 450.324~~2~~(a))		
2.	Does the RTP include both long-range and short-range strategies/actions? (23 CFR part 450.324~~2~~(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)? ~~**(MPOs only)**~~		
	a. Identify the general location of uses, residential densities, and building intensities within the region? ~~**(MPOs only)**~~		
	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? ~~**(MPOs only)**~~		

	Yes/No	Page #
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? ~~**(MPOs only)**~~		
d. Identify a transportation network to service the transportation needs of the region? ~~**(MPOs only)**~~		
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? ~~**(MPOs only)**~~		
f. Consider the state housing goals specified in Sections 65580 and 65581? ~~**(MPOs only)**~~		
g. Utilize the most recent planning assumptions, considering local general plans and other factors? ~~**(MPOs only)**~~		
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 the ARB? ~~**(MPOs only)**~~		
i. Provide consistency between the development pattern and allocation of housing units within the region (Government Code 65584.04(i)(1)? ~~**(MPOs only)**~~		
j. Allow the regional transportation plan to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Section 7506)? ~~**(MPOs only)**~~		
4. Does the RTP include Project Intent i.e. Plan Level Purpose and Need Statements?		
5. 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) ~~**(MPOs only)**~~		
<u>Consultation/Cooperation</u>		
1. Does the RTP contain a public involvement program that meets the requirements of Title 23, CFR 450.316(a)?		

		Yes/No	Page #
2.	Was a periodic review conducted of the effectiveness of the procedures and strategies contained in the participation plan to ensure a full and open participation process? (23 C.F.R. § 450.316 (a) (1) (x)).		
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? (23CFR450.316~~(3)~~(b))		
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~~2~~(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~~2~~(g)(1&2))		
6.	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)? (~~Title~~ 23 CFR 450.316(c))		
7.	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(i))		
8.	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))		
9.	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)**		
10.	Is the RTP coordinated and consistent with the Public Transit-Human Services Transportation Plan? (23 CFR 450.306(h))		
11.	Were the draft and adopted RTP posted on the Internet? (23 CFR 450.324(k)~~2(j)~~)		
12.	Did the RTP explain how consultation occurred with locally elected officials? (Government Code 65080(D)) ~~**(MPOs only)**~~		
13.	Did the RTP outline the public participation process for the sustainable communities strategy? (Government Code 65080(E) ~~**(MPOs only)**~~		

14. 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 explicit procedures, strategies, and desired outcomes for seeking out and considering the needs of low-income and minority households? (23 C.F.R. § 450.316 (a) (1) (vii).)

2. Has the metropolitan planning organization (MPO) or State DOT made funds available to local organizations that represent low-income and minority populations to enable their participation in planning processes? (FHWA/FTA, Memorandum re: Implementing Title VI Requirements in Metropolitan and Statewide Planning (Oct. 7, 1999), pp. 1-2.)

3. Does the RTP include a description of the needs of low-income and minority populations that were identified and considered within the planning process; of the procedures by which those needs were identified and considered; of which of those needs the RTP will address; and of the investments, actions and timeframe by which the RTP will address them? (23 C.F.R. § 450.316 (a) (1) (vii); FTA, Title VI Circular, Ch. VI, §2; U.S. Department of Transportation, Updated Environmental Justice Order 5610.2(a) (amended 5/2/2012), pp. 14-15, App. sec. 1 (f); Federal Transit Administration Circular 4703.1, "Environmental Justice Policy Guidance for Federal Transit Administration Recipients" (Aug. 15, 2012), p. 2.)

4. Have Title VI and Environmental Justice analyses of the RTP been completed that explicitly account for race and ethnicity (including racial and ethnic data showing the extent to which members of minority groups are beneficiaries of programs receiving Federal financial assistance), and that address the timely receipt of a fair share of the benefits of the RTP and its investments by low-income and minority populations and communities? (49 CFR Section 21.9(b); U.S. Department of Transportation, Updated Environmental Justice Order 5610.2(a) (amended 5/2/2012); Federal Transit Administration Circular 4703.1, "Environmental Justice Policy Guidance for Federal Transit Administration Recipients" (Aug. 15, 2012), p. 2.)

5. Does the RTP ensure that low-income populations and minority populations are protected against an unfair share of the burdens of the RTP and its investments, including the impacts of displacement and segregation? (U.S. Department of Transportation, Updated Environmental Justice Order 5610.2(a) (amended 5/2/2012), pp. 14-15, App. sec. 1 (f); Federal Transit Administration Circular 4703.1, "Environmental Justice Policy Guidance for Federal Transit Administration Recipients" (Aug. 15, 2012), p. 2, 49 CFR Section 21.5 (b) (1).)

Modal Discussion

1. Does the RTP discuss intermodal and connectivity issues?

		Yes/No	Page #
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

1.	Is a congestion management process discussed in the RTP? (23 CFR 450.32~~20~~(b)) **(MPOs designated as TMAs only)**		
2.	Is the RTP consistent (to the maximum extent practicable) with the development of the regional ITS architecture? (23 CFR 450.306(g)		
3.	Does the RTP identify the objective criteria used for measuring the performance of the transportation system?		
4.	Does the RTP contain a list of un-constrained projects?		

Financial

1.	Does the RTP include a financial plan that meets the requirements identified in 23 CFR part 450.322(f)(10)?		
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)~~2006 STIP Guidelines, Section 19~~)		
3.	Do the projected revenues in the RTP reflect Fiscal Constraint? (23 CFR part 450.322(f)(10)(ii))		
4.	Does the RTP contain a list of financially constrained projects? Any regionally significant projects should be identified. (Government Code 65808(3)(A))		

	Yes/No	Page #
5. Do the cost estimates for implementing the projects identified in the RTP reflect "year of expenditure dollars" to reflect inflation rates? (23 CFR part 450.322(f)(10)(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 450.322(f)(10)(i))		
7. Does the RTP contain a statement regarding consistency between the projects in the RTP and the ITIP? (2006 STIP Guidelines section 33)		
8. Does the RTP contain a statement regarding consistency between the projects in the RTP and the FTIP? (2006 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 450.322(f)(10)(vi) (**nonattainment and maintenance MPOs only**)		

Environmental		
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? ~~**(MPOs only)**~~		
4. Does the RTP specify mitigation activities? (23 CFR part 450.322(f)(7))		
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/RTPA Executive Director or designated representative) Date

_____ _____

Print Name Title

Appendix D

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

Page Left Intentionally Blank

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

Background and Overview

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

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

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

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

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

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

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

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

I. Procedural Issues:

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

II. Substantive Issues

General Issues To Be Considered:

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

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

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

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

c. Is the information still relevant/valid?

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

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

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

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

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

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

Purpose and Need:

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

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

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

The transportation planning process can be utilized to develop the purpose and need in the following ways:

(a) Goals and objectives from the transportation planning process may be part of the project's purpose and need Statement;

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

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

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

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

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

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

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

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

Alternatives:

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

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

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

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

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

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

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

(1) The transportation planning process has selected a general travel corridor as best addressing identified transportation problems and the rationale for the determination in the planning document is reflected in the purpose and need Statement of the subsequent NEPA document;

(2) The transportation planning process has selected a general mode (e.g., highway, transit, or a highway/transit combination) that accomplishes its goals and objectives, and these documented determinations are reflected in the purpose and need Statement of the subsequent NEPA document; or

(3) The transportation planning process determines that the project needs to be funded by tolls or other non-traditional funding sources in order for the long-range transportation plan to be fiscally constrained or identifies goals and objectives that can only be met by toll roads or other non-traditional funding sources, and that determination of those goals and objectives is reflected in the purpose and need Statement of the subsequent NEPA document.

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

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

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

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

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

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

The results of the planning Alternatives Analysis must be documented;

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

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

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

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

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

(a) Identify any alternatives eliminated during the transportation planning process (this could include broad categories of alternatives, as when a long-range transportation plan

selects a general travel corridor based on a corridor study, thereby eliminating all alternatives along other alignments);

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

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

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

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

Affected Environment and Environmental Consequences:

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

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

Regional development and growth analyses;
Local land use, growth management, or development plans; and
Population and employment projections.

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

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

(b) Environmental scans that identify environmental resources and environmentally sensitive areas;

(c) Descriptions of airsheds and watersheds;

(d) Demographic trends and forecasts;

(e) Projections of future land use, natural resource conservation areas, and development; and

(f) The outputs of natural resource planning efforts, such as wildlife conservation plans, watershed plans, special area management plans, and multiple species habitat conservation plans.

However, in most cases, the assessment of the affected environment and environmental consequences conducted during the transportation planning process will not be detailed or current enough to meet NEPA standards and, thus, the inventory and evaluation of affected resources and the analysis of consequences of the alternatives will need to be supplemented with more refined analysis and possibly site-specific details during the NEPA process.

14. What information from the transportation planning process is useful in describing a baseline for the NEPA analysis of indirect and cumulative impacts?

Because the nature of the transportation planning process is to look broadly at future land use, development, population increases, and other growth factors, the planning analysis can provide the basis for the assessment of indirect and cumulative impacts required under NEPA. The consideration in the transportation planning process of development, growth, and consistency with local land use, growth management, or development plans, as well as population and employment projections, provides an overview of the multitude of factors in an area that are creating pressures not only on the transportation system, but on the natural ecosystem and important environmental and community resources. An analysis of all reasonably foreseeable actions in the area also should be a part of the transportation planning process. This planning-level information should be captured and utilized in the analysis of indirect and cumulative impacts during the NEPA process.

To be used in the analysis of indirect and cumulative impacts, such information should:

(a) Be sufficiently detailed that differences in consequences of alternatives can be readily identified;
(b) Be based on current data (e.g., data from the most recent Census) or be updated by additional information;
(c) Be based on reasonable assumptions that are clearly Stated; and/or
(d) Rely on analytical methods and modeling techniques that are reliable, defensible, and reasonably current.

Environmental Mitigation:

15**.** How can planning-level efforts best support advance mitigation, mitigation banking, and priorities for environmental mitigation investments?

A lesson learned from efforts to establish mitigation banks and advance mitigation agreements and alternative mitigation options is the importance of beginning interagency discussions during the transportation planning process. Development pressures, habitat alteration, complicated real estate transactions, and competition for potential mitigation sites by public and private project proponents can encumber the already difficult task of mitigating for ``like" value and function and reinforce the need to examine mitigation strategies as early as possible.

Robust use of remote sensing, GIS, and decision support systems for evaluating conservation strategies are all contributing to the advancement of natural resource and environmental planning. The outputs from environmental planning can now better inform transportation planning processes, including the development of mitigation strategies, so that transportation and conservation goals can be optimally met. For example, long-range transportation plans can be screened to assess the effect of general travel corridors or density, on the viability of sensitive plant and animal species or habitats.

This type of screening provides a basis for early collaboration among transportation and environmental staffs, the public, and regulatory agencies to explore areas where impacts must be avoided and identify areas for mitigation investments. This can lead to mitigation strategies that are both more economical and more effective from an environmental stewardship perspective than traditional project-specific mitigation measures.

III. Administrative Issues:

16. Are Federal funds eligible to pay for these additional, or more in depth, environmental studies in transportation planning?

Yes. For example, the following FHWA and FTA funds may be utilized for conducting environmental studies and analyses within transportation planning: FHWA planning and research funds, as defined under 23 CFR Part 420 (e.g., Metropolitan Planning (PL), Statewide Planning and Research (SPR), National Highway System (NHS), Surface Transportation Program (STP), and Equity Bonus); and FTA planning and research funds (49 U.S.C. 5303 and 49 U.S.C. 5313(b)), urban formula funds (49 U.S.C. 5307), and (in limited circumstances) transit capital investment funds (49 U.S.C. 5309).

The eligible transportation planning-related uses of these funds may include: (a) Conducting feasibility or subarea/corridor needs studies and (b) developing system-wide environmental information/inventories (e.g., wetland banking inventories or standards to identify historically significant sites). Particularly in the case of PL and SPR funds, the proposed expenditure must be closely related to the development of transportation plans and programs under 23 U.S.C. 134-135 and 49 U.S.C. 5303-5306.

For FHWA funding programs, once a general travel corridor or specific project has progressed to a point in the preliminary engineering/NEPA phase that clearly extends beyond transportation planning, additional in-depth environmental studies must be funded through the program category for which the ultimate project qualifies (e.g., NHS, STP, Interstate Maintenance, and/or Bridge), rather than PL or SPR funds.

Another source of funding is FHWA's Transportation Enhancement program, which may be used for activities such as: conducting archeological planning and research; developing inventories such as those for historic bridges and highways, and other surface transportation-related structures; conducting studies to determine the extent of water pollution due to highway runoff; and conducting studies to reduce vehicle-caused wildlife mortality while maintaining habitat connectivity.

The FHWA and the FTA encourage State DOTs, MPOs, and public transportation operators to seek partners for some of these studies from environmental, regulatory, and resource agencies, non-government organizations, and other government and private sector entities with similar data needs, or environmental interests. In some cases, these partners may contribute data and expertise to the studies, as well as funding.

17. What staffing or organizational arrangements may be helpful in allowing planning products to be accepted in the NEPA process?

Certain organizational and staffing arrangements may support a more integrated approach to the planning/NEPA decision-making continuum. In many cases, planning

organizations do not have environmental expertise on staff or readily accessible. Likewise, the review and regulatory responsibilities of many environmental, regulatory, and resource agencies make involvement in the transportation planning process a challenge for staff resources.

These challenges may be partially met by improved use of the outputs of each agency's planning resources and by augmenting their capabilities through greater use of GIS and remote sensing technologies (see http://www.gis.fhwa.dot.gov/ for additional information on the use of GIS). Sharing databases and the planning products of local land use decision-makers and State and Federal environmental, regulatory, and resource agencies also provide efficiencies in acquiring and sharing the data and information needed for both transportation planning and NEPA work.

Additional opportunities such as shared staff, training across disciplines, and (in some cases) reorganizing to eliminate structural divisions between planning and NEPA practitioners may also need to be considered in order to better integrate NEPA considerations into transportation planning studies. The answers to the following two questions also contain useful information on
training and staffing opportunities.

18. How have environmental, regulatory, and resource agency liaisons (Federally- and State DOT-funded positions) and partnership agreements been used to provide the expertise and interagency participation needed to enhance the consideration of environmental factors in the planning process?

For several years, States have utilized Federal and State transportation funds to support focused and accelerated project review by a variety of local, State, Tribal, and Federal agencies. While Section 1309(e) of the TEA-21 and its successor in SAFETEA-LU section 6002 speak specifically to transportation project streamlining, there are other authorities that have been used to fund positions, such as the Intergovernmental Cooperation Act (31 U.S.C. 6505). In addition, long-term, on-call consultant contracts can provide backfill support for staff that are detailed to other parts of an agency for temporary assignments. At last count (as of 2003), 246 positions were being funded. Additional information on interagency funding agreements is available at: http://environment.fhwa.dot.gov/strmlng/igdocs/index.htm.

Moreover, every State has advanced a variety of stewardship and streamlining initiatives that necessitate early involvement of environmental, regulatory, and resource agencies in the project development process. Such process improvements have: addressed the exchange of data to support avoidance and impact analysis; established formal and informal consultation and review schedules; advanced mitigation strategies; and resulted in a variety of programmatic reviews. Interagency agreements and work plans have evolved to describe performance objectives, as well as specific roles and responsibilities related to new streamlining initiatives. Some States have improved collaboration and efficiency by co-locating environmental, regulatory, and resource and transportation agency staff.

19. What training opportunities are available to MPOs, State DOTs, public transportation operators and environmental, regulatory, and resource agencies to assist in their understanding of the transportation planning and NEPA processes?

Both the FHWA and the FTA offer a variety of transportation planning, public involvement, and NEPA courses through the National Highway Institute and/or the National Transit Institute. Of particular note is the Linking Planning and NEPA Workshop, which provides a forum and facilitated group discussion among and between State DOT; MPO; Federal, Tribal, and State environmental, regulatory, and resource agencies; and FHWA/FTA representatives (at both the executive and program manager levels) to develop a State-specific action plan that will provide for strengthened linkages between the transportation planning and NEPA processes.

Moreover, the U.S. Fish and Wildlife Service offers Green Infrastructure Workshops that are focused on integrating planning for natural resources (``green infrastructure'') with the development, economic, and other infrastructure needs of society (``gray infrastructure'').

Robust planning and multi-issue environmental screening requires input from a wide variety of disciplines, including information technology; transportation planning; the NEPA process; and regulatory, permitting, and environmental specialty areas (e.g., noise, air quality, and biology). Senior managers at transportation and partner agencies can arrange a variety of individual training programs to support learning curves and skill development that contribute to a strengthened link of the transportation planning and NEPA processes. Formal and informal mentoring on an intra-agency basis can be arranged. Employee exchanges within and between agencies can be periodically scheduled, and persons involved with professional leadership programs can seek temporary assignments with partner agencies.

IV. Additional Information on this Topic

Valuable sources of information are FHWA's environment website(http://www.fhwa.dot.gov/environment/index.htm) and FTA's environmental streamlining website (http://www.environment.fta.dot.gov). Another source of information and case studies is NCHRP Report 8-38 (Consideration of Environmental Factors in Transportation Systems Planning), which is available at http://www4.trb.org/trb/crp.nsf/All+Projects/NCHRP+8-38. In addition, AASHTO's Center for Environmental Excellence website is continuously updated with news and links to information of interest to transportation and environmental professionals (www.transportation.environment.org).

Appendix E

Integration of the Planning and NEPA Processes

Page Left Intentionally Blank

Date:	February 22, 2005
Subject:	Integration of Planning and NEPA Processes
In Reply Refer To:	HCC-30
From:	D.J. Gribbin /s/ Chief Counsel, Federal Highway Administration Judith S. Kaleta /s/ Acting Chief Counsel, Federal Transit Administration
To:	Cindy Burbank, Associate Administrator Office of Planning, Environment and Realty, FHWA David A. Vozzolo, Deputy Associate Administrator Office of Planning and Environment, FTA

I. Issue

You have asked for guidance regarding the extent to which the results of the transportation planning process can be used in and relied upon in the NEPA process.

In response to your request, this memorandum outlines the current law; describes the transportation planning products that can be used in the NEPA process and under what conditions; and explains the roles of Federal agencies and the public in reviewing transportation planning products used in NEPA analyses and documents.

II. Background

The transportation planning process required by 23 U.S.C. 134 and 135 and 49 U.S.C. 5303-5306 sets the stage for future development of transportation projects. As part of the transportation planning process, States and local metropolitan planning organizations (MPOs) must develop long-range transportation plans to address projected transportation needs. In addition, they must create transportation improvement programs (TIPs or STIPs), which identify a list of priority projects to be carried out in the next three years to implement the plan. To receive Federal funding, transportation projects must come from a TIP or STIP. As a result, much of the data and decision making undertaken by state and local officials during the planning process carry forward into the project development activities that follow the TIP or STIP. This means that the planning process and the environmental assessment required during project development by the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4231 *et seq.*) should work in tandem, with the results of the transportation planning process feeding into the NEPA process. Congress has put great emphasis on the transportation planning process for shaping transportation decisions, and has retained and refined that emphasis in surface transportation law over decades.

In practice, though, the environmental analyses produced during the NEPA process are sometimes disconnected from the analyses used to prepare transportation plans, transportation improvement programs, and supporting corridor or subarea studies.

Analyses and decisions occurring during transportation planning can be ignored or redone in the NEPA process, resulting in a duplication of work and delays in implementation of transportation projects. The sharp separation between the work done during the transportation planning process and the NEPA analysis and documentation process is not necessary. In fact, current law provides authority for and even encourages the integration of the information and products developed in highway and transit planning process into the NEPA process. This memorandum provides guidance on how this information and these products can be incorporated into and relied upon in NEPA analyses and documents under existing laws.

III. Legal Analysis of Current Law on Integrating Planning and NEPA

The transportation planning process is a detailed, Congressionally mandated procedure for developing long-range transportation plans and shorter-range transportation improvement programs. These procedures were initially enacted in the 1960s and were codified in Title 23 and Title 49 of the U.S. Code. See 23 U.S.C. 134 and 135 and 49 U.S.C. 5303-5306. In 1991, the Intermodal Surface Transportation Efficiency Act of 1991 substantially expanded the planning provisions. They have been subsequently revisited and refined by Congress in various transportation bills, but the basic framework has remained intact. The procedures identify the State and local agencies with primary responsibility for transportation planning. They also identify agencies and other interested parties who should be given an opportunity to participate in the transportation planning process and describe their appropriate level of involvement. The statute spells out the planning factors that must be considered, including, among other factors, the protection and enhancement of the environment. 23 U.S.C. 134(f) and 135(c).1 The transportation planning process undertaken by States and MPOs is periodically reviewed and, if found to be adequate, certified by FHWA and FTA. The Federal government does not approve the transportation plans developed by State or local officials, and although FTA and FHWA jointly approve the Statewide TIP such an approval does not constitute a Federal action subject to review under NEPA.2 This is the process that Congress constructed to shape transportation decisions for Federally funded projects.

In order to be eligible for Federal funding, projects must come from a plan created by this process. Federal action subject to NEPA is needed to approve these Federal aid projects. Because of the continuity between the planning and project development processes, the NEPA analysis for a transportation project needs to be reviewed in the context of this transportation planning process.

NEPA and the government-wide regulations that carry out NEPA (40 C.F.R. Parts 1500 *et seq.*) clearly contemplate the integration of the NEPA process with planning processes. Specifically, Section 102(2)(A) of NEPA direct all Federal agencies to "utilize a systemic, interdisciplinary approach which will insure the integrated use of natural and social sciences and the environmental design arts in *planning* and decision making. [Emphasis added] The regulations issued by the President's Council on Environmental Quality (CEQ) amplify the statutory directive:

- 40 C.F.R. 1501.1(a) requires decision makers to "integrate[e] the NEPA process *into early planning* to ensure appropriate consideration of NEPA's policies and to eliminate delay;

- 40 C.F.R. 1501.1(b) emphasizes the need for "cooperative consultation among agencies *before the environmental impact statement is prepared*, rather than "submission of adversary comments on a completed document;
- 40 C.F.R. 1501.1(d) emphasizes the importance of "[I]identifying at an early stage the significant environmental issues deserving of study, by de-emphasizing "insignificant issues and "narrowing the scope of the environmental impact statement accordingly;
- 40 C.F.R. 1501.2 requires that Federal agencies "integrate the NEPA process with *other planning at the earliest possible time* to ensure that planning and [agency] decisions reflect environmental values. . .

Likewise, the NEPA regulations adopted by the Federal Transit Administration (FTA) and the Federal Highway Administration (FHWA) emphasize the tie between NEPA and transportation planning:

- 23 C.F.R. 771.105(a) provides that "To the fullest extent possible, all environmental investigations, reviews and consultations be coordinated as a single process. . . and
- 23 C.F.R. 771.105(b) directs that "Alternative courses of action be evaluated and decisions be made in the best overall public interest based upon a balanced consideration of the need for safe and efficient transportation; of the social, economic and environmental impacts of the proposed transportation improvement; and of national, State and local environmental protection goals.

Thus, the organic statute, the government-wide NEPA regulations, and the specific FHWA and FTA regulations all strongly support the integration of the NEPA process with the transportation planning process.

Case law on the issue of the use of transportation planning studies and decisions in the NEPA process is not extensive. However, to the extent they exist, court decisions have consistently supported the reliance in the NEPA process on work done in the planning process. For example, in *North Buckhead Civic Association v. Skinner*, 903 F. 2d 1533 (11th Cir. 1990), the Plaintiffs challenged the purpose and need articulated in the EIS for a multi-lane limited access highway connecting two existing highways. The purpose and need was derived from a series of planning studies conducted by the Atlanta Regional Commission. Plaintiffs argued that the purpose and need was crafted in a way that the proposed highway was "conclusively presumed to be required and a rail alternative perfunctorily dismissed for its failure to fully satisfy the objectives of the project. The Court of Appeals disagreed with the Plaintiffs, stating that their objections reflected "a fundamental misapprehension of the role of federal and state agencies in the community planning process established by the Federal-Aid Highway Act. The Court went on to explain that the Federal-Aid Highway Act contemplated "a relationship of cooperation between federal and local authorities; each governmental entity plays a specific role in the development and execution of a local transportation project. The Court emphasized that federal agencies did not have responsibility for long range local planning, and found that the "federal, state and local officials complied with federally mandated regional planning procedures in developing the need and purpose section of the EIS. 903 F.3d at 1541-42. Although the Court in *Buckhead* acknowledged the validity of a purpose and need based on the results of the planning study, it did not in any way scale back the holdings of other cases relating to purpose and need which caution agencies not to write

purpose and need statements so narrowly as to "define competing 'reasonable alternatives' out of consideration (and even out of existence). *Simmons v. U.S. Army Corps of Engineers*, 120 F.3d 664 (7th Cir. 1997). (In this case, the Army Corps of Engineers failed to question city's insistence on one approach for supplying water and gave no independent thought to the feasibility of alternatives, both single source and separate source supply options. On this basis, the EIS was found to be inadequate.)

In *Carmel-by-the-Sea v. U.S. DOT*, 123 F.3d 1142 (9th Cir. 1997), the Plaintiffs challenged the sufficiency of an EIS for failing to adequately consider the proposed project's growth-inducing effects. The Ninth Circuit disagreed, finding that the EIS satisfied this requirement by referencing several local planning documents that specifically included construction of the highway in their growth plans and which discussed overall growth targets and limits. In addition, the Court found that achieving "Level of Service C, an objective derived from the local congestion management plan, was an appropriate part of the purpose and need statement (although ultimately the EIS was found inadequate on cumulative impact grounds). Similarly, in *Laguna Greenbelt, Inc. v. U.S. DOT*, 42 F.3d 517 (9th Cir. 1994), the court held that the absence of a more thorough discussion in an EIS of induced growth, an issue that was sufficiently analyzed in referenced state materials, does not violate NEPA. However, regardless of the source, the analysis of induced growth must be in sufficient detail and must provide an analytical basis for its assumptions in order to be adequate under NEPA. See *Senville v. Peters*, 327 F.Supp.2d 335, 349 (Vt. 2004) (In this case, the District Court found an FEIS, before it was supplemented by FHWA, to be inadequate because it contained only a "sketchy discussion of induced growth and failed to support its assumptions with any analysis.)

In *Utahns for Better Transportation v. U.S. DOT*, 305 F.3d 1152 (10th Cir. 2002), *as modified on rehearing*, 319 F.3rd 1207 (10th Cir. 2003), Plaintiffs contended that the FEIS was inadequate because it failed to consider reducing travel demand through alternative land use scenarios in combination with mass transit. Noting that "reasonable alternatives must be non-speculative, the Tenth Circuit found that Plaintiffs had not demonstrated a deficiency in the FEIS on this basis (although it was ultimately found inadequate on other grounds). The Court stated that "Land use is a local and regional matter, and that, in this case, the corridor at issue would involve the jurisdiction of several local and regional governmental entities whose cooperation would be necessary to make an alternative land use scenario a reality. The fact that these entities had clearly declined to alter their land use plans in such a way was justification for not considering this alternative. 305 F.3d at 1172. 3

In *Sierra Club v. U.S. Department of Transportation*, 310 F.Supp.2d 1168 (D. Nevada 2004), Plaintiffs made several challenges to the EIS for a proposed highway project. One of these challenges alleged that FHWA relied on understated population and traffic forecasts. However, the Nevada District Court found that FHWA's reliance on the forecasts and modeling efforts of the designated metropolitan planning organization responsible for developing transportation plans and programs for the area was reasonable. In addition, Plaintiffs argued that the EIS had improperly rejected a fixed guideway as a reasonable alternative under NEPA. The Court disagreed, finding that FHWA reasonably relied on a "major investment study4 conducted as part of its planning process to establish that such an alternative (1) would not meet the project's purpose and need, even when considered as part of a transportation strategy, (2) was too costly

and (3) depended on connections to other portions of such a system for which construction was uncertain.5

As demonstrated by these cases, Courts have sanctioned the use of information from the planning process in a NEPA analysis and document. This is consistent with the opening language in NEPA advocating the integration of environmental considerations in both planning and decision-making. Consequently, products from the transportation planning process can be used in the NEPA analysis and documentation prepared for a transportation project.

IV. Legal Guidance on How Products from the Planning Process Can Be Used In the NEPA Process

For studies, analyses or conclusions from the transportation planning process to be used in the NEPA process, they must meet certain standards established by NEPA. This is because the information and products coming from the planning process must be sufficiently comprehensive that the Federal government may reasonably rely upon them in its NEPA analysis and documentation. Transportation planning processes vary greatly from locality to locality. Some transportation planning processes will already meet these standards, while others might need some modification to do so. Below is a discussion of where products from the transportation planning process might be incorporated into a NEPA analysis and documentation (purpose and need, alternatives, affected environment, and, to a more limited extent, environmental consequences in terms of land use, indirect and cumulative impacts, etc.), along with the NEPA standards they must first meet.

In addition to what is discussed below, these planning products must come from a transportation planning process that complied with current transportation planning requirements (e.g., provided an opportunity for public involvement and considered relevant planning factors). Interested State, local, tribal and Federal agencies should be included in the transportation planning processes, and must be given a reasonable opportunity to comment upon the long range transportation plan and transportation improvement program. Finally, any work from the planning process must have been documented and available for public review during the planning process. Such documentation should be in a form that can easily be appended to the NEPA document or incorporated by reference.6

Purpose and Need

The "purpose and need statement in a NEPA document is where the planning process and the NEPA process most clearly intersect. A sound planning process is a primary source of the project purpose and need. It is through the planning process that state and local governments determine what the transportation needs of an area are, which of transportation needs they wish to address, and in what time frame they wish to address them. Indeed, that is what the law requires from the planning process and actually prevents projects that do not come from the planning process from going forward.

The purpose and need statement, at a minimum, is a statement of the transportation problem to be solved by the proposed project. It is often presented in two parts: broad goals and objectives, and a description of the transportation conditions (congestion,

safety, etc.) underlying the problem. The long-range transportation plan also includes goals and objectives similar to "purpose and need but on a broader scale, since it typically covers a wider area and spans at least twenty years. These goals and objectives are often identified through extensive public outreach, sometimes called "visioning or "alternative futures exercises. The purpose and need statement for a transportation project should be consistent with and based on the goals and objectives developed during the planning process.

Getting input from Federal agencies as transportation goals and objectives are developed during the planning process is advisable and would be consistent with the cooperative relationship envisioned by statute and reinforced by courts. Such participation would give Federal agencies a better insight into the needs and objectives of the locality and would also provide an important opportunity for Federal concerns to be identified and addressed early in the process. These concerns could include issues that might be raised by Federal agencies in considering permit applications for projects designed to implement the transportation plan. However, the responsibility for local planning lies with the metropolitan planning organization or the State, not the Federal government.

In many cases, the goals and objectives in the transportation plan are supported by a needs assessment and problem statement describing current transportation problems to be addressed. Although the goals and objectives in the long-range transportation plan will be broader than what is appropriate for a specific project, they can be the foundation for the purpose and need to be used in a NEPA document. For example, they can be used to generate corridor-level purpose and need statements, during planning, for use in NEPA documents. The challenge is to ensure what comes from the long-range transportation plan is not so general as to generate a range of alternatives that are not responsive to the problem to be solved.

NEPA calls for a purpose and need statement to briefly specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action. A purpose and need statement can be derived from the transportation planning process. The purpose and need statement:

- Should be a statement of the transportation problem (not a statement of a solution);
- Should be based on articulated planning factors and developed through a certified planning process;
- Should be specific enough so that the range of alternatives developed will offer real potential for solutions to the transportation problem;
- Must not be so specific as to "reverse engineer a solution; and
- May reflect other priorities and limitations in the area, such as environmental resources, growth management, land use planning, and economic development.

Alternatives

Under NEPA, an EIS must rigorously explore and objectively evaluate all reasonable alternatives, and briefly explain the rationale for eliminating any alternatives from detailed study.7 "Reasonable alternatives are described in Council on Environmental Quality (CEQ) guidance as including "those that are practical or feasible from the

technical and economic standpoint and using common sense. *Forty Most Asked Questions Concerning CEQ's NEPA Regulations*, Question #2a (March 23, 1981). An alternative is not "reasonable if it does not satisfy the purpose and need,[8] but it may be reasonable even if it is outside the jurisdiction of the proposing agency to implement.

The transportation planning process frequently takes steps to refine the purpose and need statement that results in narrowing or screening the range of alternatives. Regional planning considerations may be the basis for refining the purpose and need statement, which might then have the effect of eliminating some alternatives from detailed consideration. For example, network connectivity across a geographic barrier such as a river may dictate a particular transportation mode or a general alignment. The plan may also identify where a locality wants housing, commercial development, agriculture, etc.—all of which might drive the need for transportation improvements in particular corridors.

When a long- range transportation plan leaves open the possibility of multiple approaches to fulfill its goals and objectives, a subarea or corridor study could be conducted to "zoom in on a particular area. This study would evaluate alternative investment strategies, engineering constraints, fiscal constraints, and environmental considerations in this area, and could narrow the range of possible alternatives to those that will meet the goals and objectives of the broader long-range transportation plan in that particular subarea or corridor. At the conclusion of such a study, the remaining alternatives might simply consist of a single corridor or mode choice with location and design options.

On a broad scale, a decision about whether projects located in particular subareas or corridors would satisfy the transportation goals and objectives of a locality can be made in these subarea or corridor studies. These studies can therefore be used in and relied on in an EIS to refine the purpose and need statement, thereby narrowing the range of alternatives to be considered by eliminating some alternatives from further detailed study. When conducting subarea or corridor screening studies during the planning process, State and local agencies should keep in mind the principles of NEPA and should be sure to document their procedures and rationales. To be incorporated into an EIS, the analysis of alternatives conducted in the subarea or corridor study should be consistent with the standard of NEPA requiring consideration of reasonable alternatives. Alternatives that remain "reasonable after the planning level analysis must be addressed in the NEPA process, even when they are clearly not the preferred alternative.[9] Alternatives passed over during the transportation planning process because they are infeasible or because they do not meet the NEPA "purpose and need can be omitted from the detailed analysis of alternatives in the NEPA analyses and documentation, so long as the rationale for omitting them is documented in the NEPA document. That documentation can either be appended to the EIS or the specific transportation planning documents can be summarized in the EIS and incorporated by reference. The NEPA review would then have to consider the alternatives that survive the planning study, plus any additional reasonable alternatives identified during NEPA scoping that may not have been considered during the planning process. All reasonable alternatives considered in the draft and final EIS should be presented in a "comparative form that sharply defines the issues and provides a clear basis for a choice by the decision maker and the public. 40 C.F.R. 1502.14.

Finally, any planning study being relied upon as a basis for eliminating alternatives from detailed study should be identified during the NEPA scoping process and available for public review. Since a major purpose of the scoping process is to identify alternatives to be evaluated, the public should be given the opportunity to comment on determinations made in the planning process to eliminate alternatives.

Therefore, if the planning process is used to screen or narrow the range of alternatives, by excluding certain alternatives from detailed study or by prescribing modes or corridors for transportation development which results in eliminating alternative modes or corridors from detailed study, then the planning-based analysis of alternatives:

- Should describe the rationale for determining the reasonableness of the alternative or alternatives;
- Should include an explanation of why an eliminated alternative would not meet the purpose and need or was otherwise unreasonable; and
- Should be made available for public review during the NEPA scoping process and comment period.

Under FTA's New Starts program, the alternatives considered during the NEPA process may be narrowed even further by eliminating alternatives from detailed study in those instances when the Alternatives Analysis required by 49 U.S.C. 5309(e) is conducted as a planning study prior to the NEPA review.10 In fact, FTA may narrow the alternatives considered in detail in the NEPA analysis and documentation to the No-Build (No-Action) alternative and the "Locally Preferred Alternative". The following criteria must be met if alternatives are eliminated from detailed study by a planning Alternatives Analysis conducted prior to the NEPA review:

- During the planning Alternatives Analysis, all of the reasonable alternatives under consideration must be fully evaluated in terms of their transportation impacts, capital and operating costs, social, economic, and environmental impacts, and technical considerations;
- There must be appropriate public involvement in the planning Alternatives Analysis;
- The appropriate Federal, State, and local resource agencies must be engaged in the planning Alternatives Analysis;
- The results of the planning Alternatives Analysis must be documented;
- The NEPA scoping participants must agree on the alternatives that will be considered in the NEPA review; and
- The NEPA document must incorporate by reference the evaluation of alternatives from the planning Alternatives Analysis.

If, during the NEPA process, new reasonable alternatives not considered during the planning Alternatives Analysis are identified or new information about eliminated alternatives comes to light, those alternatives must be evaluated during the NEPA process.

Affected Environment and Environmental Consequences

The EIS must present a description of the environment in the area that would be affected by the proposed action and alternatives and their environmental consequences. 40

C.F.R. 1502.15 and 1502.16. In the development of the long-range transportation plan and a corridor or subarea studies, a similar assessment of the environment in the area and environmental consequences should typically have been conducted. Such planning-level assessments might include developing and utilizing geographic information system overlays of the area; providing information on air- and water-sheds; identifying the location of environmental resources with respect to the proposed project and alternatives; conducting environmental "scans of the area of impact; and utilizing demographic trends and forecasts developed for the area. The discussion in the planning process of development growth, and consistency with local land use, growth management or development plans, as well as population and employment projections, would be particularly valuable for use in determining the affected environment and the scope of cumulative impacts assessment and possible indirect impacts of the proposed transportation improvement. Any relevant parts of such transportation planning process analysis, conducted in the planning process or by other sources and used in plan development, can be incorporated by reference and relied upon in the NEPA analysis and documentation.

The CEQ regulations require the action agency preparing an EIS to assess the environmental consequences of the proposed action and any reasonable alternatives. The CEQ regulation contains a detailed list of all of the types of environmental consequences that must be discussed, including direct, indirect and cumulative impacts and their significance, as well as means to mitigate adverse environmental impacts. These consequences must be discussed for each alternative and should be presented in a comparative form. 40 C.F.R. 1502.16. In transportation planning, the development of transportation plans and programs is guided by seven planning factors (23 U.S.C. 134(f)(1) and 23 U.S.C. 135(c)(1)), one of which is to "protect and enhance the environment, promote energy conservation, and improve the quality of life. As such, there generally is a broad consideration of the environmental effects of transportation decisions for a region.11 To the extent relevant, this analysis can be incorporated into the "environmental consequences section of an environmental assessment or impact statement performed under NEPA. However, in most cases the assessment of environmental consequences conducted during the planning process will not be detailed enough to meet NEPA standards and thus will need to be supplemented.

Nonetheless, the planning process often can be a source of information for the evaluation of cumulative and indirect impacts required under NEPA. 40 C.F.R. 1502.16, 1508.7 and 1508.8. The nature of the planning process is to look broadly at future land use, development, population increases, and other growth factors. This analysis could provide the basis for the assessment of cumulative and indirect impacts required under NEPA. Investigating these impacts at the planning level can also provide insight into landscape, watershed or regional mitigation opportunities that will provide mitigation for multiple projects.

An EIS may incorporate information regarding future land use, development, demographic changes, etc. from the transportation planning process to form a common basis for comparing the direct, indirect and cumulative impacts of all alternatives. When an analysis of the environmental consequences from the transportation planning process is incorporated into an EIS it:

- Should be presented in a way that differentiates among the consequences of the proposed action and other reasonable alternatives;
- Should be in sufficient detail to allow the decision maker and the public to ascertain the comparative merits and demerits of the alternatives; and
- Must be supplemented to the extent it does not adequately address all of the elements required by the CEQ and FHWA/FTA NEPA regulations.

V. Legal Guidance on Weight to be Given to Planning Products Incorporated into NEPA Analyses and Documents

Responsibility for NEPA analyses and documents on Federally funded or approved highway and transit projects ultimately rests with FHWA and FTA, since they are taking the federal action subject to NEPA. FHWA and FTA have an obligation to independently evaluate and review a NEPA analysis and document, even when some of the information contained in it has been prepared by the State or other local agency. 42 U.S.C. 4332(2)(D); 40 C.F.R. 1506.5 Under NEPA and other relevant environmental laws such as the Endangered Species Act, the Clean Water Act, or the Clean Air Act, other agencies also must be given an opportunity to review and comment on NEPA documents and analysis. Federal agencies that have jurisdiction by law have an independent responsibility under NEPA and, upon the request of the lead agency, shall be "cooperating agencies.12 Tribes and state and local agencies with jurisdiction by law and all agencies with special expertise may, upon the request of the lead agency, be "cooperating agencies in the NEPA process. 40 C.F.R. 1501.6 and 1508.5.

However, while imposing on Federal agencies the obligation to independently evaluate information in NEPA analyses and documents, Congress also affirmed that NEPA does not apply to the transportation planning process because it is not a Federal action:

"Since plans and programs described in this [transportation planning] section are subject to a reasonable opportunity for public comment, since individual projects included in the plans and programs are subject to review under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), and since decisions by the Secretary concerning plans and programs described in this section have not been reviewed under such Act as of January 1, 1997, any decision by the Secretary concerning a plan or program described in this section shall not be considered to be a Federal action subject to review under the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.)."

23 U.S.C 134(o) and 135(i). The transportation planning process is a local function, which, by statute, is undertaken by State and local governments. The Department of Transportation has an oversight role, but it does not conduct the process and, therefore, there is no Federal action to trigger the application of NEPA. This is different than the "big picture planning processes undertaken by other Federal agencies with respect to lands that they manage, where action by the Federal agency is involved and NEPA applies.13

The affirmation in Sections 134(o) and 135(i) that the decisions made by State and local governments during the transportation planning process are exempt from NEPA is based on a Fifth Circuit decision, *Atlanta Coalition on the Transportation Crisis, Inc. v. Atlanta Regional Commission*, 599 F.2d 1333 (5th Cir. 1979). In this case, plaintiffs sought declaratory judgment that an EIS was required for a regional transportation plan

developed by the Atlanta Regional Commission in compliance with the FHWA and FTA planning regulations. The plan proposed a comprehensive transportation system for the Atlanta area. It included an analysis of projected regional transportation needs through the year 2000 and identified the general location and the mode (i.e. highway or transit) for recommended transportation corridors to meet those needs. The Fifth Circuit denied plaintiff's request for an EIS, finding that "Congress did not intend NEPA to apply to state, local or private actions; hence, the statute speaks only to 'federal agencies' and requires impact statements only as to 'major federal actions.' 559 F.2d at 1344. Specifically, the Court stated:

"The fact is that the [regional plan] was developed by ARC in conjunction with state and local authorities, and no federal agency had any significant hand in determining, or made any decision concerning, its substantive aspects. Under the statutes, those decisions are entrusted to the state and local agencies, not FHWA or [FTA]. Moreover, the plan, as a plan will never be submitted to a federal agency for review or approval. And while the planning process was so structured so as to preserve the eligibility for federal funding of projects included within the resulting plan, it has been consistently held that the possibility of federal funding in the future does not make the project or projects 'major federal action' during the planning stage."

[Cites omitted] 599 F.2d at 1346. The Court further found that certification or funding of the planning process by FHWA and FTA did not amount to a "major federal action as defined in the NEPA regulations. 559 F.3d at 1344; 40 C.F.R. 1508.18. The Court concluded by again emphasizing: "We have no doubt but that the [regional plan] embodies important decisions concerning the future growth of the Atlanta area that will have a continuing and significant effect on the human environment. But at the risk of belaboring the point, we reemphasize that those decisions have been made by state and local authorities, will not be reviewed by any federal agency, and obligate no federal funds. The defendants therefore need not prepare an impact statement on the [regional plan]. 559 F.3d at 1349.

This theme is echoed in other court decisions involving local planning processes. Early in the development of NEPA law, Courts recognized that deference to local planning was appropriate in the NEPA process. In *Maryland-National Capital Park and Planning Commission v. U.S. Postal Service*, 487 F.2d 1029 (U.S. App. D.C. 1973), the Postal Service determined that the construction of a bulk mail facility would have no significant impact since, under the locality's zoning laws, the postal facility was a "permitted use at the location proposed by the Postal Service. In analyzing this issue, the Court noted: "The question of significance takes on a distinctive case in the context of land use planning. The Court went on to state: "When local zoning regulations and procedures are followed in site location decisions by the Federal Government, there is an assurance that such 'environmental' effects as flow from the special uses of land—the safety of the structures, cohesiveness of neighborhoods, population density, crime control, and esthetics-will be no greater than demanded by the residents acting through their elected representatives. 487 F.2d at 165-66. The Court acknowledged, however, that local planning was not sufficient to effectuate NEPA, and that actions of the Federal government might have implications beyond those evaluated in the planning process: "For example, whereas the Federal Government might legitimately defer to New York City zoning in matters of, say, population density, a different issue would be posed by the location within the city of an atomic reactor. Its peculiar hazards would not be limited

to the citizens of New York, nor could they control them. 487 F.2d at 166. *See also Preservation Coalition, Inc. v. Pierce*, 667 F.2d 851 (C.A. Idaho 1982) (citing *Maryland-National Capital Park* and upholding a finding of no significant impact when a Federal project conformed to existing land use patterns, zoning and local plans).

The Fifth Circuit followed a similar line of reasoning in *Isle of Hope Historical Association v. U.S. Army Corps of Engineers*, 646 F. 2d 215 (5th Cir. 1981). In this case, the Court held that, in preparing an EIS, the Corps of Engineers properly relied on information and answers from the local government regarding planning and zoning issues. The Corps had consulted with county officials to determine whether planning documents had been adopted and whether there was any inconsistency between the proposed project and the local zoning regulations. Plaintiffs challenged this part of the EIS, alleging that it had not adequately discussed the planning documents at issue nor disclosed inconsistencies between the zoning regulations and the proposed project. The Court upheld the Corps' reliance on the county officials' responses, stating that "For the Corps in this case to follow planning documents which the county had not adopted or to engage independent analysis of inconsistencies which those specifically charged with zoning enforcement did not find would make the Corps in effect a planning and zoning review board. . . The proper function of the Corps was to assess the environmental impact of the [proposed project], not to act as a zoning interpretation or appeal board. 646 F.2d at 221.14

This respect for local sovereignty in making planning decisions has been reinforced more recently in the context of transportation planning. In *North Buckhead Civic Association v. Skinner* (discussed previously in Section III of this Memorandum), the 11th Circuit emphasized that "NEPA does not confer the power or responsibility for long range local planning on Federal or state agencies. 903 F. 3d at 1541-42. See also *Sierra Club v. U.S. Department of Transportation*, 350 F.Supp.2d 1168, 1193 (D. Nevada 2004), where the Court said: "[A] federal agency does not violate NEPA by relying on prior studies and analyses performed by local and state agencies. This approach is also consistent with the statutory provision describing the Federal-State relationship for the Federal-aid highway program: "The authorization of the appropriation of Federal funds or their availability for expenditure under this chapter shall in no way infringe on the sovereign rights of the States to determine which projects shall be federally financed. 23 U.S.C.

145(a). In conducting its NEPA analysis, FHWA and FTA must take into account Congressional direction regarding its statutory authority to act. See *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190 (C.A.D.C. 1991).15

When it enacts a provision of law, Congress is presumed to have in mind previous laws relating to the same subject matter. To the greatest extent possible, new statutes should be read in accord with prior statutes, and should be construed together in harmony. N. Singer, *Statutes and Statutory Construction*, 6th Ed., Vol. 2B, Sec. 51.02. A Federal agency's independent obligation to evaluate planning products incorporated into the NEPA process must be performed in a way that is consistent with the Congressional direction that NEPA does not apply to local transportation planning and consistent with court decisions recognizing the sovereignty of local governments in making local transportation planning decisions. Federal agencies should ensure transportation planning decisions have a rational basis and are based on accurate data, but should not use the NEPA process as a venue for substituting federal judgment for local judgment by

requiring reconsideration of systems-level objectives or choices that are properly made during the local transportation planning process.16

The transportation planning process and the NEPA process work in harmony when the planning process provides the basis or foundation for the purpose and need statement in a NEPA document. To the extent regional or systems-level analyses and choices in the transportation planning process help to form the purpose and need statement for a NEPA document, such planning products should be given great weight by FHWA and FTA, consistent with Congressional and Court direction to respect local sovereignty in planning. This approach is also consistent with a letter to Secretary Mineta dated May 12, 2003, from James Connaughton, Chairman of CEQ, on purpose and need statements in NEPA documents:

"Federal courts generally have been deferential in their review of a lead agency's 'purpose and need' statements, absent a finding that an agency acted in an arbitrary or capricious manner. They have recognized that federal agencies should respect the role of local and state authorities in the transportation planning process and appropriately reflect the results of that process in the federal agency's NEPA analysis of purpose and need [citing to *North Buckhead*]."

Further, in his letter, the Chairman states that, even though other Federal agencies must be provided an opportunity to comment, they "should afford substantial deference to the transportation agency's articulation of purpose and need when the proposal is a transportation project.17

Therefore, if transportation planning studies and conclusions have properly followed the transportation planning process, then they can be incorporated into the purpose and need statement and, further, can be used to help draw bounds around alternatives that need to be considered in detail. For example, if systems-level or other broad objectives or choices18 from the transportation plan are incorporated into the purpose and need statement used in a NEPA document, FHWA and FTA should not revisit whether these are the best objectives or choices among other options. Rather, their review would include making sure that objectives or choices derived from the transportation plan were based on transportation planning factors established by federal law; reflect a credible and articulated planning rationale; are founded on reliable data; and were developed through a transportation planning process meeting FHWA and FTA statutory and regulatory requirements. In addition, the basis for the objectives and choices must be documented and included in the NEPA document. In such cases, alternatives falling outside a purpose and need statement derived from objectives or choices identified in the planning process do not need to be considered in detail.

FHWA and FTA should independently review regional analyses or studies of transportation needs conducted during the transportation planning process at a similar level. FHWA and FTA reviewers do not need to review whether assumptions or analytical methods used in the studies are the best available, but, instead, need to assure that such assumptions or analytical methods are reasonable and scientifically acceptable. This review would include determining whether assumptions have a rational basis and are up-to-date and data, analytical methods, and modeling techniques are reliable, defensible, and reasonably current. This approach preserves the sovereignty of

state and local governments in making local planning decisions but in a way that is consistent with the principles and procedures of NEPA.

Nonetheless, additional scrutiny may be required if the results of the planning process are more specific than needed for regional or systems-level planning. Such results might actually be part of project development, which is outside of the planning jurisdiction of local agencies. Project development often involves a Federal action and therefore would be subject to NEPA. See 23 U.S.C. 134(o) and 135(i). In addition, the information the Federal agencies rely upon in the NEPA process based on underlying transportation planning work cannot be inaccurate, false or misleading. See *Sierra Club v. U.S. Army Corps of Engineers,* 701 F. 2d 1011, 1035 (where the court required a supplementation or re-evaluation of the NEPA analyses and documentation where the Corps unquestioningly relied on inaccurate information and did not investigate, on its own, the accuracy of the fisheries data submitted to it to support a permit for a landfill in the Hudson river to accommodate the Westway highway project.)

In conducting reviews under NEPA, Federal agencies should defer to planning products incorporated into the NEPA process to the extent that they involve decisions or analysis within the jurisdiction of the local planning agency. The focus of the Federal agency's review should be whether the planning information is adequate to meet the standards of NEPA, not whether the decisions made by the planning authority are correct. This would be consistent with the specific roles assigned by Congress to local and Federal authorities and consistent with court decisions admonishing Federal agencies to respect the sovereignty of local authorities in developing local plans.

VI. Conclusion

This memorandum provides guidance on how transportation planning level information and products may be used to focus the documentation prepared to comply with NEPA when Federal approvals are needed to build a transportation project. Federal law and regulations and best practices ensure that much information that is relevant to the NEPA process is in fact developed during the planning process. Both Federal transportation law and NEPA law strongly suggest that to the extent practicable, the NEPA process should use and build on the decision made and information developed during the planning process. Of course, where the transportation planning process fails to address or document issues, the NEPA analyses and documentation may have to supplement the information developed during the planning process.

Original signed by D.J. Gribbin and Judith S. Kaleta

---

1 Protection of the environment is reinforced in the FHWA and FTA regulations clarifying the factors to be considered in the transportation planning process (e.g., States and MPOs must analyze the "overall social, economic, energy and environmental effects of transportation decisions. . . 23 CFR 450.208 and 450.316.

2 As stated in the planning provisions of Title 23, "any decision by the Secretary concerning a plan or program described in this section shall not be considered to be a Federal action subject to review under NEPA. 23 U.S.C. 134(o); see also 23 U.S.C. 135(i). These provisions are discussed more fully in Section V of this memorandum.

3 Note, however, an alternative is not "speculative or "unreasonable merely because it is outside the jurisdiction of the proposing agency. 40 C.F.R. 1402.14 (c). In some cases, an agency might be required to consider an alternative outside its jurisdiction. For example, in *Muckleshoot Indian Tribe v. United States Forest Service*, 177 F.3d 800 (9th Cir. 1999), the Ninth Circuit Court of Appeals found that the lack of funds for an alternative was not sufficient to render it "speculative when the Forest Service could have at least made a request for additional funding. The facts in the *Muckleshoot* case are different than the *Utahns* case, where the local agencies had clearly declined to exercise the alternative.

4 Corridor-level "Major Investment Studies were for a time required under FTA and FHWA's planning regulations where a need for a major metropolitan transportation investment was identified and Federal funds were potentially involved. Major investment studies were intended to refine the system-wide transportation plan and lead to decisions on the design concept and scope of the project, in consultation with other interested agencies. In addition, they were intended to be used as input to EISs and EAs. 23 C.F.R. 450.318. In Section 1308 of the Transportation Equity Act for the 21st Century, the Secretary was directed to eliminate the separate requirement for major investment studies and instead to integrate it with the planning analyses required under the FTA and FHWA planning statutes "as part of the analyses required to be undertaken pursuant to the planning provisions of Title 23, United States Code and Chapter 53 of Title 49, United States Code, and the National Environmental Policy Act of 1959 (42 U.S.C. 4321 et seq.) for Federal-aid highway and transit projects.. Pub.. 105-178 (June 9, 1998). Although no longer required, "major investment studies continue to be allowed at the discretion of the State or local agency.

It is telling, however, that a good many State and local agencies continue to prepare "major investment studies (and similar corridor and sub-area analyses) on their own volition, because they have found it very valuable to vet the merits and weaknesses of various alternatives—both modal and alignment--before they even initiate the NEPA analyses and documentation. Moreover, FTA requires Metropolitan Planning Organizations and/or transit agencies contemplating major capital investment ("new starts) projects to prepare a planning-level corridor study, know as an "Alternatives Analysis, either before or during a Draft Environmental Impact Statement for the purpose of narrowing the range of alternatives for study in a subsequent NEPA analysis and document(s) by eliminating some alternatives from further detailed study. See also footnote 10.

5 Plaintiffs have appealed this decision, and the Ninth Circuit has stayed further construction on the project pending the outcome of the appeal. *Order Granting Stay*, Ninth Circuit Court of Appeals, No. CV-02-00578-PMP (July 27, 2004).

6 Documents may be incorporated by reference if they do not impede agency or public review of the action. Any document incorporated by reference must be "reasonably available for inspection by potentially interested persons within the time allowed for comment. Incorporated materials must be cited in the NEPA document and their contents briefly described. 40 C.F.R. 1502.21.

7 40 C.F.R. 1502.14 The term "alternatives is also used in many other contexts (for example, "prudent and feasible alternatives under Section 4(f) of the Department of

Transportation Act, the "Least Environmentally Damaging Practicable Alternative under the Clean Water Act, or the "Alternatives Analysis under FTA's New Starts program). This memorandum only uses the term as defined under NEPA. At the planning stage of any project, however, a determination should be made as to whether the alternatives to be considered will need to be used to satisfy multiple requirements at the planning and NEPA review stages. If so, during planning the alternatives chosen for consideration and the analysis of those alternatives should reflect the multiple statutory objectives that must be addressed.

8 In some cases, an alternative may be reasonable even if it just partially satisfies the purpose and need. See *NRDC v. Morton*, 458 F.2d 827, 836 (C.A.D.C. 1972).

9 Under the requirements for FTA's New Starts Program, however, under the appropriate circumstances, reasonable alternatives may be eliminated from detailed study during a rigorous planning-level Alternatives Analysis (including an evaluation of environmental consequences) conducted before the issuance of a NEPA Notice of Intent to prepare an Environmental Impact Statement. This is discussed later in this section.

10 FTA offers applicant sponsors the opportunity to conduct the Alternatives Analysis before NEPA begins or alternatively, to conduct the Alternatives Analysis concurrently with the NEPA DEIS.

11 Specifically, the FHWA/FTA transportation planning regulations (23 C.F.R. Part 450 and 49 C.F.R. Part 613) require inclusion of the overall social, economic, energy and environmental effects of transportation decisions (including consideration of the effects and impacts of the plan on human, natural and man-made environment such as housing, employment and community development, consultation with appropriate resource and permit agencies to ensure early and continued coordination with environmental resource protection and management plans, and appropriate emphasis on transportation-related air quality problems). 23 C.F.R. 450.316(a)(13).

12 Nonetheless, a cooperating agency may, in response to a lead agency's request for assistance in preparing an EIS, reply that other program commitments preclude any involvement or the degree of involvement requested in the action that is subject to the EIS. 40 C.F.R. 1501.6(c).

13 For example, NEPA applies to the general management plans prepared and approved by the National Park Service for each unit of the National Park System (Chapter 2, "Management Policies, at www.nps.gov/policy/mp/chapter2.htm), and applies to resource management plans prepared and approved by the Bureau of Land Management to maximize resource values of federal lands and resources (43 C.F.R. 1601.0-6).

14 Of course, the reliance on the underlying local plan does not excuse the analysis of the impacts of the project within the context of that plan. Cf*. Sierra Club Illinois Chapter v. U.S. Department of Transportation*, 962 F. 2d 1037, 1042 (N.D. Ill. 1997).

15 In this case, plaintiffs challenged the Federal Aviation Administration's EIS on an application by the Toledo Port Authority for a cargo hub in Toledo. Plaintiffs alleged that the FAA should have considered alternatives outside of Toledo. The Court disagreed,

finding that Congress had made clear that the location of cargo hubs was to be made by local authorities and not by the Federal government, stating: "Where the Federal government acts, not as a proprietor, but to approve and support a project being sponsored by a local government or private applicant, the Federal agency is necessarily more limited. In the latter instance, the Federal government's consideration of alternatives may accord substantial weight to the preferences of the applicant and/or sponsor in the sitting and design of the project. 938 F.2d at 197.

16 This would not constrain the Environmental Protection Agency's authority under Section 309 of the Clean Air Act to refer concerns to the President's Council on Environmental Quality regarding impacts on public health or welfare or environmental quality. 42 U.S.C. 7609.

17 See, also, *Citizens Against Burlington, Inc. v. Busey*, *id*., At 938 F.2d 190, 195-96 (C.A.D.C. 1991), stating "When an agency is asked to sanction a specific plan, see 40 C.F.R. § 1508.18(b)(4), the agency should take into account the needs and goals of the parties involved in the application. [Citations omitted]; *Louisiana Wildlife Federation, Inc. v. York*, 761 F.2d 1044 (5th Cir. 1985), stating "Under [the Corps'] Guidelines, therefore, not only is it permissible for the Corps to consider the applicant's objective; the Corps has a duty to take into account the objectives of the applicant's project. Indeed, it would be bizarre if the Corps were to ignore the purpose for which the applicant seeks a permit and to substitute a purpose it deems more suitable.

18 Examples of such planning objectives or choices that courts have accepted for use in the purpose and need statement for a NEPA document are (1) the need for a multi-lane highway connecting two other highways (*North Buckhead Civic Association v. Skinner*, 903 F.2d at 1537) and (2) the need for a particular level of service (*Carmel-by-the-Sea v. U.S. DOT,* 123 F.3d at 1156). In *Atlanta Coalition on the Transportation Crisis v. Atlanta Regional Commission*, the court discusses the distinction between "systems planning and "project planning, and describes the Atlanta "systems plan as "an analysis of projected regional transportation needs through the year 2000 [identifying] the general location and the mode (i.e., highway or mass transit) of recommended transportation corridors to meet those needs. 599 F.2d at fn.2 and at 1341

Page Left Intentionally Blank

Appendix F

MPO Air Quality Conformity Checklist

Page Left Intentionally Blank

Conformity Analysis Documentation

Checklist for MPO TIPs/RTPs

40 CFR	Criteria	Page	Comments
§93.102	Document the applicable pollutants and precursors for which EPA designates the area as nonattainment or maintenance. Describe the nonattainment or maintenance area and its boundaries.		
§93.104 (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."		
§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.		
§93.110 (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	Documents planning assumptions are less than 5 years old at the time the conformity analysis begins. If assumptions are older than 5 years documents 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. Document the use of the latest transit fares and road and bridge tolls. Document the use of the latest information on the effectiveness of TCMs and other SIP measures that have been implemented. Document the key assumptions and show that they were agreed to through Interagency and public consultation.		
§93.111	Document the use of the latest emissions model approved by EPA.		

40 CFR	Criteria	Page	Comments
§93.112	Document fulfillment of the interagency and public consultation requirements outlined in a specific implementation plan according to §51.390 or, if a 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 (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 [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 Statewide TIP and regionally significant non-Federal projects, are consistent with the requirements of the “Action/Baseline”, “Action/1990” and/or “Action/2002” interim emissions tests as applicable.		
§93.119 (g)	Document the use of the appropriate analysis years in the regional emissions analysis for areas without applicable SIP budgets. 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)	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		

40 CFR	Criteria	Page	Comments
§93.122 (a)(2, 3)	Document that only emission reduction credits from TCMs on schedule have been included or that partial credit has been taken for partially implemented TCMs. Document that the regional emissions analysis only includes emissions credit for projects, programs, or activities that require regulatory action if: the regulatory action has been adopted; the project, program, activity or a written commitment is included in the SIP; EPA has approved an opt-in to the program, EPA has promulgated the program, or the Clean Air Act requires the program (indicate applicable date). Discuss the implementation status of these programs and the associated emissions credit for each analysis year.		
§93.122 (a)(4,5,6)	For nonregulatory measures that are not included in the STIP, include written commitments from appropriate agencies. Document that assumptions for measures outside the transportation system (e.g. fuels measures) are the same for baseline and action scenarios. Document that factors such as ambient temperature are consistent with those used in the SIP unless modified through interagency consultation.		
§93.122 (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.).		
§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.		

40 CFR	Criteria	Page	Comments
§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.

Appendix G

SB 375 and SB 575 STATUTORY LANGUAGE

Page Left Intentionally Blank

SB 375 Statutory Language (signed September 30, 2008)
and
SB 575 Statutory Language (signed October 11, 2009)
(these changes are shown in underlined text)

Government Code Section 14522

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.

Government Code Section 14522.1

CTC Maintains RTP Guidelines

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 between 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.

Government Code Section 14522.2

Travel Demand Models

14522.2. (a) A metropolitan planning organization shall disseminate the methodology, results, and key assumptions of whichever travel demand models it uses in a way that would be useable and understandable to the public.

(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.

Government Code Section 65080

RTP Development

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.

RTP Contents

(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 nonwork) 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.

ARB Develops Regional Greenhouse Gas Emission Targets

(2) A sustainable communities strategy prepared by each metropolitan planning organization as follows:

(A) No later than September 30, 2010, the State Air Resources Board shall provide each affected region with greenhouse gas emission reduction targets for the automobile and light truck sector for 2020 and 2035, respectively.

Role of the Regional Targets Advisory Committee

(i) No later than January 31, 2009, the state board shall appoint a Regional Targets Advisory Committee to recommend factors to be considered and methodologies to be used for setting greenhouse gas emission reduction targets for the affected regions. The committee shall be composed of representatives of the metropolitan planning organizations, affected air districts, the League of California Cities, the California State Association of Counties, local transportation agencies, and members of the public, including homebuilders, environmental organizations, planning organizations, environmental justice organizations, affordable housing organizations, and others. The advisory committee shall transmit a report with its recommendations to the state board no later than September 30, 2009. In recommending factors to be considered and methodologies to be used, the advisory committee may consider any relevant issues, including, but not limited to, data needs, modeling techniques, growth forecasts, the impacts of regional jobs-housing balance on interregional travel and greenhouse gas emissions, economic and demographic trends, the magnitude of greenhouse gas reduction benefits from a variety of land use and transportation strategies, and appropriate methods to describe regional targets and to monitor performance in attaining those targets. The state board shall consider the report prior to setting the targets.

(ii) Prior to setting the targets for a region, the state board shall exchange technical information with the metropolitan planning organization and the affected air district. The metropolitan planning organization may recommend a target for the region. The metropolitan planning organization shall hold at least one public workshop within the region after receipt of the report from the advisory committee. The state board shall release draft targets for each region no later than June 30, 2010.

(iii) In establishing these targets, the state board shall take into account greenhouse gas emission reductions that will be achieved by improved vehicle emission standards, changes in fuel composition, and other measures it has approved that will reduce greenhouse gas emissions in the affected regions, and prospective measures the state board plans to adopt to reduce greenhouse gas emissions from other greenhouse gas

emission sources as that term is defined in subdivision (i) of Section 38505 of the Health and Safety Code and consistent with the regulations promulgated pursuant to the California Global Warming Solutions Act of 2006 (Division 12.5(commencing with Section 38500) of the Health and Safety Code).

(iv) The state board shall update the regional greenhouse gas emission reduction targets every eight years consistent with each metropolitan planning organization's timeframe for updating its regional transportation plan under federal law until 2050. The state board may revise the targets every four years based on changes in the factors considered under clause (iii) above. The state board shall exchange technical information with the Department of Transportation, metropolitan planning organizations, local governments, and affected air districts and engage in a consultative process with public and private stakeholders prior to updating these targets.

(v) The greenhouse gas emission reduction targets may be expressed in gross tons, tons per capita, tons per household, or in any other metric deemed appropriate by the state board.

Preparation of the SCS

(B) Each metropolitan planning organization shall prepare a sustainable communities strategy, subject to the requirements of Part 450 of Title 23 of, and Part 93 of Title 40 of, the Code of Federal Regulations, including the requirement to utilize the most recent planning assumptions considering local general plans and other factors. The sustainable communities strategy shall (i) identify the general location of uses, residential densities, and building intensities within the region; (ii) 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; (iii) identify areas within the region sufficient to house an eight-year projection of the regional housing need for the region pursuant to Section 65584; (iv) identify a transportation network to service the transportation needs of the region; (v) 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 Section 65080.01; (vi) consider the state housing goals specified in Sections 65580 and 65581; (vii) 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 the state board; and (viii) allow the regional transportation plan to comply with Section 176 of the federal Clean Air Act (42 U.S.C. Sec. 7506).

Role of ABAG in the San Francisco Bay Area

(C)(i)Within the jurisdiction of the Metropolitan Transportation Commission, as defined by Section 66502, the Association of Bay Area Governments shall be responsible for clauses (i), (ii), (iii), (v), and (vi), the Metropolitan Transportation Commission shall be responsible for clauses (iv) and (viii); and the Association of Bay Area Governments and the Metropolitan Transportation Commission shall jointly be responsible for clause (vii) of subparagraph (B).

Use of Regional Plan for the Lake Tahoe Region

(ii) Within the jurisdiction of the Tahoe Regional Planning Agency, as defined in Sections 66800 and 66801, the Tahoe Metropolitan Planning Organization shall use the Regional Plan for the Lake Tahoe Region as the sustainable community strategy, provided it complies with clauses (vii) and (viii) of subparagraph (B).

Role of Subregions in the Development of an SCS

(D) In the region served by the multicounty transportation planning agency described in Section 130004 of the Public Utilities Code, a subregional council of governments and the county transportation commission may work together to propose the sustainable communities strategy and an alternative planning strategy, if one is prepared pursuant to subparagraph (I), for that subregional area. The metropolitan planning organization may adopt a framework for a subregional sustainable communities strategy or a subregional alternative planning strategy to address the intraregional land use, transportation, economic, air quality, and climate policy relationships. The metropolitan planning organization shall include the subregional sustainable communities strategy for that subregion in the regional sustainable communities strategy to the extent consistent with this section and federal law and approve the subregional alternative planning strategy, if one is prepared pursuant to subparagraph (I), for that subregional area to the extent consistent with this section. The metropolitan planning organization shall develop overall guidelines, create public participation plans pursuant to subparagraph (F), ensure coordination, resolve conflicts, make sure that the overall plan complies with applicable legal requirements, and adopt the plan for the region.

MPO Consults with Local Elected Officials

(E) The metropolitan planning organization shall conduct at least two informational meetings in each county within the region for members of the board of supervisors and city councils on the sustainable communities strategy and alternative planning strategy, if any. The metropolitan planning organization may conduct only one informational meeting if it is attended by representatives of the county board of supervisors and city council members representing a majority of the cities representing a majority of the population in the incorporated areas of that county. Notice of the meeting or meetings shall be sent to the clerk of the board of supervisors and to each city clerk. The purpose of the meeting or meetings shall be to discuss the sustainable communities strategy and the alternative planning strategy, if any, including the key land use and planning assumptions to the members of the board of supervisors and the city council members in that county and to solicit and consider their input and recommendations.

SCS Public Participation Plan and Public Input

(F) Each metropolitan planning organization shall adopt a public participation plan, for development of the sustainable communities strategy and an alternative planning strategy, if any, that includes all of the following:

(i) Outreach efforts to encourage the active participation of a broad range of stakeholder groups in the planning process, consistent with the agency's adopted Federal Public Participation Plan, including, but 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.

(ii) Consultation with congestion management agencies, transportation agencies, and transportation commissions.

(iii) Workshops throughout the region to provide the public with the information and tools necessary to provide a clear understanding of the issues and policy choices. At least one workshop shall be held in each county in the region. For counties with a population greater than 500,000, at least three workshops shall be held. Each workshop, to the extent practicable, shall include urban simulation computer modeling to create visual representations of the sustainable communities strategy and the alternative planning strategy.

(iv) Preparation and circulation of a draft sustainable communities strategy and an alternative planning strategy, if one is prepared, not less than 55 days before adoption of a final regional transportation plan.

(v) At least three public hearings on the draft sustainable communities strategy in the regional transportation plan and alternative planning strategy, if one is prepared. If the metropolitan transportation organization consists of a single county, 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.

(vi) A process for enabling members of the public to provide a single request to receive notices, information, and updates.

SCS – Spheres of Influence

(G) In preparing a sustainable communities strategy, the metropolitan planning organization shall consider spheres of influence that have been adopted by the local agency formation commissions within its region.

Comparing SCS Reductions to ARB Targets

(H) Prior to adopting a sustainable communities strategy, the metropolitan planning organization shall quantify the reduction in greenhouse gas emissions projected to be achieved by the sustainable communities strategy and set forth the difference, if any, between the amount of that reduction and the target for the region established by the state board.

APS Development

(I) If the sustainable communities strategy, prepared in compliance with subparagraph (B) or (D), is unable to reduce greenhouse gas emissions to achieve the greenhouse gas emission reduction targets established by the state board, the metropolitan planning organization shall prepare an alternative planning strategy to the sustainable communities strategy showing how those greenhouse gas emission targets would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies. The alternative planning strategy shall be a separate document from the regional transportation plan, but it may be adopted concurrently with the regional transportation

plan. In preparing the alternative planning strategy, the metropolitan planning organization:

(i) Shall identify the principal impediments to achieving the targets within the sustainable communities strategy.

(ii) May include an alternative development pattern for the region pursuant to subparagraphs (B) to (G), inclusive.

(iii) Shall describe how the greenhouse gas emission reduction targets would be achieved by the alternative planning strategy, and why the development pattern, measures, and policies in the alternative planning strategy are the most practicable choices for achievement of the greenhouse gas emission reduction targets.

(iv) An alternative development pattern set forth in the alternative planning strategy shall comply with Part 450 of Title 23 of, and Part 93 of Title 40 of, the Code of Federal Regulations, except to the extent that compliance will prevent achievement of the greenhouse gas emission reduction targets approved by the state board.

(v) For purposes of the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code), an alternative planning strategy shall not constitute a land use plan, policy, or regulation, and the inconsistency of a project with an alternative planning strategy shall not be a consideration in determining whether a project may have an environmental effect.

MPOs Technical Methodology for Estimating Its Regional GHG Emissions

(J) (i) Prior to starting the public participation process adopted pursuant to subparagraph (F) of paragraph (2) of subdivision (b) of Section 65080, the metropolitan planning organization shall submit a description to the state board of the technical methodology it intends to use to estimate the greenhouse gas emissions from its sustainable communities strategy and, if appropriate, its alternative planning strategy. The state board shall respond to the metropolitan planning organization in a timely manner with written comments about the technical methodology, including specifically describing any aspects of that methodology it concludes will not yield accurate estimates of greenhouse gas emissions, and suggested remedies. The metropolitan planning organization is encouraged to work with the state board until the state board concludes that the technical methodology operates accurately.

ARB Review of the SCS or APS

(ii) After adoption, a metropolitan planning organization shall submit a sustainable communities strategy or an alternative planning strategy, if one has been adopted, to the state board for review, including the quantification of the greenhouse gas emission reductions the strategy would achieve and a description of the technical methodology used to obtain that result. Review by the state board shall be limited to acceptance or rejection of the metropolitan planning organization's determination that the strategy submitted would, if implemented, achieve the greenhouse gas emission reduction targets established by the state board. The state board shall complete its review within 60 days.

(iii) If the state board determines that the strategy submitted would not, if implemented, achieve the greenhouse gas emission reduction targets, the metropolitan planning organization shall revise its strategy or adopt an alternative planning strategy, if not previously adopted, and submit the strategy for review pursuant to clause (ii). At a

minimum, the metropolitan planning organization must obtain state board acceptance that an alternative planning strategy would, if implemented, achieve the greenhouse gas emission reduction targets established for that region by the state board.

Local Land Use Authority

(K) Neither a sustainable communities strategy nor an alternative planning strategy regulates the use of land, nor, except as provided by subparagraph (I), shall either one be subject to any state approval. Nothing in a sustainable communities strategy shall be interpreted as superseding the exercise of the land use authority of cities and counties within the region. Nothing in this section shall be interpreted to limit the state board's authority under any other provision of law. Nothing in this section shall be interpreted to authorize the abrogation of any vested right whether created by statute or by common law. Nothing in this section shall require a city's or county's land use policies and regulations, including its general plan, to be consistent with the regional transportation plan or an alternative planning strategy. Nothing in this section requires a metropolitan planning organization to approve a sustainable communities strategy that would be inconsistent with Part 450 of Title 23 of, or Part 93 of Title 40 of, the Code of Federal Regulations and any administrative guidance under those regulations. Nothing in this section relieves a public or private entity or any person from compliance with any other local, state, or federal law.

Exemption of Transportation Projects - Programming

(L) Nothing in this section requires projects programmed for funding on or before December 31, 2011, to be subject to the provisions of this paragraph if they (i) are contained in the 2007 or 2009 Federal Statewide Transportation Improvement Program, (ii) are funded pursuant to Chapter 12.49 (commencing with Section 8879.20) of Division 1 of Title 2, or (iii) were specifically listed in a ballot measure prior to December 31, 2008, approving a sales tax increase for transportation projects. Nothing in this section shall require a transportation sales tax authority to change the funding allocations approved by the voters for categories of transportation projects in a sales tax measure adopted prior to December 31, 2010. For purposes of this subparagraph, a transportation sales tax authority is a district, as defined in Section 7252 of the Revenue and Taxation Code, that is authorized to impose a sales tax for transportation purposes.

Adoption of RTPs

(M) A metropolitan planning organization, or a regional transportation planning agency not within a metropolitan planning organization, that is required to adopt a regional transportation plan not less than every five years, may elect to adopt the plan not less than every four years. This election shall be made by the board of directors of the metropolitan planning organization or regional transportation planning agency no later than June 1, 2009, or thereafter 54 months prior to the statutory deadline for the adoption of housing elements for the local jurisdictions within the region, after a public hearing at which comments are accepted from members of the public and representatives of cities and counties within the region covered by the metropolitan planning organization or regional transportation planning agency. Notice of the public hearing shall be given to the general public and by mail to cities and counties within the region no later than 30 days prior to

the date of the public hearing. Notice of election shall be promptly given to the Department of Housing and Community Development. The metropolitan planning organization or the regional transportation planning agency shall complete its next regional transportation plan within three years of the notice of election.

San Joaquin Valley – SCS/APS

(N) Two or more of the metropolitan planning organizations for Fresno County, Kern County, Kings County, Madera County, Merced County, San Joaquin County, Stanislaus County, and Tulare County may work together to develop and adopt multiregional goals and policies that may address interregional land use, transportation, economic, air quality, and climate relationships. The participating metropolitan planning organizations may also develop a multiregional sustainable communities strategy, to the extent consistent with federal law, or an alternative planning strategy for adoption by the metropolitan planning organizations. Each participating metropolitan planning organization shall consider any adopted multiregional goals and policies in the development of a sustainable communities strategy and, if applicable, an alternative planning strategy for its region.

RTPs Action Element

(3) An action element that describes the programs and actions necessary to implement the plan and assigns implementation responsibilities. The action element may describe all transportation projects proposed for development during the 20-year or greater life of the plan. The action element shall consider congestion management programming activities carried out within the region.

RTPs Financial Element

(4) (A) A financial element that summarizes the cost of plan implementation constrained by a realistic projection of available revenues. The financial element shall also contain recommendations for allocation of funds. A county transportation commission created pursuant to Section 130000 of the Public Utilities Code shall be responsible for recommending projects to be funded with regional improvement funds, if the project is consistent with the regional transportation plan. The first five years of the financial element shall be based on the five-year estimate of funds developed pursuant to Section 14524. The financial element may recommend the development of specified new sources of revenue, consistent with the policy element and action element.

(B) The financial element of transportation planning agencies with populations that exceed 200,000 persons may include a project cost breakdown for all projects proposed for development during the 20-year life of the plan that includes total expenditures and related percentages of total expenditures for all of the following:

(i) State highway expansion.

(ii) State highway rehabilitation, maintenance, and operations.

(iii) Local road and street expansion.

(iv) Local road and street rehabilitation, maintenance, and operation.

(v) Mass transit, commuter rail, and intercity rail expansion.

(vi) Mass transit, commuter rail, and intercity rail rehabilitation, maintenance, and operations.

(vii) Pedestrian and bicycle facilities.

(viii) Environmental enhancements and mitigation.
(ix) Research and planning.
(x) Other categories.

Incentives to Cities and Counties to Comply for SB 375

(C) The metropolitan planning organization 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 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 metropolitan planning organization 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 greenhouse gas emission reduction targets by implementing policies for growth to occur within their cities.

Other Factors of Local Significance

(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.

RTP Adoption Dates and RTP Guidelines

(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.

Definitions

65080.01. The following definitions apply to terms used in Section 65080:

(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 sustainable communities strategy or the alternative planning strategy; 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.

(c) "Feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, legal, social, and technological factors.

(d) "Consistent" shall have the same meaning as that term is used in Section 134 of Title 23 of the United States Code.

(e) "Internally consistent" means that the contents of the elements of the regional transportation plan must be consistent with each other.

Redesignation of RTPAs

65080.1. Once preparation of a regional transportation plan has been commenced by or on behalf of a designated transportation planning agency, the Secretary of the Business, Transportation and Housing Agency shall not designate a new transportation planning agency pursuant to Section 29532 for all or any part of the geographic area served by the originally designated agency unless he or she first determines that redesignation will not result in the loss to California of any substantial amounts of federal funds.

RTPs - California Coastal Trail

65080.1. Each transportation planning agency designated under Section 29532 or 29532.1 whose jurisdiction includes a portion of the California Coastal Trail, or property designated for the trail, that is located within the coastal zone, as defined in Section 30103 of the Public Resources Code, shall coordinate with the State Coastal Conservancy, the California Coastal Commission, and the Department of Transportation regarding development of the California Coastal Trail, and each transportation planning agency shall include provisions for the California Coastal Trail in its regional plan, under Section 65080.

RTPs – Alternative Planning Scenario

65080.3. (a) Each transportation planning agency with a population that exceeds 200,000 persons may prepare at least one "alternative planning scenario" for presentation to local officials, agency board members, and the public during the development of the triennial regional transportation plan and the hearing required under subdivision (c) of Section 65080.

(b) The alternative planning scenario shall accommodate the same amount of population growth as projected in the plan but shall be based on an alternative that

attempts to reduce the growth in traffic congestion, make more efficient use of existing transportation infrastructure, and reduce the need for costly future public infrastructure.

(c) The alternative planning scenario shall be developed in collaboration with a broad range of public and private stakeholders, including local elected officials, city and county employees, relevant interest groups, and the general public. In developing the scenario, the agency shall consider all of the following:

(1) Increasing housing and commercial development around transit facilities and in close proximity to jobs and commercial activity centers.

(2) Encouraging public transit usage, ridesharing, walking, bicycling, and transportation demand management practices.

(3) Promoting a more efficient mix of current and future job sites, commercial activity centers, and housing opportunities.

(4) Promoting use of urban vacant land and "brownfield" redevelopment.

(5) An economic incentive program that may include measures such as transit vouchers and variable pricing for transportation.

(d) The planning scenario shall be included in a report evaluating all of the following:

(1) The amounts and locations of traffic congestion.

(2) Vehicle miles traveled and the resulting reduction in vehicle emissions.

(3) Estimated percentage share of trips made by each means of travel specified in subparagraph (C) of paragraph (1) of subdivision (b) of Section 65080.

(4) The costs of transportation improvements required to accommodate the population growth in accordance with the alternative scenario.

(5) The economic, social, environmental, regulatory, and institutional barriers to the scenario being achieved.

(e) If the adopted regional transportation plan already achieves one or more of the objectives set forth in subdivision (c), those objectives need not be discussed or evaluated in the alternative planning scenario.

(f) The alternative planning scenario and accompanying report shall not be adopted as part of the regional transportation plan, but it shall be distributed to cities and counties within the region and to other interested parties, and may be a basis for revisions to the transportation projects that will be included in the regional transportation plan.

(g) Nothing in this section grants transportation planning agencies any direct or indirect authority over local land use decisions.

(h) This section does not apply to a transportation plan adopted on or before September 1, 2001, proposed by a transportation planning agency with a population of less than 1,000,000 persons.

Caltrans May Prepare an RTP

65080.5. (a) For each area for which a transportation planning agency is designated under subdivision (c) of Section 29532, or adopts a resolution pursuant to subdivision (c) of Section 65080, the Department of Transportation, in cooperation with the transportation planning agency, and subject to subdivision (e), shall prepare the regional transportation plan, and the updating thereto, for that area and submit it to the governing body or designated policy committee of the transportation planning agency for adoption. Prior to adoption, 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. Prior to the

adoption of the regional transportation improvement program by the transportation planning agency if it prepared the program, the transportation planning agency shall consider the relationship between the program and the adopted plan. The adopted plan and program, and the updating thereto, shall be submitted to the California Transportation Commission and the department pursuant to subdivision (b) of Section 65080.

(b) In the case of a transportation planning agency designated under subdivision (c) of Section 29532, the transportation planning agency may prepare the regional transportation plan for the area under its jurisdiction pursuant to this chapter, if the transportation planning agency, prior to July 1, 1978, adopts by resolution a declaration of intention to do so.

(c) In those areas that have a county transportation commission created pursuant to Section 130050 of the Public Utilities Code, the multicounty designated transportation planning agency, as defined in Section 130004 of that code, shall prepare the regional transportation plan and the regional transportation improvement program in consultation with the county transportation commissions.

(d) Any transportation planning agency which did not elect to prepare the initial regional transportation plan for the area under its jurisdiction, may prepare the updated plan if it adopts a resolution of intention to do so at least one year prior to the date when the updated plan is to be submitted to the California Transportation Commission.

(e) If the department prepares or updates a regional transportation improvement program or regional transportation plan, or both, pursuant to this section, the state-local share of funding the preparation or updating of the plan and program shall be calculated on the same basis as though the preparation or updating were to be performed by the transportation planning agency and funded under Sections 99311, 99313, and 99314 of the Public Utilities Code.

Government Code Section 65081

RTPs – Air Carrier Airports

65081.1. (a) After consultation with other regional and local transportation agencies, each transportation planning agency whose planning area includes a primary air carrier airport shall, in conjunction with its preparation of an updated regional transportation plan, include an airport ground access improvement program.

(b) 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.

(c) Highest consideration shall be given to mass transit for airport access improvement projects in the program.

(d) If federal funds are not available to a transportation planning agency for the costs of preparing or updating an airport ground access improvement program, the agency may charge the operators of primary air carrier airports within its planning area for the direct costs of preparing and updating the program. An airport operator against whom charges are imposed pursuant to this subdivision shall pay the amount of those charges to the transportation planning agency.

MTCs Special Corridors

65081.3. (a) As a part of its adoption of the regional transportation plan, the designated county transportation commission, regional transportation planning agency, or the Metropolitan Transportation Commission may designate special corridors, which may include, but are not limited to, adopted state highway routes, which, in consultation with the Department of Transportation, cities, counties, and transit operators directly impacted by the corridor, are determined to be of statewide or regional priority for long-term right-of-way preservation.

(b) Prior to designating a corridor for priority acquisition, the regional transportation planning agency shall do all of the following:

(1) Establish geographic boundaries for the proposed corridor.

(2) Complete a traffic survey, including a preliminary recommendation for transportation modal split, which generally describes the traffic and air quality impacts of the proposed corridor.

(3) Consider the widest feasible range of possible transportation facilities that could be located in the corridor and the major environmental impacts they may cause to assist in making the corridor more environmentally sensitive and, in the long term, a more viable site for needed transportation improvements.

(c) A designated corridor of statewide or regional priority shall be specifically considered in the certified environmental impact report completed for the adopted regional transportation plan required by the California Environmental Quality Act, which shall include a review of the environmental impacts of the possible transportation facilities which may be located in the corridor. The environmental impact report shall include a survey within the corridor boundaries to determine if there exist any of the following:

(1) Rare or endangered plant or animal species.

(2) Historical or cultural sites of major significance.

(3) Wetlands, vernal pools, or other naturally occurring features.

RTPAs/MPOs Designation of Corridors for Priority Acquisition

(d) The regional transportation planning agency shall designate a corridor for priority acquisition only if, after a public hearing, it finds that the range of potential transportation facilities to be located in the corridor can be constructed in a manner which will avoid or mitigate significant environmental impacts or values identified in subdivision (c), consistent with the California Environmental Quality Act and the state and federal Endangered Species Acts.

(e) Notwithstanding any other provision of this section, a corridor of statewide or regional priority may be designated as part of the regional transportation plan only if it has previously been specifically defined in the plan required pursuant to Section 134 and is consistent with the plan required pursuant to Section 135 of Title 23 of the United States Code.

Government Code Section 65588

RTP Updates and Housing Element Revisions

65588. (a) Each local government shall review its housing element as frequently as appropriate to evaluate all of the following:

(1) The appropriateness of the housing goals, objectives, and policies in contributing to the attainment of the state housing goal.

(2) The effectiveness of the housing element in attainment of the community's housing goals and objectives.

(3) The progress of the city, county, or city and county in implementation of the housing element.

(b) The housing element shall be revised as appropriate, but no less often than required by subdivision (e), to reflect the results of this periodic review. Nothing in this section shall be construed to excuse the obligations of the local government to adopt a revised housing element in accordance with the schedule specified in this section.

(c) The review and revision of housing elements required by this section shall take into account any low- or moderate-income housing provided or required pursuant to Section 65590.

(d) The review pursuant to subdivision (c) shall include, but need not be limited to, the following:

(1) The number of new housing units approved for construction within the coastal zone after January 1, 1982.

(2) The number of housing units for persons and families of low or moderate income, as defined in Section 50093 of the Health and Safety Code, required to be provided in new housing developments either within the coastal zone or within three miles of the coastal zone pursuant to Section 65590.

(3) The number of existing residential dwelling units occupied by persons and families of low or moderate income, as defined in Section 50093 of the Health and Safety Code, that have been authorized to be demolished or converted since January 1, 1982, in the coastal zone.

(4) The number of residential dwelling units for persons and families of low or moderate income, as defined in Section 50093 of the Health and Safety Code, that have been required for replacement or authorized to be converted or demolished as identified in paragraph (3). The location of the replacement units, either onsite, elsewhere within the locality's jurisdiction within the coastal zone, or within three miles of the coastal zone within the locality's jurisdiction, shall be designated in the review.

(e) Each city, county, and city and county shall revise its housing element according to the following schedule:

(1) (A) Local governments within the regional jurisdiction of the Southern California Association of Governments: June 30, 2006, for the fourth revision.

(B) Local governments within the regional jurisdiction of the Association of Bay Area Governments: June 30, 2007, for the fourth revision.

(C) Local governments within the regional jurisdiction of the Council of Fresno County Governments, the Kern County Council of Governments, and the Sacramento Area Council of Governments: June 30, 2002, for the third revision, and June 30, 2008, for the fourth revision.

(D) Local governments within the regional jurisdiction of the Association of Monterey Bay Area Governments: December 31, 2002, for the third revision, and June 30, 2009, for the fourth revision.

(E) Local governments within the regional jurisdiction of the San Diego Association of Governments: June 30, 2005, for the fourth revision.

(F) All other local governments: December 31, 2003, for the third revision, and June 30, 2009, for the fourth revision.

(2) (A) All local governments within a metropolitan planning organization in a region classified as nonattainment for one or more pollutants regulated by the federal Clean Air Act (42 U.S.C. Sec. 7506), except those within the regional jurisdiction of the San Diego Association of Governments, shall adopt the fifth revision of the housing element no later than 18 months after adoption of the first regional transportation plan to be adopted after September 30, 2010.

(B) (i) All local governments within the regional jurisdiction of the San Diego Association of Governments shall adopt the fifth revision of the housing element no later than 18 months after adoption of the first regional transportation plan update to be adopted after September 30, 2010.

(ii) Prior to or concurrent with the adoption of the fifth revision of the housing element, each local government within the regional jurisdiction of the San Diego Association of Governments shall identify adequate sites in its inventory pursuant to Section 65583.2 or rezone adequate sites to accommodate a prorated portion of its share of the regional housing need for the projection period representing the period from July 1, 2010, to the deadline for housing element adoption described in clause (i).

(I) For the fifth revision, a local government within the jurisdiction of the San Diego Association of Governments that has not adopted a housing element for the fourth revision by January 1, 2009, shall revise its housing element not less than every four years, beginning on the date described in clause (i), in accordance with paragraph (4), unless the local government does both of the following:

(ia) Adopts a housing element for the fourth revision no later than March 31, 2010, which is in substantial compliance with this article.

(ib) Completes any rezoning contained in the housing element program for the fourth revision by June 30, 2010.

(II) For the sixth and subsequent revisions, a local government within the jurisdiction of the San Diego Association of Governments shall be subject to the dates described in clause (i), in accordance with paragraph (4).

(C) All local governments within the regional jurisdiction of a metropolitan planning organization or a regional transportation planning agency that has made an election pursuant to subparagraph (L) of paragraph (2) of subdivision (b) of Section 65080 by June 1, 2009, shall adopt the fifth revision of the housing element no later than 18 months after adoption of the first regional transportation plan update following the election.

(D) All other local governments shall adopt the fifth revision of the housing element five years after the date specified in paragraph (1).

(3) Subsequent revisions of the housing element shall be due as follows:

(A) For local governments described in subparagraphs (A), (B), and (C) of paragraph (2), 18 months after adoption of every second regional transportation plan update,

provided that the deadline for adoption is no more than eight years later than the deadline for adoption of the previous eight-year housing element.

(B) For all other local governments, at five-year intervals after the date specified in subparagraph (D) of paragraph (2).

(C) If a metropolitan planning organization or a regional transportation planning agency subject to the five-year revision interval in subparagraph (B) makes an election pursuant to subparagraph (L) of paragraph (2) of subdivision (b) of Section 65080 after June 1, 2009, all local governments within the regional jurisdiction of that entity shall adopt the next housing element revision no later than 18 months after adoption of the first regional transportation plan update following the election. Subsequent revisions shall be due 18 months after adoption of every second regional transportation plan update, provided that the deadline for adoption is no more than eight years later than the deadline for adoption of the previous eight-year housing element.

(4) (A) A local government that does not adopt a housing element within 120 days of the applicable deadline described in subparagraph (A), (B), or (C) of paragraph (2) or subparagraph (A) or (C) of paragraph (3) shall revise its housing element not less than every four years until the local government has adopted at least two consecutive revisions by the statutory deadline.

(B) If necessary, the local government shall adopt three consecutive four-year revisions by the statutory deadline to ensure that when the local government adopts its next housing element covering an eight-year planning period, it does so at the deadline for adoption for other local governments within the region also covering an eight-year planning period.

(C) The deadline for adoption of every second four-year revision shall be the same as the deadline for adoption for other local governments within the region.

(5) The metropolitan planning organization or a regional transportation planning agency for a region that has an eight-year revision interval pursuant to paragraph (3) shall notify the department and the Department of Transportation in writing of the estimated adoption date for its next regional transportation plan update at least 12 months prior to the estimated adoption date. The Department of Transportation shall maintain and publish on its Internet Web site a current schedule of the estimated regional transportation plan adoption dates. The department shall maintain and publish on its Internet Web site a current schedule of the estimated and actual housing element due dates. Each council of governments shall publish on its Internet Web site the estimated and actual housing element due dates, as published by the department, for the jurisdictions within its region and shall send notice of these dates to interested parties. For purposes of determining the existing and projected need for housing within a region pursuant to Sections 65584 to 65584.08, inclusive, the date of the next scheduled revision of the housing element shall be deemed to be the estimated adoption date of the regional transportation plan update described in the notice provided to the Department of Transportation plus 18 months.

(6) The new projection period shall begin on the date of December 31 or June 30 that most closely precedes the end of the previous projection period.

Definitions

(f) For purposes of this article, the following terms have the following meanings:

(1) "Planning period" shall be the time period between the due date for one housing element and the due date for the next housing element.

(2) "Projection period" shall be the time period for which the regional housing need is calculated.

(g) For purposes of this section, "regional transportation plan update" shall mean a regional transportation plan adopted to satisfy the requirements of subdivision (d) of Section 65080.

Sustainable Communities and Climate Protection Act

Chapter 728 of the Statutes of 2008 shall be known and may be cited as the Sustainable Communities and Climate Protection Act.

Appendix H

ALTERNATIVE PLANNING STRATEGY (APS)

Page Left Intentionally Blank

Appendix H

Alternative Planning Strategy

Background

California Government Code Section 65080(H) states MPOs shall prepare an APS if the MPO determines the region will not be able to achieve ARB's regional GHG emission reduction targets through the sustainable communities strategy (SCS). It should be noted that an SCS must be prepared as part of the RTP - regardless if the MPO can achieve the regional GHG emission reduction target or not. The APS however is not a part of an RTP.

APS Statutory Language

Below is the specific statutory language from California Government Code Section 65080(H) relating to the preparation of an APS:

> Calif. Government Code Section 65080(H)
> (H) If the sustainable communities strategy, prepared in compliance with subparagraph (B) or (C), is unable to reduce greenhouse gas emissions to achieve the greenhouse gas emission reduction targets established by the state board, the metropolitan planning organization shall prepare an alternative planning strategy to the sustainable communities strategy showing how those greenhouse gas emission targets would be achieved through alternative development patterns, infrastructure, or additional transportation measures or policies. The alternative planning strategy shall be a separate document from the regional transportation plan, but it may be adopted concurrently with the regional transportation plan. In preparing the alternative planning strategy, the metropolitan planning organization:
>
> (i) Shall identify the principal impediments to achieving the targets within the sustainable communities strategy.
> (ii) May include an alternative development pattern for the region pursuant to subparagraphs (B) to (F), inclusive.
> (iii) Shall describe how the greenhouse gas emission reduction targets would be achieved by the alternative planning strategy, and why the development pattern, measures, and policies in the alternative planning strategy are the most practicable choices for achievement of the greenhouse gas emission reduction targets.
> (iv) An alternative development pattern set forth in the alternative planning strategy shall comply with Part 450 of Title 23 of, and Part 93 of Title 40 of, the Code of Federal Regulations, except to the extent that compliance will prevent achievement of the greenhouse gas emission reduction targets approved by the state board.
> (v) For purposes of the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code), an alternative planning strategy shall not constitute a land use plan, policy, or regulation, and the inconsistency of a project with an alternative planning strategy shall not be a consideration in determining whether a project may have an environmental effect.

Page Left Intentionally Blank

Appendix I

LAND USE AND TRANSPORTATION STRATEGIES TO REDUCE REGIONAL GHG EMISSIONS

Page Left Intentionally Blank

Appendix I

Land Use and Transportation Strategies to Address Regional Greenhouse Gas Emissions in the RTP

RTPAs and MPOs are not limited to specific land use and transportation strategies to reduce greenhouse gas emissions. Each RTPA and MPO is encouraged to consider and incorporate those strategies that are likely to provide the greatest level of greenhouse gas emissions reduction considering feasibility of implementation as well as the unique characteristics and needs within the region.

This Appendix provides several, but not a complete list of many and varied resources currently available to promote reductions in greenhouse gas emissions. RTPAs and MPOs are encouraged to connect and consult these resources as appropriate for their region. Section 6.27 provides a brief overview of what is available to RTPAs and MPOs through the various links to the Best Practices within this Appendix.

Pricing Strategies

(Local/State Legislation is required to implement various pricing strategies and should be researched prior to incorporating into the RTP development process)

Pricing strategies are suggested to encourage reduced driving to reduce GHG emissions, and include, but are not limited to:

1. Using alternative mode programs, congestion pricing, toll roads, and parking pricing strategies.
Examples are:

i. Road pricing and High Occupancy Toll (HOT) lanes. To reduce VMT, MPOs should model adding pricing to existing lanes, not just as a means for additional expansion. Variable/congestion pricing should be considered.
ii. User fees such as fuel taxes and parking charges.
iii. Free or reduced fare transit fares.
iv. Expansion of Parking Cash-Out Programs.
v. Strategies to reduce the impacts of pricing strategies on low-income individuals.
vi. Improve the cost-efficiency of transit investments and transit operations.

2. Consider utilizing revenues from these pricing strategies for projects, such as mass transit, that improve mobility without increasing VMT or GHG emissions.

Road pricing can be found at:

"Opportunities to Improve Air Quality through Transportation Pricing Programs", U.S. Environmental Protection Agency, September 1997.
http://www.epa.gov/oms/market/pricing.pdf

"Sacramento Transportation & Air Quality Collaborative Final Report, Volume III: Supplemental Text for Agreements", December 2005.
http://www.sacta.org/pdf/STAQC/FinalReportIII.pdf

Transportation Planning and Investment Strategies:

1. Consider shifting transportation investments towards improving and expanding urban and suburban core transit, programs for walkability, bicycling and other alternative modes, transit access, housing near transit, and local blueprint plans that coincide with the regional blueprint and the SCS.

2. Provide funds and technical assistance to local agencies to implement blueprint strategies and the SCS.

3. Implement operational efficiencies that reduce congestion in vehicle throughput on roadways or improve transit access or other alternative access without physical expansion of the roadways.

4. Consider consulting with school districts on the regional land use plan to facilitate coordination between school siting and other land uses. This coordination could effectively reduce driving in the region. Consider school districts' facilities master plans and transportation policies in the coordination of regional planning efforts.

5. For purposes of allocating transportation investments, recognize the rural contribution towards GHG reduction for counties that have policies that support development within their cities, and protect agriculture and resource lands. Consideration should be given to jurisdictions that contribute towards these goals for projects that reduce GHG or are GHG neutral, such as safety, rehabilitation, connectivity and for alternative modes.

6. In setting priorities, consider transportation projects that increase efficiency, connectivity and/or accessibility or provide other means to reduce GHG.

7. In setting priorities, consider transportation projects that provide public health co-benefits.

8. Employ "Fix It First" policies to ensure that preventive maintenance and repair of existing roads are the highest priority for spending, to reduce overall maintenance costs, and to support development in existing centers and corridors.

Land Use Strategies that Can Help Reduce Rates of VMT and Per Person Household Greenhouse Gas (GHG) Emissions

(Strategies incorporating the "D factors" - Professor Robert Cervero research)

There have been various studies and research conducted on land use and transportation strategies regarding travel that reduces driving by walking, biking, and transit use. Some of this research is known as the "Ds factors" as the variables can be described as Density, land use; Diversity, pedestrian-scale; Design, access to regional Destinations, and Distance to transit.

Professor Robert Cervero's research efforts found that certain neighborhood characteristics significantly affect the amounts and modes of travel by residents, customers and employees.

Land use strategies that typically incorporate some or all of these "D factors" include: urban and suburban infill, clustered development, mixed land uses, New Urbanist design, transit-oriented development, and other "smart-growth" strategies. When combined with good pedestrian and bicycle facilities and transit service, such strategies can contribute to a significant reduction in per household levels of GHG emissions (Reid Ewing, Keith Bartholomew, Steve Winkelman, Jerry Walters, and Don Chen, **Growing Cooler** – The Evidence on Urban Development and Climate Change, for the Urban Land Institute, 2008.)

The Ds are Destination (proximity), Density (or clustered development), Diversity (or mixture of land uses), Distance to transit, Design, and Development scale.

Transportation Demand Management (TDM)

The Victoria Transport Policy Institute at http://www.vtpi.org/tdm/index.php contains an Encyclopedia that is a comprehensive source of information about innovative management solutions to transportation problems. It provides detailed information on various demand management strategies, plus general information on TDM planning and evaluation techniques. It is produced by the Victoria Transport Policy Institute to increase understanding and implementation of TDM.

For example, TDM-related chapters include:

- Incentives to Use Alternative Modes and Reduce Driving
- Parking and Land Use Management
- TDM Programs and Program Support
- TDM Planning and Evaluation
- Innovative and Emerging Shared Mobility Services (i.e., bikeshare, carshare, and on-demand rideshare services)

RTP policies that support Smart Growth Land Use principles

Metropolitan Transportation Commission's Best Practice Examples related to strategies 1. and 2. listed below:

MTC's T2035 Plan called for modifying our Transportation for Livable Communities (TLC) program to support Priority Development Areas which were identified as a part of FOCUS, the Bay Area's blueprint planning process. The TLC program offers capital grants to cities, counties, and transit agencies to construct projects that support compact development near transit. See:

http://apps.mtc.ca.gov/meeting.packet.documents/agenda.1343/TLC.Guidelines.Final.v1.pdf

MTC's Resolution 3434 TOD Policy ties regional discretionary funds for new transit extension projects (funded via Resolution 3434) to supportive land uses. This policy

establishes targets for new housing units in each transit corridor and calls for station area plans and corridor working groups to help achieve the housing targets. Station area plans to meet the housing targets must be adopted by local municipalities prior to receiving MTC discretionary funding for construction of Resolution 3434 funds. See:

http://www.mtc.ca.gov/planning/smart.growth/tod/TOD.policy.pdf

As MPOs and RTPAs work towards achieving better linkages between land use and transportation planning within their regions, both MPOs and RTPAs are highly encouraged to include within their Policy Element the following:

1. Develop investments and programs that support local jurisdictions that make land use decisions that implement as appropriate, the SCS, regional blueprints, and other strategies that will help reduce greenhouse gas emissions and improve the quality of mobility throughout the region.
2. Emphasize transportation investments in areas where forecasted development patterns indicated may result in regional greenhouse gas emissions reduction.

Additional Best Practices:

Parking Strategies:
http://info.sen.ca.gov/pub/gov/pub/09-10/bill/sen/sb_0501-005/sb_518_bill_20090528_amended_sen_v95.pdf

Attorney General list of mitigation measures:
http://ag.ca.gov/global.warming/pdf/GW_mitigation_measure.pdf

CAPCOA CEQA and Climate Change paper:
http://www.capcoa.org/CEQA/CAPCOA%20White%20Paper.pdf

US EPA highlighted case studies for Smart Growth illustrated through open space, mixed land use and transportation choices are available at:

http://www.epa.gov/dced/case.htm

In the Bay Area, the Metropolitan Transportation Commission (MTC) has worked with local governments to develop the Bay Area Vision program through which local governments submit the geographic location of their priority areas for development as well as their priority areas for conservation. More information regarding the prioritization of development and conservation areas in the San Francisco region is available at:

http://www.bayareavision.org/initiatives/prioritydevelopmentareas.html

SANDAG's Regional Parking Management Toolbox contains resources for parking and demand management. The Regional Parking Management Toolbox can be found here:

http://www.sandag.org/uploads/publicationid/publicationid_1910_18614.pdf

Appendix J

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

Page Left Intentionally Blank

RHNA/Housing Element & 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). **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). **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) **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). **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)	*(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 ARB for review and comment 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 *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)* 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 ARB. ARB has 60 days to accept or reject the MPO's determination that strategy, if implemented, will achieve region's GHG target ********** *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*

Page Left Intentionally Blank

Appendix K

Glossary of Transportation Terms

Page Left Intentionally Blank

APCD Air Pollution Control District, a county agency that adopts regulations to meet State and Federal air quality standards.

AQMD Air Quality Management District, a regional agency formed by 2 or more counties, which adopts regulations to meet State and Federal air quality standards.

ATTAINMENT AREA Attainment Area, is any geographic area in which levels of a given criteria air pollutant (e.g., ozone, carbon monoxide, PM10, PM2.5, and nitrogen dioxide) meet the health-based National Ambient Air Quality Standards (NAAQS) for that pollutant. An area may be an attainment area for one pollutant and a nonattainment area for others. A "maintenance area" (see definition below) is not considered an attainment area for transportation planning purposes.

BLUEPRINT PLANNING Blueprint Planning, is a Caltrans sponsored voluntary discretionary competitive grant program designed to assist MPOs in developing a regional vision that considers transportation, land use, housing, environmental protection, economic development and equity.

CAPACITY Capacity, is a transportation facility's ability to accommodate a moving stream of people or vehicles in a given time period.

CARB California Air Resources Board, the State agency responsible for implementation of the Federal and State Clean Air Acts. Provides technical assistance to air districts preparing attainment plans; reviews local attainment plans and combines portions of them with State measures for submittal of the State Implementation Plan (SIP) to U.S. EPA.

CASP California Aviation System Plan, prepared by Caltrans Division of Aeronautics every five years as required by PUC Section 21701. The CASP integrates regional aviation system planning on a Statewide basis.

CEQA California Environmental Quality Act, State law that requires the environmental effects associated with proposed plans, programs and projects to be fully disclosed.

CMA Congestion Management Agency, the county agency responsible for developing, coordinating and monitoring the Congestion Management Program.

CMP Congestion Management Program is a countywide integrated program that addresses congestion in a coordinated and

cooperative manner. The program contains 5 elements: a Level of Service element, a transit standards element, a TDM and trip reduction element, a land use analysis element, and a capitol improvement program element. To effectively address this goal, the appropriate land use, transportation and air quality agencies need to integrate their planning processes, share information and respond to congestion using a coordinated approach. In 1996 AB 2419 amended government code section 65088.3 to allow counties to opt out of this previously mandatory program.

CTC California Transportation Commission, a decision making body established by AB 402(Alquist / Ingalls) of 1977 to advise and assist the Secretary of Transportation and the legislature in formulating and evaluating State policies and plans for transportation programs.

CTP California Transportation Plan, The CTP is a long-range transportation policy plan that is submitted to the Governor. The CTP is developed in collaboration with partners, presents a vision for California's future transportation system, and defines goals, policies, and strategies to reach the vision. It is developed in consultation with the State's regional transportation planning agencies, is influenced by the regional planning process, and provides guidance for developing future RTPs. RTPs should be consistent with and implement the vision and goals of the CTP. As defined by State statute, the CTP is not project specific.

DSMP District System Management Plan, a District's long-range plan for management of the State highway transportation system in its jurisdiction.

FAA Federal Aviation Administration, the agency of the U.S. Department of Transportation charged with regulating air commerce to promote its safety and development, encouraging and developing civil aviation, air traffic control and air navigation, and promoting the development of the national airport system.

EMISSIONS BUDGET Emissions Budget, is the part of the State Implementation Plan (SIP) that identifies the allowable emissions levels, mandated by the National Ambient Air Quality Standards (NAAQS), for certain pollutants from mobile, stationary, and area sources. The emissions levels are used for meeting emission reduction milestones.

FHWA Federal Highway Administration, a component of the U.S. Department of Transportation, established to ensure development of an effective national road and highway transportation system. FHWA and FTA, in consultation with US EPA, make Federal Clean Air Act Conformity findings for

Regional Transportation Plans, Transportation Improvement Programs, and Federally funded projects.

FISCAL CONSTRAINT

Fiscal constraint, the metropolitan transportation plan, TIP, and STIP includes sufficient financial information for demonstrating that projects in the metropolitan transportation plan, TIP, and STIP can be implemented using committed, available, or reasonably available revenue sources, with reasonable assurance that the Federally supported transportation system is being adequately operated and maintained. For the TIP and the STIP, financial constraint/fiscal constraint applies to each program year. Additionally, projects in air quality nonattainment and maintenance areas can be included in the first two years of the TIP and STIP only if funds are ‘‘available’’ or ‘‘committed.’’

FTA

Federal Transit Administration, a component of the U.S. Department of Transportation, responsible for administering the Federal transit program under the Federal Transit Act, as amended, and SAFETEA-LU.

FSTIP

Federal State Transportation Improvement Program is a multi-year Statewide, financially constrained, intermodal program of projects that is consistent with the Statewide transportation plan (CTP) and regional transportation plans (RTPs). The FSTIP is developed by the California Department of Transportation and incorporates all of the MPOs *and* RTPAs FTIPs by reference. Caltrans then submits the FSTIP to FHWA.

FTIP

Federal Transportation Improvement Program is a constrained 4-year prioritized list of all transportation projects that are proposed for *Federal and local* funding. The FTIP is developed and adopted by the MPO/RTPA and is updated every 2 years. It is consistent with the RTP and it is required as a prerequisite for Federal funding.

IIP

Interregional Improvement Program is one of two component funding source programs that ultimately make up the State Transportation Improvement program. The IIP receives 25% of the funds from the State Highway account. The IIP is the source of funding for the ITIP.

ILLUSTRATIVE PROJECT

An illustrative project means an additional transportation project that may (but is not required to)be included in a financial plan for the RTP or FTIP if reasonable additional resources were to become available.

INTERMODAL

Intermodal refers to the connections between modes of transportation.

ITIP Interregional Transportation Improvement Program is a Statewide program of projects, developed by Caltrans for interregional projects that are primarily located outside of urbanized areas. The ITIP has a 4-year planning horizon and is updated every two years. It is submitted to the CTC along with the FTIP and taken together they are known as the STIP.

ITS Intelligent Transportation Systems are electronics, photonics, communications, or information processing used singly or in combination to improve the efficiency or safety of a surface transportation system.

ITSP Interregional Transportation Strategic Plan describes the framework in which the State will carry out its responsibilities for the Interregional Transportation Improvement Program (ITIP).

MIS Major Investment Study was a Federally mandated study required for major transportation improvements under ISTEA. An MIS was a planning analysis done on a corridor or sub-regional area that included social, economic and environmental considerations early in the planning process and integrated these considerations into the project development stage. Although SAFETEA-LU has deleted this requirement, Section 450.318(a) and Appendix A retains the option to link early environmental considerations in the RTP to the subsequent project specific environmental review that takes place during the project delivery process.

MODE Mode is a specific form of transportation, such as automobiles, buses, trains or planes.

MPO Metropolitan Planning Organization, a planning organization created by Federal legislation charged with conducting regional transportation planning to meet Federal mandates.

NATIONAL AMBIENT AIR QUALITY STANDARDS NAAQS are the acceptable limits that are set for various pollutants by the US EPA. Air quality standards have been established for the following six criteria pollutants: ozone, carbon monoxide, particulate matter, nitrogen dioxide, lead and sulfur dioxide.

NEPA National Environmental Policy Act is Federal legislation that created a national policy and procedures that require Federal agencies to consider the environmental effects of their actions and to inform the public that their decisions reflect this environmental consideration. NEPA applies to most

transportation projects because they are jointly funded with a combination of Federal, State and sometimes local money.

NONATTAINMENT Nonattainment, any geographic region of the United States that has been designated by the EPA as a nonattainment area under section 107 of the Clean Air Act for any pollutants for which an NAAQS exists.

PERFORMANCE MEASURES Performance measures are indicators of how well the transportation system is performing with regard to such things as average speed, reliability of travel and collision rates. They are used as feedback in the transportation planning and decision-making process.

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 synonym for the FTIP and it refers to the programming done by the MPO/RTPA as part of the development of the RTP.

RTP Regional Transportation Plan, a Federal and State mandated planning document prepared by MPOs and RTPAs. The plan describes existing and projected transportation needs, conditions and financing affecting all modes within a 20-year horizon.

RTPA Regional Transportation Planning Agency, a State designated single or multi-county agency responsible for regional transportation planning. RTPAs are also known as Local Transportation Commissions or Councils of Governments and are usually located in rural or exurban areas.

SHA State Highway Account, the SHA account is the State's primary source of funding for transportation improvements. The SHA account is composed of revenues from the State's gasoline and diesel fuel tax, truck weight fees and Federal highway funds. The SHA is primarily used for STIP, SHOPP and local assistance projects as well as non-capitol projects such as maintenance, operations, and support.

SHOPP State Highway Operations and Protection Program is a legislatively created program to maintain the integrity of the State highway system. It is tapped for safety and rehabilitation projects. SHOPP is a multi-year program of projects approved by the Legislature and Governor. It is separate from the STIP.

SIP State Implementation Plan, as defined in section 302(q) of the Clean Air Act (CAA), the portion (or portions) of the implementation plan, or most recent revision thereof, which has been approved under section 110 of the CAA, or promulgated under section 110(c) of the CAA, or promulgated or approved pursuant to regulations promulgated under section 301(d) of the CAA and which implements the relevant requirements of the CAA.

SMART GROWTH Smart Growth, is a set of policies designed by local governments to protect, preserve and economically develop established communities as well as natural and cultural resources. Smart growth encompasses a holistic view of development.

SPRAWL Sprawl is an urban form based on the movement of people from the central city to the suburbs. Concerns associated with sprawl include loss of farmland and open space due to low-density land development, increased public service costs including transportation, and environmental degradation.

STIP State Transportation Improvement Program, a Statewide or bundled prioritized list of transportation projects covering a period of four years that is consistent with the long-range Statewide transportation plan, metropolitan transportation plans and FTIPs, and required for projects to be eligible for funding under Title 23 U.S.C. and title 49 U.S.C. Chapter 53.

TCM Transportation Control Measures, any measure that is specifically identified and committed to in the applicable SIP that is either one of the types listed in section 108 of the Clean Air Act or any other measure for the purpose of reducing emissions or concentrations of air pollutants from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions. Notwithstanding the above, vehicle technology-based, fuel-based, and maintenance-based measures that control the emissions from vehicles under fixed traffic conditions are not TCMs.

TIERING Section 15385 of the CEQA guidelines defines tiering as the coverage of general matters in broader EIRs with subsequent narrower EIRs incorporating by reference the general discussions and concentrating solely on the issue specific to the EIR that is being subsequently prepared. Tiering allows agencies to deal with broad environmental issues in EIRs at the planning stage and then to provide a more detailed examination of specific effects in EIRs for later development projects that are consistent with or that implement the plan.

TITLE VI Title VI of the Civil Rights Act of 1964, prohibits discrimination in any program or project receiving Federal financial assistance.

TDM	Transportation Demand Management refers to policies, programs and actions that encourage the use of transportation alternatives to driving alone and reduce vehicle miles traveled. ~~(1) decrease the demand on the highway system and (2) encourage the shifting or spreading out of peak hour travel periods.~~
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.
U.S. 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.

Page Left Intentionally Blank

Page Left Intentionally Blank

Appendix L

AB 441 - Promoting Health and Health Equity in MPO RTPs

(ALL NEW TEXT)

Page Left Intentionally Blank

Introduction and Purpose of Appendix L

A growing body of evidence links built environment characteristics such as land use, neighborhood design, and transportation systems to health behaviors that can directly support or discourage healthy, active, and safe lifestyles. Considering and promoting goals, policies, and strategies within the RTP to: encourage walking and bicycling, increase access to affordable housing, jobs and services, reduce environmental pollutants, and engage community members in decision-making processes supports a healthier population and a more prosperous state. Assembly Bill 441 (2012, Monning) requires the RTP Guidelines to identify innovative planning practices that can serve as models for MPOs and their partner agencies in undertaking a regional transportation planning process that promotes the health and well-being of all Californians.

Appendix L has been prepared to serve as voluntary guidance to highlight cutting-edge examples of polices, programs, projects, and tools that MPOs are employing to address public health and health equity in the regional transportation planning process. It is important to note that this appendix is not intended to provide a "one size fits all" approach. In light of the diversity of California MPOs, and the varying level of financial resources and technical capabilities to undertake the long range regional transportation planning process, this appendix 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.

Public Health and the RTP

The RTP identifies a 20 plus year vision for a regional multi-modal transportation network that is integrated with the land use planning of local jurisdictions to achieve local, regional, state, and federal goals. The long range transportation planning process is expected to balance a number of objectives and meet regionally defined goals that are informed by and support state and federal goals, from fostering economic growth and safety for all system users, to achieving environmental goals and promoting public health and quality of life.

An increasingly important consideration in long-range transportation planning is how transportation can affect human health both directly and indirectly. A 2012 report published by Transform in collaboration with the California Department of Public Health "*Creating Healthy Regional Transportation Plans: A Primer for California's Public Health Community on Regional Transportation Plans and Sustainable Communities Strategies,"* identified some of the 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.10 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 greenhouse gas 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.

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.
- **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 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**. An astounding 19 percent of a household's budget is now spent on getting from place A to place B. Low-income families are hit the hardest because 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.

- **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.

Cutting edge planning practice acknowledges the fact that public health outcomes are now understood to be the product of the Social Determinants of Health (SDOH), or the circumstances in which people are born, grow up, live, work, play and age. Economic opportunities, government policies, and the built environment all play a role in shaping the circumstances in which people live, work, play, and age and consequently influence public health outcomes such as rates of health conditions i.e. asthma, diabetes, obesity, depression, injuries, and some cancers. Because Regional Transportation Plans 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.

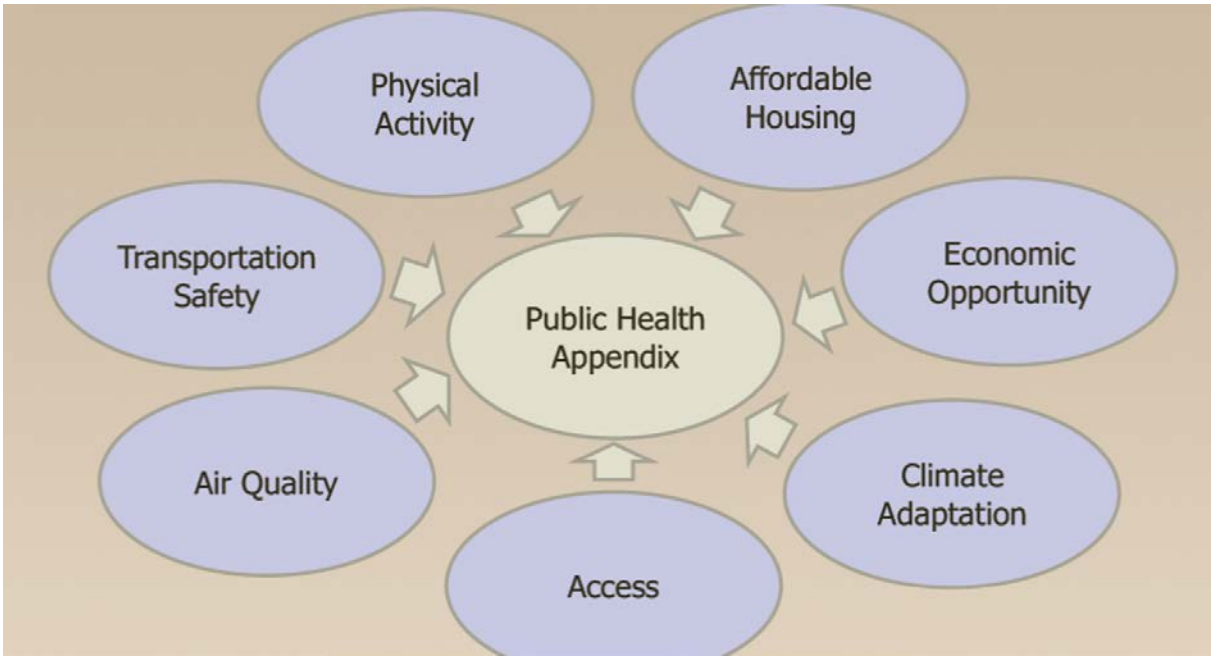


Image Credit: Southern California Association of Governments 2016-2040 RTP/ SCS Public Health Appendix

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

Additional examples of how transportation planning can promote health include:

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

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 of the greatest 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 only be fully realized at a regional scale through the collaborative regional planning process.[1] MPOs 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. 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.

[1] TransForm, 2012. *Creating Healthy Regional Transportation Plans*. http://www.transformca.org/resource/creating-healthy-regional-transportation-plans

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 tenants 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. The Southern California Association of Governments (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.

Rural MPO Example: [Need to identify a rural example]

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 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, 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) identify 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.

The General Plan process is distinct and separate from the RTP/SCS and is carried out by local agencies, however it serves as an important opportunity for engagement to address regional goals and the plans themselves are foundational documents for the RTP/SCS. MPOs are encouraged to collaborate closely with local jurisdiction long-range planning staff, and share data and resources where appropriate to facilitate local and regional policy considerations and investments that promote health and health equity in the RTP/SCS.

State Air Quality and Land Use Guidance

The association between respiratory and other non-cancer health effects, and proximity to high traffic roadways, is addressed in ARB's Air Quality and Land Use Handbook. Diesel exhaust and other cancer causing chemicals emitted from cars and trucks, known as mobile source air toxics (MSATs), are responsible for much of the overall cancer risk from airborne toxics in California. ARB community health risk assessments have resulted in information that should be considered when siting new "sensitive land uses," including residences, schools, day care centers, playgrounds, and medical facilities. Sensitive land uses deserve special attention because children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Properly addressing these siting situations is an important preventative action. Any section of the RTP discussing highways, freight corridors, and other transportation facilities, should include the following.

- Discussion of the siting of new freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities, near sensitive land uses. The ARB Air Quality and Land Use Handbook contains siting recommendations

- Discussion of MSAT health risk and exposure reduction at sensitive land uses, where sensitive land uses are sited near highways, freight corridors, and other transportation facilities associated with high MSAT exposure (within the minimum distances indicated in the ARB Air Quality and Land Use Handbook). Local air districts often have protocols for discussion of health risk, and best management practices for exposure reduction. The Federal Environmental Protection Agency has also released *Recommendations for Constructing Roadside Vegetation Barriers to Improve Near-Road Air Quality*

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.

Urban MPO Examples:

To address public health more broadly in its planning process, SCAG has established a Public Health Subcommittee, a Public Health Workgroup, and is developing a Public Health Work Plan:

- The Public Health Subcommittee, outlined recommendations addressing the promotion of active transportation, enhancement of public health data, and engagement in collaborations.
- In accordance with the recommendations of the Public Health Subcommittee, SCAG formed a Public Health Workgroup to collaborate with regional stakeholders to develop a Work Plan of policy recommendations that further define SCAG's role in public health:
- For more information please visit the SCAG Public Health Program webpage.

Health & Well Being in Regional Planning, Nashville Area MPO

Health in Transportation Planning, Pudget Sound Regional Council

Rural MPO Example:

[Shasta Regional Transportation Agency Coordination with Shasta County Department of Public Health]

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 greenhouse gas 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.

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 E's 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 versus driven by their parents or a 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

"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.
How are MPOs characterizing Vision Zero in RTPs and are there any examples of regions that have integrated Vision Zero principles into the RTP?

Urban MPO Examples:

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 the Southern California Association of Governments (SCAG) and the health departments and transportation commissions from the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. *Go Human* is funded by a $2.3 million grant from the 2014 Active Transportation Program.

Metropolitan Transportation Commission (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.

Rural MPO Example:
[Identify local safety campaigns, or other non-infrastructure projects that use ATP funds]

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.
- Form an advisory group on Environmental Justice, Social Equity and/or Disadvantaged Communities that includes policy and community-based organizations that are focused on social equity in the region to provide feedback throughout the RTP process.
- 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;
- Ensure 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;
- Ensure 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.
- Add 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.
- Use 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.

- Consider neutral professional facilitation of public meetings to manage conflict and keep the meetings running on time.
- As part of public process materials should be provided ahead of time and draft work product should be shared.
- 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; and,
- Ensuring meetings are attended by MPO decision makers in addition to MPO staff.

Urban MPO Example:

To help ensure diverse and direct input from all populations especially those with the most potential to be affected by health inequities, Fresno Council of Governments (FresnoCOG) administers a “Community-Based Mini-Grant Outreach Program,” which competitively awards mini-grants ($1,000 - $3,000) to community-based organizations, schools, and other groups to conduct outreach to individuals not typically involved in the regional transportation planning process. The selected organizations conduct outreach activities such as organizing and tailoring meetings, customizing presentations materials, building trust and removing barriers to participation to secure public involvement from stakeholders in their communities and the populations they currently serve, engaging them in the planning process and generating feedback on the development of the RTP and SCS.

[Need to identify a Rural MPO Example]

Programs that Serve Rural Transportation Needs

Fresno COG Measure C Farmworker Vanpool Program provides vouchers to help farm laborers pay for their transportation to various job sites when they ride in an approved Farmworker Vanpool.

[Need to identify additional examples]

Community Violence Prevention through Programming/Infrastructure

Taking Back the Streets and Sidewalks Report

This report can serve as a reference for those in the planning community working on violence prevention. The report examines ways in which Safe Routes to School and community safety efforts overlap and complement each other. The report primarily focuses on approaches to support personal safety for children and teens during the trip to and from school, but broader community strategies are also discussed in the course of providing background and exploring more comprehensive solutions to violence in communities. The report's overall goal is to increase the safety and health of children and youth, and ensure that communities become more equitable places.

[Need to Identify Urban and Rural MPO Examples]

Promoting Public Transit Connectivity to Essential Destinations and Low Income Communities

First-mile and last-mile connections to public transit are fundamentally important to providing access to essential destinations and increasing transit mode share which can contribute to improving public health outcomes through improved access to health care and services and enhancing active transportation opportunities.

Los Angeles County Metropolitan Transportation Authority developed a First and Last Mile Strategic Plan which identified strategies and potential funding sources for improving the areas surrounding transit stations to make it easier and safer for people to access them.

Projects

Health Impact Assessment

Atlanta Regional Plan 2040 Health Impact Assessment Case Study

Bicycle and Pedestrian Infrastructure

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 E's 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 strategy in the SCS process, since the location of schools is a primary driver of how many students can walk or bike versus driven by their parents or a 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. The Metropolitan Transportation Commission has

had such a program for many years.Many more strategies can be found in the Safe Routes to School National Partnership's Primer for Regional Governments

Urban MPO Example: MTC regional SRTS program
[Other types of projects to potentially highlight, need to provide context and examples]

Infrastructure Projects

- Bicycle and Pedestrian Infrastructure – i.e. re-striping existing roads during routine rehabilitation and maintenance, construction of separated bike lanes and walking paths, safe routes to school
- Complete Streets
- First & Last Mile: Promoting Public Transit Connectivity to Essential Destinations and Low Income Communities (i.e. Omnitrans sbX Bus Rapid Transit Program in San Bernardino, Delaware Valley Regional Planning Commission pilot demonstration on the relationship between transportation and food insecurity)

Livability

- Affordable Housing
- Equitable Transit-Oriented Development
- Anti-Displacement Policies
- Access to Essential Destinations (jobs, schools, healthy food, parks, etc.)
- Urban Greening

Safety

- Complete Streets, Safe Routes to School

Air Quality

- Considering AQ impacts of siting new housing, schools and other destinations (i.e. 500-foot buffer around freeways)
- Health impact assessments of transportation projects on surrounding communities
- Freight/goods movement

Data, Modeling 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 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.

Data Sources for Public Health and Health Equity Information

a) Common sources of data for transportation and land use modeling (i.e. Household Travel Surveys and Transit Surveys)
b) Forecasting
c) How can this type of data be used in the RTP?
d) Overview of Data Sources appropriate for RTP level analysis (i.e. CDPH HCI)
e) Challenges of using Health Data in Transportation Planning (i.e. scale)
f) Identify Data Needs
g) Off-Model Assessments and Methodologies

Modeling Tools to Capture Health and Health Equity Impacts

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 deeded 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.

[Insert table that outlines the applications, minimum data/system requirements, resources, and contacts for technical assistance.]

Examples/Case Studies of HEAT

Metropolitan Transportation Commission uses a variation of HEAT to model individual projects to determine their health benefits. Small MPOs and rural agencies with minimal financial and technical resources may find this tool helpful for modeling health outcomes.

Integrated Transport and Health Impact Model (ITHIM)

The Integrated Transport and Health Impact Model (ITHIM) was developed at the University of Cambridge, England, in 2011. ITHIM is a transportation focused scenario-based health risk analysis too that models three health pathways related to travel behavior: physical activity from active transportation, road traffic injuries, and Particulate Matter (PM) 2.5 concentrations. Fifteen inputs go into ITHIM which are derived from travel and health surveys, travel demand and air pollution models, mortality and disease data, and road traffic injuries. Data can be arranged by sex and age from child to adult. ITHIM is a free, open-source, and evolving too. Extensions are available for cost-benefit, equity, and downscaling. Analysis can be conducted at the county or regional scale.

[Insert table that outlines the applications, minimum data/system requirements, resources, and contacts for technical assistance.]

Examples/Case Studies of ITHIM

ITHIM has been used in California by the Fresno Council of Governments (Fresno COG) and the Metropolitan Transportation Commission (MTC).

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. This tool looks at health from a broad perspective, rather than a transportation specific perspective. This model uses adult data but expansion to include the demographic cohorts of children and seniors is being pursued. This tool can be used to provide analysis needed for grant program applications such as the Active Transportation Program (ATP) and the Affordable Housing and Sustainable Communities program (AHSC). This model is most useful for single scenarios, present to future and becomes more difficult to apply in multiple scenario comparisons; however is can be used on multiple-scenario planning platforms. C-PHAM is an evolving tool and currently the model does not include air pollution exposure.

[Insert table that outlines the applications, minimum data/system requirements, resources, and contacts for technical assistance.]

Examples/Case Studies of C-PHAM

C-PHAM has been used by the Southern California Council of Governments (SCAG)

Performance Measures/Metrics/Indicators for Health and Health Equity

i) Explain performance measures/metrics/indicators and how they are used in the long-range planning process (i.e. project performance, scenario analysis, final plan):
   (1) USDOT Transportation and Health Tool
   (2) CDPH Healthy Communities Data and Indicators Project (HCI)
   (3) Transportation 4 America: Planning for a Healthier Future
   (4) CDC: Community Health Status Indicators (CHSI 2015)
   (5) California Health Disadvantaged Index
ii) Identifying Vulnerable Populations and Local Communities of Concern (i.e. CES/DAC)

Funding

- The Commission acknowledges the need for additional discretionary planning funding to meet the growing number of objectives that RTPs should address including public health and health equity.
- Federal formula funding sources for metropolitan planning are subject to certain requirements and limitations (i.e. FHWA PL and FTA 5303)
- Provide overview of federal discretionary planning grant opportunities (i.e. FHWA Partnership Planning and FTA 5304)
- Highlight MPO discretionary programs (i.e. SCAG and MTC, FresnoCOG)
- Provide overview of state discretionary grant programs (i.e. AHSC and ATP, GGRF)
- Local funding i.e. Sales Tax Measures
- Strategic Partnerships to leverage funding opportunities (i.e. partnering with public health organizations, the private sector

Key Terms

[Identify key terms and provide definitions – this will require stakeholder input thorough the workgroup process]

a. Health
b. Health Equity
c. Health Inequity
d. Social Equity
e. Environmental Justice
f. Disadvantaged Community
g. Vulnerable Population
h. Community Resilience
i. Displacement
j. Gentrification
k. Healthy Communities

Resources and Citations

[Organize and annotate to identify title/date/source etc.]

http://sgc.ca.gov/pdf/HiAP_Task_Force_Report-_Dec_2010.pdf

https://www.cdph.ca.gov/programs/Documents/Healthy_Community_Indicators_Core_list10-17-14Table1-5.pdf

https://www.cdph.ca.gov/Documents/CDPH_Healthy_Community_Indicators1pager5-16-12.pdf

https://www.cdph.ca.gov/programs/Pages/HealthyCommunityIndicators.aspx#TechInfo

https://planning-org-uploaded-media.s3.amazonaws.com/document/State-of-Health-Impact-Assessment-in-Planning.pdf

https://www.transportation.gov/transportation-health-tool

https://www.transportation.gov/mission/health/strategies-interventions-policies

http://phasocal.org/ca-hdi/

http://scagrtpscs.net/Documents/2016/proposed/pf2016RTPSCS_PublicHealth032816.pdf

http://t4america.org/docs/planning-for-a-healthier-future-0616.pdf

http://www.transformca.org/sites/default/files/Healthy%20RTP%20-%20FULL%20-%202013-02-19%20Color.pdf

http://narc.org/wp-content/uploads/Public-Health-and-Transportation-Info-0606121.pdf

http://www.fhwa.dot.gov/planning/health_in_transportation/resources/healthy_communities/mpohealth12122012.pdf

http://www.fhwa.dot.gov/planning/health_in_transportation/resources/movinghealthy.pdf

http://www.trbhealth.org/

http://www.saferoutespartnership.org/sites/default/files/pdf/CaseStudy_ActiveTransportationPlanningattheRegionalLevel.pdf

http://www.saferoutespartnership.org/sites/default/files/pdf/The_Final_Active_Primer.pdf

http://saferoutespartnership.org/sites/default/files/pdf/RegionalGovernmentPrimer-v5.pdf

http://www.saferoutespartnership.org/sites/default/files/pdf/Local_Policy_Guide_2011.pdf

http://saferoutespartnership.org/resources/report/intersection-active-transportation-equity

http://www.apha.org/topics-and-issues/transportation/public-health-and-equity-principles-for-transportation

https://saferoutescalifornia.files.wordpress.com/2012/11/hip_healthequitymetrics_impacts_table_11_16_12.pdf

http://www.psrc.org/transportation/bikeped/health-in-transportation-planning/

http://www.nashvillempo.org/regional_plan/health/

http://www.mapc.org/public-health

http://www.changelabsolutions.org/sites/default/files/Health_Transport_Factsheet_FINAL_20110713_%28rebrand_20130409%29.pdf

Appendix M

Examples of Planning Practices that Exceed Statutory Authority

This appendix aggregates all best practices from within the document into a single location which will be organized by topic area and further developed through the workgroup process to provide additional context and a variety of examples from both rural and urban regions. The examples contained in this appendix are not intended to establish baseline standards but rather, to highlight exemplary, state of the art planning practices that MPOs can seek to emulate as financial and technical resources allow.

MPOs and their partners are encouraged to provide relevant examples for inclusion in this appendix.

Section 2.7 Coordination with Other Planning Processes

Complete Streets

Complete Streets policies and practices are best implemented with a comprehensive and integrated approach of all agencies involved, taking advantage of opportunities for synergies and cost savings such as restriping when repaving.

Additional information regarding Complete Streets is available at the following links:

http://www.smartgrowthamerica.org/2010/05/17/complete-streets-best practices

https://www.opr.ca.gov/s_generalplanguidelines.php

http://assets.aarp.org/rgcenter/il/2009_02_streets_5.pdf

http://assets.aarp.org/rgcenter/ppi/liv-com/2009-12-streets.pdf

http://www.aarp.org/livable-communities/info-2014/complete-streets-southeast-toolkit.html

http://planning.org/research/streets/

http://www.mtc.ca.gov/planning/bicyclespedestrians/routine_accommodations.htm

http://mtc.ca.gov/our-work/plans-projects/bicycle-pedestrian-planning/complete-streets

http://www.californiatransportationplan2040.org/

http://www.californiatransportationplan2035.org/Content/10029/Complete_Streets.html

http://www.completestreets.org/

~~http://www.smartgrowthamerica.org/documents/factsheets/cs-economic.pdf~~

Case Studies:

http://www.smartgrowthamerica.org/leadership-institute/case-studies

~~http://smarthgrowthamerica.org/documents/case-studies/davis_casestudy.pdf~~

~~http://smarthgrowthamerica.org/documents/case-studies/richmond_casestudy.pdf~~

~~http://smarthgrowthamerica.org/documents/case-studies/ranchocordova_casestudy.pdf~~

The following link contains a case study in the SCAG region of how MPOs can integrate neighborhood electric vehicles into a complete streets policy:

http://www.scag.ca.gov/sb375/pdfs/FS/cs-SouthBayStrategy.pdf

System Planning

Caltrans Corridor Mobility page – http://www.dot.ca.gov/hq/tpp/corridor-mobility

2.9 Adoption – Update Cycles and Amendments

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.

4.1 Consultation & Coordination

By documenting how specific comments are considered, the MPO can demonstrate its responsiveness to community input during the consultation and coordination process associated with development of the RTP. To the extent that it is practicable and resources are available, the Draft RTP as well as any comments received to the draft could be posted on the MPO website in a way that is easily accessible to the public. Responsiveness to community input provides increased assurance of an open and collaborative planning process. The links below provide examples of plans that demonstrate extensive consultation, coordination and consideration of public input.

http://www.mtc.ca.gov/planning/2035_plan

4.2 Title VI & Environmental Justice Considerations in the RTP

Federal guidance for Environmental Justice analysis can be found at:

http://www.fhwa.dot.gov/environment/environmental_justice/index.cfm

Chapter 6 of Kern Council of Government's 2007 RTP provides a good example of an Environmental Justice analysis within an RTP:

http://www.kerncog.org/docs/rtp/2007_RTP.pdf

4.4 Participation Plan

http://www.mtc.ca.gov/get_involved/participation_plan.htm

http://www.sandag.org/programs/transportation/comprehensive_transportation_projects/2030rtp/2007rtp_C_final.pdf

http://www.sandag.org/index.asp?publicnoticeid=141&fuseaction=notices.detail

4.5 Private Sector Involvement

http://www.sacog.org/regional-plans

http://www.nhi.fhwa.dot.gov/training/course_search.aspx?sf=0&course_no=139009

4.6 Consultation with Interested Parties

http://www.sjcog.org/index.aspx?nid=181

http://rtpscs.scag.ca.gov/Pages/default.aspx

http://www.nhi.fhwa.dot.gov/training/course_search.aspx?sf=0&course_no=139009

4.9 Native American Tribal Government Consultation and Coordination

US DOT Order 5301.1 ensures that programs, policies and procedures administered by the US DOT are responsive to the needs and concerns of Native Americans. This Order provides a very thorough overview of the various Federal regulations and Executive Orders on this subject. This Order is available at:

http://environment.fhwa.dot.gov/guidebook/vol2/5301.1.pdf

In addition to the best practice noted above, it is recommended that federally and non-federally recognized Tribal Governments be consulted when historic, sacred sites, subsistence resources or traditional collecting properties are present in the MPOs jurisdiction.

A current example of tribal government coordination in California can be found at:

http://www.sandag.org/?subclassid=105&fuseaction=home.subclasshome

4.10 Consultation with Resource Agencies

Butte County Association of Government's (BCAG) RTP/SCS and Regional Conservation Plan. BCAG adopted the Butte County Regional Conservation Plan (Plan), a regional Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP), adopted recently to streamline the development and mitigation associated with public and private development in the planning area. BCAG's RTP/SCS has identified Regional Conservation Plan development and implementation strategies during transportation projects. Preparation and adoption of the Regional Conservation Plan required extensive resource agency coordination with the planning signatories upon issuance of federal and state permits along with the Plan.

http://www.buttehcp.com/

The San Diego Association of Governments' *TransNet* Environmental Mitigation Program (EMP), funded by local sales tax dollars, is unique in that it goes beyond

traditional mitigation for transportation projects by including a funding allocation for habitat acquisition, management, and monitoring activities as needed to help implement the Multiple Species Conservation Program (MSCP) and the Multiple Habitat Conservation Program (MHCP). Information regarding the *TransNet* EMP is available at:

http://www.sandag.org/index.asp?projectid=263&fuseaction=projects.detail

The Southern California Association of Governments' (SCAG) recently approved SCS Appendix on Natural and Farm Lands is a prime example of successful consultation with environmental agencies and stakeholders. The SCAG SCS Appendix is available at:

scagrtpscs.net/Documents/2016/final/f2016RTPSCS_NaturalFarmLands.pdf

FHWA's Integrated Eco-logical Framework (IEF) is a nine-step, voluntary framework for partners to collaborate, share data, and prioritize areas of ecological significance. Implementing IEF at a regional scale during RTP development would allow for early coordination with resource agencies and other key stakeholders to establish a Regional Ecosystem Framework.
https://www.environment.fhwa.dot.gov/ecological/ImplementingEcoLogicalApproach/default.asp

5.2 Environmental Documentation

Additional 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

5.3 Federal Environmental Requirements

Southern California Council of Government's (SCAG) has developed a section on Environmental Mitigation pursuant to 23 USC Section 134 into their RTP/SCS and planning process. SCAG has also developed a Sustainability Program focused on natural resources and climate change strategies.
http://sustain.scag.ca.gov/Pages/LinksResources.aspx
http://rtpscs.scag.ca.gov/Pages/2012-2035-RTP-SCS.aspx

Advanced mitigation planning to identify areas for mitigation prior to project-by-project discussion is a best practice. Elkhorn Slough Early Mitigation Project and Regional Advance Mitigation Planning (RAMP) are important examples of such efforts. By coordinating early with agencies responsible for project-level permitting to evaluate the individual and cumulative impacts of one or several projects and focusing mitigation on regional priority conservation opportunities, ecosystem-scale conservation needs can be met, providing more effective conservation and mitigation. In addition, the time and cost inefficiency of project-by-project review, permitting, and mitigation can be avoided thereby making mitigation more efficient. MPOs may consider using RAMP in siting and mitigating for infrastructure projects, in order to maximize time efficiency, reduce mitigation costs, and protect regional natural resources.

The regional planning process should 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.

http://elkhornslough.ucdavis.edu/

http://www.environment.fhwa.dot.gov/ecological/eco_toc.asp

5.4 Federal Environmental Recommendations

Implementation of the strategies contained in Appendix A of Title 23 CFR Part 450 is a state of the art best practice.

5.5 Key Resource Areas for Avoidance and Mitigation ~~Environmental Considerations for Best Practices~~

Voluntarily and thoroughly addressing all of the applicable topics noted above during the preparation of the RTP would be considered as a best practice. As a best practice to comply with the requirements of CA Government Code Section 65080(b)(2)(b) as well as Title 23 CFR Parts 450.324(f)(10), 450.324(g)(1) and (2), MPOs ~~may~~ are strongly encouraged to develop a Regional Open Space and Conservation Area Framework that identifies and considers "resource areas" and "farmland" defined in Government Code Section 65080.01(a) and (b) as well as other key resources identified in Habitat Conservation Plans (HCPs), Natural Community Conservation Plans (NCCPs) and input from leading conservation organizations, 2) consider developing an NCCP to aid in streamlining project permitting and delivery, 3) use the Regional Open Space and Conservation Area Framework to set priorities for a regional advance mitigation planning (RAMP) program or a programmatic mitigation plan as described in MAP-21, and 4) require, as a condition of transportation funding and consistency with the SCS, that projects provide mitigation according to these priorities, including any advance acquisitions and restoration work necessary to avoid temporal gaps in habitat function. Any conservation easements acquired as part of this program should be held by an organization whose mission includes the acquisition and stewardship of conservation easements, such as a Land Trust Alliance-accredited land trust.

An excellent example of this approach is San Diego's Environmental Mitigation Program (EMP), which is funded through the region's TransNet sales tax measure. The EMP directs mitigation resources to habitat identified in adopted conservation plans, leverages funding from conservation partners, and saves additional money by acquiring habitat "early, at lower prices, and in larger parcels" (http://www.keepsandiegomoving.com/EMP/EMP-intro.aspx). For more information, please see San Diego Forward: The Regional Plan (http://www.sdforward.com/).

For additional information regarding regional open space conservation please see the following EPA website:

http://www.epa.gov/dced/openspace.htm

SCAG included a comprehensive list of air quality mitigation measures in the PEIR for the 2012-2035 RTP/SCS, available at:

http://scagrtpscs.net/Pages/FINAL2016PEIR.aspx#downloads

5.6 Project Intent Statements/Plan Level Purpose and Need Statements

http://www.stancog.org/rtp.shtm

5.7 Air Quality and Transportation Conformity

The conformity analysis should be prominently referenced in the RTP document. MPOs should work with air districts to develop TCMs that include mechanisms to promote movement from single occupancy vehicles to more sustainable modes of transportation, in support of the SIP. 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

6.1 Summary of RTP Components

Public health performance measures must be easily obtainable and measurable, such as those provided by the California Health Interview Survey (CHIS), a random-dial telephone survey with representative public health data on all 58 counties in California. The CHIS is available at:

http://healthpolicy.ucla.edu/CHIS/ABOUT/Pages/about.aspx

Southern California Council of Government's (SCAG) has developed a section on Environmental Mitigation pursuant to 23 CFR Part 450.324 into their RTP/SCS and planning process. SCAG has also developed a Sustainability Program focused on natural resources and climate change strategies. More information is available at:

http://sustain.scag.ca.gov/Pages/LinksResources.aspx

http://rtpscs.scag.ca.gov/Pages/2012-2035-RTP-SCS.aspx

6.2 Financial Overview

http://www.bcag.org/Planning/index.html

6.3 Fiscal Constraint

http://www.sandag.org/index.asp?projectid=292&fuseaction=projects.detail

http://www.scag.ca.gov/rtp2004/2004/FinalPlan.htm

6.4 Listing of Constrained and Un-constrained Projects

http://www.mtc.ca.gov/planning/2035_plan/

6.5 Revenue Identification and Forecasting

http://www.bcag.org/Planning/index.html

6.6 Estimating Future Transportation Costs

In keeping with the Federal and State efforts to streamline the project delivery and NEPA review process at the project level by providing environmental information at the earliest point in time, it is recommended that the RTP also include a preliminary cost estimate for the mitigation activities that are identified.

6.7 Asset Management

To ensure a sustainable transportation system, MPOs are encouraged to address existing infrastructure condition and performance prior to considering expansion of the system. This general approach is considered a best practice that will ensure that the agencies funding for the transportation will be adequate to sustain the system into the future.

6.10 Transit

Los Angeles Metro, *First and Last Mile Strategic Plan*, identified strategies and potential funding sources for improving the areas surrounding transit stations to make it easier and safer for people to access them. SCAG incorporated some of these strategies into its 2016 RTP/SCS as well as short trips strategies to increase the number of trips under three miles that people take by foot or bike. The draft plan is available at: http://media.metro.net/projects_studies/sustainability/images/path_design_guidelines_draft_november_2013.pdf

6.11~~3~~ Bicycle & Pedestrian – Including AB 1396 California Coastal Trail

Local and Regional plans for bicycle and pedestrian trails and related facilities, including the California Coastal Trail should be supported by RTPs. Additional best practice information regarding the California Coastal Trail is available at the following links:

Completing the California Coastal Trail Plan – California Coastal Conservancy
http://www.coastal.ca.gov/access/coastal-trail-report.pdf

Information regarding California Coastal Trail Definition and Design and Siting Standards is available at:

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

6.12~~1~~ Goods Movement (Maritime/Rail/Trucking/Aviation)

MPOs are encouraged to consider developing or updating freight plans for their region, as these plans can help MPOs improve the efficiency and sustainability of goods movement in their regions.

http://www.dot.ca.gov/hq/tpp/offices/ogm/

http://rtpscs.scag.ca.gov/Pages/default.aspx

http://www.alamedactc.org/goodsmovement

http://www.ops.fhwa.dot.ca.gov/freight/infrastructure/nfn/index.htm

http://www.sandag.org/index.asp?classid=13&fuseaction=home.classhome

6.13~~2~~ Regional Aviation System

As a best practice, MPOs should include the following aviation planning topics in the development of their RTPs:

1. An overview of the role that all public use airports including both commercial, and general aviation airports, heliports, and military airfields play in the region's multimodal transportation system.
2. Describe the functional relationship between the region's airports, and heliports, and explain specific RTP policies that support and preserve the long term viability of the region's airports.
3. Identify current airport conditions such as noise, safety, and future airport improvement projects that can be found in either an airport's layout plan, or master plans.
4. Provide a list of all public-use airports, including their State functional class developed by the Division of Aeronautics for all commercial and general aviation

airports, and military installations in the region, and a description of their facilities and uses, and a map of their location.

5. Provide a discussion of any future airport(s) growth and improvement needs found in each airport's master plan or airport layout plan.
6. A discussion of multimodal ground access issues and any required ground access program or plan.
7. A separate list of short (5 year) and long-range (10 year) Airport Capital Improvement Plan (ACIP) projects within the region.
8. Identify which governing body serves as each county's ALUC for the region established pursuant to PUC 21670(a), as well as the title and date of the most current ALUCPs, Airport Master Plans or Airport Layout Plans; and military Air Installation Compatible Use Zone Plans.
9. Demonstrate consistency with the State of California Office of Planning and Research's document entitled *Community and Military Compatibility Planning; Supplement to the General Plan Guidelines* (December 2009) for military installations available at: https://www.opr.ca.gov/docs/Military_GPG_Supplement.pdf

Additional aviation best practice studies can be found at:
http://dot.ca.gov/hq/planning/aeronaut/publication.htm
http://www.faa.gov/airports/planning_capacity/ga_study
http://www.gao.gov/products/GAO-10-120
http://www.gao.gov/products/GAO-13-261

For questions and additional information regarding the state aviation program and its airport planning activities for a specific region please visit the Caltrans Division of Aeronautics website:
http://www.dot.ca.gov/hq/planning/aeronaut/planners.htm

For additional information regarding land use compatibility concerns affecting airports please visit the Caltrans Division of Aeronautics website: http://www.dot.ca.gov/hq/planning/aeronaut/landuse.htm

Military Airfields and Installations

As a best practice, MPOs should include a discussion of military installations transportation and land use compatibility needs in their RTPs by addressing of the following:

1. A list and map of all military airfields and installations in the region.
2. An overview of the role that these military airfields and installations play in the region including a brief description of the installation's current and future mission(s).
3. ~~Discuss the land use needs, and potential encroachment issues that each installation faces in both the near and long term.~~
4. Discuss multimodal ground access needs to installations for both people and freight, as well any needed ground access programs or plans that support its needs to complete its mission(s).
5. Demonstrate consistency with California's OPR document *Community and Military Compatibility Planning; Supplement to the General Plan*

Guidelines (December 2009) available at: https://www.opr.ca.gov/docs/Military_GPG_Supplement.pdf.

6. ~~Integrate military installation plans with other existing plans as described in Chapter 2, Sections 2.4 through 2.6.~~
7. ~~Model installation travel demands and forecasts described in Chapter 3 as needed, especially for regions that are in nonattainment areas throughout the State.~~

Additional military installation Best Practices can be found at:
http://www.napawash.org/2009/1378-strengthening-national-defense-countering-encroachment-through-military-community-collaboration.htm
http://militarycouncil.ca.gov/s_economicdata.php
https://www.sdmac.org/ImpactStudy.htm
http://hrtpo.org/page/military-transportation-needs
http://www.nctcog.org/trans/aviation/jlus/JLUS_bkg.asp
http://hrtpo.org/page/military-transportation-needs
http://www.militarycommunitytransport.org/resources.htm
http://www.nceastmgtf.org/studies-and-analyses
www.nj.gov/.../military/docs/Military%20Task%20Force%20Report.pdf
https://www.enterpriseflorida.com/wp.../FDSTF-Report-Best-Practices-Study.pdf

For questions and additional information regarding the state aviation program and its airport planning activities for a specific region please visit the Caltrans Division of Aeronautics website:
http://www.dot.ca.gov/hq/planning/aeronaut/planners.htm

6.14 Transportation System Management and Operations

A US DOT document titled; "Management & Operations in the Metropolitan Transportation Plan: A Guidebook for Creating an Objectives-Driven, Performance-Based Approach" provides a very good overview on how to integrate transportation system management and operations into the planning process. See:

http://www.ops.fhwa.dot.gov/publications/moguidebook/index.htm

In addition, the US DOT document titled, "Traffic Signal Operations and Maintenance Staffing Guidelines," provides guidelines to estimate the staffing and resource needs required to effectively operate and maintain traffic signal systems. Specifically, Chapter 1.3.1 provides a suggestion on the level of maintenance that is necessary. See:

http://ops.fhwa.dot.gov/publications/fhwahop09006/fhwahop09006.pdf

6.16 Transportation Projects Exempted from Senate Bill 375

Best Practices: An example of a project assessment to ensure the consistency of proposed major projects with the statutory goals of SB 375, with the regional goals of the RTP, and with the California Transportation Plan, comes from the Metropolitan Transportation Commission. In connection with Plan Bay Area in 2013, MTC, conducted a project performance assessment of major projects (those over $50 million), which

included, among other things, an assessment of project GHG impacts and their impacts on promoting the land-use goals of the RTP/SCS. It also included a project benefit-cost analysis. As a result of this assessment, MTC excluded from Plan Bay Area over 30 projects proposed by CMAs that would have made it more difficult for the Plan to meet its targets, or that were unlikely to produce benefits outweighing their costs.

6.17 Regional ITS Architecture

http://www.bcag.org/Planning/index.html

6.19 Future of Transportation and New Technology

This document explains licensing requirements transparent and best practices accessible to any organization, public or private, seeking to deploy "Connected Vehicle" Dedicated Short Range Communications (DSRC) Roadside Units (RSU) and services that support vehicle-to-infrastructure (V2I) applications.

http://ntl.bts.gov/lib/56000/56900/56950/FHWA-JPO-16-267.pdf

This guidance is intended to assist system owner/operator staff to deploy V2I technology not only in terms Federal Aid Highway program requirements but also practices to help ensure interoperability and efficient and effective planning/procurement/operations.

http://www.its.dot.gov/meetings/pdf/V2I_DeploymentGuidanceDraftv9.pdf

SCAG's RTP/SCS Mobility Innovations Appendix:
http://scagrtpscs.net/Documents/2016/draft/d2016RTPSCS_MobilityInnovations.pdf

6.24~~3~~ Contents of the Sustainable Communities Strategy (SCS)

For information regarding the Sustainable Community Strategy development efforts in the San Diego Region coordinated by San Diego Association of Governments please see:

http://www.sandag.org/index.asp?projectid=360&fuseaction=projects.detail

For information regarding the Sustainable Community Strategy development efforts in Southern California coordinated by the Southern California Association of Governments please see:

http://www.scag.ca.gov/sb375/index.htm

As a best practice to evaluate the implementation of the land use development plan in the SCS, an on-going monitoring program and periodic reporting program could be conducted. The monitoring program should be at a sufficient spatial and temporal level of detail to satisfy several objectives: a) identify regional or sub-regional growth patterns, b) provide jurisdiction level information needed to evaluate their role in the regional plan,

and c) evaluate the consistency requirement for land use projects under SB 375 CEQA streamlining.

Another best practice is for MPOs to provide financial incentives, as feasible, to those local governments that promote land-use and affordable housing production consistent with the SCS. Those incentives should make a portion of regional transportation funding available only to those local governments that (1) adopt an HCD-certified Housing Element and commit to implement its action programs and report annually on implementation progress, (2) produce a substantial portion of their lower-income RHNA need, and (3) adopt effective tenant protections and other anti-displacement policies to ensure that high-propensity transit riders are not displaced from transit-oriented locations.

MTC's OneBayArea Grant Program (OBAG) has implemented elements of this best practice approach. As amended in July 2016, OBAG provides a policy framework for awarding federal funding to projects that reflect regional transportation priorities and that support the goals set forth in Plan Bay Area.

6.30 Adaptation of the Regional Transportation System to Climate Change

~~Notwithstanding a lack of reliable information on the future impacts of sea level rise, precipitation changes, or extreme heat events,~~ MPOs should begin to address climate change in their long range transportation plans using Caltrans guidance, Cal-Adapt.org and other state resources (see Climate Adaptation Resources table). Design and planning standards should be re-evaluated to address future conditions. Where possible, MPOs and RTPAs should consult *Safeguarding California*'s transportation chapter, local general plan safety elements, local hazard mitigation plans, and other relevant local, regional, and state resources and documents. ~~There are numerous ways planning agencies can begin preparing for climate change adaptation on the transportation infrastructure including preliminary mapping of infrastructure that is vulnerable to changes in precipitation, heat, and sea level rise. It is also recommended that design and planning standards be re-evaluated to accommodate potential changes. It is important to ensure that planned infrastructure is engineered and built in locations that can withstand future climate change impacts.~~

7.1 Performance Measures

Caltrans recommends using performance measures to measure the progress of regional projects. MPOs should take into account the benefits of using performance measures to establish a base of measurement and cross-reference the measurement with the performance measure outcome/results. These measurements can be used to justify the need for funding on specific projects. The scientific data may support regional needs and highlight the justification for funding a project that demonstrates the potential for improved performance on the Caltrans system or regional road network.

Caltrans has also developed a guidebook on how to implement performance measures in rural and small urban regions. This guidebook provides a toolbox from which to select appropriate methodologies for performance measures in ~~your~~ rural or small urban areas. The Guidebook on "Performance Measures for Rural Transportation Systems" can be accessed at:

http://www.dot.ca.gov/perf

The following documents contain best practices for performance based planning:

- Transform report entitled "Creating Healthy Regional Transportation Plans" (2012) contains a chapter explaining what the RTP Guidelines are, how they support healthy outcomes, and best practices for public participation. http://www.transformca.org/resource/creating-healthy-regional-transportation-plans
- The Nature Conservancy report entitled "Sustainable Communities Strategies and Conservation" includes model policies and best practices for conservation policies in SCSs. http://www.southernsierrapartnership.org/scs-policy-report.html
- US DOT: Management & Operations in the Metropolitan Transportation Plan: A Guidebook for Creating an Objectives-Driven, Performance-Based Approach http://www.ops.fhwa.dot.gov/publications/moguidebook/index.htm
- FHWA Model Long-Range Transportation Plans: A Guide for Incorporating Performance Based Planning (2014) http://www.fhwa.dot.gov/planning/performance_based_planning/mlrtp_guidebook/

Page Left Intentionally Blank