MEETING NOTICE
AND AGENDA

CITIES/COUNTY TRANSPORTATION ADVISORY COMMITTEE (CTAC)
The CTAC may take action on any item appearing on this agenda.

Thursday, February 6, 2014
9:30 to 11 a.m.
SANDAG, 7th Floor Conference Room
401 B Street, Suite 800
San Diego, CA 92101

Staff Contact: Alex Estrella
(619) 699-1928
alex.estrella@sandag.org

AGENDA HIGHLIGHTS

• 2014 REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM UPDATE

• REGIONAL TRANSPORTATION CONGESTION IMPROVEMENT PROGRAM: PROPOSED FEE ADJUSTMENT

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To request this document or related reports in an alternative format, please call (619) 699-1900, (619) 699-1904 (TTY), or fax (619) 699-1905.
ITEM #
1. WELCOME AND INTRODUCTIONS

2. PUBLIC COMMENTS

Members of the public shall have the opportunity to address the Cities/County Transportation Advisory Committee (CTAC) on any issue within the jurisdiction of SANDAG that is not on this agenda. Anyone desiring to speak shall reserve time by completing a “Request to Speak” form and giving it to the meeting coordinator prior to speaking. Public speakers should notify the meeting coordinator if they have a handout for distribution to working group members. Public speakers are limited to three minutes or less per person. CTAC members also may provide information and announcements under this agenda item.

+3. REVIEW AND APPROVAL OF THE CTAC MEETING SUMMARY NOTES

+3A. December 5, 2013, CTAC Meeting Summary Notes

+3B. January 9, 2014, CTAC Meeting Summary Notes

REPORTS (4 through 9)

+4. 2014 REGIONAL TRANSPORTATION IMPROVEMENT PROGRAM UPDATE
(Michelle Merino, SANDAG)

Staff will review the schedule for the 2014 Regional Transportation Improvement Program update, which will cover FY 2015 to FY 2019.

+5. REGIONAL TRANSPORTATION CONGESTION IMPROVEMENT PROGRAM:
PROPOSED FEE ADJUSTMENT (Ariana zur Nieden, SANDAG)

The TransNet Extension Ordinance requires SANDAG to adjust the Regional Transportation Congestion Improvement Program (RTCIP) fee amount on July 1 of each year. The most recent annual adjustment to the RTCIP was approved by the SANDAG Board in February 2013. The proposed annual RTCIP fee adjustment that would be presented for Board approval on February 28, 2014, will be presented.

+6. SAN DIEGO FORWARD: THE REGION PLAN: EMERGING TECHNOLOGIES
WHITE PAPER (James Dreisbach-Towle, SANDAG)

Staff is preparing a white paper on emerging technologies for use in the development of San Diego Forward: The Regional Plan. James Dreisbach-Towle will present the white paper outline for feedback from CTAC members.
7. ANNUAL SUBMITALS – FORM 700 STATEMENT OF ECONOMIC INTEREST (SANDAG)

Form 700 Statement of Economic Interest is due for 2013 and CTAC members are requested to complete and submit an original signed copy to Michelle Posada at SANDAG by March 15, 2014. For questions on the form submittal, members can contact Michelle Posada at michelle.posada@sandag.org. The Form 700 can be obtained via the following link:


+8. CALIFORNIA DEPARTMENT OF TRANSPORTATION UPDATES

Caltrans will provide an update on various local programs, funding program deadlines, and announcements regarding upcoming conferences.

9. ADJOURNMENT AND NEXT MEETING

The next CTAC meeting is scheduled for Thursday, March 6, 2014.

+ next to an agenda item indicates an attachment
SUMMARY OF THE DECEMBER 5, 2013, CTAC MEETING

Agenda Item 1: Welcome and Introductions

CTAC Vice Chair Mario Sanchez (City of El Cajon), called the meeting to order. Self-introductions were conducted.

Agenda Item 2: Public Comments

Members of the public had the opportunity to address the CTAC on any issue. There were no public comments.

Bridget Enderle (SANDAG staff) requested that local jurisdiction officials participate in the Safe Routes to School (SRTS) survey. The survey will help collect information on the breadth and scope of SRTS capital and programmatic activities within the region. It is anticipated that the local jurisdiction questionnaire will be distributed to engineering and/or planning staff at cities and the County of San Diego within the SANDAG region. The deadline to participate in the SRTS survey is December 19, 2013. Survey results and recommended next steps will be provided in February 2014.

Agenda Item 3: Approve Meeting Summary

CTAC members were asked to review and approve the CTAC meeting summary of November 5, 2013.

Action: The meeting summary notes were approved.

Agenda Item 4: 2014 CTAC Schedule and Membership Roster

Alex Estrella (SANDAG staff) provided CTAC members with the current CTAC membership and alternate roster and requested that CTAC members submit changes to the roster by the end of the CTAC meeting.

Agenda Item 5: TransNet Local Street and Road Program, TransNet Ordinance and Expenditure Plan Implementation Guidelines Review

This Item was brought for CTAC discussion at the request of the City of San Diego. Under the TransNet Ordinance and Expenditure Plan Rules (SANDAG Board Policy No. 031), Rule No. 18 establishes the implementation provisions for the TransNet Local Street and Road Program, TransNet Ordinance and Expenditure Plan Implementation Guidelines, developed in 2006. The discussion focused on specific
compliance provision guidelines associated with smart growth-related infrastructure improvements under the 70 percent Congestion Relief TransNet Ordinance Rules. CTAC members requested that staff provide guidance on possible changes to the existing guidelines that would provide greater flexibility for smart growth-related infrastructure. CTAC members expressed that current language restricts the ability to receive credit under the 70 percent category to only existing or planned smart growth land use characteristic types, as included in the Regional Comprehensive Plan. Staff and members agreed to revisit the specific provisions in an effort to assure that such guidelines reflect the most current smart growth and or active transportation regional and local activities and initiatives. As an initial step forward, staff will solicit input from internal staff and management on the process and procedures likely to be required along the way, including changes to the guidelines and approval process, and report back to the CTAC.

**Agenda Item 6: Proposed Selection Criteria for Selection of Regional Arterial Detection Implementation Strategy**

Alex Estrella (SANDAG staff) provided an update on the implementation of the Regional Arterial Detection Strategy presented during the November 7, 2013, CTAC meeting and the November 21, 2013, San Diego Regional Traffic Engineers Council (SANTEC) meeting that focused on the Draft Proposed Project Selection Criteria for selecting project candidates to be considered for implementing the Regional Arterial Detection Long-Term Priority Area. The long-term priority area will allow the region to identify a number of candidate projects for construction readiness and get them “shovel ready” as funding opportunities become available.

Overall, CTAC and SANTEC members expressed support for moving forward with the Proposed Project Selection Criteria, with the recommendation that the monetary ranges proposed under the Project Sponsor Contribution scoring factor be reduced. Another suggestion during the CTAC meeting was to revise the language in the Regional Coordination scoring factor and include a score for projects that may include detection needs for corridor level signal timing improvements, but only sponsored by a single agency.

CTAC members reached a quorum to proceed forward and apply the criteria for a planned call for projects to be initiated in December 2013.

**Agenda Item 7: San Diego Forward: The Regional Plan: Climate Change Mitigation and Adaptation White Paper Outline**

Allison King Wood (SANDAG staff) presented CTAC members with a draft outline for the Climate Change Mitigation and Adaptation white paper for feedback. The white paper is intended to provide an overview of regional Greenhouse gas (GHG) emissions, provide strategies to both reduce GHG emissions (mitigation) and address impacts of climate change (adaptation), describe the existing climate change planning efforts in the region, and discuss key policy questions for consideration in the Regional Plan.

CTAC input included consideration for reduction in GHG emissions due to traffic signal coordination. Staff continues to solicit input on the white paper from stakeholders and working groups. For further input, please contact Allison King Wood via email at allison.king@sandag.org. The draft white paper is scheduled for completion in early 2014, and will be used to inform the climate change components of the Regional Plan.
Agenda Item 8: San Diego Regional Plug-in Electric Vehicle Readiness Plan

Anna Lowe (SANDAG staff) discussed the San Diego Regional Plug-In Electric Vehicle (PEV) Readiness Plan. The San Diego Regional PEV Readiness Plan discusses and addresses barriers to the deployment of PEV infrastructure in the San Diego region. The San Diego Regional PEV Readiness Plan is designed for local government officials as a resource to assist them in helping their local governments prepare their community for a growing PEV market.

In March 2012, the San Diego Regional Electric Vehicle Working Group (REVI) was formed through a California Energy Commission grant awarded to SANDAG. The REVI working group members include representatives from local and regional public entities, nonprofit organizations, utilities, educational institutions, labor and contractor associations, and the business community. The REVI has identified challenges, successes, and outstanding issues for continued PEV adoption and charging infrastructure deployment, which are outlined in the San Diego Regional PEV Readiness Plan. The San Diego Regional PEV Readiness Plan is available at:

www.energycenter.org/programs/pev-planning/san-diego

For questions regarding the San Diego Regional PEV Readiness Plan, please contact Anna Lowe via email at anna.lowe@sandag.org.

Agenda Item 9: California Department of Transportation Updates

Caltrans staff provided the following updates:

- Caltrans has adopted a new Traffic Operations Policy Directive (13-02) called Intersection Evaluation Control. This policy establishes a context and performance-based evaluation process to identify viable and practical intersection control alternatives during the transportation planning, project identification, and initiation processes. The directive will impact future projects that propose intersection modifications, interchange modifications, or new access points with the State Highway System. For further information, members were encouraged to attend a planned presentation to SANTEC during the upcoming December 2013 meeting.

- On November 14, 2013, Caltrans approved the list of Cycle 6 projects to receive Highway Safety Improvement Funding. Of the 231 funded projects, 19 are in District 11.

- CTAC members requested that Caltrans provide more information at a future CTAC meeting on the Moving Ahead for Progress in the 21st Century (MAP-21) implementation process, including clarification on how project on the National Highway System (NHS) will be impacted by MAP-21. Caltrans staff indicated that further clarification on how the NHS will be impacted by MAP-21 is pending and awaiting Federal Highway Administration guidance and will return with an update to CTAC as information becomes available.

Agenda Item 10: Adjournment and Next Meeting

The next CTAC meeting is scheduled for Thursday, January 2, 2014.
SUMMARY OF THE JANUARY 9, 2014, CTAC MEETING

Agenda Item 1: Welcome and Introductions

CTAC Chair Mario Sanchez (City of El Cajon) called the meeting to order. Self-introductions were conducted.

Agenda Item 2: Public Comments

Members of the public had the opportunity to address the CTAC on any issue. There were no public comments.

Darlanne Hoctor Mulmat (SANDAG) announced that there will be a Census Transportation Planning Projects Workshop provided by the American Association of State Highway and Transportation Officials staff on January 29, 2014, at the SANDAG offices. The training session is for those required to work on long-range planning, congestion management, travel forecast, and air quality analysis. Subjects to be discussed include how to obtain, understand, and determine the accuracy of transportation data. Online registration and more information can be found on the SANDAG website. For any questions, please contact Darlanne Hoctor Mulmat via email at darlanne.mulmat@sandag.org.

CTAC members also were informed of the Brown Act Changes that went into effect on January 1, 2014, that included new procedures to record votes and abstentions of each voting CTAC member on each item.

Agenda Item 3: Approve Meeting Summary

Review and approval of the December 5, 2013, meeting summary notes were postponed due to not having a quorum.

Action: No actions were taken for this item.

Agenda Item 4: Regional Complete Streets Policy and TransNet Routine Accommodation Requirement (Stephan Vance)

Stephan Vance (SANDAG) introduced this item and announced that the Regional Complete Streets Policy Technical Advisory Group is seeking a representative from CTAC due to the departure of
Bryan Jones (City of Carlsbad), Maryam Babaki (City of San Marcos) and Tim Thiele (City of Del Mar) both volunteered to participate in the advisory group.

In a related matter, SANDAG staff will distribute a survey to local agencies regarding the implementation of the TransNet Ordinance requirement for new projects or major reconstruction projects to accommodate travel by pedestrians and bicyclists. The survey, which will be used to determine how local jurisdictions satisfy the requirement, should be forwarded to appropriate staff members, with SANDAG staff copied in the email. In addition, a field survey will be conducted to check compliance of the requirement. Upon CTAC request, SANDAG staff will provide CTAC members with a list of projects that must adhere to the requirement.

**Action:** Maryam Babaki (City of San Marcos) and Tim Thiele (City of Del Mar) volunteered to participate in the advisory group and no appointment was necessary.

**Agenda Item 5: Grade Separation Project Nominations**

John Dorow (SANDAG) introduced this item, included an overview, and referenced the attached project request solicitation to be issued for grade separation projects. Staff indicated that grade separation projects will be evaluated based on criteria approved by the SANDAG Board of Directors on October 11, 2013, and the project evaluation results will be included in San Diego Forward: The Regional Plan.

Staff indicated the subject project solicitation evaluations will result in a new project master list, and thus, local jurisdictions must submit nominations for projects already listed in the 2050 Regional Transportation Plan to be considered in San Diego Forward: Regional Plan. Each project nominated will be evaluated and ranked in accordance with the approved evaluation criteria, which includes congestion relief, regional housing needs assessment, accident history, local funding contribution, pedestrian benefits, bus operations impacts, benefit to emergency services, noise reduction, and truck freight benefits. SANDAG staff will send request letters to each local jurisdiction as well as to the Metropolitan Transit System and the North County Transit District. CTAC members brought forth a discussion to include future train and traffic projection data rather than current data. SANDAG staff indicated that projects submittals at a minimum will need to include existing conditions-related data per the approved project criteria; however, local jurisdictions are welcome to submit any other available data, including forecast data.

**Action:** This item was presented for information.

**Agenda Item 6: San Diego Forward: The Regional Plan: Results of Alternative Land Use Scenarios (Carolina Gregor)**

Carolina Gregor (SANDAG) presented the results of the alternative land use scenarios analyzed for potential greenhouse gas (GHG) emissions reductions. This work fulfills a commitment made by SANDAG outlined in the 2050 Regional Transportation Plan and its Sustainable Communities Strategy (2050 RTP/SCS) to evaluate alternative land use scenarios to further reduce GHG emissions.

Staff indicated that over the past 14 years, local plans have been updated to concentrate growth within the urbanized areas of the region, closer to existing and planned transportation infrastructure, while increasing land area dedicated to open space and habitat preservation. As a result, projected GHG emissions per capita between the Series 9 (1999) and Series 13 (2013) Regional
Growth Forecasts have decreased between 25 to 30 percent. To further reduce GHG emissions, an analysis was conducted on three future alternative land use scenarios and included:

- **Scenario A: Second Units and Infill:** Constrains future residential and employment growth to the west of the incorporated cities boundaries and test the impact of second units.

- **Scenario B: Transit Oriented Development:** Concentrates new housing and jobs around existing and future transit stations included in the 2050 RTP/SCS. New development consists primarily of urban/compact development.

- **Scenario C: Multiple Dense Cores:** Focuses future growth into four dense cores. New housing and jobs consist of urban/compact development concentrated in North County, Mid-County, the greater Downtown area, and South County/International Border.

GHG emission results indicate that all land use scenarios can potentially achieve GHG emissions reductions between 0 and 3 percent, with Scenarios B and C resulting in the greatest reductions. The results were presented to the SANDAG Board of Directors in December 2013. The Board discussed the relatively low GHG emission reduction percentages among the three scenarios, which can possibly be attributed to the aggressive planning efforts achieved over the past 14 years. Staff noted that the purpose of the scenario analysis was to compare GHG emissions among the scenarios, rather than to select a preferred scenario.

This analysis has been conducted with a sketch modeling tool known as “UrbanFootprint,” which considers several indicators, including GHG reductions. The modeling tool is less intensive, but designed to allow for faster analysis of scenarios. Accordingly, staff indicated that the initial GHG results may vary from future analysis to be conducted and reported using the traditional complex transportation models as part of San Diego Forward: The Regional Plan development. For any questions or comments, please contact Carolina Gregor via email at carolina.Gregor@sandag.org.

**Action:** This item was presented for information.

**Agenda Item 7: TransNet Local Street and Road Program Annual Report Data/Information Request**

Alex Estrella (SANDAG) introduced this item by providing CTAC members with a sample TransNet Local Street and Road Program Annual Report Data/Information Request template. The FY 2012 TransNet Triennial Performance Audit Report included Recommendation Nos. 3 through 6, which propose that SANDAG take a greater role in monitoring and reporting performance of the Local Street and Road Program. Based on input from CTAC, the Independent Taxpayer Oversight Committee (ITOC) directed SANDAG to work with local agencies to develop an annual report that summarizes major projects accomplished by each jurisdiction using TransNet funds.

The TransNet Local Street and Road Program Annual Report Data/Information Request template is structured to attain a summary of TransNet Local Street and Road Program project highlights, including:

- **Section A:** Local agencies will be requested to provide a narrative description under Section A. The narrative is intended to provide information on key projects/phasing accomplished for the
particular reporting year supplemented with readily available performance-related data or statistics appropriate.

- Sections B and C: Local agencies will be requested to provide a listing of TransNet Local Street and Road Program efforts/projects accomplished for the particular reporting year and in progress/planned for the following reporting year, respectively.

Members were informed that staff will be initiating the coordination of the data collection through use of the template and would be asking that CTAC members work with their respected agency staff to assist in completing and submitting the requested information. Staff indicated that once the data is submitted, the information and data gathered through this process would be presented as part of a TransNet Local Street and Road Program ITOC Annual Report planned for presentation to the ITOC in May 2014. Staff requested that local agencies submit the completed templates by Friday, February 14, 2014, for FY 2013 (July 1, 2012 – June 30, 2013).

**Action:** This item was presented for discussion.

**Agenda Item 8: California Department of Transportation Updates**

There were no updates provided by the California Department of Transportation.

**Agenda Item 9: Adjournment and Next Meeting**

The next CTAC meeting is scheduled for Thursday, February 6, 2014.
January 10, 2014

TO: City Managers/County CAO
Cities/County Transportation Advisory Committee (CTAC)
Local Agency TransNet Program Contacts
Metropolitan Transit System
North County Transit District
Caltrans

FROM: Michelle Merino, Associate Financial Analyst

SUBJECT: 2014 Regional Transportation Improvement Program

This memo outlines the process and schedule for the next update to the Regional Transportation Improvement Program (RTIP). The 2014 RTIP is scheduled for SANDAG Board adoption September 26, 2014. The RTIP is a multi-year program of proposed major transportation projects, including the TransNet Program of Projects (POP). The 2014 RTIP will cover the five-year period from Fiscal Year 2014/15 through Fiscal Year 2018/19.

SANDAG, acting as the San Diego County Regional Transportation Commission, approves the TransNet POP as an element of the RTIP. In developing and approving the list of TransNet POP to be included in the RTIP, each agency and SANDAG must comply with all provisions of the TransNet Ordinance and Expenditure Plan, in addition to any other implementing ordinances, policies, and rules as appropriate.

Due to the anticipated September adoption of the Final 2014 RTIP, for TransNet purposes, the 2012 RTIP will continue to be in effect until September 2014. For federal and state funded projects, the 2012 RTIP will be in effect until the federal adoption of the 2014 RTIP, anticipated to be in mid-December.

Pursuant to federal and state laws and the TransNet Ordinance, agencies are required to submit projects that cover the next five fiscal years. The SANDAG Board of Directors, at its July 25, 2014, meeting, is scheduled to release the draft 2014 RTIP, including its air quality conformity determination for a 30-day public comment period and set the September 5, 2014, Transportation Committee meeting to hold a public hearing. Upon close of public hearing, and pending any changes, the Transportation Committee is scheduled to recommend that the SANDAG Board adopt the final 2014 RTIP at its September 26, 2014, meeting. In order to meet this timeline, the agencies must submit projects in ProjectTrak no later than March 14, 2014.
2050 REGIONAL TRANSPORTATION PLAN:

The 2050 Regional Transportation Plan (RTP) is the long range transportation vision for the region. The RTIP implements the projects identified in the initial years of the RTP. The RTIP is required to be consistent with the projects in the RTP including scope, cost, and schedule. The current 2050 RTP was approved by the SANDAG Board of Directors on October 28, 2011. Capital projects, beyond the initial study phase, cannot be included in the RTIP unless it also included in the RTP.

BACKGROUND

Federal Metropolitan Planning and Air Quality Conformity Regulations identify the required content of the RTIP and prescribe the process for air quality conformity analysis. The RTIP must include all major projects requesting certain categories of federal/state transportation funding or federal project approval. All regionally significant and/or capacity increasing transportation projects, regardless of funding sources, are required to be included in the RTIP and incorporated into the regional air quality quantitative emissions analysis. All projects included in the 2014 RTIP must be consistent with the 2050 RTP for the San Diego region.

The projects in the RTIP must be based on committed or reasonable expectation of funds availability for all projects constrained by year, based on available revenues. A major component of the RTIP includes the state and federal transportation projects adopted by the California Transportation Commission (CTC) for the State Transportation Improvement Program (STIP) and the State Highway Operation and Protection Program (SHOPP). The CTC is scheduled to adopt the 2014 STIP in March 2014.

The 2014 RTIP details the major projects anticipated to be initiated and/or implemented during the period FY 2014/15 to FY 2018/19. Projects using the following categories of federal, state, and local funding must be included in the RTIP:

**Federal Transportation Funds**

1) Regional Surface Transportation Program (RSTP)
2) Congestion Mitigation and Air Quality Program (CMAQ)
3) Transportation Alternative Program (TAP)
4) Highway Bridge Program/High Risk Rural Roads (HBP/HRRR)
5) Highway Safety Improvement Program (HSIP)
6) Federal Lands Highways/Indian Reservation Roads (IRR)
7) Federal Demonstration/High Priority Projects – carryover only (DEMO/HPP)
8) Federal Transit/ Rail Administration programs (FTA/FRA)
9) Federal Transit/Highway Discretionary Projects
10) Public Lands Highway (PLH)
11) Any other federal transportation programs

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1 TAP funds include Transportation Enhancements, Recreational Trails, Safe Routes to School and other federal discretionary programs
**State Transportation Funds**

1) STIP - Regional and Interregional Improvement Programs (STIP-RIP/IIP)
2) State Highway Operation and Protection Program (SHOPP)
3) Funding from Proposition 1A/1B programs
4) Traffic Congestion Relief Program – carryover only (TCRP)
5) Any other state transportation programs

**Local Transportation Funds**

1) TransNet - Sales Tax Measure (all fund types)
2) Local Funds (developer fees, gas tax, toll funds, etc.) at agencies’ discretion

For federal programs and certain state programs, there are specific local match requirements. The local match must be programmed in the year and phase in which the funds are anticipated to be obligated. If utilizing Toll Credits as the match, they must be programmed in the RTIP, however, they will not be included as part of the total cost of the project.

**TransNet – LOCAL STREET IMPROVEMENTS**

Any major project with a total cost of $300,000 or more should be individually listed in the RTIP. SANDAG encourages agencies to “lump sum” or aggregate individual projects costing less than $300,000 and of a similar type of work (e.g., minor roadway resurfacing) as a single project as long as the type of work being proposed is consistent with the air quality exempt project classifications (see Tables 1 and 2).

*TransNet Revenue Estimates:* The actual fund allocations to each agency will be based on monthly sales tax receipts from the State Board of Equalization with the fund distribution updated annually using current population and maintained miles data as published by the state. The five year revenue estimate is not available at this time; however this information will be distributed electronically and posted on the RTIP Web site as well as in the Reports section of ProjectTrak as soon as it becomes available towards late January or early February.

**Public Hearing:** Board Policy No. 31 requires each local agency to hold a public hearing prior to adoption of the 2014 RTIP for TransNet funded projects. The submittals must include evidence of formal action by the legislative bodies of the cities and the County - i.e., governing body resolution. Attachment A is a sample resolution SANDAG encourages agencies to use for this purpose. Agencies can add to, but not delete or replace, any section of the resolution.

**Requirement under TransNet Ordinance:** The TransNet Ordinance includes several requirements, including the Bicycle and Pedestrian accommodation, congestion relief and maintenance distribution, maintenance of effort formula, and the Regional Transportation Congestion Improvement Program. Sections relevant to programming are shown in Attachment B.
Independent Taxpayer Oversight Committee (ITO): The TransNet Ordinance includes the responsibilities of the ITOC. One of its main responsibilities is to review and recommend to the Transportation Committee or the Board the TransNet POP proposed by local agencies (see Section 11 of the Ordinance).

Debt Financing: For those agencies with project cash flow needs that exceed the estimated TransNet revenues available, debt financing options are available for either short-term (Commercial Paper program) or for the long-term (long-term bond). TransNet Policy prescribes the requirements for debt financing. Council/Board resolution and an executed Memorandum of Agreement are required before any debt can be issued. Projects funded through this mechanism are required to be programmed in the RTIP. To participate, interested agencies should contact Lisa Kondrat-Dauphin at Lisa.Kondrat-Dauphin@sandag.org.

The TransNet Ordinance and the TransNet Policy documents are also available on the RTIP Web site. Agencies are encouraged to review the pertinent sections of the ordinance and within the policy for further information. The 2014 RTIP Web site can be accessed through the following link: www.sandag.org/2014RTIP.

BICYCLE PROJECTS

In September 2013, the SANDAG Board adopted the Regional Bike Plan Early Action Program (EAP) which prioritized regional bike projects to be funded with, among other programs, the TransNet Bicycle, Pedestrian, and Neighborhood Safety Program (BPNS) and the Transportation Development Act (TDA) Bike program. Additionally, the Board approved to set-aside $1 million per year to support local non-motorized projects. For projects funded under the call for projects process with local agencies as the lead agency are generally listed as a group project listing in the RTIP as Various Agencies (V12). EAP projects are listed under SANDAG as the lead agency which can be either group project listing or individually listed. If a bike project is funded with federal or state funds in addition to the local TransNet or TDA bike funds, those projects can be listed individually by the sponsoring agency.

CONGESTION MANAGEMENT PROCESS (CMP)

Pursuant to 23 CFR 450.320, each Metropolitan Planning Organization area designated as a Transportation Management Area (TMA) that is non-attainment for ozone or carbon monoxide, may not program federal funds for any project that will result in a significant increase in carrying capacity for single occupant vehicles (SOV) unless the project results from a congestion management process (CMP). Any capacity increasing project seeking federal funds must have conducted a congestion management analysis before it can be programmed in the RTIP. Agencies must demonstrate their projects are in compliance of this regulation as part of the submittal process in ProjectTrak. More information on this process will be discussed during the 2014 RTIP Update workshop and is also available at, the following Web site: www.sandag.org/cmp.

FEDERAL AIR QUALITY CONFORMITY REQUIREMENTS

Federal regulations require that SANDAG conduct an air quality conformity analysis of all regionally significant projects that increase the transportation system capacity. This includes major local and developer funded projects and any other state or federally funded projects that might not otherwise appear in the RTIP, as well as new projects or major changes in project scope for existing
programmed projects. Agencies are asked to review all their capacity increasing (CI) projects in the current 2012 RTIP and provide updated information as necessary. This level of information is necessary to provide accurate regional transportation/emissions forecast modeling. In addition to the written information, agencies are required to provide diagrams (before and after) for each capacity increasing project. Projections of pollutant emissions are developed for several analysis years based on the estimated project opening dates. Attachment C provides guidance on the type of information required for each CI project and samples of maps/diagrams.

The U.S. Environmental Protection Agency’s Air Quality Conformity Rule includes a list of project categories that are exempt from air quality conformity determinations or regional emissions analysis. Table 1 provides a list of projects exempt from air quality conformity determination and Table 2 lists the types of projects exempt from regional emissions analysis. These projects can be included and subsequently amended into the RTIP without a conformity finding or a new regional emissions analysis.

**2014 RTIP REVIEW, ADOPTION, AND UPDATE SCHEDULE**

The 2014 RTIP is due to the state by September 30, 2014. Attachment E provides the RTIP schedule. Important dates to remember are the following:

- **March 14, 2014** – Projects (including CI maps/CMP information) due in ProjectTrak
  Projects submitted after this date will not be accepted
- **June 27, 2014** – Signed resolutions for TransNet funded projects uploaded in ProjectTrak
- **July 25, 2014** – SANDAG Board is scheduled to release the draft 2014 RTIP and conformity determination for 30-day public comment
- **September 5, 2014** – Transportation Committee is scheduled to hold Public Hearing
- **September 26, 2014** – SANDAG Board is scheduled to adopt the 2014 RTIP
- **December 17, 2014** – Anticipated federal approval of the Final 2014 RTIP

**SUPPLEMENTAL INFORMATION**

This memo and all attachments are available on the 2014 RTIP Web site – [www.sandag.org/2014RTIP](http://www.sandag.org/2014RTIP).

SANDAG is scheduled to hold a workshop for the 2014 RTIP Update on Thursday, January 30, 2014, from 9 a.m. to 12 p.m. The workshop will be held at the SANDAG offices located at 401 B Street, San Diego, CA 92101 on the 7th floor in the Board Conference Room. This workshop is to provide additional details to member agencies and to provide an overview of the process and requirements for project submittals and related programming issues. Additional information for 2014 RTIP Update workshop will be distributed separately and will be posted on the 2014 RTIP Web page as soon as it is available.

Should you have any questions specific to TransNet Ordinance or Policy, please contact Ariana zur Nieden at (619) 699-6961 or Ariana.Zurnieden@sandag.org; for all other questions or clarifications, contact me at (619) 595-5608 or Michelle.Merino@sandag.org.

MMER/ais

Attachments
LIST OF ATTACHMENTS

Table 1  Projects Exempt from Air Quality Conformity Determination
Table 2  Projects Exempt from Regional Emissions Analysis
Attachment A  TransNet Resolution Template
Attachment B  Relevant Sections of TransNet Ordinance
Attachment C  Project Description Guidelines for Capacity Increasing Projects/Sample Diagram
Attachment D  RTP TA-20 SANDAG Federal Congestion Management Process
Attachment E  Schedule for the 2014 RTIP
### TABLE 1
PROJECTS EXEMPT FROM AIR QUALITY CONFORMITY DETERMINATION*

<table>
<thead>
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<th>SAFETY</th>
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<tbody>
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<td>- Railroad/highway crossing</td>
<td>- Projects that correct, improve, or eliminate a hazardous</td>
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<td>- Safer non-Federal-aid systems roads</td>
<td>location or feature</td>
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<td>- Increasing sight distance</td>
<td>- Shoulder improvements</td>
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<td>- Traffic control devices and operating assistance other</td>
<td>- Highway Safety Improvement Program implementation</td>
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<td>than signalization projects</td>
<td>- Railroad/highway crossing warning devices</td>
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<td>- Pavement resurfacing and/or rehabilitation</td>
<td>- Guardrails, median barriers, crash cushions</td>
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<td>- Emergency relief (23 USC 125)</td>
<td>- Pavement marking</td>
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<td>- Skid treatments</td>
<td>- Fencing</td>
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<td>- Adding medians</td>
<td>- Safety roadside rest areas</td>
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<tr>
<td>- Lighting improvements</td>
<td>- Truck climbing lanes outside the urbanized area</td>
</tr>
<tr>
<td>- Emergency truck pullovers</td>
<td>- Widening narrow pavements or reconstructing bridges</td>
</tr>
<tr>
<td></td>
<td>(no additional travel lanes)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>- Operating assistance to transit agencies</td>
<td>- Purchase of support vehicles</td>
</tr>
<tr>
<td>- Rehabilitation of transit vehicles</td>
<td>- Purchase of office, shop, and operating equipment for</td>
</tr>
<tr>
<td>- Purchase of operating equipment for vehicles</td>
<td>existing facilities</td>
</tr>
<tr>
<td>(e.g., radios, fareboxes, lifts, etc)</td>
<td>- Construction or renovation of power, signal, and</td>
</tr>
<tr>
<td>- Construction of small passenger shelters and</td>
<td>communications systems</td>
</tr>
<tr>
<td>information kiosks</td>
<td>- Reconstruction or renovation of transit buildings and</td>
</tr>
<tr>
<td>- Rehabilitation or reconstruction of track structures,</td>
<td>structures (e.g., rail or bus buildings, storage and</td>
</tr>
<tr>
<td>track, and trackbed in existing rights-of-way</td>
<td>maintenance facilities, stations, terminals, and ancillary</td>
</tr>
<tr>
<td>- Purchase of new buses and rail cars to replace</td>
<td>structures)</td>
</tr>
<tr>
<td>existing vehicles or for minor expansions of the fleet</td>
<td>- Construction of new bus or rail storage/maintenance</td>
</tr>
<tr>
<td></td>
<td>facilities categorically excluded in 23 CFR part 771</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>- Continuation of ride-sharing and van-pooling</td>
<td>- Bicycle and pedestrian facilities</td>
</tr>
<tr>
<td>promotion activities at current levels</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>- Specific activities which do not involve or directly lead</td>
<td>- Engineering to assess social, economic, and environmental</td>
</tr>
<tr>
<td>to construction, such as:</td>
<td>effects of the proposed action or alternatives to that action</td>
</tr>
<tr>
<td>Planning and technical studies</td>
<td>- Noise attenuation</td>
</tr>
<tr>
<td>Grants for training and research programs</td>
<td>- Emergency or hardship advance land acquisitions (23 CFR</td>
</tr>
<tr>
<td>Planning activities conducted pursuant to titles 23</td>
<td>710.503</td>
</tr>
<tr>
<td>and 49 USC</td>
<td>- Acquisition of scenic easements</td>
</tr>
<tr>
<td>Federal-aid systems revisions</td>
<td>- Plantings, landscaping, etc</td>
</tr>
<tr>
<td>- Sign removal</td>
<td>- Directional and informational signs</td>
</tr>
<tr>
<td>- Transportation enhancement activities (except</td>
<td>- Repair of damage caused by natural disasters, civil unrest,</td>
</tr>
<tr>
<td>rehabilitation and operation of historic transportation</td>
<td>or terrorist acts, except projects involving substantial</td>
</tr>
<tr>
<td>buildings, structures, or facilities</td>
<td>functional, locational or capacity changes</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>- Engineering to assess social, economic, and environmental effects</td>
<td></td>
</tr>
<tr>
<td>- Noise attenuation</td>
<td></td>
</tr>
<tr>
<td>- Emergency or hardship advance land acquisitions (23 CFR 710.503)</td>
<td></td>
</tr>
<tr>
<td>- Acquisition of scenic easements</td>
<td></td>
</tr>
<tr>
<td>- Plantings, landscaping, etc</td>
<td></td>
</tr>
<tr>
<td>- Directional and informational signs</td>
<td></td>
</tr>
<tr>
<td>- Repair of damage caused by natural disasters, civil unrest,</td>
<td></td>
</tr>
<tr>
<td>or terrorist acts, except projects involving substantial</td>
<td></td>
</tr>
<tr>
<td>functional, locational or capacity changes</td>
<td></td>
</tr>
</tbody>
</table>

*Source: Part II Environmental Protection Agency 40 CFR Parts 53 & 93 Transportation Conformity Rule, as amended, January 24, 2008.*
### TABLE 2

**PROJECTS EXEMPT FROM REGIONAL EMISSIONS ANALYSIS**

<table>
<thead>
<tr>
<th>ALL PROJECTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Intersection channelization projects</td>
</tr>
<tr>
<td>- Intersection signalization projects at individual intersections</td>
</tr>
<tr>
<td>- Interchange reconfiguration projects</td>
</tr>
<tr>
<td>- Changes in vertical and horizontal alignment</td>
</tr>
<tr>
<td>- Truck size and weight inspection stations</td>
</tr>
<tr>
<td>- Bus terminal and transfer points</td>
</tr>
</tbody>
</table>

*Source: Part II Environmental Protection Agency 40 CFR Parts 53 & 93 Transportation Conformity Rule, as amended, January 24, 2008.
RESOLUTION OF THE CITY/COUNTY OF [   ]
ADOPTING THE TRANSNET
LOCAL STREET IMPROVEMENT PROGRAM OF PROJECTS
FOR FISCAL YEARS 2015 THROUGH 2019

WHEREAS, on November 4, 2004, the voters of San Diego County approved the San Diego Transportation Improvement Program Ordinance and Expenditure Plan (TransNet Extension Ordinance); and

WHEREAS, the TransNet Extension Ordinance provides that SANDAG, acting as the Regional Transportation Commission, shall approve on a biennial basis a multi-year program of projects submitted by local jurisdictions identifying those transportation projects eligible to use transportation sales tax (TransNet) funds; and

WHEREAS, the City/County of [   ] was provided with an estimate of annual TransNet local street improvement revenues for fiscal years 2015 through 2019; and

WHEREAS, the City/County of [   ] has held a noticed public meeting with an agenda item that clearly identified the proposed list of projects prior to approval of the projects by its authorized legislative body in accordance with Section 5(A) of the TransNet Extension Ordinance and Rule 7 of SANDAG Board Policy No. 31;

NOW THEREFORE,

BE IT RESOLVED that pursuant to Section 2(C)(1) of the TransNet Extension Ordinance, the City/County of [   ] certifies that no more than 30 percent of its annual revenues shall be spent on local street and road maintenance-related projects.

BE IT FURTHER RESOLVED that pursuant to Section 4(E)(3) of the TransNet Extension Ordinance, the City/County of [   ] certifies that all new projects, or major reconstruction projects, funded by TransNet revenues shall accommodate travel by pedestrians and bicyclists, and that any exception to this requirement permitted under the Ordinance and proposed shall be clearly noticed as part of the City/County of [   ]'s public hearing process.

BE IT FURTHER RESOLVED that pursuant to Section 8 of the TransNet Extension Ordinance, the City/County of [   ] certifies that the required minimum annual level of local discretionary funds to be expended for street and road purposes will be met throughout the 5-year period consistent with the most recent Maintenance of Effort Requirements adopted by SANDAG.

BE IT FURTHER RESOLVED that pursuant to Section 9A of the TransNet Extension Ordinance, the City/County of [   ] certifies that it will extract $2,209, plus all applicable annual increases, from the private sector for each newly constructed residential housing unit in that jurisdiction, and shall contribute such exactions to the Regional Transportation Congestion Improvement Program (RTCIP).
BE IT FURTHER RESOLVED that pursuant to Section 13 of the TransNet Extension Ordinance, the City/County of [ ] certifies that it has established a separate Transportation Improvement Account for TransNet revenues with interest earned expended only for those purposes for which the funds were allocated.

BE IT FURTHER RESOLVED that pursuant to Section 18 of the TransNet Extension Ordinance, the City/County of [ ] certifies that each project of $250,000 or more will be clearly designated during construction with TransNet project funding identification signs.

BE IT FURTHER RESOLVED that the City/County of [ ] does hereby certify that all other applicable provisions of the TransNet Extension Ordinance and SANDAG Board Policy No. 31 have been met.

BE IT FURTHER RESOLVED that the City/County of [ ] agrees to indemnify, hold harmless, and defend SANDAG, the San Diego County Regional Transportation Commission, and all officers and employees thereof against all causes of action or claims related to City/County of [ ]'s TransNet funded projects.

PASSED AND ADOPTED by the City/County of [ ] on the _____day of _____, 2014.
Relevant Sections of the *TransNet* Ordinance

Section 2(C)(1)

Local Street and Road Program:....In developing projects, “At least 70% of the revenues provided for local street and road purposes should be used to fund direct expenditures for construction of new or expanded facilities, major rehabilitation and reconstruction of roadways, traffic signal coordination and related traffic operations improvements, transportation-related community infrastructure improvements to support smart growth development, capital improvements needed to facilitate transit services and facilities, and operating support for local shuttle and circulator routes and other services. No more than 30% of these funds should be used for local street and road maintenance purposes. A local agency desiring to spend more than 30% of its annual revenues on local street and road maintenance-related projects shall provide justification to the Commission as part of its biennial project list submittal. The Commission shall review each local agency’s biennial project list submittal and make a finding of consistency with the provisions of this” (See Rule 18 of Board Policy 31)

Section 4(E)(3)

“All new projects, or major reconstruction projects, funded by revenues provided under this Ordinance shall accommodate travel by pedestrians and bicyclists, except where pedestrians and bicyclists are prohibited by law from using a given facility or where the costs of including bikeways and walkways would be excessively disproportionate to the need or probable use. Such facilities for pedestrian and bicycle use shall be designed to the best currently available standards and guidelines.” (see Rule 21 of Board Policy 31)

Section 6

PROJECT PROGRAMMING APPROVAL: “The Commission shall biennially approve a five-year project list and a biennial program of projects to be funded during the succeeding two fiscal years with the revenues made available under Section 4 herein. The program of projects will be prepared as part of the Regional Transportation Improvement Program (RTIP) process as required by state and federal law. A public hearing will be held prior to approval of the program of projects.” (see Rule 7 of Board Policy 31)

Section 8

MAINTENANCE OF EFFORT: “It is the intent of the Legislature, as stated in the Act, and the Commission that revenues provided from this measure be used to augment, not supplant existing local revenues being used for the purposes set forth in Section 4 herein. Each local agency receiving revenues pursuant to Section 4(D) shall annually maintain as a minimum the same level of local discretionary funds expended for street and road purposes on average over the last three fiscal years completed prior to the operative date of this Ordinance (Fiscal Years 2000-01, 2001-02, 2002-03), as was reported in the State Controller's Annual Report of Financial Transactions for Streets and Roads and as verified by an independent auditor. The maintenance of effort level as determined through this process shall be subject to adjustment every three
years based on the Construction Cost Index developed by Caltrans. Any increase in the
maintenance of effort level based on this adjustment shall not exceed the growth rate in the
local jurisdiction’s General Fund revenues over the same time period. The Commission shall not
allocate any revenues pursuant to Section 4(D) to any eligible local agency in any fiscal year
until that local agency has certified to the Commission that it will include in its budget for that
fiscal year an amount of local discretionary funding for streets and roads purposes at least
equal to the minimum maintenance of effort requirement. An annual independent audit shall
be conducted to verify that the maintenance of effort requirement for each agency was met.
Any local agency which does not meet its maintenance of effort requirement in any given year
shall have its funding under Section 4(D)(1) reduced in the following year by the amount by
which the agency did not meet its required maintenance of effort level. In the event that
special circumstances prevent a local agency from meeting its maintenance of effort
requirement, the local agency may request up to three additional fiscal years to fulfill its
requirement. Such a request must be approved by the Commission. The Independent Taxpayer
Oversight Committee shall also review such requests and make recommendations to the
Commission. Any local street and road revenues not allocated pursuant to the maintenance of
effort requirement shall be redistributed to the remaining eligible agencies according to the
formula described in Section 4(D)(1). The maintenance of effort requirement also shall apply to
any local agency discretionary funds being used for the other purposes specified under Section
4. In addition, revenues provided from this Ordinance shall not be used to replace other private
developer funding that has been or will be committed for any project.“(see Rule 22 of Board
Policy 31)

Section 9.

REGIONAL TRANSPORTATION CONGESTION IMPROVEMENT PROGRAM (RTCIP): A. New
Development Exactions: Starting on July 1, 2008, each local agency in the San Diego region
shall contribute $2,000 in exactions from the private sector, for each newly constructed
residential housing unit in that jurisdiction to the RTCIP. These exactions shall ensure future
development contributes its proportional share of the funding needed to pay for the Regional
Arterial System and related regional transportation facility improvements, as defined in San
Diego Association of Governments’ (SANDAG’s) most recent, adopted Regional Transportation
Plan. New residential housing units constructed for extremely low, very-low, low, and
moderate income households, as defined in California Health and Safety Code Sections 50105,
50106, 50079.5 and 50093, will be exempted from the $2,000 per unit contribution
requirement. The amount of contribution shall be increased annually, in an amount not to
exceed the percentage increase set forth in the Engineering Construction Cost Index published
by the Engineering News Record or similar cost of construction index. Each local agency shall
establish an impact fee or other revenue Funding Program by which it collects and funds its
contribution to the RTCIP. Each local agency shall be responsible for establishing a procedure
for providing its monetary contribution to the RTCIP. The RTCIP revenue will be used to
construct improvements on the Regional Arterial System such as new or widened arterials,
traffic signal coordination and other traffic improvements, freeway interchange and related
freeway improvements, railroad grade separations, and improvements required for regional
express bus and rail transit. This action is predicated on the desire to establish a uniform
mitigation program that will mitigate the regional transportation impacts of new development on the Arterial system.

While the RTCIP cannot and should not fund all necessary regional transportation network components and improvements, the RTCIP will establish a new revenue source that ensures future development will contribute its pro rata share towards addressing the impacts of new growth on regional transportation infrastructure.

B. Oversight, Audit and Funding Allocations

The Regional Transportation Congestion Improvement Program (RTCIP) shall be overseen by SANDAG and implemented by each local agency, with the objective of developing a consolidated mitigation program for the San Diego region as a funding source for the regional Arterial System. The RTCIP and each local agency’s Funding Program shall be subject to an annual review and audit to be carried out by the SANDAG and the Independent Taxpayers Oversight Committee, as defined in Section 11 of this Ordinance. Any local agency that does not provide its full monetary contribution required by Section (A) in a given fiscal year will not be eligible to receive funding for local streets and roads under section 4(D)(1) of the TransNet Ordinance for the immediately following fiscal year. Any funding not allocated under 4(D)(1) as a result of this requirement shall be reallocated to the remaining local agencies that are in compliance with this Section.

C. Implementation of the Regional Transportation Improvement Program (RTCIP)

Provisions for implementation of the RTCIP are described in the document titled “TransNet Extension Regional Transportation Congestion Improvement Program,” which is hereby incorporated by reference as if fully set forth herein. (See Rule 23 of Board Policy 31)
Project Description Guidelines for Capacity Increasing Projects

For the entire length of the project we need the existing and future geometrics for both the roadway and intersection details of the project:

<table>
<thead>
<tr>
<th>Surface Street</th>
<th>Freeway Ramp</th>
<th>Freeway</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Roadway Detail</strong></td>
<td># of Lanes by Direction (Indicate if One-Way Street)</td>
<td># of Mixed Flow Lanes</td>
</tr>
<tr>
<td></td>
<td>Posted Speed</td>
<td># HOV Lanes</td>
</tr>
<tr>
<td></td>
<td>Median Type</td>
<td>Direct Access Ramp</td>
</tr>
<tr>
<td></td>
<td>• Median</td>
<td>• Transit-Only</td>
</tr>
<tr>
<td></td>
<td>• Center Left Turn</td>
<td>• HOV &amp; Transit</td>
</tr>
<tr>
<td></td>
<td>• None</td>
<td>• Managed</td>
</tr>
<tr>
<td><strong>Intersection Detail</strong></td>
<td>Control Type</td>
<td>Additional to the detail from surface street, please add Ramp Meter</td>
</tr>
<tr>
<td></td>
<td>• Stop (2-Way, 4-Way)</td>
<td>• HOV Meter</td>
</tr>
<tr>
<td></td>
<td>• Signal</td>
<td>• Non-HOV Meter</td>
</tr>
<tr>
<td></td>
<td>• Unsignalized</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Approach Information (# of Lanes)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Left/Thru/Right</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Free Right</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Prohibited Turn</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Transit Lane</td>
<td></td>
</tr>
</tbody>
</table>

Project information exhibits can range from a simple hand drawn diagram to a CAD based diagram (see attached example). Information can be included in one exhibit or using several diagrams.

If the facility is new or is being realigned, please provide alignment routing along with the relevant information exhibits.
Technical Appendix 20
SANDAG Federal Congestion Management Process

Appendix Contents

Introduction ........................................... TA 20-2
Background .......................................... TA 20-2
Regional Transportation System .............. TA 20-2
Performance Monitoring ......................... TA 20-2
Multimodal Alternatives and Non-Single
Occupancy Vehicle Analysis ...................... TA 20-3
Land Use Impact Analysis......................... TA 20-5
Congestion Management Tools ................. TA 20-5
Regional/Federal Transportation
Improvement Program ........................... TA 20-6
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 2050 RTP meets the requirements of 23 CFR 450.320 by incorporating the following federal congestion management process; performance monitoring and measurement of the regional transportation system, multimodal alternatives and non-SOV analysis, land use impact analysis, the provision of congestion management tools, and 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 2050 Regional Transportation Plan (2050 RTP) includes a regional transportation system of highways, regional transit service, and regional arterials. Chapter 6 of the 2050 RTP provides a comprehensive overview of the components of systems development for the regional transportation network including the regional transit strategy, flexible roadway system, goods movement strategy, aviation and ground access, active transportation, and planning across borders components.

Performance Monitoring

The 2050 RTP 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. Chapter 7 of the 2050 RTP provides a comprehensive overview of systems management techniques including
performance monitoring. 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 and are not limited to monitoring:

- Freeway miles traveled per person during weekdays
- Percent of roadways traveled (freeways versus local roads) versus total lane miles (freeways versus local roads)
- 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 weekends
- Regional bottlenecks determined by annual freeway delay (vehicle hours) per lane mile
- Delay by freeway during commute periods
- Annual freeway delay by major corridor per traveler (estimated)

The State of the Commute Report is updated annually, while the RCP Monitoring Report is updated biennially.

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 annually.

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
regionwide study analysis through the RTP and RTIP, corridor study analysis, and local level analysis.

Regionwide Study Analysis

The RTP serves as the long-range transportation plan for the San Diego region. Updated every four years, the RTP incorporates recommendations from various corridor studies, transit studies, and project study reports. All projects, services, and programs are evaluated and prioritized for future funding. The RTP 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. Technical Appendices 3 and 4 provide a comprehensive overview of the development of the 2050 RTP transportation project evaluation criteria and plan performance measures and methodologies.

The RTIP serves as the short-term programming document that implements the RTP, and includes projects funded with federal, state, and local transportation funding. These projects include regionally significant capacity increasing projects (as identified in the RTP), 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 RTP 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 RTP.

Corridor Study Analysis

Corridor studies incorporate RTP 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), etc. 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 RTP. Examples of recent SANDAG corridor studies include:

- I-15 Managed Lanes Study
- I-5 South Multimodal Corridor Study
- SR 78 Corridor Study

Other corridor studies include transportation concept summaries (TCS) and project study reports (PSR) developed by Caltrans and corridor system management plans (CSMP) jointly developed by Caltrans and SANDAG. The development of PSRs informs the development of RTP priorities and RTIP programming. As highway projects are further developed through the environmental phase, viable multimodal alternatives are analyzed along with capacity enhancing alternatives.

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 2050 RTP 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, the County’s Referral Map draft land use plan of 2009 with adjustments to reflect habitat constraints, and draft general plan updates, as provided by the local land use authority. In many cases jurisdictions are moving forward with Smart Growth principles as outlined in the Regional Comprehensive Plan (RCP). SANDAG uses four models in its forecasts: (1) the Demographic and Economic Forecasting Model (DEFM), (2) the Interregional Commute Model (IRCM), (3) the Urban Development Model (UDM) and (4) the Transportation Forecasting Model. The 2050 RTP Technical Appendix 15 provides additional information specifically related to the SANDAG transportation modeling process.

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 RCP and 2050 RTP.

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 RCP and the 2050 RTP. In addition to the RCP and 2050 RTP, SANDAG provides resources for the evaluation of projects including:

- San Diego Region Aggregate Supply Study
- Designing for Smart Growth, Creating Great Places in the San Diego Region
- Planning and Designing for Pedestrians, Model Guidelines for the San Diego Region
- Trip Generation for Smart Growth
- Parking Strategies for Smart Growth
- Regional Multimodal Analysis Study

Congestion Management Tools

The 2050 RTP provides a variety of congestion management tools. Many of these tools and strategies are included within Chapters 6, 7, and 8 of the 2050 RTP. In addition to the 2050 RTP, the RCP 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
- Continue to develop and enhance active transportation through bicycle and
pedestrian facilities and bike lockers, and implementation of Regional Bicycle Plan

- Continue to develop and enhance safe routes to schools plans and strategies

TSM Measures

- Multimodal integration and performance based management including performance monitoring and real time modeling/simulation
- Traveler information
- Arterial management
- Freeway management
- 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
- Advanced technologies including wireless detection, real time multimodal modeling and simulation, etc.

TDM Measures

- iCommute – the regional TDM program
- TDM strategy – outreach, education, and financial incentives
- TDM programs including regional vanpool, carpool, buspool, school services (SchoolPool), telework and alternative work schedules, and bicycle encouragement programs, and multimodal solutions including first- and last-mile solutions, Compass Card integration, and 511 advanced traveler information services
- New directions including corridor approach and construction mitigation
- Performance monitoring

RCP Implementation Measures

- Outreach program
- Smart Growth Concept Map
- Visualization tools and photo library
- Smart growth design guidelines
- Smart growth trip generation/parking study
- Research on connections between public health, land use, and transportation
- Planning and designing for pedestrians
- TransNet Smart Growth Incentive Program (SGIP)
- 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 in the 2010 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
- RCP 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.
## Schedule for the 2014 Regional Transportation Improvement Program (RTIP) Update

<table>
<thead>
<tr>
<th>Due Dates</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>10-Jan</td>
<td>Memo to all jurisdictions regarding schedules/procedures for the 2014 RTIP process including:</td>
</tr>
<tr>
<td>30-Jan</td>
<td>Any new or updates to capacity increasing projects</td>
</tr>
<tr>
<td>30-Jan</td>
<td>Requests for long term borrowing</td>
</tr>
<tr>
<td>6-Feb</td>
<td>2014 RTIP Workshop at SANDAG</td>
</tr>
<tr>
<td>March</td>
<td>CTC adopts statewide 2014 STIP</td>
</tr>
<tr>
<td>5-Mar</td>
<td>Consultation with San Diego Conformity Working Group (CWG) on conformity criteria and procedures including: revenue-constrained program assumptions, latest planning assumptions, transportation control measures, emissions model, emissions budgets, exempt projects, consultation and public involvement.</td>
</tr>
<tr>
<td>14-Mar</td>
<td>All projects proposed for 2014 RTIP due in ProjectTrak including new/updates to Capacity Increasing projects.</td>
</tr>
<tr>
<td>28-Mar</td>
<td>Issue 2014 Project List to CWG for interagency consultation Non-Capacity Increasing (NCI) and Capacity Increasing (CI)</td>
</tr>
<tr>
<td>2-Apr</td>
<td>Discuss 2014 RTIP Project List at CWG meeting</td>
</tr>
<tr>
<td>11-Apr</td>
<td>Close of CWG project list interagency consultation (NCI and CI)</td>
</tr>
<tr>
<td>25-Apr</td>
<td>Complete coding of 2014 RTIP Capacity Increasing (CI) projects/review project submittals</td>
</tr>
<tr>
<td>9-May</td>
<td>Complete model runs of 2014 RTIP Capacity Increasing (CI) projects</td>
</tr>
<tr>
<td>14-May</td>
<td>Presentation at the Independent Taxpayer Oversight Committee (ITOC) to discuss draft projects and report</td>
</tr>
<tr>
<td>16-May</td>
<td>Issue 2014 RTIP draft Air Quality Conformity Analysis for 30-day CWG review and comment</td>
</tr>
<tr>
<td>4-Jun</td>
<td>Discuss 2014 RTIP draft Air Quality Conformity Analysis at CWG meeting</td>
</tr>
<tr>
<td>27-Jun</td>
<td>Signed resolutions with proof of public hearing due from all jurisdictions</td>
</tr>
<tr>
<td>16-Jun</td>
<td>30-day CWG comment period for 2014 RTIP draft Air Quality Conformity Analysis ends</td>
</tr>
<tr>
<td>23-Jun</td>
<td>Incorporate CWG comments for 2014 RTIP into revised draft Air Quality Conformity Analysis</td>
</tr>
<tr>
<td>9-Jul</td>
<td>ITOC reviews draft 2014 RTIP and provides comments</td>
</tr>
<tr>
<td>18-Jul</td>
<td>Transportation Committee recommends the release of draft 2014 RTIP including its draft Air Quality Conformity determination for public comment</td>
</tr>
<tr>
<td>25-Jul</td>
<td>Board requested to release the draft 2014 RTIP including its draft Air Quality Conformity determination for a 30-day public comment period; and set September 5, 2014 TC meeting to hold public hearing</td>
</tr>
<tr>
<td>25-Jul</td>
<td>SANDAG submits draft 2014 RTIP to state for review and comment</td>
</tr>
<tr>
<td>25-Aug</td>
<td>30-day comment period ends for draft 2014 RTIP including the draft Air Quality Conformity Analysis</td>
</tr>
<tr>
<td>5-Sep</td>
<td>Transportation Committee holds public hearing to review the draft 2014 RTIP including its Air Quality Conformity determination and recommends Final 2014 RTIP to the SANDAG Board for approval.</td>
</tr>
<tr>
<td>26-Sep</td>
<td>SANDAG Board asked to adopt the Final 2014 RTIP including its Air Quality Conformity</td>
</tr>
<tr>
<td>30-Sep</td>
<td>Deadline to submit Final 2014 RTIP to state</td>
</tr>
<tr>
<td>7-Oct</td>
<td>Start of state FSTIP Public Participation process</td>
</tr>
<tr>
<td>28-Oct</td>
<td>Close of state Public Participation process</td>
</tr>
<tr>
<td>14-Nov</td>
<td>FSTIP submittal to Federal Highway Administration (FHWA)/Federal Transit Administration (FTA)</td>
</tr>
<tr>
<td>17-Dec</td>
<td>Federal approval for FSTIP</td>
</tr>
</tbody>
</table>
Regional Transportation Congestion Improvement Program (RTCIP), an element of the TransNet Extension Ordinance, requires the 18 cities and the County of San Diego to collect an exaction from the private sector for each new housing unit constructed in their jurisdiction. The TransNet Extension Ordinance further requires SANDAG to adjust the RTCIP fee amount each year and requires the submittal of the RTCIP funding programs to the Independent Taxpayer Oversight Committee by April 1. The purpose of this annual adjustment is to ensure the RTCIP retains its purchasing power to improve the regional arterial system.

The most recent annual adjustment raised the minimum RTCIP exaction by 2 percent, from $2,165 to $2,209 beginning July 1, 2013. Staff evaluated construction cost trends and relevant indices, and based on this analysis, a 2 percent fee adjustment would be recommended to the Board of Directors for approval at its February 28, 2014, meeting. This would raise the minimum RTCIP exaction from $2,209 to $2,254 beginning July 1, 2014.

Discussion

Background

The purpose of the RTCIP is to help ensure future development contributes its proportional share of the funding needed to pay for the regional arterial system and related regional transportation facility improvements, as defined in the most recent Regional Transportation Plan adopted by SANDAG. The RTCIP funding programs fall under the responsibility of the 19 local jurisdictions, which have established these programs under the state’s Mitigation Fee Act. The jurisdictions must maintain their RTCIP funding programs and comply with specific administrative requirements in order to remain eligible for their TransNet local streets and road funding.

Section 9 of the TransNet Extension Ordinance requires the RTCIP exaction to be adjusted annually in an amount not to exceed the percentage increase set forth in the Engineering Construction Cost Index (CCI) published by the Engineering News Record (ENR), or a similar CCI. However, the ordinance also states that in no event shall the increase be less than 2 percent per year.
Analysis of Construction Cost Indices

The TransNet Extension Ordinance allows for flexibility in choosing an appropriate CCI, one that most closely reflects price trends experienced by the TransNet construction program over the past year. SANDAG staff evaluated changes recorded in the ENR CCI and the Caltrans statewide CCI. Each index collects a different set of cost factors to determine construction cost trends.

The ENR CCI represents an average from 20 cities across the nation and is based on monthly price changes in four areas: lumber, cement, structural steel, and labor. During 2013, the national ENR CCI rose 2.6 percent. One of the 20 cities tracked in the national index is Los Angeles. Los Angeles may reflect construction cost trends more similar to those in San Diego, which increased by 4.6 percent through December 2013 over the previous year. However, for Los Angeles most all of this change occurred during the last quarter of calendar year 2013 due to a 9.8 percent spike in construction cost trends recorded between September and October 2013. In other words, through the first three quarters of 2013, the ENR index for Los Angeles increased only 0.2 percent. In addition, since spiking in October 2013, the index has since declined by more than 5.1 percent.

The Caltrans CCI is based on quarterly price changes gathered from transportation project bids from throughout the state for earthwork, aggregate, concrete, asphalt, and steel. The Caltrans CCI rose 13.3 percent over the past year. The Caltrans CCI exhibited a similar, although more volatile, trend than the ENR CCI for Los Angeles. Through the third quarter of 2013, the Caltrans CCI had increased 6.6 percent, and then spiked 30 percent in the last quarter of 2013. Thus, both the ENR and Caltrans CCI indicate increasing construction cost volatility beginning to occur in the state and nation.

Based on staff’s evaluation, the Caltrans CCI has experienced significant fluctuations based on large swings in the price bids for excavation, aggregate, and cement. The ENR CCI for Los Angeles is being driven up somewhat by a 4 percent increase in lumber costs, while the costs of other materials (steel, cement) have risen about 1 percent in the last year, and labor costs have been rising about 2 percent on a year-over-year basis. According to the ENR analysis of these construction cost trends, there may be some price rise spillover occurring from the rebounding housing market for materials and labor that are relied on by various areas of construction. These overlapping trends could be what caused the Los Angeles CCI to spike during October 2013. The general consensus is that the accelerating construction cost trends picked up in both the Los Angeles and Caltrans CCI will not continue, but instead moderate during the coming year (2014).

In light of this evaluation of construction cost trends during 2013, staff is recommending that the ENR CCI for Los Angeles through the third quarter of 2013 be used to set the increase for the RTCIP fee, as required by the TransNet Extension Ordinance. During the first three quarters of 2013, the ENR CCI for Los Angeles increased 0.2 percent; however, the ordinance requires a minimum annual fee adjustment of 2 percent. A 2 percent increase would raise the RTCIP fee to $2,254 starting July 1, 2014.

Next Steps

The annual RTCIP fee adjustment report is scheduled for presentation to the SANDAG Board on February 28, 2014. Staff will provide an update on the Board’s final action at the March 6, 2014, CTAC meeting.

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                  Ariana zur Nieden, (619) 699-6961, ariana.zurnieden@sandag.org
SAN DIEGO FORWARD: THE REGIONAL PLAN: File Number 3311100
EMERGING TECHNOLOGIES WHITE PAPER

Introduction

SANDAG is preparing a white paper on Emerging Technologies as part of the process for San Diego Forward: The Regional Plan. Staff will present a proposed white paper outline (Attachment 1) and solicit CTAC input and feedback on the proposed topics and content.

Discussion

Emerging Technology is an exciting and ever-changing field. The white paper is in a formative stage and will discuss technologies that the region has influence over, including roadway, transit, payment systems, and traveler information. The white paper will explore how the region can use these technologies to increase the efficiencies and effectiveness of transportation modes while increasing safety and decreasing energy use and greenhouse gases. The outline of the Emerging Technologies white paper is included as Attachment 1.

Additionally, the Emerging Technologies white paper will explore those technologies that have influences on how we will live, work, and play in the future. Although SANDAG and the region are not tasked with implementing this area of emerging technology, these technologies will shape our lives in the future. Therefore, it is from a planning approach that we look at how overall technology trends have impact on our transportation systems and travel demand.

Lastly, staff is seeking input for both the white paper as well as the region’s overall use of technology. To that end, staff has been working with both internal and external resources to identify emerging technologies, the potential impact of those technologies, and finally, policy considerations to maximize the positive application of both transportation systems as well as general technology trends. Attachments 2 and 3 comprise a graphical representation of those types of technologies as well as a table detailing each of the technologies applications. This vision, which staff also is seeking input on, will be fully developed in the Regional Plan.

Attachments: 1. Emerging Technologies White Paper Outline
2. Future ITS Mobility Solutions
3. Emerging Technologies Table

Key Staff Contact: James Dreisbach-Towle, (619) 699-1914, james.towle@sandag.org
Emerging Technology

I. Introduction

The field of Emerging Technology is exciting and ever-changing. This paper will explore the field of Emerging Technology specifically as it effects and influences transportation infrastructure. Additionally, this paper will discuss technology trends and how those trends, albeit not transportation specific, affect our ever day lives. Technology influences where we work and live, how we communicate with each other, and the personal choices we make.

Personal technology has changed the landscape in the last 5 to 10 years and has started to significantly deliver the ability to access the ‘virtual’ office, classroom, and doctor’s office to name just a few. Today’s world of universal communication and instant access to information paints a picture of what our future holds.

These advances have the potential to reduce travel demand by reducing the need to make as many trips to work, school, or to medical appointments. Technology can help reduce single occupancy trips; however, there also is the potential that technologies such as the autonomous vehicle could increase trips by increasing the audience who has access to so-called self-driving cars.

This paper will explore vehicle technology, infrastructure or roadway technology, as well as personal technology all from a planning perspective to inform the public and policy makers on investments, policies, and timing so that as a regional we all can make informed choices that will shape our future.

II. Intelligent Transportation Systems

Intelligent Transportation Systems (ITS) is the application of technology to transportation systems, including vehicles, roadways, intersections, transit, and traveler information, with the goal of maximizing efficiency of those services while increasing vehicle throughput, reducing congestion, and providing decision quality information to the commuting public. Information that influences transportation choices across all modes of travel.

The SANDAG ITS Program is divided into three areas of emphasis:

- **Planning** – Both long range, and at the project level, including Performance Monitoring and Management
- **Implementation** – Stand-alone projects, as integrated into a larger capital improvement
- **Operations** – Facilitate the integration of new ITS systems into ongoing operations and maintenance

A. ITS Planning/Transportation System Performance Monitoring and Management

A fundamental emerging technological need that remains constant during regional transportation planning cycles is determining if the region is maximizing the benefits of transportation project improvements. To assess and realize the progress and
transportation performance benefits of existing and planned project investments, requires the application of a comprehensive and sound statistical evidence gathering and analytical process to determine facts, trends, quality of services, and optimal system efficiency. Under Transportation System Management, this is achieved through Transportation System Performance Monitoring and Management.

ITS Planning places emphasis on two key areas improving data collection, analysis, and management for: (1) transportation performance monitoring and (2) transportation system performance management. These program areas are key to Mobility, Reliability, and System Preservation Regional Transportation Plan Goals.

**Transportation Performance Monitoring**

Getting the most out of our transportation investments requires monitoring the system’s performance, to: (1) provide current and ongoing information on how well the transportation system is performing; (2) identify opportunities for near-term improvements; and (3) assess the impacts of future improvements. Priority activities for improving performance monitoring are focused on continued development for enhancing this regions ability to automate the data collection, data analysis, and data management systems for all modal networks regardless of data collection technology. Transportation System Performance Monitoring is rather guided by the following principles:

- Improved Traveler Information – Focus on the regions ability to provide better information on speeds, travel times, or congestion-related information to the motoring public
- Improved Performance Monitoring and Reporting – Focus on enhancing support for ongoing or new efforts that support and align with local, regional, and federal performance monitoring and reporting programs and initiatives
- Transportation performance monitoring needs to be automated and uniformed across networks. This will reduce costs and provide more frequent data collection and allow for data collection, analysis, and reporting to be consistent year to year
- Transportation performance monitoring needs to reflect the multimodal nature of our transportation system by focusing on all modes of travel
- Data availability, accuracy, and management should be carried out to supplement and support ongoing performance management and operations efforts, including the development of decision support systems and real-time proactive corridor management approach

**B. Implementation and Project Delivery**

Project Delivery or Implementation follows System Engineering Principals and accepted project management process as detailed by the Project Management Institute.
C. ITS Operations

SANDAG ITS has deployed several modal programs, systems, and regional communications networks that transition from implementation into normal or pilot operations. These systems require ongoing support for operations, administration, and maintenance to ensure that the systems perform as expected and deliver mobility services to the public.

Due to the fluid nature of public demand for real time traveler information, there is a requirement to maintain high availability, robust systems in a 24x7 posture. To accomplish this, ITS operations develops support plans, best practices, documentation, and administration strategies while the project transitions from implementation to production. Once proper administration tools and practices are applied, the completed project can be supported by a traditional information technology department, and thus, transferred to the appropriate support team within the regional network of partners.

III. Technology’s Influence on Emergent Technologies

- Roadway/Transit
- Arterial
- Payment
- Traveler Information

IV. Policies and Investments

- Transportation Demand Management and Transportation System Management
- Active Transportation
- Parking and Pricing Strategies

V. Technology Trends

- Virtual Office
- Parking Guidance
- Shared-use Vehicles
- Connected Vehicles, Autonomous Vehicles, Automated Vehicles
- Smart Roads/Intersections
- Personal/Wearable Technology

VI. Conclusions and Recommendations
Existing, Emerging, and Advanced Transportation Technologies

Attachment 2

40
# Existing, Emerging, and Advanced Transportation Technologies

## Research for Possible Inclusion & Application to Regional Plan Land Use and Transportation Scenarios

### A. Roadway Capacity Strategies

<table>
<thead>
<tr>
<th>Transportation Technology</th>
<th>Application to GHG Reduction</th>
<th>When?</th>
<th>Model Application (Y/N)</th>
<th>Primary Responsible Party</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Vehicle Automation/ Semi-Automation</td>
<td>Less Stop-N-Go/Reduced Idling</td>
<td>Near*, Mid, and Long-Term</td>
<td>Y</td>
<td>Public/Private</td>
<td>Vehicles are partially or fully automated or able to navigate without human input improving roadway performance and safety</td>
</tr>
<tr>
<td>2. Real-Time Traveler Information Via Personal Devices</td>
<td>Fewer SOV Trips More Bike/Walk Trips More Transit/Carpool/Vanpool</td>
<td>Near-Term*</td>
<td>Y</td>
<td>Public/Private</td>
<td>Provides real-time traveler and parking information, available on-the-fly, to influence mode choice, route choice and time of travel,</td>
</tr>
<tr>
<td>3. Arterial, Freeway, and Transit management system</td>
<td>Fewer SOV Trips Less Stop-N-Go/Reduced Idling More Transit/Carpool/Vanpool</td>
<td>Near-Term*</td>
<td>Y</td>
<td>Public</td>
<td>Extension of the Integrated Corridor Management concept for real time and multi-agency congestion management to proactively improve mobility and corridor travel efficiency</td>
</tr>
<tr>
<td>4. Green GPS Fleet Tracking Systems</td>
<td>Fewer SOV Trips Less Stop-N-Go/Reduced Idling</td>
<td>Near-Term</td>
<td>N</td>
<td>Public</td>
<td>Reduces GHG emissions and operating costs by using real-time tracking to monitor fuel consumption, route efficiency, etc.</td>
</tr>
<tr>
<td>5. Corridor Level Signal Timing</td>
<td>Less Stop-N-Go/Reduced Idling</td>
<td>Near-Term*</td>
<td>Y</td>
<td>Public</td>
<td>Improvements to real-time data collection and arterial management, operations, and coordination.</td>
</tr>
<tr>
<td>6. Dynamic Lanes on Arterials to Support HOV Access</td>
<td>Fewer SOV Trips Less Stop-N-Go/Reduced Idling More Bike/Walk Trips More Transit/Carpool/Vanpool</td>
<td>Near-Term*</td>
<td>Y</td>
<td>Public</td>
<td>Infrastructure and lane control that enables arterial lanes to be switched on-the-fly from general purpose, to HOV use, for certain time periods or based on demand</td>
</tr>
<tr>
<td>7. Smart Intersections</td>
<td>Less Stop-N-Go/Reduced Idling More Bike/Walk Trips</td>
<td>Near-Term*</td>
<td>N</td>
<td>Public</td>
<td>Improvements to intersection infrastructure to allow real-time and pro-active signal timing operations and support Multi-Agency Arterial Management. Improved mobility and efficiency</td>
</tr>
</tbody>
</table>
### B. Vehicle and Personal Strategies

<table>
<thead>
<tr>
<th>Transportation Technology</th>
<th>Application to GHG Reduction</th>
<th>When</th>
<th>Model Application (Y/N)</th>
<th>Primary Responsible Party</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Car Sharing</td>
<td>Fewer SOV Trips</td>
<td>Near-Term</td>
<td>Y</td>
<td>Public/Private</td>
<td>Reduced vehicle trips</td>
</tr>
<tr>
<td></td>
<td>More Bike/Walk Trips</td>
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<td></td>
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<tr>
<td></td>
<td>More Transit/Carpool/Vanpool</td>
<td></td>
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<tr>
<td></td>
<td>Increased Fuel Efficiency</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2. Variable Speed Limits</td>
<td>Less Stop-N-Go/Reduced Idling</td>
<td>Near-Term*</td>
<td>Y</td>
<td>Public</td>
<td>Speed limits vary in real-time to respond to congestion levels and roadway conditions to maintain smooth and consistent traffic flow</td>
</tr>
<tr>
<td>on Freeway Network</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3. Personal Technology</td>
<td>Fewer SOV Trips</td>
<td>Mid, Long-Term</td>
<td>Y</td>
<td>Public/Private</td>
<td>Transit ticketing via personal devices; trip-tracking and reward reclamation via personal devices</td>
</tr>
<tr>
<td></td>
<td>More Bike/Walk Trips</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>More Transit/Carpool/Vanpool</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Universal Transportation Account (UTA)</td>
<td>Fewer SOV Trips</td>
<td>Near-Term*</td>
<td>Y</td>
<td>Public</td>
<td>Fully integrated account for accessing all transportation services (transit, bikeshare, carshare, bikelockers, FasTrak, vanpool etc).</td>
</tr>
<tr>
<td></td>
<td>More Bike/Walk Trips</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>More Transit/Carpool/Vanpool</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. On the Fly Trip Planning and Ride Matching</td>
<td>Fewer SOV Trips</td>
<td>Near-Term</td>
<td>N</td>
<td>Public/Private</td>
<td>- Multi-modal trip planning and ridematching in real-time via personal devices enabling travelers to find a ride, where and when they need it, using the mode and time that fits best</td>
</tr>
<tr>
<td></td>
<td>More Bike/Walk Trips</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>More Transit/Carpool/Vanpool</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Enhanced Virtual Office/Telework</td>
<td>Fewer SOV Trips</td>
<td>Near-Term</td>
<td>N</td>
<td>Private</td>
<td>Expansion of virtual collaboration technologies that facilitate telework</td>
</tr>
<tr>
<td></td>
<td>More Bike/Walk Trips</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>More Transit/Carpool/Vanpool</td>
<td></td>
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</tr>
</tbody>
</table>
## C. Infrastructure Strategies

<table>
<thead>
<tr>
<th>Transportation Technology</th>
<th>Application to GHG Reduction</th>
<th>When?</th>
<th>Model Application (Y/N)</th>
<th>Primary Responsible Party</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Automated Truck Corridors</td>
<td>Less Stop-N-Go/Reduced Idling Increased fuel efficiency</td>
<td>Near-Term</td>
<td>N</td>
<td>Private</td>
<td>Hybrid, fuel-cell, battery, corridor-level, etc. for energy efficiency</td>
</tr>
<tr>
<td>2. Alternative Fueling Stations</td>
<td>Increased Fuel Efficiency</td>
<td>Near-Term</td>
<td>N</td>
<td>Private</td>
<td>Fuels under CA’s Low Carbon Fuel Standard</td>
</tr>
<tr>
<td>3. Solar Highways and parking lots</td>
<td>Increased Fuel Efficiency</td>
<td>Long-Term</td>
<td>N</td>
<td>Public</td>
<td>Road surfaces and parking lots that generate electricity by solar power</td>
</tr>
<tr>
<td>4. Eco-Driving</td>
<td>Less Stop-N-Go/Reduced Idling</td>
<td>Mid-Term</td>
<td>N</td>
<td>Public/Private</td>
<td>Technologies that control and maintain vehicle speed for optimal fuel efficiency and reduced carbon emission</td>
</tr>
<tr>
<td>5. Mobility Hub – Shared Vehicles</td>
<td>Fewer SOV Trips More Bike/Walk Trips More Transit/Carpool/Vanpool Increased Fuel Efficiency</td>
<td>Mid-Term</td>
<td>N</td>
<td>Public/Private</td>
<td>Interconnected “mobility hubs,” integrate regional transit services with communities. Mobility hubs provide a source of shared vehicles and services including cars, neighborhood electric vehicles, personal electric vehicles, and bicycles, along with supporting amenities and technologies.</td>
</tr>
<tr>
<td>6. Electric Vehicle En-Route Charging</td>
<td>Increased Fuel Efficiency</td>
<td>Near-Term</td>
<td>N</td>
<td>Public/Private</td>
<td>Transition to fully electric bus/vehicle fleets</td>
</tr>
<tr>
<td>7. Electric Vehicle Charging Stations</td>
<td>Increased Fuel Efficiency</td>
<td>Near-Term</td>
<td>N</td>
<td>Public/Private</td>
<td>Expansion of efficient vehicle charging stations to support an increase in electric cars and light duty trucks</td>
</tr>
<tr>
<td>8. Rail Technologies</td>
<td>Less Stop-N-Go/Reduced Idling</td>
<td>Near-Term</td>
<td>N</td>
<td>Public/Private</td>
<td>Electric catenary rail systems, dual-mode locomotives, etc.</td>
</tr>
<tr>
<td>9. Bike Sharing or Other Shared Services</td>
<td>Fewer SOV Trips More Bike/Walk Trips More Transit/Carpool/Vanpool Increased Fuel Efficiency</td>
<td>Near-Term</td>
<td>N</td>
<td>Public/Private</td>
<td>Expand shared transportation services such public bike and car sharing and peer-to-peer carsharing.</td>
</tr>
</tbody>
</table>

**” Included in the Intelligent Transportation System for the San Diego Region (SANDAG)
Near-Term = 2013-2020; Mid-Term = 2020-2030; Long-Term = 2030-2050**
Active Transportation Program (ATP)
The draft Program Guidelines, which includes a list of major milestones, can be viewed at:

http://www.catc.ca.gov/programs/ATP.htm

National Highway System (NHS)
The existing National Highway System (NHS) has been expanded to include all Principal Arterials. (i.e. Functional Classifications 1, 2 and 3) to the new Enhanced NHS. More detailed information can be found in the Caltrans Local Assistance weblink:

http://dot.ca.gov/hq/tsip/hseb/map21nhs.html

MAP-21 Legislation:

http://www.fhwa.dot.gov/map21/legislation.cfm

The only official functional classification for Federal Aid Funding can be found on the California Road System (CRS Maps) displayed on the website below:

http://www.dot.ca.gov/hq/tsip/hseb/crs_maps/

Agencies needing support for removing a principal arterial from being upgraded to NHS standards can get guidance on how to change the functional classification of a principal arterial by contacting:

Navneet Singh (Branch Chief) at (916) 654-6585 or navneet.singh@dot.ca.gov.

Southern California Local Assistance Meeting (SCLAM)
The meeting will be held in the District 7 District Offices, located in Los Angeles, on Thursday, April 3, 2014 from 9:00 to 3:00.

Regarding the agenda, please send potential subjects you would like to discuss to heather.cheynex@dot.ca.gov by Thursday March 6, 2014, so we may add them to the agenda.
SAVE THE DATE
Southern California Local Assistance Management (SCLAM) Meeting

Welcome to Caltrans District 7 (Los Angeles and Ventura Counties)

Please Join Us on Thursday, April 3, 2014, from 9:00 AM to 3:00 PM
Caltrans, District 7 at 100 S. Main Street, CA 90012 (Room 1.040)

Please send R.S.V.P. to Linda Taira at linda.taira@dot.ca.gov, by Friday, March 28, 2014