

Appendix U7

SANDAG Federal Congestion Management Process

Appendix U7 Contents

Introduction

Background

Regional Transportation Systems

Performance Monitoring

Multimodal Alternatives and Non-Single Occupancy Vehicle
Analysis

Land Use Impact Analysis

Intergovernmental Review

Congestion Management Tools

System Development Measures

Regional/Federal Transportation Improvement Program

SANDAG Federal Congestion Management Process

Introduction

Federal Highway Administration 23 CFR §450.320 requires that each transportation management area (TMA) address congestion management through a process involving an analysis of multimodal metropolitan-wide strategies that are cooperatively developed to foster safety and integrated management of new and existing transportation facilities eligible for federal funding. The requirements specifically state that “in TMAs designated as nonattainment for ozone or carbon monoxide, the congestion management process shall provide an appropriate analysis of reasonable (including multimodal) travel demand reduction and operational management strategies for the corridor in which a project that will result in a significant increase in capacity for single occupancy vehicles (SOV) is proposed to be advanced with Federal funds.” Additionally, the guidelines state that “federal funds may not be programmed for any project that will result in a significant increase in the carrying capacity for SOVs (i.e., a new general purpose highway on a new location or adding general purpose lanes, with the exception of safety improvements or the elimination of bottlenecks), unless the project is addressed through a congestion management process meeting the requirements of this section.”

SANDAG was designated as the TMA for the San Diego region. The Regional Plan serves as the long-range transportation plan for the region or its Regional Transportation Plan. The Regional Plan meets the requirements of 23 CFR §450.320 by incorporating the following federal congestion management process: (1) performance monitoring and measurement of the regional transportation system; (2) multimodal alternatives and non-SOV analysis; (3) land use impact analysis; (4) the provision of congestion management tools; and (4) integration with the Regional Transportation Improvement Program (RTIP) process.

Background

California State Proposition 111, passed by voters in 1990, established a requirement that urbanized areas prepare and regularly update a Congestion Management Program (CMP). The requirements within the State CMP were developed to monitor the performance of the transportation system, develop programs to address near-term and long-term congestion, and better integrate transportation and land use planning. SANDAG provided regular updates for the State CMP from 1991 through 2008. In October 2009, the San Diego region elected to be exempt from the State CMP and, since this decision, SANDAG has been abiding by 23 CFR §450.320 to ensure the region’s continued compliance with the Federal congestion management process.

Regional Transportation System

The Regional Plan includes a regional transportation system of highways, regional transit service, regional arterials, and active transportation projects. Chapter 2 of the Regional Plan provides a comprehensive overview of the elements of 21st century mobility, including the regional transit strategy, the active transportation network, local streets and roads, Managed Lanes, highway improvements, intelligent transportation systems, transportation demand management, goods movement strategy, aviation and ground access, and planning across borders components (interregional with neighboring counties and international with Baja California, Mexico).

Performance Monitoring

The Regional Plan includes a variety of strategies to enhance regional transportation systems management including multimodal traffic management techniques, as well as new techniques related to both improving performance monitoring, and information and services to regional transportation systems users. The Regional Plan also provides a comprehensive overview of systems management techniques. Chapter 5 includes a discussion of performance monitoring and implementation. Appendix N includes detailed performance results of the transportation network. Performance monitoring reports include the State of Commute Report, Regional Comprehensive Plan (RCP) Monitoring Report, the *TransNet* Independent Taxpayer Oversight Committee (ITOC) Quarterly Corridor Performance Report, as well as the Coordinated Public Transit – Human Services Transportation Plan (Coordinated Plan) Quarterly Transit Performance Monitoring Report.

The State of the Commute, RCP Monitoring, and ITOC Quarterly Corridor Performance reports include, but are not limited to, monitoring:

- Freeway miles traveled per person during weekdays
- Freeway miles traveled per hour during weekdays
- Regional travel by transit
- Total transit, rail, and bus ridership
- San Diego regional annual transit boardings
- Transit use in well served areas
- Regional commute mode shares
- Drive alone mode share
- Alternative Transportation Mode share (carpool/vanpool, public transit, walk, bike, telework, other)
- Auto and transit passenger travel times and travel volumes in key corridors
- Annual hours of traffic delay per traveler
- Annual peak period delay during weekdays
- Regional bottlenecks determined by annual freeway delay (vehicle hours) per lane mile
- Delay by freeway during commute periods

The State of the Commute Report is updated annually, while the Regional Plan Performance Monitoring Report will be produced every four years in a timeframe that is staggered with the preparation of the next Regional Plan. The next monitoring report is due out in 2018.

The Quarterly Transit Performance Monitoring Report includes monitoring the efficiency and productivity of transit operating services by service type. These indicators include:

- Operating cost per passenger
- Operating cost per revenue hour
- Passengers per revenue hour

- Passengers per revenue mile
- Revenue hours per employee
- Farebox recovery rate

The Coordinated Plan also includes annual transit performance indicators by service route for both the Metropolitan Transit System (MTS) and North County Transit District (NCTD). This plan is updated every two years.

Multimodal Alternatives and Non-Single Occupancy Vehicle Analysis

SANDAG incorporates multimodal alternative and non-SOV analysis throughout all levels of planning and/or programming for transportation project improvements. These forms of analysis are incorporated whether the project improvement relates to an SOV or non-SOV capacity increasing improvement. The three primary areas of project development involved in this analysis include: (1) regionwide study analysis through the Regional Plan and RTIP; (2) corridor study analysis; and (3) local level analysis.

Regionwide study analysis

The Regional Plan incorporates recommendations from various corridor studies, transit studies, and project study reports. All projects, services, and programs are evaluated and prioritized for future funding. A discussion of the revenue constrained funding can be found in Chapter 3 and Appendix O. The Regional Plan also includes regionwide and corridor level performance indicators that are reflective of a multimodal approach and inform the development and management of the most effective long-term transportation system, as well as demand management strategies for minimizing and/or managing anticipated congestion. Appendices M and N provide a comprehensive overview of the development of the Regional Plan transportation project evaluation criteria and plan performance measures and methodologies.

The RTIP serves as the short-term programming document that implements the Regional Plan, and includes projects funded with federal, state, and local transportation funding. These projects include regionally significant capacity increasing projects (as identified in the Regional Plan), minor projects, maintenance and operations projects, and other exempt projects. For the regionally significant capacity increasing projects including SOV capacity increasing projects, the RTIP relies on the process implemented through the Regional Plan for the coordination and consultation involved in developing and establishing the congestion management strategies. The projects included in the RTIP are the end result of implementing the process established in the Regional Plan.

Corridor study analysis

Corridor studies incorporate long-range multimodal transportation projects including operational improvements, highway capacity increasing improvements, transit service improvements, active transportation, and transportation demand management (TDM), and transportation systems management (TSM). Corridor studies allow for opportunities to highlight the need for additional transportation improvements and/or the future planning development of projects as related to the Regional Plan. Examples of recent SANDAG corridor studies include:

- [I-8 Corridor Study](#)¹
- [I-5 South Multimodal Corridor Study](#)²
- [SR 78 Corridor Study](#)³

Other corridor studies include transportation concept summaries (TCS), transportation concept reports (TCR), and project study reports (PSR) developed by Caltrans, as well as corridor system management plans (CSMP) jointly

developed by Caltrans and SANDAG. The development of PSRs informs the development of Regional Plan priorities and RTIP programming.

Local level analysis

Local jurisdiction projects that receive federal funds to develop capacity increasing improvements are required to provide sufficient documentation that an appropriate multimodal alternative and non-SOV analysis has been performed. This analysis is required to be completed prior to submitting a project for inclusion within the RTIP.

Land Use Impact Analysis

Regional models

The Regional Plan includes the 2050 Regional Growth Forecast which is based on land use inputs gathered from the region's 18 incorporated cities and the county. These inputs include current adopted general and community plans, and draft general plan updates, as provided by the local land use authority. SANDAG uses three models in its forecasts: (1) the Demographic and Economic Forecasting Model (DEFM); (2) the Urban Development Model (UDM); and (3) the Activity Based Model. The Regional Plan Appendix T provides additional information related to the SANDAG transportation modeling and forecasting processes.

Intergovernmental Review

Per state law, SANDAG has the authority to determine whether a project or plan will need to be reviewed for regional significance. SANDAG staff reviews projects and determines if they are regionally significant based on the amount of traffic generated and other regionally significant issues. If significant, environmental review of projects should include consideration of applicable policy objectives contained in the Regional Plan.

For projects considered to have significant impacts, SANDAG staff provides comments from a regional perspective that emphasize the need for land use and transportation coordination and are based on policies contained in the Regional Plan. In addition to the Regional Plan, SANDAG provides resources for the evaluation of projects including:

- [San Diego Region Aggregate Supply Study⁴](#)
- [Designing for Smart Growth, Creating Great Places in the San Diego Region⁵](#)
- [Planning and Designing for Pedestrians, Model Guidelines for the San Diego Region⁶](#)
- [Trip Generation for Smart Growth⁷](#)
- [Parking Strategies for Smart Growth⁸](#)
- [Regional Multimodal Transportation Analysis: Alternative Approaches for Preparing Multimodal Transportation Analysis in Environmental Impact Reports⁹](#)
- [Integrating Transportation Demand Management Into the Planning and Development Process: A Reference for Cities¹⁰](#)
- [Regional Parking Management Toolbox¹¹](#)
- [Transit Oriented Districts: A strategy for the San Diego Region¹²](#)

Congestion Management Tools

The Regional Plan provides a variety of congestion management tools. Many of these tools and strategies are included in Chapters 2 and 5 of the Regional Plan. In addition, the Regional Plan provides incentives and assistance to local member agencies to encourage smart growth development in the areas identified on the Smart Growth Concept Map. The SANDAG “Smart Growth Tool Box” includes both planning and financial tools.

Systems Development Measures

- Improvements to the current system that will improve the convenience and travel speed of bus and rail services.
- Implementation of new transit services that will improve transit in more areas and offer new service types designed to attract new riders to transit.
- Enhancing the transit customer experience to make transit easier, safer, and more enjoyable to use. Enhancements can include increased station amenities and low-floor vehicles to improve accessibility.
- Continue to develop and enhance active transportation through bike and pedestrian facilities and bike lockers, and implementation of the Regional Bicycle Plan.
- Continue to develop and enhance safe routes to schools plans and strategies including the “San Diego Regional Safe Routes to School Strategic Plan.”¹³

TSM measures

- Multimodal integration and performance based management including performance monitoring and real time modeling/simulation.
 - *Traveler information* - aims to increase awareness and the information available on travel choice, and impact, such that travelers can actively participate in reducing both network demand and personal trip-impact. The program delivers both systems and education outreach campaigns to raise the awareness of the direct relationship that route choice, personal driving habits, and the trip timing have on reducing fuel consumption, vehicle operating expenses and vehicle emissions.
 - *Arterial management* - focuses on managing arterial roadways (major streets) in order to reduce delays and result in quicker trips and lower vehicle emissions. Improvements to arterial detection and signal interconnect will provide the ability to create a traffic signal system that is dynamic and coordinated throughout the region. Improving the flow of traffic on arterial roadways is among the most cost-effective TSM strategies for reducing stop-and-go traffic, cutting overall travel times, and lowering fuel consumption and pollution.
 - *Freeway management* - is responsible for deploying systems that improve operational efficiency of freeway control infrastructure; enable freeway managers to have greater control over vehicle operating speeds; facilitates freeway manager’s ability to communicate with the traveling public the impact of events, incidents, and congestion. It also provides freeway managers with greater operational visibility to operating conditions both on and off network. Some of the systems included in this program are traffic detection technologies, closed-circuit television cameras, ramp meters, electronic message signs, and the Advanced Transportation Management System, which provides central monitoring and sign control for managing incidents.
 - *Transit management* – bus and light rail, including regional scheduling system (RSS), regional transit management system (RTMS), positive train control (PTC), and centralized train control (CTC).

- Electronic payment services including Compass Card, FasTrak® Open Road Tolling, and smart parking systems.
- Vehicle Technologies.
- Advanced Transportation Technology Program.
- Universal Transportation Account.
- Transit Infrastructure Electrification/Regional Charger Program.
- Smart Parking.

TDM measures

- iCommute is the regional TDM program. iCommute coordinates services that increase the number of commuters who carpool, vanpool, take transit, bike, walk, and telework. This includes online ridematching services, the Regional Vanpool Program, carpool incentive program, employer outreach program, support for teleworking, bike encouragement and education programs, and regional campaigns like Rideshare Month and Bike to Work Month.
- Mobility Hubs – Mobility hubs are places of connectivity, where different modes of transportation — walking, biking, ridesharing, and transit — come together seamlessly to link users to employment, housing, and recreational destinations. Mobility hubs expand the reach of transit by offering people more incentives to use transit and leave their cars at home. Mobility hubs can promote carsharing, bikesharing, and the use of on-demand ride services.
- Active Traffic and Demand Management (ATDM) – builds on Integrated Corridor Management (ICM) to dynamically monitor, control, and influence travel demand, traffic demand, and traffic flow of key corridors. ATDM facilitates the use of transportation alternatives through various approaches, including dynamic ridesharing, dynamic speed limits, dynamically priced parking, and predictive traveler information to improve overall highway efficiency.
- Shared Mobility Services – can fill gaps in the region’s transit services and provide an efficient transportation alternative for commute and non-commute trips. Examples of shared mobility services include carsharing, bikesharing, on-demand ride services scootershare, shared electric vehicles, and on demand shuttle and jitney services.
- Performance monitoring.

Implementation measures

- Outreach program
- Smart Growth Concept Map
- Visualization tools and photo library
- Smart growth design guidelines
- Smart growth trip generation
- Regional Parking Management Toolbox
- Research on connections between public health, land use, and transportation
- Planning and designing for pedestrians

- *TransNet* Smart Growth Incentive Program (SGIP)
- *TransNet* Active Transportation Grant Program (ATGP)
- TDA/*TransNet* Bicycle, Pedestrian, and Neighborhood Safety Program

Regional/Federal Transportation Improvement Program

The Regional/Federal Transportation Improvement Program (R/FTIP) is a multi-billion dollar, five-year program of major highway, transit, arterial, and nonmotorized projects funded by federal, state, *TransNet* local sales tax, and other local and private funding.

The RTIP serves as a prioritized program designed to implement the region's overall strategy for providing mobility and improving the efficiency and safety of the transportation system, while reducing transportation-related air pollution in support of efforts to attain federal and state air quality standards for the region.

Chapters 2 and 3 of the 2014 RTIP provide a description of the development process, including federal, state, and *TransNet* transportation programming requirements, and the detailed listings of projects. All local agency SOV capacity increasing projects seeking, or that is eligible for, federal funds are required to perform a multimodal alternative and non-SOV analysis prior to submitting SOV capacity increasing projects for inclusion in the RTIP. The multimodal alternative, and non-SOV analysis, must document an SOV capacity increasing project assessment that has considered the components within the congestion management tools section of the SANDAG Federal Congestion Management Process:

- Systems development measures
- TSM measures
- TDM measures
- Implementation measures

Each agency is required to assess whether the project has been evaluated for non-SOV capacity improvements. Agency documentation should be provided to SANDAG when submitting the project for inclusion in the RTIP.

Endnotes

- ¹ sandag.org/l-8
- ² <http://www.sandag.org/index.asp?classid=13&projectid=387&fuseaction=projects.detail>
- ³ <http://www.sandag.org/index.asp?projectid=412&fuseaction=projects.detail>
- ⁴ http://www.sandag.org/uploads/publicationid/publicationid_1558_12638.pdf
- ⁵ <http://www.sandag.org/index.asp?projectid=344&fuseaction=projects.detail>
- ⁶ http://www.sandag.org/uploads/publicationid/publicationid_713_3269.pdf
- ⁷ http://www.sandag.org/uploads/publicationid/publicationid_1500_11604.pdf
- ⁸ http://www.sandag.org/uploads/publicationid/publicationid_1499_11603.pdf
- ⁹ http://www.sandag.org/uploads/projectid/projectid_379_13576.pdf
- ¹⁰ http://www.sandag.org/uploads/publicationid/publicationid_1663_14425.pdf
- ¹¹ <http://www.sdforward.com/mobility-planning/parking-toolbox>
- ¹² <http://www.sandag.org/tod>
- ¹³ In 2010, the SANDAG Board of Directors approved the San Diego Regional Safe Routes to School Strategic Plan to support local communities in establishing new Safe Routes to School programs as well as sustaining and enhancing existing efforts. Regional efforts to implement this strategy are funded as part of the Active Transportation Program.