MEETING NOTICE AND AGENDA

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

Thursday, December 7, 2006
9:30 to 11:30 a.m.

SANDAG, Conference Room 8A
401 B Street, Suite 800
San Diego, CA 92101-4231

Chair: Greg Humora, City of La Mesa
Vice Chair: Richard Leja, City of San Diego

Staff Contact: Richard Chavez
(619) 699-6989
(619) 699-1905 fax
rch@sandag.org

AGENDA HIGHLIGHTS

• TransNet EXTENSION BICYCLE AND PEDESTRIAN PROVISIONS
• UPDATE ON THE IMPLEMENTATION OF THE REGIONAL HOUSING NEEDS ASSESSMENT (RHNA) BOARD POLICY NO. 033
• 2007 RTP WHITE PAPER: EMERGING TECHNOLOGIES IN TRANSPORTATION
• 2007 RTP WHITE PAPER: INTERREGIONAL TRANSPORTATION

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<th>ACTION</th>
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<td>1.</td>
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<td>INTRODUCTIONS</td>
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| 2.    | APPROVE | MEETING SUMMARY  (Greg Humora)  
The meeting summary for the November 2, 2006, meeting is attached. CTAC is asked to review and approve the meeting summary. |
| 3.    |        | PUBLIC COMMENTS |
| 4.    | APPROVE | TransNet EXTENSION BICYCLE AND PEDESTRIAN PROVISIONS  (Stephan Vance)  
The TransNet Extension ordinance that takes effect in FY 2009 requires accommodations for bicycle and pedestrian traffic in most TransNet-funded projects. This report presents a draft policy and guidelines for the implementation of that provision for review and comment by CTAC. |
| 5.    | INFORMATION | UPDATE ON THE IMPLEMENTATION OF THE REGIONAL HOUSING NEEDS ASSESSMENT (RHNA) BOARD POLICY NO. 033  (Susan Baldwin/Chris Kluth)  
The attached letter was sent to the planning/community development directors (with copies to the city managers and public works directors) as a reminder that the RHNA Board Policy will be used in the allocation process for the 2008 Transportation Development Act (TDA) and TransNet Bicycle and Pedestrian funds. The call for projects for these funds will be e-mailed to each jurisdiction’s Bicycle/Pedestrian Working Group representative and posted on SANDAG’s Web site on January 8, 2007. Applications will be due on February 5, 2007. |
| 6.    | DISCUSSION | 2007 REGIONAL TRANSPORTATION PLAN (RTP) WHITE PAPER: EMERGING TECHNOLOGIES IN TRANSPORTATION  (Samuel Johnson, Linda Culp)  
A number of white papers are being developed for the 2007 Comprehensive RTP. This paper describes the major trends and technologies in transportation. Vehicle Infrastructure Integration, alternative fuels, and capacity projects are focal points. CTAC is asked to provide comments on the attached white paper as part of the development of the 2007 RTP. |
| 7.    | DISCUSSION | 2007 REGIONAL TRANSPORTATION PLAN (RTP) WHITE PAPER: INTERREGIONAL TRANSPORTATION  (Heather Werdick)  
A number of white papers are being developed for the 2007 Comprehensive RTP. This paper describes current interregional travel patterns, discusses projected growth in interregional trips and implications for interregional travel, and identifies issues and potential solutions for evaluation. CTAC is asked to provide comments on the attached white paper as part of the development of the 2007 RTP. |
8. ANNOUNCEMENTS
CTAC members are encouraged to share items of interest.

9. UPCOMING MEETING
The next CTAC meeting is scheduled for Thursday, January 4, 2007, from 9:30 to 11:30 a.m.

+ next to an agenda item indicates an attachment
MEETING SUMMARY OF NOVEMBER 2, 2006

Results of the meeting are summarized as follows.

Introductions

Greg Humora (Chair) chaired the meeting. Meeting attendees introduced themselves.

Approval of Meeting Summary

The meeting summary from the October 5, 2006, CTAC meeting was approved.

Public Comments

There were no comments from the public.

Local TransNet Revenues

Richard Chavez (SANDAG) presented two tables, one showing past TransNet revenues and the other showing projected TransNet revenues through 2048. Mr. Chavez stated that the updated TransNet revenues projection expected next month would probably be lower, up to 15 percent lower, than the current table. This was due to a lower future population projection. Bob Johnson (Carlsbad) asked what the total TransNet revenue projection was. Mr. Chavez stated that currently it was $14 billion in 2002 dollars.

Caltrans Local Assistance

Erwin Gojuangco (Caltrans) distributed and presented the updated Caltrans District 11 organizational chart and announced that Caltrans would be hosting a series of partnering meetings with local agencies. A number of suggestions were made regarding format and structure for these meetings.

Regional Arterial System Update

Heather Werdick (SANDAG) presented the process for updates to the Regional Arterial System. She distributed the October 24, 2006, memo that had previously been mailed to CTAC members.
Requests for additions and deletions are due on December 15, 2006. The required accompanying resolution of support is due by January 19, 2007. CTAC members asked if there was any leeway for the January 19 deadline. Ms. Werdick stated that she could work with individual agencies on a case-by-case basis if additional time was needed. Agencies would need to let her know ahead of the deadline if additional time was needed.

Announcements

Fred Luedtke (Escondido) announced that the City of Escondido would be hiring a Principal Engineer in the near future. Frank Rivera (Chula Vista) stated that the City of Chula Vista had recently hired Scott Tulloch as its new City Engineer.

Upcoming Meeting

The Chair announced that the next meeting is scheduled for December 7, 2006.
December 7, 2006

AGENDA ITEM NO.: 4

Action Requested: APPROVE

TransNet EXTENSION BICYCLE AND PEDESTRIAN PROVISIONS File Number 3000800

Introduction

When voters in the San Diego Region approved the extension of the TransNet program in November 2005, they approved two significant changes to the transportation sales tax ordinance related to bicycle and pedestrian transportation. They increased the amount of funding from $1 million per year for bicycle projects and programs to 2 percent of the revenues per year for bicycle, pedestrian, and neighborhood safety projects. They also approved a provision in the ordinance that requires all new projects or major reconstruction projects funded under the TransNet program to appropriately accommodate bicycle and pedestrian traffic. This report presents draft guidelines for implementation of this second provision. Procedures for making funding recommendations under the expanded scope of projects will be developed in the coming fiscal year.

Recommendation

The Cities/County Transportation Advisory Committee (CTAC) is asked to comment on the draft the procedures for implementing provisions in the TransNet Extension that require accommodation of bicycle and pedestrian traffic in TransNet-funded projects as described in the attachment to this report.

Discussion

Section 4(E)(3) of the TransNet ordinance extension reads:

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 cost 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.

This provision addresses an action item from the 2003 Regional Transportation Plan, MOBILITY 2030, which requires SANDAG to develop guidelines to ensure all regionally-funded transportation projects preserve or enhance non-motorized access (See MOBILITY 2030, Chapter 6, Action Item 31). It also is a key implementation item from the 2004 Regional Comprehensive Plan
(RCP) in that it contributes to providing transportation choices, one of the essential ingredients of the smart growth development called for in the RCP.

Implementation of Section 4(E)(3) requires policies and procedures on three main points:

- What constitutes adequate accommodation for pedestrian and bicycle travel?
- When is the cost of accommodating bicyclists and pedestrians too expensive for the anticipated use?
- What are the best available standards to which projects must be designed?

In answering these questions, SANDAG’s administrative process should clearly define the roles of the state, local agencies, and SANDAG, including its working groups, policy advisory committees, and the Board. Attachment 1 to this report presents draft policy and procedural guidelines that address these issues.

**Adequate Accommodation.** What constitutes appropriate facilities for pedestrian and bicycle traffic is largely dependent upon context. What is adequate on a residential street is different from what would work on a major arterial, and what is sufficient in a rural setting is much different from an urban one. Consequently, the attached policy includes a matrix of appropriate facility types for different road types and settings. The bicycle and pedestrian accommodation measures in that matrix were developed based on existing practices within the region.

In addition to the difference between urban and rural, a distinction can be made between conventional urban and suburban development, and the kind of development envisioned in the smart growth areas called for in SANDAG’s RCP. This distinction is important because smart growth areas, more than conventional settings, depend on providing a variety of attractive transportation alternatives. The attached guidelines do not address this distinction, however. This is a topic that will be addressed in the development of smart growth urban design guidelines that SANDAG is about to undertake.

**Reasonable Cost.** The question of reasonable cost is really a question of expected demand. Even at very low cost, it probably does not make sense to require a sidewalk along the side of a road if there is little reason to expect pedestrian traffic there. Streets along steep slopes or along freeway rights-of-way are examples of where this could apply. On the other hand, the street should provide for bicycle and pedestrian traffic if at all possible where there is a demonstrated existing or planned need. In making this determination, the need for access to and from public transit must be considered.

Because bicycle traffic is permitted on all roadways except some freeways and because the range of the bicyclist is much greater than a pedestrian’s, it is not practical to say a section of road would not attract bicycle traffic. Even so, there may be circumstances where providing the recommended facility would be excessively costly or undesirable because of the impact on adjacent land uses through loss of property or degraded pedestrian access, to name just two examples. In those cases, alternate routes with appropriate accommodation that are in close proximity to the project can provide a reasonable alternative. However, the presence of an acceptable alternative route should not relieve the agency from providing the appropriate bicycle facility when cost and right-of-way are not an undo constraint.
The federal guidelines on the provision of bicycle and pedestrian facilities recommend that these facilities should always be provided unless the cost of doing so exceeds 20 percent of the total project cost. The draft policy and guidelines for the TransNet ordinance do not propose a cost limit because staff believes there could be circumstances where 20 percent of the project cost would clearly be an excessive amount to spend. At the same time, on some smaller projects, 20 percent may not be enough to fund needed improvements.

The approach taken in the draft policy and guidelines is to make the decisions as to when a cost is too high a policy decision. The policy and guidelines are based on the assumption that bicyclists and pedestrians will be provided in nearly all settings, and that the conditions under which they would not would, in most cases, be self-evident. In those cases where an agency proposed not to provide the appropriate bicycle or pedestrian facilities, the proposed administrative procedures would require the agency to state so explicitly in its public hearing on the projects, and to notify SANDAG so that decisions could be reviewed by both stakeholders and policymakers.

**Design Standards.** An adequate design standard for bicycle facilities is available in Chapter 1000 of the California Highway Design Manual (HDM). Since this is a recognized institutional standard for bikeway design, all bikeway improvements constructed under the TransNet program should conform to Chapter 1000 of the HDM.

No similar state guidelines exist for pedestrian facilities. However, the American Association of State Highway Transportation Officials (AASHTO) publishes the Guide for the Planning, Design, and Operation of Pedestrian Facilities, which provides reasonable and widely recognized design standards. SANDAG has published Planning and Designing for Pedestrians, but that document was developed as a reference manual, not as a design standard.

**Next Steps.** The draft policy and guidelines are currently under review by SANDAG staff and the Bicycle-Pedestrian Working Group. They will also be presented to the Independent TransNet Oversight Committee in the coming months. Once comments have been received from each of these groups, staff will prepare a final draft for consideration by the SANDAG Transportation Committee. That committee would make a recommendation to the Board of Directors, who have the responsibility for approving all policies related to the TransNet program. Once the policy and guidelines are approved, they would be used in all future cycles of the TransNet Programs of Projects.

Attachment

Key Staff Contact: Stephan Vance, (619) 699-1924, sva@sandag.org

Attachment: Accommodating Bicyclists and Pedestrians under the TransNet Extension Ordinance
BACKGROUND

Section 4(E)(3) of the TransNet Ordinance states:

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.

WHAT CONSTITUTES ADEQUATE ACCOMMODATION OF BICYCLISTS AND PEDESTRIANS

Adequate provisions for bicycle and pedestrian travel is determined within the context of the roadway type, its existing and planned surrounding land uses, existing bicycle and pedestrian plans, and current or planned public transit service. When addressing the access needs dictated by land use, the responsible agency must consider demand created by current and expected land uses (as determined by the local general plan) within the useful life of the TransNet project. Table 1 provides appropriate facility types for each transportation facility type and land use context. In the table, “urban” means within the urbanized area as defined by U.S. Census Bureau.

<table>
<thead>
<tr>
<th>Context/Facility Type</th>
<th>Bicycle Measures</th>
<th>Pedestrian Measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urban Highway</td>
<td>• Required facility type will be based on the recommendations for any regional bikeway corridors in urban highway alignments developed through the 2007 Regional Bicycle Plan. Pending completion of this plan, appropriate bicycle accommodation will be developed on a project by project basis by local and regional authorities in consultation with appropriate stakeholders. • Freeway interchanges may not eliminate existing bikeways or preclude planned bikeways on local streets and roads.</td>
<td>• Continuous sidewalks and marked crosswalks through freeway interchanges where sidewalks exist or are planned on the intersecting roadway. • Where new freeway construction severs existing pedestrian access, grade separated pedestrian crossings with no less than 0.3 mile between crossings.</td>
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<tr>
<td>Context/Facility Type</td>
<td>Bicycle Measures</td>
<td>Pedestrian Measures</td>
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<tr>
<td>Transit Project</td>
<td>• Bicycle lockers and racks at stations sufficient to meet normal expected demand</td>
<td>• Direct sidewalk connections between station platforms and adjacent roadway sidewalks</td>
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<td></td>
<td>• Bicycle access to all transit vehicles except those providing exclusive paratransit service to the disabled as required by the Americans with Disabilities Act.</td>
<td>• Pedestrian crossings where a new transit way severs existing pedestrian access with no less than 0.3 miles between crossings.</td>
</tr>
<tr>
<td></td>
<td>• Transit priority measures on roadways may not prevent bicycle access.</td>
<td></td>
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<tr>
<td>Major Urban Street</td>
<td>• Class 2 bike lanes.</td>
<td>• Continuous sidewalks, both sides of the street with marked crosswalks at traffic controlled intersections.</td>
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<td></td>
<td></td>
<td>• ADA compliant bus stop landings for existing and planned transit service.</td>
</tr>
<tr>
<td>Urban Collector Street</td>
<td>• Class 2 bike lanes</td>
<td>• Continuous sidewalks, both sides of the street with marked crosswalks at traffic controlled intersections.</td>
</tr>
<tr>
<td>(design speed &gt;30 mph)</td>
<td></td>
<td>• ADA compliant bus stop landings for existing and planned transit service.</td>
</tr>
<tr>
<td>Urban Collector Street</td>
<td>• Shared roadway. Where average daily motor vehicle traffic exceeds 5,000, the outside travel lane should be at least 14 feet wide.</td>
<td>• Continuous sidewalks both sides of the street</td>
</tr>
<tr>
<td>(design speed ≤ 30 mph)</td>
<td></td>
<td>• ADA compliant bus stop landings for existing and planned transit service.</td>
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<tr>
<td>Urban Residential Street</td>
<td>• Shared roadway</td>
<td>• Continuous sidewalks both sides of the street</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• ADA compliant bus stop landings for existing and planned transit service.</td>
</tr>
<tr>
<td>Rural Highway</td>
<td>• Minimum 8-foot paved shoulder</td>
<td>• ADA compliant bus stop landings for existing bus stops.</td>
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Table 1

<table>
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<tr>
<th>Context/Facility Type</th>
<th>Bicycle Measures</th>
<th>Pedestrian Measures</th>
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<tr>
<td>Rural Collector Road</td>
<td>• Minimum 8-foot paved shoulder</td>
<td>• Not required with no fronting uses</td>
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<td></td>
<td></td>
<td>• Paved or graded walkway consistent with community character on streets with</td>
</tr>
<tr>
<td></td>
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<td>fronting uses.</td>
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<td></td>
<td></td>
<td>• ADA compliant bus stop landings for existing bus stops.</td>
</tr>
<tr>
<td>Rural Local Road</td>
<td>• Minimum 6-foot paved shoulder</td>
<td>• Not required with 85&lt;sup&gt;th&lt;/sup&gt; percentile speeds ≤ 25 mph</td>
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<tr>
<td></td>
<td></td>
<td>• Paved or graded walkway consistent with community character on streets with</td>
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<td>fronting uses and 85&lt;sup&gt;th&lt;/sup&gt; percentile speeds &gt; 25 mph.</td>
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<td></td>
<td></td>
<td>• ADA compliant bus stop landings for existing bus stops.</td>
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**Best Available Standards**

All bicycle facilities must be designed to the standards established in the California Highway Design Manual, Chapter 1000. Bicycle parking facilities should conform to the guidelines established in the Regional Bicycle Plan adopted by SANDAG. Shared roadways on collector streets should have a curb lane or curb lane plus shoulder that measures at least 14 feet. Where parallel parking is in place, consideration should be given to installing the shared lane pavement marker. All sidewalks must be designed consistent with the design standards established in the AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities and the Department of State Architect’s California Access Compliance Reference Manual and the US Department of Transportation’s ADA Accessibility Guidelines for Buildings and Facilities (ADAAG). Consistency with the design recommendations in SANDAG’s Planning and Designing for Pedestrians is encouraged.

**Bicycle and Pedestrian Accommodation in Reconstruction Projects**

Street and road reconstruction is the time to re-evaluate the function of a road and its context, and to reallocate the right of way if appropriate to meet the needs of bicyclists and pedestrians. An agency is not required to acquire additional right of way to improve bicycle and pedestrian access. However, the agency should consider reduced motor vehicle lanes and lane widths, and reduced median widths as a means of providing the appropriate bicycle or pedestrian facility.
When Provisions for Bicyclists and Pedestrians Accommodation May Be Excluded

Section 4(E)(3) is based on the premise that pedestrians and bicyclists need safe and convenient access to the same destinations as other users of the public right of way. Consequently, those portions of the transportation network where pedestrians and bicyclists need not be accommodated are the exception, and the decision not to provide for them in a construction or major reconstruction project must be made by the responsible agency for good cause. Any impacts on the roadway’s motor vehicle capacity that result from providing for pedestrian and bicycle access would not, in themselves, justify excluding bicycle and pedestrian facilities. However, these impacts and their mitigation costs should be considered in determining if the cost of providing the facilities is disproportionate to the probable use.

This provision only requires an agency to provide appropriate bicycle or pedestrian facilities that are within the construction or reconstruction area of the project.

The cost of providing for bicycle and pedestrian access can vary significantly relative to the overall project cost. For this reason, specifying a proportional or absolute limit on spending for bicycle or pedestrian improvements relative to probable use would not allow the kind of discretion necessary to make a significant investment in facilities when necessary, or to withhold an investment when the benefits are marginal. Therefore, the decision to exclude accommodations for bicyclist and pedestrians must be a policy-level decision made by the Board or city council based on the body of information about context, cost, and probable use available at the time. Such a decision must be made in the public hearing required by Section 5(A) of the Ordinance.

Pedestrian Access. Sidewalks or other walkways may be excluded from a project when it can be demonstrated that there are no uses (including bus stops) that would create demand for pedestrian access. In making this determination, the agency must consider the potential for future demand within the useful life of the project. Access to and from public transit, including crossing improvements, also must be considered and accommodated where there is existing or planned transit service.

Bicycle Access. A new project or major reconstruction project may not include the expected bikeway treatment when a suitable parallel route with the appropriate accommodations exists that would require no more than ¼-mile total out of direction travel.

Procedures for Excluding Accommodations for Pedestrians and Bicyclists from Projects

When an agency determines not to include bikeways or walkways in a project because the cost of doing so would be excessively disproportionate to the need or probable use, the agency must include a notice of that decision in the notice of the public hearing required by Sections 5(A) and Section 6 of the ordinance. In submitting the project to SANDAG for inclusion in the TransNet Program of Projects, the agency must notify SANDAG that expected bicycle and/or pedestrian facilities will not be included in the project along with written justification for that decision. The decision and justification would be subject to review and comment by SANDAG through the Bicycle-Pedestrian Working Group, which would forward its comments to the SANDAG Transportation Committee. The Transportation Committee, in approving the TransNet Program of Projects would either concur with the decision not to provide bicycle or pedestrian facilities, or the project would not be eligible for funding under the TransNet Program.
Ms. Sandy Holder  
Community Development Director  
City of Carlsbad  
1635 Faraday Avenue  
Carlsbad, CA 92008

Dear Ms. Holder:

SUBJECT: Regional Housing Needs Assessment (RHNA) Board Policy No. 033

As you know, on April 28, 2006, the SANDAG Board of Directors adopted Board Policy No. 033 entitled: Implementation Guidelines for SANDAG Regional Housing Needs Assessment Memorandum.

This policy sets forth guidelines for incentives related to the Regional Housing Needs Assessment (RHNA) for the 2005-2010 housing element cycle, which was adopted by the SANDAG Board on February 25, 2005. As part of the approval of the Final RHNA for the San Diego region, the Board agreed to grant certain financial incentives to jurisdictions that provide a greater share of affordable housing now and in the future.

Board Policy No. 033 identifies the funding programs that will be subject to the RHNA policy, the housing element-related eligibility requirements for the funding programs affected by the policy, and how incentive points will be allocated based upon lower income housing production.

I am sending you this letter to remind you about the Board Policy and the eligibility guidelines that jurisdictions will need to meet when applying for the 2008 Transportation Development Act (TDA) and TransNet Bicycle and Pedestrian funds. SANDAG will be sending you a letter in early January with the call for projects for these funds, and applications will be due on February 5, 2007.

In order to be eligible for these funds, prior to the application due date jurisdictions will need to:

1. have adopted a housing element that has been found in compliance with state law by the California Department of Housing and Community Development (HCD) or self-certified (Section 2.4.2 of Policy No. 033);
2. have submitted information regarding the actual production of housing units in all four income categories (very low, low, moderate, and above moderate) (Sections 2.4.3 and 2.4.3.1); and

3. have provided information regarding progress toward complying with any rezoning programs contained in your housing element that are required to meet the adequate site identification requirements of state law (Sections 2.4.3 and 2.4.3.1).

To help you provide this information, we have prepared the attached brief questionnaire (Attachment 1). Board Policy No. 033 also is attached (Attachment 2).

Please let me or Susan Baldwin (619-699-1943) know if you have any questions.

Sincerely,

BOB LEITER
Director of Land Use and Transportation Planning

BL/SB/cd/sgr

Attachments: 1. Housing Element and RHNA Production Questionnaire
2. Board Policy No. 033: Implementation Guidelines for SANDAG Regional Housing Needs Assessment Memorandum

cc: Mr. Ray Patchett, City Manager
Mr. Glenn Pruim
1. Has your jurisdiction adopted a housing element that has been found in compliance with state law by the California Department of Housing and Community Development (HCD) or self-certified?
   
   Yes ☐    No ☐

2. If your answer to Question 1 was “Yes,” please provide the date of adoption and the date of the letter of compliance from HCD, or the date of the self-certification of compliance letter submitted to HCD.

   If your answer to Question 1 was “No,” what is the anticipated date of adoption?

3. Please provide the number of new housing units that were constructed during the first year of the housing element cycle (July 1, 2005, to June 30, 2006) by income category. Units reported should have a certificate of occupancy or final inspection.

   a. Number of units affordable to very low income households (<50% AMI): ______
   b. Number of units affordable to low income households (50-80% AMI): ______
   c. Number of units affordable to moderate income households (80-120% AMI): ______
   d. Number of units affordable to above moderate income households (+120% AMI): ______

4. Does your housing element contain a rezoning program to meet the adequate site identification requirements of state law?

   Yes ☐    No ☐

5. If the answer to Question 4 was “Yes,” please provide information on the progress made toward implementing this program in accordance with the schedule contained in your housing element.
IMPLEMENTATION GUIDELINES FOR SANDAG REGIONAL HOUSING NEEDS ASSESSMENT MEMORANDUM

Purpose

The purpose of this policy is to provide guidelines on the implementation of the memorandum adopted by the SANDAG Board of Directors on February 25, 2005, in association with the adoption of the 2005-2010 Regional Housing Needs Assessment (RHNA) (Attachment 1, referred to herein as the “Memorandum”). The Memorandum laid out specific provisions regarding SANDAG’s allocation of discretionary funding to local agency projects in relation to local jurisdiction housing element compliance and lower income housing production.

These implementation guidelines restate the provisions of the Memorandum and define how they will be implemented. The numbered italicized wording in this Policy is taken verbatim from the Memorandum; the implementation guidelines are contained in the text that follows. This policy shall be reviewed and evaluated annually to determine whether changes to the guidelines are needed. Issues to be considered during the annual review include, but are not limited to: lessons learned during the prior year, the relationship between the RHNA memorandum and SANDAG’s smart growth goals, and new funding sources proposed to be subject to the memorandum.

Pilot Smart Growth Implementation Program

1. Jurisdictions whose 1999 lower income households as a percentage of total households is estimated to be greater than the regional average shall receive 15 bonus points (out of 100 possible) for projects requesting funding through the Pilot Smart Growth Incentive Program. (This would include National City, El Cajon, Imperial Beach, Lemon Grove, La Mesa, Escondido, Vista, Chula Vista, San Diego, and San Marcos.)

   1.1 This provision of the Memorandum has been implemented. The Pilot Smart Growth Incentive Program criteria, which were approved by the SANDAG Board on April 22, 2005, included the required bonus points for the cities noted above (22 points out of 147 points – 15 percent of the total points awarded).

Future Discretionary Funding Criteria

2. In addition to the current Pilot Smart Growth Incentive Program, for all future discretionary funding allocated to local agency projects by SANDAG (following the adoption by jurisdictions of housing elements for 2005-2010), the following criteria shall apply:

   a. In order to qualify for such funding, a jurisdiction will be required to demonstrate that it is in compliance with provisions of its adopted housing element which set forth their commitment to providing adequate multi-family zoned land or other actions necessary to accommodate their share of lower income housing under the adopted RHNA.
b. Incentive points (a minimum of 25 points out of 100 possible) will be given to projects in jurisdictions in which lower income housing units are being produced in accordance with the housing unit figures contained in Alternative 3.

c. In order to verify compliance with these provisions, each jurisdiction shall annually submit a report to SANDAG indicating its progress in complying with requirements of its housing element, as well as actual production of housing units within its jurisdiction by income category, during the preceding year.

2.1 To implement Items 2.a. – 2.c. of the Memorandum, “discretionary funding allocated to local agency projects by SANDAG” shall be defined as: funds allocated by SANDAG to local jurisdictions (the cities or County) through a competitive process. These funds are listed in Attachment 2 and include the TransNet Smart Growth Incentive Program, Transportation Development Act (TDA) Non-motorized Program, and TransNet Bicycle Program, among others.

2.2 The following types of funding shall not be subject to the provisions of the Memorandum:

   2.2.1 Formula funds allocated by population or number of miles, because they are not allocated on a competitive basis.

   2.2.2 Discretionary funds allocated to Caltrans, the two transit agencies, and SANDAG because they are not local agencies.

   2.2.3 Funds allocated directly by Caltrans to local jurisdictions because SANDAG is not involved in their allocation.

   2.2.4 Funds which can be allocated to entities other than local jurisdictions (e.g., TransNet Environmental Mitigation Program Regional Habitat Conservation Fund).

   Attachment 3 provides a more detailed list of funding sources/programs that shall not be subject to the Memorandum.

2.3 As new funding sources become available, the Board of Directors shall decide whether they should be subject to the Memorandum and this Policy shall be amended.

2.4 To be eligible to apply for future discretionary funding allocated by SANDAG to local agency projects, local jurisdictions shall do the following:

   2.4.1 During the first year of the housing element cycle (July 1, 2005 – June 30, 2006), a jurisdiction shall have submitted a draft of its housing element to HCD or have self-certified its housing element in compliance with state law by the due date for the grant application. This screening criterion shall apply for any discretionary funding programs subject to the Memorandum whose application due date is between July 1, 2005, and December 31, 2006.
2.4.2 Starting January 1, 2007, jurisdictions shall be required to have adopted housing elements (which have been found in compliance with state law by HCD or self-certified). Also, those jurisdictions that were not able to identify adequate sites to meet their RHNA goals and were required to include a program in their housing elements to identify additional sites by rezoning must be able to demonstrate that they are making progress toward implementing the rezoning program in conformance with the schedule contained in their housing elements. "Making progress" toward implementing the rezoning program is defined as having demonstrated a good faith effort in undertaking the rezoning program described in the housing element.

2.4.3 Starting in 2006, jurisdictions shall be required to submit an annual report with the information described in Section 2.4.3.1 below in order to be eligible for funding programs for the following calendar or fiscal year, whichever is applicable. The report must be have been submitted to SANDAG prior to the application due date for the funding source. The first annual reports are due on October 1, 2006, and cover the first year of the 2005-2010 housing element cycle (July 1, 2005 - June 30, 2006). Starting in 2007, the reports will be due on April 1 per Senate Bill 253 (Torlakson), which changed the reporting time frame to the calendar year and the reporting due date to April 1 of each following year.

2.4.3.1 The annual report shall provide information regarding the actual production of housing units by all four income categories (very low, low, moderate, and above moderate). If the report is submitted for the first time in years two, three, four, or five of the housing element cycle, it shall include the total number of units produced by income category during each year of the housing element cycle. The report also shall indicate (if relevant) progress toward complying with any rezoning programs contained in the housing element that are required to meet the adequate site identification requirements of state law (as noted in paragraph 2.4.2 above).

2.5 Memorandum Item 2.b. ties the allocation of funding to the production of lower income housing through the award of incentive points based on the number of lower income housing units produced in accordance with RHNA Alternative 3 (Attachment 4).

2.5.1 Production of lower income housing units will be evaluated and points awarded for each application for discretionary funds based on the percentage of lower income (total very low and low combined) units that were produced in the jurisdiction. The number of lower income units will be calculated for each year on a cumulative basis, and compared to annualized RHNA Alternative 3 numbers. An example of the methodology to calculate the incentive points is shown in Attachment 5. Units shall be counted based on certificates of occupancy or final inspection. Lower income units that were acquired and rehabilitated may only count toward the RHNA Alternative 3 goals when this type of unit was used to meet the site identification requirements for the RHNA numbers as permitted in state law.

Attachments: 1. February 25, 2005, RHNA Memorandum to SANDAG Board of Directors
2. Discretionary Funding Programs Subject to Board RHNA Memorandum
3. Funding Programs Not Subject to Board RHNA Memorandum
4. Final Regional Housing Needs Assessment Modified Alternative 1 (Adopted RHNA) and Alternative 3
5. Hypothetical Example of Allocation of Incentive Points

Adopted April 2006
February 25, 2005

TO: SANDAG Board of Directors
FROM: Mayor Lori Pheiler, Mayor Steve Padilla, and Councilmember Jim Madaffer
SUBJECT: Agenda Item No. 12 – Final Regional Housing Needs Assessment (RHNA)

Our regional housing needs are significant – both now and in the future. Addressing these needs is often a complex process when dealing with the varied interests of the cities in our region. We are committed to doing everything we can to address our regional housing needs. Recognizing the differences between the cities, we are proposing an incentive-based compromise to the RHNA Modified Alternative 1. Simply put, for those cities that are willing and able to accommodate additional housing, those cities should be compensated through incentives that would help improve existing as well as future infrastructure.

We recommend the Board approve Modified Alternative 1, with the following provisions:

1. Jurisdictions whose 1999 lower income households as a percentage of total households is estimated to be greater than the regional average (Attachment 2, Column 1) shall receive 15 bonus points (out of 100 possible) for projects requesting funding through the Pilot Smart Growth Incentive Program. (This would include National City, El Cajon, Imperial Beach, Lemon Grove, La Mesa, Escondido, Vista, Chula Vista, San Diego, and San Marcos.)

2. In addition to the current Pilot Smart Growth Incentive Program, for all future discretionary funding allocated to local agency projects by SANDAG (following the adoption by jurisdictions of housing elements for 2005-2010), the following criteria shall apply:

   a. In order to qualify for such funding, a jurisdiction will be required to demonstrate that they are in compliance with provisions of their adopted housing element which set forth their commitment to providing adequate multi-family zoned land or other actions necessary to accommodate their share of lower income housing under the adopted RHNA.

   b. Incentive points (a minimum of 25 points out of 100 possible) will be given to projects in jurisdictions in which lower income housing units are being produced in accordance with the housing unit figures contained in Alternative 3 (Attachment 2, Column 13).

   c. In order to verify compliance with these provisions, each jurisdiction shall annually submit a report to SANDAG indicating their progress in complying with requirements of their housing element, as well as actual production of housing units within their jurisdiction by income category, during the preceding year.
### DISCRETIONARY FUNDING PROGRAMS

**SUBJECT TO BOARD RHNA MEMORANDUM**

(LOCAL JURISDICTION PROJECTS)

<table>
<thead>
<tr>
<th>Funding Program</th>
<th>Total Funding</th>
<th>Timeframe Available</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Current</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Federal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Transportation Enhancements (TE) Program - Pilot Smart Growth Incentive Program</td>
<td>$19.1 M</td>
<td>FY 2006 to FY 2010</td>
</tr>
<tr>
<td></td>
<td>$6.4 M</td>
<td>FY 2010 to FY 2011</td>
</tr>
<tr>
<td><strong>State</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Transportation Development Act (TDA) Article 3 - Non-motorized Program</td>
<td>$2.4 M (FY 2006 allocation)</td>
<td>Annual apportionments</td>
</tr>
<tr>
<td></td>
<td>$2.5 M (FY 2007 allocation)</td>
<td></td>
</tr>
<tr>
<td><strong>Local</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- TransNet Bicycle Program</td>
<td>$3 M</td>
<td>$1 M annually from 2006 to 2008</td>
</tr>
<tr>
<td><strong>Future</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Federal</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- To be determined (TBD)</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td><strong>State</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td><strong>Local</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- TransNet Bicycle, Pedestrian and Neighborhood Safety Program</td>
<td>$280 M*</td>
<td>2009 to 2048</td>
</tr>
<tr>
<td>- TransNet Smart Growth Incentive Program</td>
<td>$285 M*</td>
<td></td>
</tr>
<tr>
<td>- TransNet Senior Transportation Mini-grant Program</td>
<td>$73 M*</td>
<td></td>
</tr>
<tr>
<td><strong>Regional Rail Grade Separation Program (Funding source TBD)</strong></td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td></td>
<td>$100 M in Revenue Constrained</td>
<td></td>
</tr>
<tr>
<td></td>
<td>$200 M in MOBILITY 2030 Plan</td>
<td></td>
</tr>
</tbody>
</table>

* In 2002 dollars

---

1 In prior funding cycles, the SANDAG Board of Directors has allocated funding to local jurisdictions through a competitive process for Regional Arterial System, Traffic Signal Optimization, Highway Noise Barrier, Regional Bikeway, and Transportation Enhancements programs. To the extent that such competitive funding programs are made available in the future, they would be subject to the Board RHNA memorandum.
<table>
<thead>
<tr>
<th>Current Funding Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Federal</strong></td>
</tr>
<tr>
<td>• Regional Surface Transportation Program (RSTP)²</td>
</tr>
<tr>
<td>• Congestion Mitigation &amp; Air Quality (CMAQ)²</td>
</tr>
<tr>
<td>• Transportation Enhancement (TE) Program²</td>
</tr>
<tr>
<td>• Federal Transit Administration (FTA) Urbanized Area Formula Program (Section 5307)</td>
</tr>
<tr>
<td>• FTA Fixed Guideway Modernization Program (Section 5309 Rail Mod)</td>
</tr>
<tr>
<td>• FTA Section 5310 Elderly &amp; Disabled Program</td>
</tr>
<tr>
<td><strong>State</strong>²</td>
</tr>
<tr>
<td>• State Transportation Improvement Program (STIP) – Regional Improvement Program (RIP)²</td>
</tr>
<tr>
<td>• STIP – Interregional Improvement Program (IIP)</td>
</tr>
<tr>
<td>• State Highway Operation and Protection Program (SHOPP)</td>
</tr>
<tr>
<td>• TDA Article 4 – General Public Transit Services (Fixed Transit Route Services)</td>
</tr>
<tr>
<td>• TDA Article 4.5 – Community Transit Service (Accessible Service for the Disabled)</td>
</tr>
<tr>
<td>• TDA Article 8 – Special Provisions (Express Bus and Ferry Services)</td>
</tr>
<tr>
<td>• TDA Planning and Administration</td>
</tr>
<tr>
<td>• State Transit Assistance (STA)</td>
</tr>
<tr>
<td><strong>Local</strong></td>
</tr>
<tr>
<td>• TransNet Highway Program</td>
</tr>
<tr>
<td>• TransNet Transit Program</td>
</tr>
<tr>
<td>• TransNet Local Streets &amp; Roads Program</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Future Funding Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Federal</strong> – same as current programs above</td>
</tr>
<tr>
<td><strong>State</strong> – same as current programs above</td>
</tr>
<tr>
<td><strong>Local</strong></td>
</tr>
<tr>
<td>1. TransNet Congestion Relief Program – Major Transportation Corridor Improvements</td>
</tr>
<tr>
<td>a. Highway &amp; transit capital projects</td>
</tr>
<tr>
<td>b. Operating support for bus rapid transit (BRT) &amp; rail transit capital improvements</td>
</tr>
<tr>
<td>2. TransNet Congestion Relief Program – Transit System Services Improvements &amp; Related Programs</td>
</tr>
<tr>
<td>3. TransNet Congestion Relief Program – Local System Improvements &amp; Related Programs</td>
</tr>
<tr>
<td>a. Local Street &amp; Road Program</td>
</tr>
<tr>
<td>4. Environmental Mitigation Program (EMP)²</td>
</tr>
<tr>
<td>5. TransNet Administration and Independent Taxpayer Oversight Committee (ITOC)</td>
</tr>
</tbody>
</table>

¹ There are a variety of federal and state discretionary funding programs allocated directly by Caltrans that provide funding to local jurisdictions (e.g., Highway Bridge Repair & Replacement [HBRR], Safe Routes to School, etc.). Because SANDAG does not have decision-making authority over these funding programs, they would not be subject to the Board RHNA memorandum.

² With the exception of the EMP funds, these funds (STIP-RIP, RSTP, CMAQ, TE) are being used to match the TransNet Early Action Program (EAP) and other high priority regional projects. If, however, some portion of these funds were allocated by the SANDAG Board of Directors to local jurisdictions through a competitive process, they would be subject to the Board RHNA memorandum and this policy.
## Final Regional Housing Needs Assessment
### Modified Alternative 1 (Adopted RHNA) and Alternative 3

<table>
<thead>
<tr>
<th>Regional Share</th>
<th>Modified Alternative 1**</th>
<th>Alternative 3***</th>
<th>Draft RHNA Allocation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Very Low</td>
<td>Low</td>
<td>Moderate</td>
</tr>
<tr>
<td>Carlsbad</td>
<td>8,376</td>
<td>1,922</td>
<td>1,460</td>
</tr>
<tr>
<td>Chula Vista</td>
<td>17,224</td>
<td>3,875</td>
<td>2,945</td>
</tr>
<tr>
<td>Coronado</td>
<td>64</td>
<td>14</td>
<td>11</td>
</tr>
<tr>
<td>Del Mar</td>
<td>25</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>El Cajon</td>
<td>621</td>
<td>86</td>
<td>75</td>
</tr>
<tr>
<td>Encinitas</td>
<td>1,712</td>
<td>392</td>
<td>299</td>
</tr>
<tr>
<td>Escondido</td>
<td>2,437</td>
<td>548</td>
<td>417</td>
</tr>
<tr>
<td>Imperial Beach</td>
<td>87</td>
<td>13</td>
<td>9</td>
</tr>
<tr>
<td>La Mesa</td>
<td>396</td>
<td>89</td>
<td>68</td>
</tr>
<tr>
<td>Lemon Grove</td>
<td>242</td>
<td>46</td>
<td>32</td>
</tr>
<tr>
<td>National City</td>
<td>319</td>
<td>18</td>
<td>39</td>
</tr>
<tr>
<td>Oceanside</td>
<td>6,423</td>
<td>1,445</td>
<td>1,098</td>
</tr>
<tr>
<td>Poway</td>
<td>1,242</td>
<td>285</td>
<td>216</td>
</tr>
<tr>
<td>San Diego - Original</td>
<td>45,741</td>
<td>10,292</td>
<td>7,822</td>
</tr>
</tbody>
</table>

### Units to/from Unincorporated Area

<table>
<thead>
<tr>
<th>San Diego - Original</th>
<th>45,741</th>
</tr>
</thead>
<tbody>
<tr>
<td>Units to/from</td>
<td>San Diego - Revised*</td>
</tr>
<tr>
<td></td>
<td>45,741</td>
</tr>
<tr>
<td>Units to/from</td>
<td>Unincorporated Area - Original</td>
</tr>
<tr>
<td></td>
<td>12,358</td>
</tr>
<tr>
<td>Units to/from</td>
<td>Unincorporated Area - Revised*</td>
</tr>
<tr>
<td></td>
<td>12,358</td>
</tr>
<tr>
<td>Units to/from</td>
<td>San Diego Region</td>
</tr>
<tr>
<td></td>
<td>107,301</td>
</tr>
</tbody>
</table>

Note: Some jurisdiction allocations by income category were adjusted slightly to ensure that regional income category percentages provided by the California Department of Housing and Community Development (HCD) -- 22.5 percent very low income, 17.1 percent low income, 18.9 percent moderate income, and 41.5 percent above moderate income -- were met.

*Adjusted to reflect transfer of lower income units from Unincorporated Area to City of San Diego.

**Modified Alternative 1 was approved by the SANDAG Board on February 25, 2005.

***Alternative 3 is referenced in the memorandum approved by the SANDAG Board in conjunction with the approval of the Final RHNA.

Totals may be affected by rounding.

March 18, 2005
**Example**

**Hypothetical Allocation of Incentive Points**

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Alt. 3 – Low/Very Low Income Units</th>
<th>Annual Number Year 1</th>
<th>Number Produced Year 1**</th>
<th>Percentage of Alt. 3 Year 1**</th>
<th>Incentive Points**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carlsbad</td>
<td>4,322</td>
<td>864</td>
<td>300</td>
<td>35%</td>
<td>9</td>
</tr>
<tr>
<td>Chula Vista</td>
<td>6,322</td>
<td>1,264</td>
<td>632</td>
<td>50%</td>
<td>13</td>
</tr>
<tr>
<td>Escondido</td>
<td>845</td>
<td>169</td>
<td>127</td>
<td>75%</td>
<td>19</td>
</tr>
<tr>
<td>Imperial Beach</td>
<td>22</td>
<td>4</td>
<td>4</td>
<td>100%</td>
<td>25</td>
</tr>
<tr>
<td>San Diego</td>
<td>17,739</td>
<td>3,548</td>
<td>1,419</td>
<td>40%</td>
<td>10</td>
</tr>
<tr>
<td>San Marcos</td>
<td>2,400</td>
<td>480</td>
<td>288</td>
<td>60%</td>
<td>15</td>
</tr>
<tr>
<td>Unincorporated County</td>
<td>4,758</td>
<td>952</td>
<td>400</td>
<td>42%</td>
<td>11</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Alt. 3 – Low/Very Low Income Units</th>
<th>Cum. Annual Number Year 2</th>
<th>Cum. Number Produced Year 2**</th>
<th>Percentage of Alt. 3 Cum. Year 2**</th>
<th>Incentive Points Year 2**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carlsbad</td>
<td>4,322</td>
<td>1,728</td>
<td>400</td>
<td>23%</td>
<td>6</td>
</tr>
<tr>
<td>Chula Vista</td>
<td>6,322</td>
<td>2,528</td>
<td>832</td>
<td>33%</td>
<td>8</td>
</tr>
<tr>
<td>Escondido</td>
<td>845</td>
<td>338</td>
<td>253</td>
<td>75%</td>
<td>19</td>
</tr>
<tr>
<td>Imperial Beach</td>
<td>22</td>
<td>8</td>
<td>22</td>
<td>275%</td>
<td>25</td>
</tr>
<tr>
<td>San Diego</td>
<td>17,739</td>
<td>7,096</td>
<td>3,500</td>
<td>49%</td>
<td>12</td>
</tr>
<tr>
<td>San Marcos</td>
<td>2,400</td>
<td>960</td>
<td>960</td>
<td>100%</td>
<td>25</td>
</tr>
<tr>
<td>Unincorporated County</td>
<td>4,758</td>
<td>1,904</td>
<td>500</td>
<td>28%</td>
<td>7</td>
</tr>
</tbody>
</table>

* 7.5 year number in RHNA Alternative 3 may be modified based on 5-year number included in local housing elements.

** These percentages and numbers are hypothetical for the purpose of explaining the methodology.
2007 REGIONAL TRANSPORTATION PLAN (RTP) WHITE PAPER:
EMERGING TECHNOLOGIES IN TRANSPORTATION
File Number 3000400

Introduction

SANDAG has identified several key components to be developed for the 2007 Regional Transportation Plan (RTP). For each of these areas, staff is preparing a white paper to generate discussion and gather input from SANDAG’s technical committees and working groups. The Emerging Technologies in Transportation white paper describes the major trends and technologies in transportation. Vehicle Infrastructure Integration, alternative fuels, and capacity projects are focal points. Recommendations from this paper will help shape the 2007 RTP in terms of which technologies are discussed and also calls for monitoring emerging technologies as a precursor to future RTP updates.

Discussion

Technological advances are keys to achieving our regional mobility goals. Vehicle Infrastructure Integration (VII) is a set of applications and emerging technologies that create a wireless internet for vehicles and roadside transportation. VII applications include elements of the Automated Highway System and Intelligent Vehicle technologies, which were demonstrated in the San Diego region starting in the 1990s.

A number of emerging technologies are designed to add capacity to our transportation system, including magnetic levitation, personal rapid transit and group rapid transit, and other conceptual systems. Many are high-speed, grade-separated systems that offer alternatives to our traditional modes of public transportation.

This white paper evaluates these major trends and technologies as possible contributors to the region’s long-range transportation goals over the next 30 years and beyond. Major technologies are discussed, including issues, policy implications, and recommendations for the 2007 RTP and future analysis.

Attachment: 1. Emerging Technologies In Transportation White Paper

Key Staff Contacts: Linda Culp, (619) 699-6957, lcu@sandag.org
Samuel Johnson, (619) 699-6958, sjo@sandag.org
INTRODUCTION

Technology is key to achieving our regional mobility goals, to both add capacity and to maximize the efficiency, utilization, and safety of our current system. Technology is always changing and key developments that are emerging are worth an initial evaluation in the San Diego region. Many times, public agencies are constrained by funds or overly-cautious of being on the leading edge of technology, which can be perceived as non-responsive to technological advancements.

Technology systems and software can play a key role in getting the most out of the system and various emerging technologies have generated substantial support as having the potential to significantly augment transportation approaches and designs for systems management. The most compelling set of applications and emerging technologies for the transportation industry are bundled under the category of Vehicle Infrastructure Integration (VII). VII essentially creates a “wireless Internet” for vehicles and roadside elements, such as traffic sensors and signals, to communicate and exchange data with each other.

There also are new developments such as alternative fuels that also can maximize our current transportation system potential. We are well aware of the increased popularity of hybrid vehicles. There also are next-generation, hybrid technology transit vehicles in use in Europe and plans to introduce them in the United States.

A number of emerging technologies are designed to add capacity to our transportation system, including magnetic levitation (Maglev) systems, other people-mover technologies such as Personal Rapid Transit (PRT) and Group Rapid Transit (GRT), monorails, and many other ideas that are at the conceptual stage. Many are high-speed, grade-separated, high-capacity systems aimed at competing with the automobile and offer an alternative to our traditional modes of public transportation.

This paper evaluates these major trends and technologies as possible contributors to the region’s long-range transportation goals over the next 30 years and beyond. Three main types of technologies are discussed: VII, Alternative Fuels, and Capacity Systems. Issues, policy implications, and recommendations for the 2007 RTP and future analysis also are discussed.

OBJECTIVES FOR 2007 RTP

The objectives of this white paper for the 2007 RTP are:

- Identify and plan for improvements necessary to support regional goals for transportation monitoring and management through VII.

- Assess the current state of technologies that add capacity to the transportation system and include key alternatives to be discussed in the RTP.

- Develop a list of conceptual systems to be monitored for possible inclusion in future RTPs.
Background

Vehicle Infrastructure Integration (VII)

The objective of VII is to deliver a communications network that delivers safety, traffic, and traveler applications by enabling vehicle to infrastructure and vehicle to vehicle communications. Although the U.S. Department of Transportation (DOT) formally adopted the VII initiative in 2004, the underlying concepts are derived from the Automated Highway System (AHS) and Intelligent Vehicle efforts in the early 1990s. The capabilities and benefits of AHS and intelligent vehicles are embodied within VII, including the primary functions of improving safety and mobility. While VII is more focused on assistive functions than autonomous vehicles, the core design still relies on the exchange of information between an intelligent vehicle and an intelligent infrastructure. This network is made possible due to advances in wireless communications and provides for the rapid sharing and analysis of data to deliver groundbreaking safety applications, as well as provide the data collection and dissemination mechanisms needed for the identified mobility strategies.

The US DOT, private industry, and educators are strong supporters of VII applications capability to reduce the 42,000 annual highway fatalities, increase throughput, and to improve management capabilities.

The US DOT is in the final stages of concept testing and development of a nationwide deployment plan. A few key regions/agencies, including the Metropolitan Transportation Commission (MTC) in the San Francisco Bay Area, have functioned as the leaders in evaluating the potential of VII. These regions have deployed operational test beds through partnerships with the Federal Highway Administration (FHWA) and various firms from private industry to explore the capability of VII applications to improve safety and enhance mobility. Their findings to date have been promising and regions are in the process of expanding their efforts and increasing their investments in the technology.

The US DOT is expected to conclude these discussions during FY 2008 and make a formal announcement on committing to a particular protocol, frequency, and national deployment. In anticipation of DOT support, private industry, and the academic community are expanding efforts to develop applications, operational strategies, and data management concepts.

Alternative Fuels

New technologies also are emerging that can benefit our current transportation systems. Using alternative fuels can reduce pollutants and exhaust emissions and most can be domestically-produced and derived from renewable resources. Developments in alternative fuels include increased use of biodiesel, electricity, ethanol, hydrogen and natural gas.

Hybrid-electric vehicles combine gasoline engines and electric motors. Nearly all hybrids require gasoline and diesel, although advances are being made with ethanol, hydrogen, and solar hybrids. For example, SunPower Corporation is developing a solar-powered hybrid battery.

There also are next-generation, hybrid technology transit vehicles in use in Europe and plans to introduce them in the United States. In addition to transit vehicle orders in New York, Toronto, and Seattle, the growth of hybrid buses in the past year has been on a steep, upward climb: estimates
are that between 1,000 and 2,000 hybrids are already operating in revenue service or will soon be deployed. In addition, another 1,000 or more hybrids likely will be procured during the next two years, and several other thousands are said to be considered in orders during the next five years.

Capacity Systems

Since the early 1950s, systems have been seriously studied and in some cases implemented that use cutting-edge technology such as maglev, monorails, and other people-movers. More recently, some of these technologies have been studied for implementation in the San Diego region.

**Maglev:** Magnetic levitation (Maglev) technology is a guided, ground-based system in which a vehicle is lifted and propelled by magnetic force along a guideway without physical contact. Maglev trains can travel at very high speeds, 300 miles per hour or more, with reasonable electricity consumption and noise levels. There is currently one Maglev system in commercial operation, a 19-mile system in Shanghai, China. In FY 2006, SANDAG studied the possibility of a Maglev system along an East-West corridor between downtown San Diego and a possible future airport site in Imperial County. The study found that this system would be feasible but noted lack of operational experience, particularly in mountainous terrain and through long tunnels. Fares were expected to cover the operations and maintenance costs. Capital costs ranged from $15.2 billion to $18.2 billion for alignments that ranged from 79 miles to 98 miles in length.

Pending a change in federal funding legislation, SANDAG also plans to study the potential for Maglev in a north-south corridor that would connect to an extensive Maglev system that is currently planned by the Southern California Association of Governments (SCAG). The SCAG system has been under development for more than 10 years and includes a number of Maglev corridors to connect the major airports in the greater Los Angeles area.

German-owned Transrapid International designed and constructed the 19-mile Shanghai airporter system. In California, the Federal Transit Administration (FTA) has sponsored General Atomics in San Diego to develop “urban maglev”. As a result, General Atomics has constructed a test track and facility at its Torrey Pines location.

**Monorail:** Monorail systems are trains that straddle a fixed guideway formed by a single beam or rail, powered by electricity, with vehicles that are often wider than the guideway. Many monorail systems are elevated, but can also be at or below grade. The most famous monorail system has been in operation since 1959 at Disneyland, but other monorails also provide an alternative in many large cities. Other U.S. examples include Newark International Airport, Seattle, Jacksonville, and Las Vegas. International examples include a number of monorails in Germany (home of the oldest monorail in operation since 1901), Asia, and Japan. Recently in San Diego, a network of monorail corridors has been proposed by Ellorin Consulting Engineers. Routes include service to the Uptown and Downtown San Diego areas, Interstate 15, and service to Coronado via the San Diego Coronado Bay Bridge.

**Aeromovel:** The Aeromovel system is a people-mover that utilizes low pressure forced air within the tube of a fixed guideway to move the vehicle. Forced air is provided by commercially available fans or blowers used in industrial air systems. Vehicles operate on an exclusive guideway. There are pilot Aeromovel systems in operation in Brazil and Indonesia. In San Diego, the North County Transit District (NCTD) conducted a study in 1997 that provided a comparison between a bus way and
aeromovel system for the future SPRINTER rail loop to California State University San Marcos. The purpose of the study was to compare the requirements and costs of a proposed bus way and an Aeromovel system. The study concluded that the latter system was more expensive to build and operate.

**PRT/GRT:** Personal Rapid Transit (PRT) and Group Rapid Transit (GRT) systems have been studied since the 1950s. PRT offers the advantage of small, private-party vehicles and nonstop trips. These systems also require little right of way, are fairly quiet and energy efficient. One example that has been in operation since the 1970s is the PRT at West Virginia University in Morgantown, West Virginia, a nine-mile corridor with five stations. Although known locally as a PRT, the characteristics of this system are more GRT because of the capacity of vehicles (about 25 people) and the fact that not all rides are non-stop. Other U.S. examples are in Detroit and Miami. Other PRT/GRT systems are in place in Europe, including service at the Dusseldorf International Airport in Germany, and in Japan.

Other emerging technologies are in the conceptual stage and some have been promoted as alternative transportation in the San Diego region:

**SkyTran:** SkyTran has been conceptualized as personal Maglev transporter, with two-person vehicle traveling at speeds between 100-150 miles per hour on exclusive elevated guideway. The system is powered by electricity and uses a similar technology as Maglev. The system is on demand, meaning that passengers can pick up a vehicle and go straight to their destination. Capital cost is estimated at $10 million per mile.

**Rideway:** For several years, the Hoffman Rideway is a concept that has been presented to SANDAG and other groups as an alternative to traditional transit systems. Ridecars are vehicles with four seats which enter the Rideway via a mobile crane. The Rideway uses a conveyor to move cars around the region. The system is fully automated and grade separated for safety.

**DISCUSSION**

**Issues and Policy Implications**

Several components of these emerging technologies present particular challenges for the region. These include:

- The VII initiative is a tremendous undertaking with various detailed and high-level issues still to be addressed. Detail items pertaining to technical issues such as the communications protocol and frequency are highly debated and best left to the academic community and private industry to reach consensus. Some of the issues that may require active involvement and discussion by policy makers include infrastructure investment and timing, privacy issues, ongoing maintenance, and operations.

- There are finite resources available for transportation systems at the local, state, and federal levels. There are costs associated with research and development, implementation and capital costs, and operations and maintenance.
• Many times there can be disadvantages for agencies desiring to be on the cutting edge. Agencies may find themselves paying more for research and development costs. Furthermore, some emerging technologies should take advantage of a regional network (e.g., coordinating efforts with SCAG for potential Maglev applications). The region should also ensure that systems are compatible and can be linked.

RECOMMENDATIONS

For RTP Update

It is recommended that the RTP include a discussion of VII and highlight Maglev as an emerging technology in terms of adding capacity to the transportation system, relying on SANDAG’s Phase 1 Maglev Study for details.

Other emerging technologies will be monitored for inclusion in future updates of the RTP. Specifically, SANDAG will make review of emerging technologies a regular component in future RTPs.

For Future Analysis

SANDAG will work to secure federal funds for the Phase 2 Maglev Study to identify a potential North-South Corridor and connection to the SCAG Maglev network.

SANDAG will work to secure federal, state and local funds, and formalize public private partnerships to establish a VII Validation Corridor for a field operations analysis of near term benefits and development modeling criteria for other regional corridors.

SANDAG will work to secure funds, including planning grants, to conduct a more detailed study of the advantages and disadvantages of emerging transportation technologies in anticipation of the next RTP update. One possibility might be to convene a peer review of emerging technologies.

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Introduction

SANDAG has identified several key components to be developed for the 2007 Regional Transportation Plan (RTP). For each of these areas, staff is preparing a white paper to generate discussion and gather input from SANDAG’s technical committees and working groups. The Interregional Transportation white paper describes current travel conditions at the San Diego–Riverside, Imperial, and Orange County lines, identifies problems, and outlines potential solutions or alternatives. Recommendations from this paper will help guide the evaluation of projected interregional travel demand and the assessment of needs related to interregional transportation infrastructure and services.

Discussion

Over the years the perceptions of our borders have expanded. San Diego County increasingly has close ties to its neighboring counties and Mexico, which challenge us to think of our region beyond its political boundaries. Continued growth in San Diego as well as in the surrounding regions presents a variety of opportunities and challenges for planning and coordination in this interregional context.

The Interregional Transportation white paper describes several projects and programs that would improve interregional travel. However, some of these projects and programs have limited funding available for implementation and require collaboration with other public agencies. These challenges can lead to opportunities to work with policymakers to advance transportation projects with the goal of reducing congestion and interregional commuting. CTAC is asked to provide comments on the attached white paper as part of the development of the 2007 RTP. Input from working groups will be shared with SANDAG’s policy committees to develop strategies for inclusion in the 2007 RTP.

Attachment: 1. Interregional Transportation White Paper for the 2007 RTP

Key Staff Contact: Heather Werdick, (619) 699-6967, hwe@sandag.org
INTERREGIONAL TRANSPORTATION WHITE PAPER FOR THE 2007 RTP

INTRODUCTION

The San Diego region’s borders traditionally have been thought of as limited to the jurisdictional boundaries of San Diego County. San Diego County increasingly has close ties to its neighboring counties and Mexico, which challenge us to think of our region beyond its political boundaries. Continued growth in San Diego as well as in the surrounding regions presents a variety of opportunities and challenges for planning and coordination in this interregional context.

The SANDAG Borders Committee oversees planning activities that affect all the borders of the San Diego region (Orange, Riverside, and Imperial counties, and Mexico). It advises the SANDAG Board of Directors on major interregional planning and policy matters, and oversees the I-15 Interregional Partnership (I-15 IRP) with Riverside County. The I-15 IRP is a voluntary partnership of local officials representing SANDAG and the Western Riverside Council of Governments. The I-15 IRP was formed in 2001 to address the imbalance of jobs and housing that has developed between the San Diego region and southwestern Riverside County in the past decade and the lengthy commute that has resulted.

SANDAG, along with Imperial County, also actively participates in the Bi-State Transportation Technical Advisory Committee (BTTAC) with other U.S. and Mexican agencies to explore mutually beneficial strategies for transportation planning in the border region.

The goal of the SANDAG Borders Program is to establish interregional partnerships with each of our neighboring jurisdictions, identify issues of common concern, and develop joint strategies for improving the mobility of our residents, promote strategies which allow people to live closer to where they work while maintaining their quality of life, and protecting the natural assets of the region.

This RTP white paper focuses on current interregional travel patterns between San Diego, Orange, Riverside, and Imperial Counties. It discusses projected growth in these interregional trips and implications for interregional travel. It also identifies issues and potential solutions for evaluation. San Diego-Baja California transportation issues were discussed in the Crossborder Transportation white paper, which describes several projects that would improve crossborder travel capacity, expand infrastructure, and enhance security at the San Diego-Baja California border region.

The San Diego region is home to 18 Native American reservations represented by 17 Tribal Governments, the most in any county in the United States. Coordination with the 17 Tribal Governments is an important part of SANDAG’s work plan. Tribal transportation issues were discussed in the Tribal Governments white paper.

The increase in interregional commuting between the San Diego region and surrounding regions has spawned the need for increased collaboration with our neighbors. Imperial County is experiencing rapid growth in housing, and, along with this growth, the level of interregional commuting also is expected to grow over time. According to average daily traffic volumes (ADT), collected by Caltrans between 1989 and 2005, traffic at the San Diego/Riverside County border increased from 54,000 to 135,000 vehicles (150%). The traffic shows a rising trend in interregional
commuting. Although not reaching the same volumes, traffic at the San Diego/Imperial County border (I-8/SR 98) has nearly doubled from 8,600 to 14,600 vehicles. Volumes at the San Diego/Orange County line also increased from 105,700 to 132,100, a 25 percent increase.

**Objectives for 2007 RTP**

The objectives of this white paper for the 2007 Regional Transportation (RTP) include:

- Assessing current interregional travel conditions.

- Identifying current and future multimodal transportation needs to facilitate interregional travel and provide housing in the region, based on an evaluation of projected growth among the San Diego and Riverside, Orange, and Imperial Counties.

- Evaluating potential traditional and innovative funding sources to advance implementation of transportation infrastructure.

**Background**

Planning Across Borders

MOBILITY 2030, the SANDAG 2030 RTP, looks beyond the San Diego region to link transportation and land use planning across our borders with Orange, Riverside, and Imperial Counties, and Baja California, Mexico.

The last several years have seen a steady increase in interregional and international commuting, as more people are choosing to live in Riverside and Imperial Counties, and Baja California, Mexico, while keeping their jobs here. The SANDAG 2030 Regional Growth Forecast recognizes these travel trends and accounts for future housing for workers both within the San Diego region as well as outside of the region’s boundaries. In this forecast, 99,400 additional households containing one or more San Diego region workers located near but outside the region. This represents nearly 26 percent of all residential units needed to house the expected increase in the region’s workers.

San Diego-Riverside Partnership Program

The I-15 IRP is a voluntary partnership of local officials representing SANDAG and the Western Riverside Council of Governments. In 2003, the I-15 IRP completed an Existing Conditions report documenting the volume and travel characteristics of interregional commuters along with existing roadway conditions in the I-15 Corridor.

The Existing Conditions report found that approximately 60 percent of the estimated 29,000 interregional commuters on I-15 live in the cities of Temecula or Murrieta or the adjacent unincorporated area. Stated differently, one household in three in the Temecula/Murrieta area has at least one person commuting on I-15 into the San Diego region.

Over 40 percent of all I-15 interregional commuters travel to jobs in northern San Diego County, including Camp Pendleton, Carlsbad, and Escondido; the northern outlined area on Figure 1. Other
key employment destinations for interregional commuters include Sorrento Valley, Rancho Bernardo, Kearny Mesa and downtown San Diego.\textsuperscript{1}

In 2004, the I-15 IRP completed a study that identifies short- and long-term strategies to address both the causes and effects caused by the increasing number of interregional commute trips in the corridor.

Short-term strategies, most of which currently are underway, include promoting transportation demand management (TDM) strategies, such as interregional coordination of rideshare programs between Riverside County Transportation Commission (RCTC) and SANDAG; implementing park and ride lots along the I-15 corridor; and joint marketing and promotion of alternative transportation services (e.g., carpools, vanpools, and public transit) targeting solo commuters in the corridor.

There already is a strong market for these types of services. As of October 2006, 227 of the 541 vanpools (42 percent) participating in the SANDAG Regional Vanpool Program originated from Riverside County. The Riverside Transit Agency (RTA) began commuter express bus service in 2003, and there is private transit service connecting Riverside County residents with jobs in the San Diego region. MOBILITY 2030 includes Managed/HOV lanes on I-15 north to State Route (SR) 78. Along with planned HOV lanes in Riverside, the RTP supports ridesharing and transit in the north I-15 corridor.

Based on the growth forecasts in the two-region area, traffic on the existing 8-lane freeway will surpass its capacity sometime between 2015 and 2030, reaching level of service (LOS) F. While Riverside County has local funding to expand the freeway to 12 lanes, San Diego has not identified funding to expand I-15 north of SR 78. Managed Lane improvements are under construction in the I-15 corridor to SR 78. However, MOBILITY 2030 only included improvements north of SR 78 to the Riverside County line in the Unconstrained scenario (two high occupancy vehicle lanes).

The jobs-housing imbalance between the San Diego region and southwestern Riverside County has developed, in large part, because an adequate supply of relatively affordable housing has not been built to match the employment growth in the San Diego region, while relatively low cost and plentiful single family housing development has occurred in southwestern Riverside County. The increasing number of commuters on I-15 indicates that this trend has continued in recent years.

\textsuperscript{1} SANDAG, I-15 IRP Existing Conditions Report, February 2003.
Figure 1

I-15 Commuter Destinations By Zip Code

Percentage Of Commuters By Zip Code
- Light Yellow: Less than 5%
- Medium Red: 2% to 5.45%
- Dark Red: 6% to 54.5%

SOURCE: 2010 Census of Western Riverside Commuters
San Diego – Orange County

The I-5 North Coast corridor experiences recurrent traffic congestion during weekday rush hours and also is heavily traveled on weekends. Interstate 5 is the lifeline corridor connecting San Diego, Los Angeles, Orange County, and Baja California, Mexico regions. To strengthen cooperative relationships with Orange County, staff members from the Orange County Transportation Authority (OCTA) and SANDAG have met periodically since July 2005 to discuss topics of joint interest, including I-5 corridor highway projects, passenger rail issues, local transportation sales tax programs, and pending updates of long-range transportation plans.

Currently, OCTA is developing the South Orange County Major Investment Study (SOCMIS). This study will evaluate multi-modal transportation alternatives for improving travel from the San Diego County line to just south of the Costa Mesa freeway (SR 55). SANDAG participates in the Technical Advisory Committee that provides oversight to the study team and serves as one of the advisory bodies for the study. Major tasks include purpose and need, developing initial set of alternatives, screening of alternatives, technical/environmental analysis of the remaining alternatives, and development of a preferred strategy. The goal of the study is to develop long-range, balanced transportation plan that is expected to include varied solutions such as roadway capacity improvements, mass transit, commuter rail improvements and express bus service. The expected result of this technical and stakeholder-driven process will be a series of recommended transportation improvement strategies. The study began in early 2006 and is expected to be completed by December 2007.

The Foothill-South/SR 241 toll road is a second roadway that is planned to connect Orange County to San Diego County through Camp Pendleton. The Transportation Corridor Agencies is proposing to construct the Foothill-South Corridor as a limited access toll road from Interstate 5 (I-5) in San Diego County to the existing SR 241 in Orange County. The project is currently included as a six-lane toll road in the 2006 Revenue Constrained RTP, adopted in February 2006.

San Diego – Imperial County

Interstate 8 is the main east-west transportation corridor that links these two regions, and provides access to the eastern portion of the United States. At the same time, environmental factors such as the effects of transportation facilities and urban land uses on sensitive lands should be taken into consideration. In 2000, just over 400 people commuted from Imperial County to San Diego County for work (see Figure 2).

Eighty-seven percent of those commuters drove through San Diego County and into the western half of the region. Of the total commuting from Imperial to San Diego County, the two principal destinations were downtown San Diego (31 percent) and North City (19 percent). This indicates an increased pressure on the I-8 corridor. In addition, 67 percent of these commuters drove alone.² Figure 3 displays the destination major statistical area (MSA) of workers residing in San Diego County and working in Imperial County.

Figure 2
Destination MSA of Imperial County Workers
Commuting to San Diego County
(Number and Percent of Commuters)

Figure 3
Residence MSA of San Diego County Workers
Commuting to Imperial County
(Number and Percent of Commuters)
Imperial County is one of the fastest growing counties in California. It experienced an increase of 30 percent growth in population between 1990 and 2000 compared to approximately 13 percent for the state and the nation. It is projected to have an even more dramatic growth of 50 percent for the period from 2000 to 2010. It faces significant challenges in addressing growth-related issues, as well as the pressures it faces from the neighboring regions, including San Diego and Mexico. The Imperial Valley Association of Governments (IVAG) Regional Council is striving to develop integrated planning strategies which will result in a dynamic and prosperous economy to benefit its residents without sacrificing their regional identity and quality of life.

**Identification of Problems**

The 2030 Regional Growth Forecast, adopted by SANDAG in September 2006 indicates that interregional commuting will increase substantially. In this forecast, 99,400 additional households containing one or more San Diego region workers locate near but outside the region. This represents nearly 26 percent of all residential units needed to house the expected increase in the region’s workers. Figure 4 shows the number of housing units assumed to be built outside of the region.

![Figure 4: Out of County Housing Units](image)

A lack of affordable housing in San Diego and high-paying quality jobs in Riverside and Imperial Counties have had an impact on the region’s transportation network. San Diego and its interregional partners must work together to address this jobs-housing imbalance. The regions need to assess the characteristics of these changes and develop equitable strategies to provide access to housing and opportunities for smart growth development, while ensuring adequate level of service on the major transportation facilities.

Traffic is expected to increase in all corridors by 2030. Average daily traffic is projected to increase dramatically along I-5, I-8, and I-15 by 2030. Traffic on I-5 at the Orange County line is expected to increase from 142,400 to 206,000, on I-8 at the Imperial County line from 14,600 to 21,000, and on
DISCUSSION

Potential Solutions/Alternatives

San Diego – Riverside Interregional Partnership - Phase II

In 2005, SANDAG and WRCOG received a grant for Phase Two of the I-15 IRP to pursue medium-term strategies identified in Phase I of the project. The emphasis for this phase is on implementing specific economic development, transportation, and housing and land use strategies that were identified in the first phase of the project.

Employment Cluster Study

Through the I-15 IRP, opportunities exist to improve the economy of both the western Riverside and San Diego regions. The core activity of this effort is an employment cluster analysis. Employment clusters are groups of complementary, competing, and interdependent industries that drive wealth creation in a region. By focusing on employment clusters, the two regions can identify and create a foundation for assessing opportunities to improve their local economies.

Preliminary analysis of employment concentration and recent growth indicate that industries which rely on an educated workforce are beginning to play an important role in the local economy. Industries with large concentrations or recent growth in employment include medical instruments, electronic components, and telecommunications. These are some of the potential driver industries, which could, over time, generate substantial revenues to the region’s economy.

The Draft Cluster Analysis and Opportunities for Cooperative Economic Development report presents a process that has been used to help identify the “traded employment clusters” that are the driving forces behind a regional economy. In addition, the employment cluster approach is well-suited to identifying economic development similarities between communities like Riverside and San Diego. Based on these similarities, common strategies that would benefit the economies in both areas can be identified. In turn, these strategic areas of interest may be the foundation of economic development initiatives that can be pursued under a collaborative and biregional approach.

The report indicates that the two-county region shares a large number of traded employment clusters. These 16 traded clusters employ nearly 338,000 people representing 17 percent of the total 1.8 million jobs. The pace of job growth between 2001 and 2005 shows that these traded clusters are growing faster than total employment. In addition, the average annual salary for the traded clusters is $48,400 which is nearly 20 percent above the annual salary for total employment. This substantial overlap in these key cluster areas provide opportunities for the two-county region to work collaboratively on strategic initiatives designed to retain and expand the operations and job opportunities in these industries. After identifying the driver industries, the next step in the study is to identify industry clusters which are closely related through business-to-business sales and/or purchases. The final report is scheduled to be completed by December 2006.

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Transportation Strategies

Caltrans District 8 in Riverside/San Bernardino Counties and Caltrans District 11 in San Diego/Imperial Counties, are developing a coordinated plan to identify and assess transportation issues in the county line section of I-15. This approach will examine a number of multi-modal solutions to address the I-15 issues at this location.

As a result of IRP work to date, Districts 8 and 11 have produced a study document addressing solutions to the existing and future transportation problems both counties face in the Bi-County area along I-15. The preliminary draft report is a joint effort to identify potential multi-modal transportation improvements and to provide context for discussion of staging the needed improvements based on traffic projections, known programmed and measure funded projects, socioeconomic growth, and modal options. The study approach is to present a number of multi-modal solutions to address the I-15 transportation issues within the study area. This document provides description, evaluation, and order of magnitude cost estimates for various short- and long-term transportation solutions as well as highlighting currently programmed projects. The final report is scheduled to be completed January 2007.

Additionally, SANDAG has been working with RCTC and RTA on transit service coordination on the I-15 corridor. SANDAG, the Metropolitan Transit System (MTS), and North County Transit District (NCTD) have developed a draft I-15 Bus Rapid Transit (BRT) Operations Plan that identified a fairly significant transit demand between Riverside and San Diego Counties. SANDAG will be working with the RTA and RCTC staff to further analyze these travel forecasts and develop operational strategies to service the commuter travel demand between southern Riverside County and high demand destinations within San Diego County. SANDAG and RCTC are discussing ways in which to collaborate on funding vanpools as a significant number of San Diego’s vanpools originate in Riverside.

SANDAG and RCTC recently submitted a grant for the San Diego – Riverside Interregional Transit, Vanpool, and Buspool Study. This study aims at improving interregional transportation alternatives and increasing transit ridership. This study would fund research into determining origins and destinations of interregional commutes between Riverside and San Diego counties, analyze the data, and design effective alternatives to single occupancy driving patterns by recommending vanpool, buspool, BRT, or other rideshare options for the interregional fleet. In addition, the study will identify how best to serve other commute markets, such as military installations or business parks, with vanpools and buspools. These markets would not be well served by the proposed I-15 BRT service because of different destinations and/or low volume of demand.

Housing Strategy

The Phase I report of the I-15 IRP concluded that many of the people moving to southwestern Riverside County were workers in San Diego County who moved there in search of more affordable housing. It also identified strategies that would assist in the provision of more moderate income housing in the San Diego region and would address the jobs/housing imbalance between the two regions.

As part of Phase II, SANDAG proposed to identify specific housing programs and/or outreach efforts aimed at moderate income families that can be implemented to increase the supply and choice of
housing in the San Diego region; and to identify opportunities for incorporating smart growth concepts and planning for a variety of housing choices in the southwestern Riverside region. With the assistance of a consultant, a pilot project/feasibility analysis would focus on the production of workforce (or moderate income) housing in North County along the SPRINTER rail line in collaboration with one or two major employers. Many of their employees are having difficulty finding affordable housing in proximity to their jobs. The goal of the project is to work with North County local jurisdictions, NCTD, housing developers, and employers to identify the resources, incentives, and strategies needed to construct moderate income workforce housing. Most of this work will be completed as part of a future phase of the IRP.

Phase II work on the 1-15 IRP housing strategy will assist in the implementation of the housing chapter of the Regional Comprehensive Plan (RCP), which identifies the need for affordable housing for moderate income households and more housing choice throughout the region. It will also help local jurisdictions implement their housing elements, in which they are required by state law to plan for very low, low, moderate, and above moderate income housing. The SANDAG Smart Growth Concept Map (approved for planning purposes by the SANDAG Board in June 2006) provides potential locations for this type of housing. In addition, as noted in the scope of work and product, the results of the housing work will be useful for southwestern Riverside as well as the San Diego region as a whole.

San Diego - Orange Interregional Partnership

To strengthen cooperative relationships with Orange County, SANDAG and OCTA are planning to initiate joint meetings between policymakers from the two agencies. Potential discussion topics for the first joint workshop could include the OCTA SOCMIS, which will evaluate highway, rail, and other alternatives, updates of each agency’s long-range regional transportation plans, and toll facilities. The first meeting is expected to take place in early 2007.

Staff from SANDAG and OCTA should continue to meet and discuss potential ways to address interregional commuting between the two regions. The SOCMIS began in early 2006 and is scheduled to be completed by the end of 2007. Continued participation in the SOCMIS is important.

San Diego - Imperial Interregional Partnership

The San Diego region and southwestern Riverside County entered into a successful interregional partnership several years ago to address this issue, but only after the interregional commuting trend was well established. In 2006, IVAG received a Caltrans grant to develop a strategic plan to address transportation issues between the San Diego region and Imperial County. The project will identify issues and establish goals and objectives. Interregional strategies will be developed based on the study findings in the areas of transportation, housing, and employment. These strategies will ensure an adequate level of service on the I-8 corridor, provide employment opportunities in Imperial County, and integrate smart growth principles into planned land uses/transportation projects. The study is expected to be completed in June 2008.

The I-8 corridor is the main transportation route between the two regions. Collaboration between Caltrans, SANDAG, IVAG, and other local officials to address issues of common concern is very important. The coordination of policies and planning of transportation and other interregional
issues between San Diego and Imperial regions is important to facilitate a more efficient transportation system.

Strategically situated on the border with Mexico, San Diego and Imperial Valley share common concerns related to border infrastructure as well as homeland security. The City of Calexico in Imperial County forms a cross-border metro area with Baja California’s capital city of Mexicali, just as San Diego and Tijuana shares a transfrontier metropolitan area. Imperial County has the potential to take advantage of its role as a portal for global trade and commerce. Calexico-East Port of Entry represents almost 30 percent of the value of U.S.-Mexican trade through California land ports of entry.\(^4\) An interregional planning partnership will enable the two regions to evaluate and pursue compatible strategies to capitalize on their unique proximity to Mexico.

Imperial County is experiencing a housing boom and its relative affordability is drawing people to move their families to Imperial County while they commute to their jobs in San Diego. Strategies will need to be vetted to accommodate a sufficient housing supply and workforce needs for the growing population.

Another goal is to identify issues and develop interregional strategies in the areas of transportation that will ensure adequate level of service on the I-8 corridor. Potential strategies to integrate smart growth principles into planned land use/transportation projects could also be developed that benefit the quality of life in the two regions. Another area of common concern between the two regions is the protection of habitat and environmentally sensitive lands.

A series of strategies should be developed to ensure an adequate level of service on the I-8 corridor, reducing possibilities of congestion, while improving air quality between the two regions.

**Issues and Policy Implications**

Several projects and programs to add interregional travel capacity or improve operations are under development or have been proposed as future solutions for the greater Southern California region. The following are the primary challenges for timely project implementation:

- Shortfalls of traditional funding sources for infrastructure and operations
- Interregional coordination and collaboration with numerous local, regional, and state agencies.

These challenges can lead to opportunities to work with policymakers to advance transportation projects and programs, with the goal of reducing congestion and addressing the jobs-housing imbalance. In order to fund transportation improvements, one potential option is to evaluate public tolled facilities as a way to add additional capacity in the I-5 and I-15 corridors. As described in the Transportation Funding Revenues White Paper, it will be important for the San Diego region to be an active participant as enabling state or federal legislation is drafted to implement public private partnerships (PPPs) or public tolled facilities.

\(^4\) Bureau of Transportation Statistics, U.S. Department of Transportation
RECOMMENDATIONS

For the RTP Update

It is recommended that the RTP consider projected growth in Riverside, Imperial, and Orange Counties and the San Diego region, in conjunction with the interregional projects and programs described in this paper, to evaluate future interregional travel demand.

Additionally, it is recommended that the RTP consider using toll revenue bonds to advance construction of additional lanes on I-5 and I-15.

Potential projects that could use toll revenue bonds to advance construction include:

- I-5 from Vandegrift Boulevard to the Orange County line
- I-15 from SR 78 to the Riverside County line

These projects are included in Unconstrained Plan of MOBILITY 2030 as non-toll road projects. Building them as toll facilities would advance the projects so that improvements could be made sooner. Feasibility studies are needed to evaluate whether these facilities could be built using toll revenue bonds. These studies would need to consider future traffic demand, toll feasibility, and future revenue. Some of the proposed improvements would only add one lane in each direction which may not be adequate for a toll facility. Additionally, for a toll road to be attractive to users there needs to be some level of congestion in the adjacent lanes. Additional analysis may tell us that there is not enough congestion in some of these corridors to warrant building a toll road.

Additionally, the RTP should incorporate the recommendations from the I-15 Managed Lanes BRT Operations Plan and consider additional funding for vanpool programs. Work relating to interregional partnerships will continue outside of the RTP development process.

For Future Analysis

SANDAG should continue to work with Riverside County. Potential activities could include Phase III work for the I-15 Interregional Partnership, including the San Diego - Riverside Interregional Transit, Vanpool, and Buspool Study and additional activities related to the implementation of the economic development strategies.

SANDAG also should continue to develop and build on its interregional partnerships with Imperial and Orange Counties. Finally, additional analysis may be warranted to further investigate the possibility of toll facilities in the San Diego region.