AGENDA HIGHLIGHTS

- PROPOSED AGENDA FOR THE 2010 SANDAG ANNUAL BINATIONAL EVENT
- FINAL COMPREHENSIVE FREIGHT GATEWAY STUDY
- MEXICO’S BICENTENNIAL PORT OF ENTRY SYSTEM IN Tijuana
- PLANS FOR A FUTURE MASS TRANSIT SYSTEM IN Tijuana

PLEASE TURN OFF CELL PHONES DURING THE MEETING

YOU CAN LISTEN TO THE BORDERS COMMITTEE MEETING BY VISITING OUR WEB SITE AT WWW.SANDAG.ORG

MISSION STATEMENT

The Borders Committee provides oversight for planning activities that impact the borders of the San Diego region (Orange, Riverside and Imperial Counties, and the Republic of Mexico) as well as government-to-government relations with tribal nations in San Diego County. The preparation and implementation of SANDAG’s Binational, Interregional, and Tribal Liaison Planning programs are included under this purview. It advises the SANDAG Board of Directors on major interregional planning policy-level matters. Recommendations of the Committee are forwarded to the Board of Directors for action.
Welcome to SANDAG. Members of the public may speak to the Borders Committee on any item at the time the Committee is considering the item. Please complete a Speaker's Slip, which is located in the rear of the room, and then present the slip to Committee staff. Also, members of the public are invited to address the Committee on any issue under the agenda item entitled Public Comments/Communications/Member Comments. Speakers are limited to three minutes. The Borders Committee may take action on any item appearing on the agenda.

This agenda and related staff reports can be accessed at www.sandag.org under meetings on SANDAG’s Web site. Public comments regarding the agenda can be forwarded to SANDAG via the e-mail comment form also available on the Web site. E-mail comments should be received no later than noon, two working days prior to the Borders Committee meeting.

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ITEM #

+1. APPROVAL OF THE NOVEMBER 20, 2009, MEETING MINUTES

APPROVE

2. PUBLIC COMMENTS/COMMUNICATIONS/MEMBER COMMENTS

Members of the public will have the opportunity to address the Borders Committee on any issue within the jurisdiction of the Committee that is not on this agenda. Speakers are limited to three minutes each and shall reserve time by completing a “Request to Speak” form and giving it to the Clerk prior to speaking. Committee members also may provide information and announcements under this agenda item.

CONSENT (ITEM #3)

+3. AGENDA FOR THE 2010 SAN DIEGO REGIONAL TRIBAL SUMMIT

INFORMATION

(Sandra Clough-Riquelme)

SANDAG included in its Fiscal Year (FY) 2010 Budget and Overall Work Program the convening of a Tribal Summit as a component of the tribal consultation process for the 2050 Regional Transportation Plan (RTP). An ad hoc task force composed of elected officials from the Borders Committee and the Southern California Tribal Chairmen's Association (SCTCA) has helped develop a draft agenda for this event. On January 8, 2010, the Executive Committee approved the proposed agenda for the 2010 Tribal Summit, which would be held on April 9, 2010.

REPORT ITEMS (#4 through #7)

+4. PROPOSED AGENDA FOR THE 2010 SANDAG ANNUAL BINATIONAL EVENT

(Scott Ganster, Chair, Committee on Binational Regional Opportunities)

ACCEPT

Since 1997, SANDAG has organized an annual event to address binational topics. Following direction from the Board of Directors to build the 2010 event upon, and advance recommendations from, the 2009 event on Crossborder Climate Change Collaboration, the Borders Committee is asked to accept COBRO’s recommendation that the 2010 binational event be held on Tuesday, June 1, 2010, following the format of the 2009 event as a binational seminar focusing on local binational climate change adaptation strategies, and to provide input for the preparation of the 2050 Regional Transportation Plan.
+5. FINAL COMPREHENSIVE FREIGHT GATEWAY STUDY
(Christina Casgar)

This report will highlight the findings of the Comprehensive Freight Gateway Study, including forecast freight volumes out to the year 2050 for both Imperial and San Diego Counties.

6. MEXICO’S BICENTENNIAL PORT OF ENTRY SYSTEM IN Tijuana
(Sergio Montes, State of Baja California)

This presentation will provide an overview of Mexico's new southbound pedestrian crossing and plans for a multimodal transportation facility that will be located in Tijuana on the eastern side of the San Ysidro - Puerta Mexico Port of Entry.

7. PLANS FOR A FUTURE MASS TRANSIT SYSTEM IN Tijuana
(Jorge Gutiérrez, City of Tijuana)

This presentation will highlight progress on the planning of a mass transit system for the City of Tijuana, including two main routes connecting the San Ysidro - Puerta México and the Otay Mesa - Mesa de Otay Ports of Entry to the southeastern and southwestern portions of the city.

8. UPCOMING MEETINGS

The next meeting of the Borders Committee is the Joint Meeting with the Committee on Binational Regional Opportunities (COBRO) and the City of Tijuana, scheduled for Friday, March 26, 2010, at 12:30 p.m.

9. ADJOURNMENT

+ next to an item indicates an attachment
BORDERS COMMITTEE DISCUSSION AND ACTIONS
MEETING OF NOVEMBER 20, 2009

The meeting of the Borders Committee was called to order by Chair Patricia McCoy (South County) at 12:35 p.m. See the attached attendance sheet for Borders Committee member attendance.

Chair McCoy introduced and welcomed Mayor Pro Tem Jim Dahl of the City of San Clemente, recently appointed to represent Orange County, and newly appointed Caltrans District 11, Director Laurie Berman. Matt Gleason, recently appointed as the Alternate for Southern California Association of Governments (SCAG), was also recognized.

1. APPROVAL OF MEETING MINUTES

Action: Upon a motion by Vice Chair Greg Cox (County of San Diego) and a second by Mayor Crystal Crawford (North County Coastal), the Borders Committee approved the minutes from the October 23, 2009, meeting.

2. PUBLIC COMMENTS/COMMUNICATIONS/MEMBER COMMENTS

Chair McCoy announced the upcoming retirement of Bob Leiter, Director of Land Use and Transportation Planning.

Mr. Leiter commented one of his proudest accomplishments at SANDAG has been the Borders Planning Program. He thanked the Committee for their support and informed them on his plans for the future with SANDAG and the American Planning Association.

Chair McCoy informed that Jane Clough-Riquelme, Senior Planner, was selected by the American Planning Association’s 2010 National Planning Awards Jury to receive the National Planning Achievement Award for Advancing Diversity and Social Change (Paul Davidoff Award). Ms. Clough-Riquelme was nominated by the Reservation Transportation Authority (RTA) for facilitating the involvement of tribal nations in the regional planning process.

Chair McCoy invited Elsa Saxod, representing the San Diego County Water Authority, to inform the Committee on the conference entitled “Greening Borders: Cooperation, Security and Diplomacy”.

Ms. Saxod reported water management is a human, national, and environmental security issue. In border regions, it requires a binational approach. Sessions covered support for hydro-diplomacy and transborder solutions to water security in the San Diego-Tijuana region, along with how to enhance effective communication among policy makers, scientists, community organizations, tribal communities, the private sector, and conflict resolution experts. The international speakers and attendees discussed issues relating to what is currently happening regionally and mock group negotiations for water were also conducted.

REPORT ITEMS (3 through 8)

3. UPDATE ON DRAFT SANDAG PUBLIC PARTICIPATION PLAN (PPP) (DISCUSSION)

The draft SANDAG agency-wide PPP was released on October 9, 2009, for a 45-day public review and comment period. It establishes a process for communicating with and obtaining input from the public concerning agency programs, projects, and program funding. The plan guides the agency’s outreach efforts for transit, highway, smart growth, environmental, planning, growth forecasts, the Regional Transportation Plan, Regional Transportation Improvement Program, Tribal Consultation, and other initiatives. SANDAG is securing input from individuals, organizations, agencies, and others in the update of the PPP. Anne Steinberger, Communications Manager, provided an update on outreach efforts.

Action: This item was presented for discussion only.

4. UPDATE ON PLANNING FOR 2010 SAN DIEGO REGIONAL TRIBAL SUMMIT (RECOMMEND)

SANDAG and the Southern California Tribal Chairmen’s Association (SCTCA) established a Task Force of elected officials to plan the 2010 San Diego Regional Tribal Summit. Chairman Chris Devers, Pauma Band (SCTCA), briefed the Borders Committee on the activities of the task force. He announced the Rincon Band of Luiseño Indians has generously offered to host the 2010 Tribal Summit, which will take place April 9, 2010. Chairman Devers also requested that the Borders Committee recommend the proposed draft Summit agenda be presented to both SANDAG’s Executive Committee and the SCTCA Board for approval.

Action: Upon a motion by Mayor Crawford and a second by Councilmember Dave Allan (East County), the Borders Committee unanimously recommended approval of the proposed agenda by the Executive Committee.

Chair McCoy welcomed Councilmember Thomas Buckley (City of Lake Elsinore), representing Riverside County, to the meeting.
5. **DRAFT REPORT ON INTERSTATE 15 INTERREGIONAL PARTNERSHIP (I-15 IRP) ECONOMIC DEVELOPMENT STRATEGIC ACTION PLAN (DISCUSSION)**

The Western Riverside Council of Governments (WRCOG) is the lead agency for this component of the IRP Phase III. The objective of this subtask of the grant is to develop an interregional economic development strategic action plan, based on the results of the employment cluster analysis conducted in Phase II. An Interregional Economic Development Task Force was formed between Economic Development Corporations and chambers of commerce to develop this strategic action plan. Kevin Viera, Program Manager (Western Riverside Council of Governments), presented the draft report of the Strategic Action Plan for the Committee’s review and input.

Councilmember Allan expressed concern that information was not reaching all parties involved.

Mr. Viera said he would relay this concern to the Economic Development Corporations and ask them to make a presentation in order to update the Committee on their progress.

Councilmember Sam Abed (North County Inland) volunteered to be on the Interregional Economic Development Task Force to develop the strategic action plan.

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

6. **DRAFT REPORT ON I-15 IRP WESTERN RIVERSIDE SMART GROWTH OPPORTUNITY AREA MAP (DISCUSSION)**

This item summarizes the development of the Western Riverside Smart Growth Opportunity Area Map, a project of the Phase III I-15 IRP Housing Strategy. This smart growth planning effort included both land use and transit planning components focused on identifying smart growth opportunities centered on the I-15 and I-215 freeway corridors in the cities of Lake Elsinore, Murrieta, and Temecula. Products of this component of the partnership include identification of smart growth place type categories, quantitative and qualitative analysis of designated smart growth opportunity areas, and GIS base maps illustrating these concepts. Midori Wong, Assistant Planner, SANDAG; and Kevin Viera, Program Manager, WRCOG; presented the draft report for the Committee’s review and input.

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

7. **UPDATE ON I-15 IRP WORKFORCE HOUSING PROJECT (DISCUSSION)**

SANDAG is the lead agency for this component of the I-15 IRP Housing Strategy, which is the development of a proposal for a workforce housing project in a Smart Growth Opportunity Area located in proximity to the SPRINTER corridor. Susan Baldwin, Senior Planner, presented a status report on milestones achieved and next steps for this project.

**Action:** This item was presented for discussion only.
8. UPDATE ON THE I-15 IRP STRATEGIC TRANSPORTATION IMPLEMENTATION PLAN (DISCUSSION)

The main focus of Phase III of the I-15 IRP with southwestern Riverside was the development of a Strategic Transportation Implementation Plan (SIP) which concentrates on short-term strategies for the I-15 corridor near the county line. The SIP includes: an inventory of Project Study Reports (PSRs) in both counties; analysis of transit priority treatments and transit lane infrastructure; the incorporation of goods movement data; a cost effectiveness analysis and overall funding strategy; and, the incorporation of the results of the Interregional Vanpool/Buspool/Transit study. The Riverside County Transportation Commission (RCTC) is the lead agency for this component of the IRP and has hired Wilbur Smith Associates (WSA) to conduct the work. Tanya Love, Goods Movement Manager (Riverside County Transportation Commission), presented an update on the status of this component including milestones achieved and work in progress.

Action: This item was presented for discussion only.

9. UPCOMING MEETINGS

There is no December meeting and according to the calendar previously approved by the Committee, the January 22, 2010, meeting may be cancelled. The next meeting is scheduled for Friday, February 26, 2010, at 12:30 p.m.

Councilmember Allan informed Ronald O. Loveridge, Mayor of Riverside, was appointed the new president of the National League of Cities.

Vice Chair Cox informed The National Association of Counties recently appointed Supervisor Valerie Brown of Sonoma County as the new president. He noted this is the first time Californians had been chosen to lead both groups.

10. ADJOURNMENT

Chair McCoy adjourned the meeting at 2:00 p.m.

Attachment: Attendance Sheet
## CONFIRMED ATTENDANCE
### BORDERS COMMITTEE MEETING
#### NOVEMBER 20, 2009
**12:30 p.m. to 2:30 p.m.**

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San Diego Association of Governments

BORDERS COMMITTEE

February 26, 2010

AGENDA ITEM NO.: 3

Action Requested: INFORMATION

AGENDA FOR THE 2010 SAN DIEGO REGIONAL TRIBAL SUMMIT

Introduction

SANDAG included in its FY 2010 Budget and Overall Work Program the convening of a Tribal Summit as a component of the tribal consultation process for the 2050 Regional Transportation Plan (RTP). An ad hoc task force composed of elected officials from the Borders Committee and the Southern California Tribal Chairmen's Association (SCTCA) have developed a draft agenda for this event.

Discussion

Background

Over the next two years, SANDAG will be developing the next RTP. At its June 26, 2009, meeting, the Board of Directors reviewed the 2050 RTP work program and schedule. During summer 2009, a 2050 RTP tribal consultation work program and schedule were jointly developed with the Reservation Transportation Authority (RTA) and the SCTCA. Holding a San Diego Regional Tribal Summit at a key milestone point in the 2050 RTP process was recommended as a means to discuss policy-level issues related to the RTP development on a government-to-government basis, building on the strong working relationship already established with tribal nations in the region. In addition, a tribal summit would provide an opportunity to review the status of other policy areas of mutual interest that could be included in a future update of the Regional Comprehensive Plan (RCP).

Tribal Summit Planning

Ad Hoc Joint Summit Planning Task Force

An Ad Hoc Summit Planning Task Force was formed with three elected officials from the SCTCA (SCTCA Chairman and Pala Chairman, Robert H. Smith; SCTCA Borders Representative, Pauma Chairman Chris Devers; and SCTCA Regional Planning Representative, Santa Ysabel Chairman Johnny Hernandez) and three from the Borders Committee (Supervisor Pam Slater-Price, County of San Diego; Santee Councilmember John Minto, East County; and Escondido Councilmember Sam Abed, North County Inland). The Task Force members and agency staffs from the SCTCA and SANDAG met on September 10, October 9, and November 12, 2009.
The Task Force met one last time on Wednesday, February 24, to discuss the background paper for the Tribal Summit, for the SCTCA to update the Task Force on the video documentary they are preparing, and to discuss outcomes of each agency’s internal summit for input to the April 9 Summit.

Goal/Purpose

The proposed goals and purpose of the 2010 San Diego Regional Tribal Summit are to:

- Allow elected officials from tribal nations and local jurisdictions to discuss concerns of mutual interest in regional planning;
- Identify areas of common concern; and
- Formulate a set of mutually agreed priority areas of action in transportation, as well as in other regional planning policy areas such as energy, water, public safety, and habitat conservation.

Structure/Topics

The Task Force discussed the scope, and it was determined that the Summit should encompass both transportation issues as well as other critical policy areas, including energy, water, public safety, and habitat conservation.

The proposed meeting agenda would contain the following elements:

- **Milestones**: The Chairs of the SCTCA and SANDAG would provide a brief summary of the accomplishments in collaborative planning that resulted from the action plan developed from the 2006 San Diego Regional Tribal Summit.
- **Overview of Tribal Policy Issues**: This would provide an opportunity to gather the leadership from the tribal nations, the local governments, and special use districts to discuss major regional initiatives that impact tribes and provide a forum for direct feedback at a policy level. The Task Force is discussing the possibility of the SCTCA developing an introductory video on critical questions regarding tribal governance, sovereignty, jurisdictions, and planning.
- **Regional Vision Quest**: The Board leadership of the SCTCA and SANDAG would share the results of their own recent internal summits as a basis for identifying areas of common concern. This would include a facilitated discussion between elected leaders from the tribal and nontribal community to determine a shared vision and ways in which tribal and local governments can work together to improve the quality of life in the region.
- **Priority Transportation Strategies for the 2050 RTP**: The Co-Chairs of the Interagency Technical Working Group on Tribal Transportation Issues would facilitate a discussion regarding tribal transportation strategies the Working Group has been discussing during the past several months. The objective is for the Boards of the SCTCA and SANDAG to come to an
agreement on collaborative priorities for the 2050 RTP regarding strategies to address tribal transportation issues in the region.

- Identification of Regional Planning Strategies for Future RCP Update: At the 2006 Tribal Summit, breakout sessions were held on regional policy issues other than transportation, which were then discussed at SANDAG Policy Advisory Committee (PAC) meetings over the last several years. The Boards of SANDAG and SCTCA would discuss these possible action areas and discuss strategies for consideration in a future update of the RCP.

Date/Location

The Task Force recommended the Tribal Summit be held on April 9, 2010, the date of a regular SANDAG Board Policy meeting. Both the SANDAG and SCTCA Executive Committees approved the date. Holding the Summit on this date would provide sufficient time for key elements of the 2050 RTP to be reviewed and analyzed by the Tribal Transportation Working Group and for various presentations to be made to the SCTCA Board, and it would allow enough time for results of policy discussions at the Summit to be incorporated into the development of the 2050 RTP.

It also was recommended by the Task Force that the Summit be held on a tribal reservation. The tribal leadership felt that part of this process is educational; this is a unique opportunity for local elected officials to visit a reservation. Given the substance of issues to be discussed, it also is recommended by the Task Force that the Summit be a day-long event. The Rincon Band of Luiseño Indians has generously offered to host the 2010 Tribal Summit. This was confirmed at the January 8, SANDAG Executive Committee.

Next Steps

Staff from SANDAG, SCTCA, and Rincon is working together to undertake the event planning, media strategy, and agency coordination. An electronic Save-the-Date was distributed in mid-February and invitations will be sent out to all tribal governments, local jurisdictions, and special use districts with the agenda in March. The Borders Committee is asked to encourage elected officials to attend this important event.

CHARLES “MUGGS” STOLL
Director of Land Use and Transportation Planning

Attachment: 1. 2010 San Diego Regional Tribal Summit Agenda

Key Staff Contact: Jane Clough-Riquelme, (619) 699-1909; jcl@sandag.org
1. Welcome

Bo Mazzetti, Chair of the Rincon Band of Luiseño Indians, will welcome the Summit participants to the meeting.

2. Opening Remarks (Lori Holt Pfeiler, SANDAG Chair; Robert H. Smith, SCTCA Chair)

The Chairs of each of these two associations of governments will address the summit participants and provide a brief overview of the status of Tribal-Metropolitan Planning Organization relations.

3. Public Comment/Communications/Member Comments

Members of the public shall have the opportunity to address meeting participants on any issue. Speakers are limited to three minutes.

4. Review of Accomplishments in Collaborative Planning since 2006 Tribal Summit (Chairman Robert H. Smith, SCTCA Chair; Lori Holt Pfeiler, SANDAG Chair)

The Chairs of the SCTCA and SANDAG will provide a brief summary of the accomplishments in collaborative planning that resulted from the action plan developed from the 2006 San Diego Regional Tribal Summit.

5. Overview of Tribal Policy Planning Issues in the San Diego Region (Chairman Chris Devers, SCTCA – Pauma)

Chairman Devers will provide a brief introduction to a video presentation, which highlights tribal planning issues in the San Diego region as a basis for a plenary discussion.

6. ‘Vision Quest’ Plenary Discussion between SCTCA and SANDAG Board (Chairman Smith, SCTCA Chair – Pala)

Tribal Nations historically have not taken part in the regional planning process. The Board leadership of the SCTCA and SANDAG will share the results of their own recent internal summits as a basis for identifying areas of common concern. This would include a facilitated discussion between elected leaders from the tribal and nontribal community to determine a shared vision and ways in which tribal and local governments can work together to improve the quality of life in the region.

7. Luncheon
8. **Tribal Transportation Issues for the 2050 Regional Transportation Plan (RTP)**
   (Boxie Phoenix, RTA Chair; Renée Wasmund, SANDAG)

   The Co-Chairs of the Interagency Technical Working Group on Tribal Transportation Issues will facilitate discussion/comments regarding tribal transportation strategies the Working Group has been discussing during the past several months. The objective is for the Boards of the SCTCA and SANDAG to come to an agreement on collaborative priorities for the 2050 RTP regarding strategies to address tribal transportation issues in the region.

9. **Tribal Policy Issues for Inclusion in the Regional Comprehensive Plan (RCP)**

   At the 2006 Tribal Summit, breakout sessions were held on regional policy issues other than transportation which were then discussed at SANDAG Policy Advisory Committee(s) (PACs) over the last several years. In the months leading up to the 2010 Summit, the PACs were asked to identify opportunity areas for collaboration with tribal nations. The Boards of SANDAG and the SCTCA will discuss these action areas and prioritize strategies for consideration in the next update of the RCP.

10. **Concluding Remarks and Next Steps** (Robert H. Smith, SCTCA Chair; Lori Holt Pfeiler, SANDAG Chair)
Welcome to the San Diego Regional Tribal Summit. The San Diego Regional Tribal Summit also will serve as the April 9, 2010, SANDAG Board Policy Meeting. Members of the public may speak to the Summit panel on any item at the time the Summit is considering the item. Please complete a Speaker’s Slip, which is located in the rear of the room, and then present the slip to Summit staff. Also, members of the public are invited to address the Summit panel on any issue under the agenda item entitled Public Comments/Communications/Member Comments. Speakers are limited to three minutes. The Summit panel may take action on any item appearing on the agenda. This agenda and related staff reports can be accessed at www.sandag.org under Meetings on the SANDAG Web site. Public comments regarding the agenda can be forwarded to SANDAG via the e-mail comment form also available on the Web site. E-mail comments should be received no later than noon, two working days prior to the Board of Directors meeting.

In compliance with the Americans with Disabilities Act (ADA), SANDAG will accommodate persons who require assistance in order to participate in SANDAG meetings. If such assistance is required, please contact SANDAG at (619) 699-1900 at least 72 hours in advance of the meeting. To request this document or related reports in an alternative format, please call (619) 699-1900, (619) 699-1904 (TTY), or fax (619) 699-1905.

MAP AND DIRECTIONS TO MEETING LOCATION

Address:
**Harrah's Rincon Casino & Resort**
777 Harrah's Rincon Way
Valley Center, CA 92082

Phone Numbers
General: (760) 751-3100
Toll Free: (877) 777-2457

**From the south**

Take I-15 North and exit at Valley Parkway heading east. Valley Parkway turns into 2nd Street, back to Valley Parkway, and finally turns into Valley Center Road. Follow Valley Center Road for about eight miles. Harrah's Rincon will be on your left.

**From the north**

Take I-15 South. Exit on Valley Parkway heading east. Valley Parkway turns into 2nd Street, back to Valley Parkway, and finally turns into Valley Center Road (you will travel several miles through Escondido before the street changes to Valley Center Road). Follow Valley Center Road for about eight miles. Harrah's Rincon will be on your left.
PROPOSED AGENDA FOR THE 2010 SANDAG ANNUAL BINATIONAL EVENT

Introduction

Every year since 1997, the Committee on Binational Regional Opportunities (COBRO) has supported the organization of the SANDAG annual binational events. These events were able to address a wide range of topics via six conferences, two workshops, two mobile seminars, and two binational seminars. Last year, the event focused on Challenges and Opportunities for Crossborder Climate Change Collaboration. Recommendations from the 2009 Binational Seminar were approved by the Board of Directors on October 23, 2009. One of these recommendations was for the Fiscal Year (FY) 2010 binational event to continue its focus on topics related to climate change planning. To follow up on this recommendation, COBRO at its February 2, 2010, meeting discussed possible themes, dates, and locations for this year’s event.

Recommendation

The Borders Committee is asked to accept COBRO’s recommendation that the 2010 binational event be held on Tuesday, June 1, 2010, following the format of the 2009 event as a binational seminar focusing on local binational climate change adaptation strategies, and to provide input for the preparation of the 2050 Regional Transportation Plan (RTP).

Background

On June 2, 2009, the Binational Seminar, “Challenges and Opportunities for Crossborder Climate Change Collaboration” was held at Caltrans District 11. COBRO and the Borders Committee discussed the outcomes from the seminar and proposed a set of four recommendations.

The following recommendations from the 2009 Binational Seminar were approved by the Board of Directors on October 23, 2009, with direction to staff to address them in the implementation of the adopted Overall Work Program (OWP) for FY 2010, and in the formulation of the proposed OWP and Budget for FY 2011:

1. Recognize the importance of encouraging all levels of agencies and stakeholders in our San Diego – Baja California region to mutually agree on priority aspects of climate change collaboration, including mitigation, adaptation, and education strategies.
2. Encourage the inclusion of strategies for collaboration and sharing information on regional climate change action plans in San Diego and Baja California.
3. The FY 2010 binational event should follow up on topics related to climate change planning.
4. In FY 2010, produce a progress report on developments and actions taken in climate change planning as a result of the 2009 seminar recommendations.

**Discussion**

COBRO created a task force at its November 3, 2009, meeting to begin the organization of the 2010 binational event. This task force determined that while mitigation of Greenhouse Gases (GHG) is crucial for addressing climate change, a regional emphasis on adaptation to the impacts of climate change also would be needed. Current California legislation, including Assembly Bill 32 (AB 32) and Senate Bill 375 (SB 375), focuses on goals for reduction of GHG emissions as a way of mitigating global warming. However, other issues will also require significant attention, including climate change adaptation from a local perspective. As a result, this task force identified the following issues for discussion in the 2010 binational event:

- **Water usage and security** – it is anticipated that water supply will decrease as a result of climate change, affecting both urban and agricultural areas in our border region. In addition, emergency preparedness and water security – improving the security of our binational region's drinking water and wastewater infrastructures – should be evaluated in the context of natural/human-made disasters and contingency plans to protect water supply and quality.

- **Energy issues** – it is anticipated that rising temperatures will increase the use of energy to maintain comfortable temperatures in both residential and commercial sites. Also, energy use is closely related to any strategy developed to adapt to the shortage of water in our region: desalination, importing water from other sources, or increased water treatment all consume significant amounts of energy.

- **Natural disasters** – it is anticipated that wildfires, sea level rise, and heat waves will be more common and severe in the future.

- **Environmental damage** – it is anticipated that native species and ecosystems will be affected, some permanently. Implications for existing habitat conservation areas and adaptation strategies should be explored.

- **Population growth and economic development** should be analyzed in the context of crossborder climate change adaptation. Economic development strategies should explore adaptation strategies that attract industries that are less water/energy intensive, that use recycled water and/or are energy efficient, or that provide other economic development opportunities.

- **Potential impacts to transportation infrastructure** due to climate change. Strategies to deal with these impacts should be explored as input into the preparation of the 2050 RTP.

At the February 2, 2010, COBRO meeting, members discussed these topics and recommended that the event focus on discussing potential impacts to transportation infrastructure due to climate change and possible strategies to adapt to these impacts. In addition, COBRO recommended that this discussion be incorporated as input into the preparation of SANDAG’s 2050 RTP. This meeting will be integrated into the 2050 RTP public outreach plan.
It also was concluded that the binational event would be an excellent opportunity to learn from other border regions’ best practices on climate change adaptation strategies, and to explore ways to evaluate some of these practices as possible options for climate change adaptation strategies in our border region.

**Next Steps**

Subject to the Borders Committee’s acceptance of the June 1, 2010 date for the proposed 2010 binational event, a draft program will be presented to the Borders Committee at a future meeting.

CHARLES “MUGGS” STOLL
Director of Land Use and Transportation Planning

Key Staff Contact: Hector Vanegas, (619) 699-1972; hva@sandag.org
Introduction

On October 23, 2009, staff provided the Borders Committee with an update on the Comprehensive Freight Gateway Study (Gateway Study), which has been underway since March 2009. The Gateway Study provides a forecast of regional freight traffic in San Diego and Imperial Counties through 2050. This report summarizes the study's key findings.

The goal of the Gateway Study is to give SANDAG, the Imperial County Transportation Commission (ICTC), and other regional stakeholders access to timely and thorough freight flow information as an estimation tool to better plan and manage a sustainable freight network. The Gateway Study will inform the update of the Goods Movement Action Plan as a component of the SANDAG 2050 Regional Transportation Plan by identifying current and future freight flows. Additionally, the Gateway Study will provide insights into how freight investments impact freight flows, industrial development, and related economic activity. It is envisioned that the Gateway Study will also be used by freight stakeholder partner agencies such as Caltrans, the Port of San Diego, the San Diego County Regional Airport Authority, BNSF, and Chambers of Commerce.

Discussion

The 2050 freight forecast presented in the Gateway Study is based on goods movement consistent with supply and demand factors including employment, output, and purchases by industry and county and is consistent with the expected long-term levels of economic growth at the national and regional levels. Accordingly, at the national level, the forecast assumes that real GDP will grow by 2.5 percent annually; that total civilian employment will rise at an average annual rate of 0.8 percent; and that the U.S. population will expand at an annual rate of 0.9 percent. The forecast is also consistent with SANDAG’s projections for the region: annual growth in Gross Regional Product (GRP) of 2.6 percent; employment growth of 0.73 percent; and population growth of 0.8 percent.

Based on these underpinning assumptions, the key findings of the study include:

- Freight flows through the Gateway Region (San Diego and Imperial Counties) are estimated to grow by 2.1 percent annually in volume, and 4.0 percent in value.
The Otay Mesa Port of Entry (POE) will remain the largest commercial international gateway for the region, followed by the Calexico East POE; both are expected to see growth of over 3 percent per year in volume.

Trade with NAFTA partners, Canada and Mexico, will continue to grow at a slightly higher pace, with the value of shipments to Mexico projected to increase by 4.5 percent annually and the value of shipments to Canada by 4.2 percent.

The San Diego region, due to a large consumer base, will continue to serve as a “hub” for the majority of regional freight flows, whether as an origin, a destination, or a trans-shipment location. Trans-shipping activities (and flows from/to warehouses and distribution centers) are expected to grow by over 4.0 percent annually.

Electrical machinery, equipment, and supplies, as well as waste and scrap materials are expected to be the fastest growing commodity groups in the region.

Regional Freight Flow Forecast for 2050 by Mode

- Trucks are expected to remain the main mode of transportation for goods movement “within” the region, growing at an average annual rate of 2.4 percent in volume and 4 percent in value. Trucks will transport over 97 percent of the total volume of freight in 2050. Inbound and outbound domestic flows will continue to account for most “regional” freight flows, with 31 and 39 percent of total freight volume, respectively (70 percent combined).
- Freight flows by rail through San Diego County will increase by an average of 1.7 percent per year in both volume and value.
- Freight flows through the Port of San Diego will increase annually in volume and value by 1.7 percent and 1.5 percent respectively.
- Due to constraints on airport capacity expansion, commodity flows by air are not expected to grow significantly with a 1.0 percent annual increase in volume and a 1.8 percent annual increase in value.

Next Steps

The Gateway Study will be presented to the SANDAG Transportation Committee for discussion and recommendation to the SANDAG Board of Directors for approval at a future meeting. The study will also be presented to ICTC at a future meeting.

CHARLES “MUGGS” STOLL
Director of Land Use and Transportation Planning

Attachment: 1. Executive Summary of the Comprehensive Freight Gateway Study Final Report

Key Staff Contact: Christina Casgar, (619) 699-1982; cca@sandag.org
EXECUTIVE SUMMARY

Freight Movement and Prosperity

Globalization, just-in-time business processes and mobile inventory will combine over the coming four decades to channel up to three times freight into the region’s transportation system. This signals a complicated set of challenges to the region’s growth and to the realization of its goals for greater prosperity. On the one hand, inefficiency in the movement of freight threatens the rate of growth in economic productivity, thereby posing a risk to regional competitiveness, employment and real household incomes. On the other hand, facilitating the unconstrained demand for freight transportation can bring with it high project costs accompanied by environmental and other social costs that pose community issues that must be managed. How to respond to the coming surge in freight transportation demand will thus require a delicate balance of planning decisions.

Economic Growth and Prosperity

A growing economy as measured by Gross Domestic Product (GDP) means employment, earning, and opportunities for a better standard of living. To be sure GDP doesn’t account for everything we value (such as clean air and less crime) but achieving the region’s goals for prosperity hinges on achieving some level of growth in output and productivity.

In recent years, planners and policy makers have looked at indicators beyond standard measures of economic performance (such as GDP growth, inflation or employment) to assess and help promote the quality of life of their constituents. Both nationally and internationally, policy agendas now focus on smart growth and sustainability, and stress the importance of protecting the environment or addressing social concerns, such as income disparity or the health impacts of air pollution. This is particularly true of the SANDAG region. Thus, the 2008 Regional Economic Prosperity Strategy report identified three main targets for the region: (1) Improving jobs diversity, (2) Closing earning gaps, and (3) Stabilization of the cost of living.

And to meet these goals while preserving air quality, road safety, and the overall well-being of its residents, the region will need to strike a balance in its planning decisions between output growth on the one hand and the containment of social costs brought about by unbridled growth in freight volumes on the other.

Economic Growth and International Trade

The last few decades have shown us that trade is an important driver of economic growth. Countries that effectively participate in international trade tend to attract foreign investments and experience higher economic growth than countries that fail to integrate into the global economy.2 As shown in Figure ES-1, trade in goods and services in the U.S. as a percentage of GDP increased from 10% to 30% in the past 40 years. This suggests that international trade has become an integral part of the U.S. economy. While the growth in the past 30 years was fueled by a decline in transportation and communication costs, trade is expected to grow further as world economies become increasingly interdependent.

Figure ES-1: US GDP and Trade (1960-2008)

At the regional level, international trade is intertwined into the economic fabric of both San Diego and Imperial counties. Because of the

1 See for example “Report by the Commission on the Measurement of Economic Performance and Social Progress,” Joseph Stiglitz, Amartya Sen and Jean-Paul Fitoussi, 2009

2 The economic literature provides ample evidence on the relationship between trade and economic growth; see for example “Trade Liberalization and Growth: New Evidence”, Romain Wacziarg and Karen Horn Welch, NBER Working Paper No. 10152
integrated production and distribution process across the California/Mexico border, international trade not only benefits the national economy, but the regional economy as well. Economic growth in the region, which has recently outpaced national growth and growth in the neighboring Los Angeles Basin, has been closely related to international trade and more specifically to the NAFTA trade agreement. Figure ES-2 shows the growth rate of GDP for the U.S., Los Angeles, and San Diego Metropolitan Areas, against growth in international trade between 2003 and 2008. The figure suggests that while trade and GDP growth are generally correlated, the strongest correlation (during that period) is observed for the San Diego region.

**Figure ES-2: Trade Growth and GDP Growth by Metropolitan Area**

![Chart showing trade growth and GDP growth](chart.png)

Source: Bureau of Economic Analysis

**International Trade and Freight System Attributes**

In recent years, trade has benefited from tremendous advancement in supply chain management and logistics. Manufacturers and shippers adopted technologies and business processes that permit firms to reduce costs by substituting transportation, e-commerce and just-in-time deliveries for large inventories, multiple warehouses and customer service outlets. Firms re-organize in response to transportation infrastructure improvements so as to reap the rewards of advanced logistics.³ Reliable transportation network for efficient goods movement is, therefore, critical to facilitate trade and promote economic growth.

Today, as the region continues to reshape its growth strategy, decision makers, planners, and stakeholders alike are faced with a critical choice. This choice revolves around ways to better account for goods movement within the Regional Transportation Plan (RTP) and to facilitate output and productivity growth that are compatible with the region’s goals for prosperity. Planning for adequate freight movement, which is increasingly challenging in today’s dynamic environment, mainly means planning for convenient gateways as well as reliable network infrastructure. This planning is a necessary condition for achieving the region’s goals.

The primary objective of this study is to develop an economic forecast of anticipated freight volumes moving in, around, and through the region by 2050, and to provide planners, decision makers and freight stakeholders with a sound understanding of these forecasts and their implications. Secondary objectives include the identification and analysis of intermodal system issues impacting regional goods movement (including commercial border crossings, maritime and air cargo facilities, pipelines, rail, truck and warehousing flows); and providing SANDAG and Imperial Valley Association of Governments (IVAG) with a tool for managing a sustainable freight network.

The balancing of synergies between infrastructure planning, goods movement and economic prosperity that this study seeks to assess, and promote, are illustrated in the diagram below.

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³ Carrier effects include reduced vehicle operating times and reduced costs through optimal routing and fleet configuration. Transit times may affect shipper in-transit costs such as for spoilage, and scheduling costs such as for inter-modal transfer delays and port clearance. These effects are non-linear and may vary by commodity and mode of transport. Source: “Freight Benefit/Cost Study: Capturing the Full Benefits of Freight Transportation Improvements: A Non-Technical Review of Linkages and the Benefit-Cost Analysis Framework”, Federal Highway Administration, Office of Freight Management and Operations, May 2001.
While relying on the Transearch database as the primary source of information, this study uses data from a variety of other sources, including the Port of San Diego, the San Diego International Airport, U.S. Customs and Border Protection (CBP), the Bureau of Economic Analysis, the California Department of Transportation (Caltrans), and a number of local and industry specific databases.

**The Regional Freight System**

The San Diego/Imperial Valley region possesses a wide array of transportation and infrastructure assets and is uniquely located between major production, trade, and population centers. Transportation systems include a number of infrastructural networks including Interstate and State highways, class I railroads, airport cargo systems, seaports, and freight-focused border crossing Ports of Entry (POEs). Currently, the highway system carries the vast majority of freight flows but the system is strained at key bottlenecks (e.g. POEs). Similarly, while their capacity could be expanded, air cargo facilities, rail facilities and seaports appear to have limited potential for attracting freight demand.

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4 This is mainly related to gathering local support for an investment that may benefit other economies, as the gateway facilitate local and national freight flows.


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Among all the goods that passed through the Region’s POEs in 2007, almost 97 percent (in volume) were carried by truck or by rail, through the land POEs. Our analysis of shipments’ origins and destinations suggests that proximity between Mexico and its regional trading partners in the United States is a key factor for such an overwhelming portion of international freight passing through land POEs.

**Otay Mesa / Mesa De Otay POE**
The Otay Mesa Port of Entry is the largest commercial crossing along the California/Mexico border and handles the second highest volume of trucks and third dollar value of trade among all U.S./Mexico land border crossings. It is located approximately 15 miles south of downtown San Diego and 14 miles inland from the Pacific Ocean. On the U.S. side, the crossing connects with California State Route 905 (Otay Mesa Road, a four-to-six-lane local street), providing links to State Route 125, Interstate 805 and Interstate 5. The facility currently includes 13 passenger lanes, 1 SENTRI lane, 1 bus lane, 8 pedestrian lanes, 7 commercial lanes, 1 empty-truck-only lane, and 1 FAST lane. It provides a full range of cargo processing functions, including inspection, collection, and verification.

**Tecate POE**
Tecate is a minor full service Port of Entry located approximately 40 miles east of San Diego and serving rural San Diego County. The port provides service for pedestrians, passenger vehicles, commercial vehicles, and rail (the rail line crosses at Campo, located east of the Port). It currently includes 2 passenger lanes, 1 bus lane, 2 pedestrian lanes, and 1 commercial lane. It connects with California State Route 188, a two-mile road providing access to State Route 94.

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6 Otay Mesa Chamber of Commerce, based on U.S. Customs data

7 CALTRANS District 11, California – Baja California Border Infrastructure Update, April 2008, page 14

8 CALTRANS District 11, California – Baja California Border Infrastructure Update, April 2008, page 20
Calexico East / Mexicali II POE
The Calexico East Port of Entry serves nearly all commercial truck traffic crossing between Imperial County and Mexicali. It is located roughly 130 miles east of San Diego and 60 miles west of Yuma, Arizona. The port includes 8 passenger lanes, 4 pedestrian lanes, 4 commercial lanes, 1 FAST lane, 1 bus lane, and 1 SENTRI lane.9 It is served by California State Route 7, with direct connection to Interstate 8, about five miles to the north.

Andrade / Algodones POE
The Andrade Port of Entry is an important gateway for tourism between California and Baja California. This gateway is used primarily by pedestrians from the United States wishing to shop or use medical services in Algodones. The port also accommodates privately owned vehicles, buses, and a limited amount of commercial traffic. It currently includes 2 passenger lanes, 4 pedestrian lanes, and 1 “informal” commercial lane.10 Vehicular access to Interstate 8, two miles to the north, is provided by California State Route 186.

Rail POEs
Rail lines cross the California/Mexico border at three locations: San Ysidro, Tecate and Calexico. The line between the San Diego Yard and the border with Mexico at San Ysidro is operated by the San Diego and Imperial Valley (SDIV) railroad, a subsidiary of Rail America, Inc. The Carrizo Gorge Railway (CZRY) owns the rights to operate limited service between the Mexican border at San Ysidro/Tijuana through Mexico to Division, near the Mexican border at Tecate. Finally, in Imperial County, Union Pacific Rail Road (UPRR) operates a line originating at the border crossing in Calexico, extending northerly to El Centro and Niland.

The Port of San Diego
The Port of San Diego is located approximately 10 miles from the Mexican border and is the first port in the U.S. for vessels coming from the west coasts of Mexico, and Central and South America. The Port’s activity is split between two separate marine cargo terminals, both located within the San Diego Bay: the Tenth Avenue Marine Terminal (TAMT) and the National City Marine Terminal (NCMT).11 TAMT is a 96-acre cargo complex located near downtown San Diego, south of the Convention Center and north of the San Diego-Coronado Bay Bridge. Tenants at TAMT handle containerized and break-bulk fruit, dry bulk cargos including sand and cement, petroleum products, and various break-bulk and project cargos. The theoretical maximum capacity of TAMT is approximately 4.9 million metric tons per year. NCMT is further inside San Diego Bay, south of TAMT and approximately 10 nautical miles from the harbor entrance. The terminal is located at the end of Bay Marina Drive in the city of National City. Lumber and automobiles are the primary cargos currently moving through NCMT. The theoretical maximum capacity of NCMT is approximately 1.2 million metric tons per year.

Goods move in and out of the Port by road or by rail. TAMT and NCMT both have on-site rail, owned and maintained by the Port of San Diego. All rail services leaving the terminals are operated by Burlington Northern Santa Fe Railway (BNSF). California State Route 15 and Interstate 5 are in close proximity of the TAMT and NCMT. Though a portion of port traffic does travel via Interstate 5, it is used less frequently than State Route 15. California State Routes 54 and 94 are also near the Port, but are rarely used as long-haul trucking routes.12

San Diego International Airport
San Diego International Airport, also known as Lindbergh Field, is located in the northwest portion of the downtown area, within the City of San Diego. The airport is bounded by North Harbor Drive and San Diego Bay to the south, the Navy water channel and Liberty Station to the west, the Marine Corps Recruit Depot to the north and Pacific Highway and Interstate 5 to the east.13 Land in the vicinity of the airport is densely developed and has high developable value, making any future airport expansion unlikely.

With just 661 acres, San Diego International Airport is the smallest “major airport” site in the United States. It features a single 9,400-foot long east-west runway supported by one full-length parallel taxiway

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9 CALTRANS District 11, California – Baja California Border Infrastructure Update, April 2008, page 28
10 CALTRANS District 11, California – Baja California Border Infrastructure Update, April 2008, page 30
11 This description borrows heavily from the San Diego Unified Port District Maritime Business Plan Update, dated December 2008
on the south, and one partial-length parallel taxiway on the north. There are currently two main terminals and one commuter terminal, serving domestic and international passengers. Most support facilities are located north of the runway. They include general aviation facilities, air cargo facilities, related aviation support facilities and rescue and fire fighting facilities. The cargo facilities are used by a limited number of operators, including commercial airlines, courier services, a single cargo company (Capital International Cargo), and the U.S. Postal Service. The largest cargo loading area is run by Federal Express; it occupies 11.0 acres of the airport’s total cargo handling area of 16.6 acres. In 2005, cargo operations (departures and arrivals of cargo aircraft planes) represented about 3.5 percent of all airport operations.  

The Region’s Freight Network
The region’s freight network is comprised of the roads rail lines, and pipelines that connect with the regional gateways for the distribution of goods locally, regionally and nationally.

Regional Highway Network
San Diego County’s roadway network supports high volumes of both vehicular travel and freight movement. The highway system carries nearly 98 percent of the goods that move in and out of the county. There are three major north-south corridors handling goods movement in the county: Interstate 5, Interstate 805 and Interstate 15. In addition, one toll road, California State Route 125, connects the Otay Mesa POE to other major north-south corridors. These routes carry significant volumes of truck traffic through San Diego County and further north to Orange and Riverside Counties. San Diego has one major east-west freeway, Interstate 8, connecting the county with Imperial County, to State Route 94 and State Route 905, and continuing east towards Arizona. In general the east-west corridors are not as significant for freight movement as the north-south freeways. The importance of the north-south corridors stems from their connectivity to major POEs along the county’s southern border with Mexico. This includes:

- Interstate 5, which connects to the San Ysidro POE (no freight is allowed to cross at this location);
- State Route 125 to the Otay Mesa Crossing; and
- State Route 188 to the Tecate POE.

Imperial County has a well-developed roadway network that currently meets freight transportation needs. While the existing system is considered adequate, recent population growth and an increase in foreign trade will require infrastructure improvements in order to accommodate future demand. The highway system in Imperial County handles approximately 97 percent of total commodity flows across the county. There are three major north-south corridors handling freight within the county:

- State Route 7 from the Calexico East Border Crossing;
- State Route 111 from the Calexico Border Crossing; and
- State Route 86.

Additionally, there are two major east-west corridors that also handle truck freight:

- Interstate 8 which originates in San Diego County; and
- State Route 98 which parallels Interstate 8 through most of the county.

Calexico East is the only POE in Imperial County carrying significant volumes of freight, although Andrade POE is sometimes used for congestion relief at Calexico East.

While freight congestion is increasingly apparent at the region’s major gateways, the level of service on large portions of the highway network has been strained by rapidly increasing population. Thus, statistics published by the Texas Transportation Institute (TTI) for the San Diego metropolitan area indicate that the percentage of peak travel in congested conditions increased from 27 to 84 percent between 1982 and 2007. Similarly, the average annual delay per peak traveler increased from 12 to 52 person-hours over the same period. And annual delays in the region are now significantly larger than the national average for areas of similar size (35 person-hours).  

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14 7,400 out of 209,500 operations for the year; or 20 out of 570 daily; from San Diego International Airport Master Plan, Final Environmental Impact Report, April 2008, page 2-13

15 Texas Transportation Institute, Annual Urban Mobility Report, Performance Measure Summary for San Diego, 2008
Regional Rail Network
San Diego County is served by several companies that own and/or operate rail facilities within the county. In the northern part of the county along the I-5 corridor, Burlington Northern Santa Fe (BNSF) Railway operates a line owned by San Diego Northern Railroad (SDNR), which connects Santa Fe Depot in downtown San Diego with the Orange County line to the North.

Figure ES-6: San Diego County Rail Lines

BNSF also operates on two segments of the system, from Oceanside to Escondido, and from Oceanside to downtown San Diego and to the National City Marine Terminal.

In the southern portion of the county, San Diego and Imperial Valley Railroad (SD&IV) operates two short lines owned by Metropolitan Transit System (MTS) that connect the Santa Fe Depot in downtown San Diego with the San Ysidro POE and another with Santee to the east. Additionally, as stated earlier, the Carrizo Gorge Railway (CZRY) owns the rights to operate limited service between the Mexican border at San Ysidro/Tijuana through Mexico to Division (near the Mexican border at Tecate) and on to Plaster City in the western part of Imperial County. However, the portion between Division and Plaster City is currently closed for operations.

Imperial County is served by rail connections from Mexico, Riverside County and Arizona. The UPRR line originates at the Calexico border crossing, extends north to El Centro and ultimately connects with UPRR tracks at Niland, heading north to Riverside County and southeast to Arizona.

Regional Pipeline System
There are two pipelines in San Diego, the Kinder Morgan (formerly SFPP, LP) for gasoline and aviation fuel, and the WestPac Pipelines, LLL, (formerly Buckeye Petroleum) pipeline for aviation fuel.

The Kinder-Morgan pipeline extends south from the Los Angeles Basin through Orange County into San Diego, and also extends into Imperial County to serve Naval Air Facility El Centro.

The major Kinder-Morgan terminals are located in Mission Valley (which supplies the majority of the gasoline for San Diego County) and Imperial. These terminals are the facilities where gasoline is blended...
and then loaded onto trucks for final distribution to service stations.

The 4.3 mile WestPac pipeline system extends from the Tenth Avenue Marine Terminal to Lindbergh Field and supplies aviation fuel for the airport. WestPac has a sublease from the Jankovich Company, and receives aviation fuel from the Kinder-Morgan pipeline.

**Existing and Future Freight Movement**

**Freight Movement through the Region’s Gateways**

In 2007, over one million trucks transported 13.3 million tons of goods, valued over $48 billion, through the Gateway Region’s border crossings. In 2050 San Diego’s border crossings will accommodate 4 million incoming trucks and 39 million tons of goods, valued at $309 billion (an average annual growth of 5.3 percent in value, between 2007 and 2050). Almost 17 million tons of goods will be handled at Imperial County’s border crossings, valued at $143 billion (an average annual growth of 5.4 percent).

**Table ES-1: Truck POE Freight Forecast**

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<td>$3.2</td>
<td>$29.3</td>
<td>5.3%</td>
</tr>
<tr>
<td>loaded trucks, '000s</td>
<td>84.8</td>
<td>420.9</td>
<td>3.8%</td>
</tr>
<tr>
<td>Calexico East / Mexicali II POE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>volume, million tons</td>
<td>3.9</td>
<td>16.9</td>
<td>3.4%</td>
</tr>
<tr>
<td>value, $billion</td>
<td>$14.6</td>
<td>$142.8</td>
<td>5.4%</td>
</tr>
<tr>
<td>loaded trucks, '000s</td>
<td>378.4</td>
<td>1,912.9</td>
<td>3.8%</td>
</tr>
<tr>
<td>Andrade / Algodones POE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>volume, million tons</td>
<td>0.01</td>
<td>0.03</td>
<td>3.4%</td>
</tr>
<tr>
<td>value, $billion</td>
<td>$0.02</td>
<td>$0.21</td>
<td>5.4%</td>
</tr>
<tr>
<td>loaded trucks, '000s</td>
<td>0.6</td>
<td>2.8</td>
<td>3.8%</td>
</tr>
</tbody>
</table>

Note: Estimates in volume and value include both imports and exports. Number of loaded trucks estimated from average payload factors; includes both incoming and outgoing loaded trucks.

Source: Team HDR analysis

The figure ES-8 summarizes our forecast for the total number of incoming trucks (loaded and empty) across the border with Mexico, between 2007 and 2050. The most likely forecast corresponds to the volume projections summarized in Table ES-1, supplemented with data on incoming empty truck containers reported by Customs. The low and high trajectories are based on historical growth rates, observed between 1995 and 2008.

**Figure ES-8: Incoming Trucks at all Regional Land POEs (2007-2050)**

Source: Team HDR analysis and U.S. Department of Transportation, Bureau of Transportation Statistics, Transborder Surface Freight Data

Our estimates and forecasts for rail freight flows through the region are smaller relative to those for trucks. In 2007, over 21 thousand rail cars transported 1.2 million tons of goods, valued at $1.9 billion, through the Gateway Region’s border crossings. Freight flows by rail through San Diego County will increase to 1.2 million tons in 2050, or just over $1.9 billion (an average annual growth of 1.7 percent in both volume and value). In Imperial County, it is projected that tonnage carried by rail will increase by 1.9 percent per year and by 2.4 percent in value. These projections imply that about 1.5 million tons of goods will be transported through Imperial County’s border crossings by rail in 2050, worth just over $2.7 billion.

**Table ES-2: Rail POE Freight Forecast**

<table>
<thead>
<tr>
<th>POE</th>
<th>2007 Estimate</th>
<th>2050 Forecast</th>
<th>Average Annual Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Diego County Rail POE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>volume, million tons</td>
<td>0.6</td>
<td>1.2</td>
<td>1.7%</td>
</tr>
<tr>
<td>value, $million</td>
<td>$918.2</td>
<td>$1,845</td>
<td>1.7%</td>
</tr>
<tr>
<td>loaded railcars, '000s</td>
<td>6.3</td>
<td>12.7</td>
<td>1.8%</td>
</tr>
<tr>
<td>Imperial County Rail POE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>volume, tons</td>
<td>0.9</td>
<td>2.5</td>
<td>1.9%</td>
</tr>
<tr>
<td>value, $million</td>
<td>$987.5</td>
<td>$2,765</td>
<td>2.4%</td>
</tr>
<tr>
<td>loaded railcars, '000s</td>
<td>9.73</td>
<td>27.2</td>
<td>2.8%</td>
</tr>
</tbody>
</table>

Source: San Diego Rail Consulting

Projections for the volume of freight passing by rail through the California/Mexico border are illustrated in Figure ES-9 below.
In 2007, the Port of San Diego handled over 2.8 million tons of goods, valued at $7.4 billion. In 2050, the region’s marine terminals will handle about 6 million tons of goods, valued at over $14 billion. Relative to 2007, the projected increases in tonnage and value are 1.7 percent and 1.5 percent respectively, for every year during the study period.

Table ES-3: Port of San Diego Freight Forecast

<table>
<thead>
<tr>
<th></th>
<th>2007 Estimate</th>
<th>2050 Forecast</th>
<th>Average Annual Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port of San Diego Total volume, million tons</td>
<td>2.9</td>
<td>6.1</td>
<td>1.7%</td>
</tr>
<tr>
<td>value, $million</td>
<td>$7,480.8</td>
<td>$14,270.1</td>
<td>1.5%</td>
</tr>
<tr>
<td>loaded trucks, '000s</td>
<td>118.7</td>
<td>320.4</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

Number of loaded trucks estimated from average payload factors.
Source: Team HDR analysis

Forecasts of annual freight volumes handled at the Port between 2007 and 2050 are shown in the figure below.

Figure ES-10: Freight Volumes Handled at the Port of San Diego (2007-2050)

In 2007, Imperial County moved just 1 ton of goods, valued at about $210,000. Tonnage is expected to grow at almost three percent annually, reaching 3 tons in 2050 (and over $1.3 million in value).

Table ES-4: Airport Freight Forecast

<table>
<thead>
<tr>
<th></th>
<th>2007 Estimate</th>
<th>2050 Forecast</th>
<th>Average Annual Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Airports in the Region volume, thousand tons</td>
<td>155.0</td>
<td>236.8</td>
<td>1.0%</td>
</tr>
<tr>
<td>value, $million</td>
<td>$351.9</td>
<td>$759.2</td>
<td>1.8%</td>
</tr>
<tr>
<td>loaded trucks, '000s</td>
<td>13.9</td>
<td>23.9</td>
<td>1.3%</td>
</tr>
</tbody>
</table>

Number of loaded trucks estimated from average payload factors.
Source: Team HDR analysis

The figure below illustrates unconstrained demand projections for freight at the region’s airports. These projections are constantly higher than our preferred forecast presented in Table ES-4.

Figure ES-11: Unconstrained Freight Demand at the Region’s Airports (2007-2050)

Figure ES-12 provides a summary of goods movement through the region’s gateways in 2007, and its expected growth through 2050. The figure shows that the distribution of freight flows by gateway will remain roughly the same, and that the share of trucks in total flows will remain constant, at about 94 percent.

Figure ES-12: Summary of Freight Volumes by Gateway, 2007 Estimate and 2050 Forecast

Goods movement by air through Lindberg Field is expected to increase from 155 thousands tons ($352 million) in 2007 to 237 thousand tons ($759 million) in 2050. This represents a 1.0 percent annual increase in volume and a 1.8 percent annual increase in value.
In aggregation, the region’s international gateways will handle over 65 million tons of goods in 2050. This means that in the next 40 years or so, freight shipments passing through the gateways will increase at a rate of 3.1 percent a year, from the 2007 estimate of about 17 million tons.

**Overall Freight Movement**

SANDAG’s regional freight flows in 2007 were dominated by domestic shipments: inbound\(^{16}\) flows originating in other regions or states of the United States (including the rest of California) represented 38 percent of total freight volume (59.9 out of 154.7 million tons); outbound flows with destination in other regions or states accounted for 26 percent of the total. Inbound, outbound, through and internal flows for the region are illustrated in Figure ES-13 below.

In 2007, over 89 percent of the 8.3 million tons of U.S. exports to Mexico through the Gateway Region originated *outside* San Diego and Imperial Counties. Similarly, of the 6.2 million tons of Mexican imports through the region’s POEs, only about 10 percent remained within the region, while the rest was shipped across the nation.

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\(^{16}\) Freight flows are defined as follows: **Inbound flows**: Freight originating in another county and terminating (or being transshipped) in San Diego or Imperial County. **Outbound flows**: Shipments originating in San Diego or Imperial County and terminating in another county. In line with inbound flows, some outbound commodities may have originated elsewhere and were simply transshipped in San Diego or Imperial County (to a final destination). **Through flows**: Traffic that does not originate nor terminate in San Diego or Imperial County, but simply passes through the counties on the way to/from other places. **Local flows**: Freight movements originating in one county and terminating in the other. They are typically presented in conjunction with flows “within” an individual county (with origin and destination in San Diego County; or with origin and destination in Imperial County).
Freight forecast for San Diego County is illustrated in the figure below. The chart shows that the county is expected to have rebounded from the current downturn by 2012, with growth in annual tonnage exceeding 5 percent a year. Growth in overall freight volume will then slow down to about 2 percent a year.

Freight statistics for Imperial County show that “through” traffic dominates goods movement. The forecast, illustrated in Figure ES-15 below, indicates that goods movement for the county will almost triple in the next 40 years.

In 2007 over 85 percent of all regional freight flows were “in” San Diego County (in volume). By 2050, the share of the county in total regional flows will increase by about 2 percentage points, to 88 percent.

Trucks are expected to remain the main mode of transportation for goods movement “in” the region, growing at an average annual rate of 2.4 percent in volume and 4 percent in value. Trucks will transport
over 97 percent of the total volume of freight in 2050. And truck traffic on the region’s road network and through the region’s POEs will increase nearly fourfold during the study period. The distribution of total freight flows by mode of transportation is shown in Table ES-5 below.

Table ES-5: Regional Freight Distribution by Mode

<table>
<thead>
<tr>
<th>Mode</th>
<th>In volume (million tons)</th>
<th>In value ($ billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2007 Estimate</td>
<td>2050 Forecast</td>
</tr>
<tr>
<td>Truck</td>
<td>150.3</td>
<td>419.9</td>
</tr>
<tr>
<td>Rail</td>
<td>3.1</td>
<td>8.4</td>
</tr>
<tr>
<td>Water</td>
<td>1.0</td>
<td>3.2</td>
</tr>
<tr>
<td>Air</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Pipeline</td>
<td>0.001</td>
<td>0.001</td>
</tr>
<tr>
<td>Other</td>
<td>0.1</td>
<td>0.4</td>
</tr>
<tr>
<td>Grand Total</td>
<td>154.7</td>
<td>432.2</td>
</tr>
</tbody>
</table>

Note: Shipments by water only include domestic, and trade with Canada and Mexico. These figures are underestimated as they do not include transshipped amounts. The seaport data on the other hand, is all inclusive.

Source: Team HDR analysis

Figures ES-16 and ES-17 below summarize our forecast of total regional freight in terms of tonnage and value, respectively. In both charts, the central line corresponds to the most likely forecast (also shown in Table ES-5).

**Figure ES-16: Forecast of Total Goods Movement in Volume (2007-2050)**

![Figure ES-16](image)

Source: Team HDR analysis

**Figure ES-17: Forecast of Total Goods Movement in Value (2007-2050)**

![Figure ES-17](image)

Source: Team HDR analysis

Freight forecasts by commodity are determined partly by the relative performance of domestic industries. As suggested by the American Trucking Association, high-technology manufacturing will be the key in driving freight movement. This in turn may be an important source of growth for “secondary traffic”, or shipments to and from warehouses or distribution centers, as link within the supply chain between manufacturers and consumers.

As reported in Table ES-6 below, secondary traffic is projected to grow by 4.5 percent annually and will become the largest category by 2050, in both volume and value terms. It is also projected that there will be significant growth in the amount of electrical machinery, equipment, and supplies being shipped. Also noticeable is the increase in the amount of waste and scrap materials being transported: both volume and value are projected to rise by over 4 percent a year.

---

Table ES-6: Regional Freight Distribution by Commodity - 2050 Top 10 Ranking

<table>
<thead>
<tr>
<th>Commodity Groups</th>
<th>In volume (million tons)</th>
<th>In value ($ billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2007 Estimate</td>
<td>2050 Forecast</td>
</tr>
<tr>
<td>Secondary Traffic *</td>
<td>13.8</td>
<td>92.9</td>
</tr>
<tr>
<td>Nonmetallic Minerals, except Fuels</td>
<td>23.0</td>
<td>59.8</td>
</tr>
<tr>
<td>Electrical Machinery, Equipment, or Supplies</td>
<td>4.4</td>
<td>57.6</td>
</tr>
<tr>
<td>Clay, Concrete, Glass, or Stone Products</td>
<td>35.6</td>
<td>39.1</td>
</tr>
<tr>
<td>Food or Kindred Products</td>
<td>11.3</td>
<td>28.5</td>
</tr>
<tr>
<td>Waste or Scrap Materials</td>
<td>4.3</td>
<td>24.4</td>
</tr>
<tr>
<td>Petroleum or Coal Products</td>
<td>12.6</td>
<td>22.7</td>
</tr>
<tr>
<td>Farm Products</td>
<td>12.2</td>
<td>21.9</td>
</tr>
<tr>
<td>Transportation Equipment</td>
<td>4.8</td>
<td>13.3</td>
</tr>
<tr>
<td>Machinery – Other than Electrical</td>
<td>2.7</td>
<td>12.5</td>
</tr>
</tbody>
</table>

Note: * Traffic movements originating in warehouses or distribution centers, or drayage movements of intermodal rail or air freight. This typically does not include “goods deliveries”: shipments to or from retail (excluding mail-order and warehousing), offices, service establishments, and residences. Details on the types of items being moved are not available.
Source: Team HDR analysis

Freight Outlook and Challenges

The forecast presented in this report is based on goods movement consistent with supply and demand factors including employment, output, and purchases by industry and county. Our forecast is, therefore, consistent with the expected levels of economic growth at the national and regional levels. Accordingly, our forecast implicitly assumes that real GDP will grow by 2.5 percent annually; that total civilian employment will rise at an average annual rate of 0.8 percent; and that the U.S. population will expand at an annual rate of 0.9 percent. Our forecast is also consistent with SANDAG’s projections for the Gateway Region: annual growth in Gross Regional Product (GRP) of 2.6 percent; employment growth of 0.73 percent; and population growth of 0.8 percent.

Key findings of the study include:

- Total freight flows “in” the Gateway region (including inbound, outbound, internal and through flows) will grow by 2.4 percent annually in volume, and 4.0 percent in value.
- Otay Mesa will remain the largest international gateway for the region, followed by Calexico East; both are expected to see growth of over 3 percent per year in volume.
- Trucks will continue to be the dominant mode of transportation, carrying over 96 percent of total freight volume.
- Inbound and outbound domestic flows will continue to account for most “regional” freight flows, with 31 and 39 percent of total freight volume, respectively (70 percent combined).
- San Diego County and the rest of California will remain the primary origins and/or destinations of shipments passing through the region’s land POEs. About three fourth of the combined volume of imports and exports will originate or terminate in the region or state.
- Trade with NAFTA partners, Canada and Mexico, will continue to grow fast, with the value of shipments to Mexico projected to increase by 4.5 percent annually and the value of shipments to Canada by 4.2 percent.
- Approximately 65 percent of the tonnage handled “in” the region will originate from or terminate in the rest of California.
- San Diego will continue to serve as a “hub” for the majority of regional freight flows, whether as an origin, a destination or a trans-shipment location. Trans- shipping activities (and flows from/to warehouses and distribution centers) are expected to grow by over 4.0 percent annually.
- Electrical machinery, equipment, and supplies, as well as waste and scrap materials are expected to be the fastest growing commodity groups in the region.
- Over half of the shipments arriving or departing from the Port of San Diego are – and will continue to be – carried by trucks. Most of these shipments have an origin or destination in the Gateway Region or the State of California. Shipments with an origin or destination in other states are mainly carried by rail.
- The main commodities handled at the Port will consist of transportation equipment, farm products, and waste or scrap material.
Due to constraints on airport capacity expansion, commodity flows by air are not expected to grow significantly.

Rail carries – and will continue to carry – about 2 percent of overall freight flows. Most of the commodities carried by rail consist of transportation equipment, food or kindred products, and petroleum coal products.

While our forecast for freight movement at the port, airport and rail yards accounts for capacity constraints, freight flows by truck are less capacity-constrained; truck movements tend to be more flexible in terms of routing (e.g., use of alternative roadways or POEs) and time of travel (e.g., earlier or later departure times). Determining a maximum capacity is therefore extremely hazardous. This study, however acknowledges that there are several challenges to goods movement in the region. In general, land costs and land use conflicts present costly challenges to increasing freight capacity. More specific examples include:

- Lack of direct freeways to Otay Mesa POE, Port of San Diego, rail yards, and intermodal facilities;
- Lack of dedicated truck lanes or truck bypass routes;
- I-5, I-805, and I-15 are nearing capacity levels;
- Limited capacity on the rail system and transfer of goods from TAMT put additional trucks on the highways that could be possibly served by rail;
- Un-utilized rail yard at TAMT in addition to inadequate intermodal facilities, train storage tracks, warehouses, etc;
- Shared rail capacity on the MTS-owned facilities from downtown to the Mexican border to the south and from downtown to the City of Santee to the east, limits the hours of service for freight movements;
- Single track sections of the freight rail system on the Los Angeles to San Diego (LOSSAN) corridor which is an impediment to expanded and safer freight and passenger ops on the line;
- Limited ability to develop cargo handling or cargo storage facilities around Port terminals, border crossings, warehouse districts, etc;
- Wharf capacity at NCMT to maximize automotive traffic as well as strategic military moves;
- Limited air cargo service in Imperial County;
- Air cargo capacity at Lindbergh Field is limited due to it being a single runway airport with passenger service that will soon breach the limits of the single runway; and
- Limited warehouse space at Lindbergh Field. UPS, USPS and FedEx all currently sort cargo off site.

**Freight Policy and Regional Prosperity**

The reliable movement of goods and services is the lifeblood of the regional and national economy. The regional transportation planning and the regional prosperity strategies acknowledge that freight facilitation is an integral part of the economic growth and sustainability of the Region.

Freight movement has been, however, is often addressed as a double-edge sword. On one hand, it is recognized as a catalyst to regional and national growth, but on the other hand, freight movement has been viewed as a burden to the region’s facilities and network, contributing to delays, accidents, and environmental impacts. The two views are, indeed, real and present a constant tension in regions that host freight operations.

The freight forecast planning tool, however, may assist planners to plan effectively while minimizing negative impacts. It may also help decision makers understand key issues that need to be addressed in order to balance competing transportation needs and reach consensus on strategies for more efficient and sustainable freight movement. More specifically, in order to ensure that the growth underlying the prosperity goals established for the region materializes, challenges to the freight system must be addressed. Therefore, to prevent the erosion of the region’s prosperity and welfare, the following mitigation approaches, among other strategies, could be considered:

- Incorporating freight needs into the current modeling tools and planning processes used by the region to better anticipate future needs;
- Regular interaction and collaborative planning with freight stakeholders to develop and/or implement mutually beneficial solutions to expand capacity at strategic freight facilities;
- Addressing the challenges associated with the projected number of trucks on the Region’s roadways with a view to improve the reliability of the network for both truck and personal vehicles alike;
- Addressing delivery and servicing issues through traffic management;
- Sustaining and or growing current use of rail and encouraging coastal shipping for freight;
- Encouraging the development of new rail freight terminals and improving access to existing terminals;
- Encouraging land use patterns and development projects that generate significant amounts of freight in locations that have good access to the rail network;
Encouraging local authorities and other agencies to cooperate in the development of a Goods Movement Action Plan as part of the regional Transportation Plan, and

Considering all modes of freight transportation (i.e. truck, rail, water and air) equally in the development of the Good Movement Action Plan.
Overview

- Objectives
- Implications
- Applications
- Network Map
- Freight and Economic Prosperity
- Caveats
- Forecast Snapshots
- Key Findings
Objectives

- Forecast regional freight traffic through 2050 for both Imperial and San Diego counties
- Analyze system issues impacting goods movement
- Inform the SANDAG Regional Transportation Plan (RTP) by helping to answer key questions:
  - How can freight investments impact freight flows, industrial development, and related economic activity?
  - Are there strategies which will enhance freight flows and related economic activity?
  - What strategies can protect and/or optimize the freight system that provide for environmental sustainability?

Implications: National, Regional and Local Trade Flows

- Otay Mesa is the busiest CA/MX border crossing
- 1.5 million trucks per year and > $29 billion in trade at Otay Mesa
- San Diego and Imperial border crossings, port, and airport are gateways to more than $54 billion in trade
- 95% of regional freight movement is carried by truck
- Internal circulation
Policy Applications

- Safety and community impacts
  - Emissions and trucking regulations
- Land-use challenges
  - Preservation of existing freight infrastructure
  - Moving toward a sustainable freight policy?
- Regional economic prosperity
- Funding issues and prioritization

Regional Gateways and Roadway Network

Economic Prosperity, Infrastructure Planning, and Freight

Freight: Moving goods to consumers

Economic Prosperity & Quality of Life: Income growth, standard of living, air quality...

Transportation Infrastructure: Road network, airports, seaports, ...
**Caveats: Intended Uses**

- Estimation tool to inform 2050 RTP
- ONE planning tool for forecasting freight
- Use and update with stakeholder Information
- Monitor against industry news
- Track against freight policy issues

**Data Methodology**

- Calibrate static freight volume to match local data
- Convert static data to dynamic value, volume, and flow information
- Align with SANDAG and other economic forecasts
- Define freight movement origin/destination
- What’s old? What’s new?
  - Flow
  - Internal circulation
  - Origin and destinations
# Freight “Dashboard” Policy Challenges

### National/International Trade
- Regulations
- Financial Policy
- Free Trade Pacts
- Tariffs
- Geopolitical Events

### Private Sector
- Rail Capacity
- Fleet Size & Service
- Markets & Pricing
- Cost of Capital
- Global Supply Chain Shifts

### U.S. Federal Agencies
- Modal Regulations
- Air Quality Regulations
- Financial Tools
- Policy Framework
- Re-Authorization

### Local Port Gateway Regions
- Local Road & Port Capacity
- Local Political Issues
- Air Quality Regulations
- Fees & Tolls

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## Data Snapshots

- All regional freight
- Circulation within the region
- Gateway specific freight
  - Port of San Diego
  - Border Ports of Entry
    - Otay Mesa
    - Calexico East
- National origin/destination
Total Freight Flows Including Internal Circulation within San Diego County (2007)

Within: 34.6 M Tons ($18.9 B)
Outbound: 35.9 M Tons ($110.1 B)
Inbound: 54.6 M Tons ($70.1 B)
Through: 8.9 M Tons ($31.5 B)

Within / Local includes movements between San Diego and Imperial counties. Some through traffic may be counted under the within / local category.

Commodity Snapshot: San Diego and Imperial Counties
Freight Flow Estimate & Forecast

Note: San Diego County and Imperial County combined
Source: HDR Team Analysis
**Freight Flow Estimate & Forecast – San Diego County**

*Distribution by mode and volume in 2007 and 2050*

**Distribution by Mode in 2007, millions of tons**

- **Truck**: 376.9
- **Water**: 36.3
- **Rail**: 2.6
- **Air**: 0.2
- **Other**: 0.1

**Distribution by Mode in 2050, millions of tons**

- **Truck**: 375.9
- **Water**: 34.7
- **Rail**: 5.6
- **Air**: 0.2
- **Other**: 0.1

*Source: HDR Team Analysis*

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**Port of San Diego**

*Freight Flow Estimate & Forecast*

<table>
<thead>
<tr>
<th></th>
<th>Units</th>
<th>In 2007</th>
<th>In 2050</th>
<th>Average Annual Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Imports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In volume</td>
<td>Million tons (by ship)</td>
<td>2.53</td>
<td>4.00</td>
<td>1.1%</td>
</tr>
<tr>
<td></td>
<td>Loaded trucks</td>
<td>90,298</td>
<td>147,580</td>
<td>1.1%</td>
</tr>
<tr>
<td></td>
<td>Loaded rail cars</td>
<td>23,500</td>
<td>39,817</td>
<td>1.2%</td>
</tr>
<tr>
<td>In value</td>
<td>Millions of 2007 dollars</td>
<td>$7,144.9</td>
<td>$12,980.2</td>
<td>1.4%</td>
</tr>
<tr>
<td>Average value</td>
<td>$ per ton</td>
<td>$2,821.6</td>
<td>$3,247.5</td>
<td>0.3%</td>
</tr>
<tr>
<td><strong>Exports</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In volume</td>
<td>Million tons (by ship)</td>
<td>0.36</td>
<td>2.08</td>
<td>4.2%</td>
</tr>
<tr>
<td></td>
<td>Loaded trucks</td>
<td>28,429</td>
<td>172,804</td>
<td>4.3%</td>
</tr>
<tr>
<td></td>
<td>Loaded rail cars</td>
<td>225</td>
<td>453</td>
<td>1.6%</td>
</tr>
<tr>
<td>In value</td>
<td>Millions of 2007 dollars</td>
<td>$335.9</td>
<td>$1,290.1</td>
<td>3.2%</td>
</tr>
<tr>
<td>Average value</td>
<td>$ per ton</td>
<td>$944.0</td>
<td>$621.1</td>
<td>-1.0%</td>
</tr>
</tbody>
</table>

*Source: HDR Team Analysis*
**Top 10 Destinations In 2007**

*Port Freight Flow Estimate by Truck*

- **Source:** HDR Team Analysis

<table>
<thead>
<tr>
<th>Top Destination</th>
<th>2007 Estimate</th>
<th>2050 Estimate</th>
<th>Average Annual Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorado</td>
<td>6.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>New York</td>
<td>7.7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Florida</td>
<td>7.9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Michigan</td>
<td>10.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Georgia</td>
<td>12.4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washington</td>
<td>21.8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Texas</td>
<td>23.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illinois</td>
<td>38.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rest of California</td>
<td>186.1</td>
<td>790.5</td>
<td></td>
</tr>
</tbody>
</table>

**Thousands of tons, by truck**

**Trucks: Otay Mesa / Mesa de Otay POE**

*Freight Flow Estimate & Forecast*

<table>
<thead>
<tr>
<th>Type</th>
<th>In 2007</th>
<th>In 2050</th>
<th>Average Annual Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Inbound</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In volume</td>
<td>Million tons</td>
<td>3.48</td>
<td>17.19</td>
</tr>
<tr>
<td></td>
<td>Loaded trucks</td>
<td>322,813</td>
<td>1,962,299</td>
</tr>
<tr>
<td>In value</td>
<td>Millions of 2007 dollars</td>
<td>$20,529.6</td>
<td>$226,268.8</td>
</tr>
<tr>
<td>Average value</td>
<td>$ per ton</td>
<td>$5,892.7</td>
<td>$13,161.4</td>
</tr>
<tr>
<td><strong>Outbound</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>In volume</td>
<td>Million tons</td>
<td>4.93</td>
<td>18.28</td>
</tr>
<tr>
<td></td>
<td>Loaded trucks</td>
<td>487,258</td>
<td>2,058,786</td>
</tr>
<tr>
<td>In value</td>
<td>Millions of 2007 dollars</td>
<td>$10,171.6</td>
<td>$53,800.5</td>
</tr>
<tr>
<td>Average value</td>
<td>$ per ton</td>
<td>$2,063.3</td>
<td>$2,942.9</td>
</tr>
</tbody>
</table>

*Source: HDR Team Analysis*
### Trucks: Calexico East / Mexicali II
**Freight Flow Estimate & Forecast**

**Origin of Freight from the U.S. to Mexico, Passing Through the Region’s Land POEs**

#### Inbound

<table>
<thead>
<tr>
<th>Units</th>
<th>In 2007</th>
<th>In 2050</th>
<th>Average Annual Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>In volume</td>
<td>Million tons</td>
<td>1.88</td>
<td>9.10</td>
</tr>
<tr>
<td>Load</td>
<td>Loaded trucks</td>
<td>169,575</td>
<td>1,025,206</td>
</tr>
<tr>
<td>In value</td>
<td>Millions of 2007 dollars</td>
<td>$9,525.1</td>
<td>$119,351.5</td>
</tr>
<tr>
<td>Average value</td>
<td>$ per ton</td>
<td>$5,062.8</td>
<td>$13,120.7</td>
</tr>
</tbody>
</table>

#### Outbound

<table>
<thead>
<tr>
<th>Units</th>
<th>In 2007</th>
<th>In 2050</th>
<th>Average Annual Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>In volume</td>
<td>Million tons</td>
<td>2.07</td>
<td>7.85</td>
</tr>
<tr>
<td>Load</td>
<td>Loaded trucks</td>
<td>208,858</td>
<td>887,722</td>
</tr>
<tr>
<td>In value</td>
<td>Millions of 2007 dollars</td>
<td>$5,062.2</td>
<td>$23,458.0</td>
</tr>
<tr>
<td>Average value</td>
<td>$ per ton</td>
<td>$2,447.8</td>
<td>$2,987.9</td>
</tr>
</tbody>
</table>

Source: HDR Team Analysis
Destination of Freight from Mexico to the U.S., Passing Through the Region’s Land POEs

Key Study Findings

- Composite freight flows through the region (San Diego County and Imperial County) are estimated to grow by 2.4 percent annually in volume and 4.0 percent in value.
  - Trucks are projected to transport over 97 percent of the total volume of freight in 2050.
- The Otay Mesa POE is projected to remain the largest commercial international gateway for the region with 3.0 percent growth per year in volume.
- San Diego’s large consumer base will continue to serve as a “magnet” for a significant amount of internal freight flows.
- Electrical machinery, equipment, and supplies are expected to be the fastest growing commodity groups in the region.
San Diego and Imperial Valley
Final Comprehensive Freight Gateway Study

Christina Casgar
Goods Movement Policy Manager
February 26, 2010

HDR | Decision Econometrics

SANDAG
How do we move?
Mobility issues are growing constantly and every day is getting costly to find a solution.

This affects mainly to low income segments...

Workers of the Maquiladora Industry show the highest ratio of job mobility, not being the same case for retail and services.

The higher job mobility, the higher levels of poverty and training.

ES INEQUITATIVO
The issues

The issue is space

75 passengers in 60 vehicles

75 passengers in 1 Bus

Sustainable Mobility

1. PIRE.
2. Cruceros Inteligentes.
4. Obras de pavimentación y bacheo en colonias.
5. PIPCA.
6. Estaciones de transferencia (basura) y acceso al relleno sanitario.
7. Cruces Fronterizos (Chaparral, OTAY II).
10. Seguridad (despliegue territorial).
Current Situation…

Proposal:
IMain Routes 1and 2, Subsystem VLP, partial reorganization of existing 113 routes, with operational modifications and a new tariff system.
Main Route 01, Bimodal

- On top of levees of the Tijuana River channel.
- High capacity main route.
- Connecting the historic district, the San Ysidro POE with the city’s southeast areas.
- A complementary system should connect to Santa Fé, Otay and the east.
- The Main Route should offer short travel time. High speed will be achieved by:
  - Low number of stations.
  - Short wait times.
  - High Capacity.
  - High commercial speed.
- Implement a ticketing system that allows transfers to other modes.
- Will require maintenance and facilities teams in charge also of revenue sharing.

Rio Levees
Main Route 01, Bimodal.

Tram
SITUACION ACTUAL:
DESORDEN CUBRIENDO TODOS
LOS ORIGENES Y DESTINOS, LO QUE
GENERA SOBREPOSICION DE RUTAS,
SOBREOFERTA, CONGESTION Y
CONTAMINACION.

PROPUESTA:
ESTRUCTURA MAS
EFICIENTE EN EL DISEÑO DE RUTAS,
BAJO UN SERVICIO TRONCAL
ALIMENTADOR.

BRT on a Dedicated Lane:
- On the left side of existing right of way.
- High capacity main route.
- Connecting Playas de Rosarito and Santa Fe with the Otay and Tecate areas.
- Complements Route 01.
- The Main Route should offer short travel time, similar to Seoul.
- High speed will be achieved by:
  - Short wait times.
  - High Capacity.
  - High commercial speed.
- Implement a ticketing system that allows transfers to other modes.
- Will require maintenance and facilities teams in charge also of revenue sharing
Restructure of routes

Objectives:
• Shorter Routes. Avoid Overlaps.
• Consolidate 133 to 200 routes.
• Reduce Number of Vehicles.

Segmentation of Routes.

BLUE LINES
BRT Express (R 02)

GREEN LINES
BRT Urban (R 02)

YELLOW LINES
Feeder Routes

RED LINES
Suburban Routes
### Business Model

#### Objetivos:
- **Enfoque a rentabilidad de operadores, asociando a transportistas actuales con nuevos jugadores.**
- **Evolucionar eventualmente a renta por Bus-km, NO por número de pasajeros.**

---

#### AMBITO OPERACIONAL

<table>
<thead>
<tr>
<th>Ingresos Concesionarios</th>
<th>Costo por KM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SITUACIÓN ACTUAL</strong></td>
<td><strong>Actual</strong></td>
</tr>
<tr>
<td><strong>SITUACIÓN OPTIMIZADA</strong></td>
<td><strong>Optimizado</strong></td>
</tr>
<tr>
<td><strong>SITUACIÓN CON PROYECTO</strong></td>
<td><strong>Proyecto</strong></td>
</tr>
</tbody>
</table>

- **Costos fijos**
- **Costos variables**
- **Costos de capital**
- **Excedente (Recuperación)**

---

#### AMBITO FINANCIERO

<table>
<thead>
<tr>
<th>Ingresos Concesionarios</th>
<th>Costo por KM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SITUACIÓN ACTUAL</strong></td>
<td><strong>Actual</strong></td>
</tr>
<tr>
<td><strong>SITUACIÓN OPTIMIZADA</strong></td>
<td><strong>Optimizado</strong></td>
</tr>
<tr>
<td><strong>SITUACIÓN CON PROYECTO</strong></td>
<td><strong>Proyecto</strong></td>
</tr>
</tbody>
</table>

- **Costos fijos**
- **Costos variables**
- **Costos de capital**

---

#### SITUACIÓN ACTUAL

- Sistema de control
- Infraestructura
- Vehículos
- Excedente (Recuperación)
Ticketing System: “Smart Card”

Objectives:
• Flexible system.
• Independent Compensation Chamber
• Fix Tariff for Buses
• Transfer based on distance and time
• Multimodal (Bimodal-Bus-Taxi)
• Transparency

New Equipment.
SISTEMA PUERTA BICENTENARIO

Puerta México Este
Puerta México
Caféterra
El Chaparral

GobBC
Gobierno del Estado

03/01/2010
Actual situation

Actual situation
Actual situation

SISTEMA PUERTA BICENTENARIO
The concept considers the redevelopment of Colonia Cuauhtemoc and the incorporation of some of ADMICARGA’s land to create a series of facilities and urban open spaces to enhance mobility, such as: a new passenger train station, a multimodal transportation terminal, public parking, commercial areas, bridges, pedestrian plazas, among others.

It also integrates the U.S. proposal for a new southbound pedestrian border crossing on the east side of the existing port, as well as the infrastructure that ADMICARGA will develop in order to implement a public transportation system using the existing rail tracks.
REDEVELOPMENT PROPOSAL

Proposed crossing entering Mexico
Pedestrian Plaza
Welcome Plaza
Old train station
New train stations
Multimodal Terminal Facility
Commercial corridor
Transportation boarding zone

Multimodal Terminal Complex/offices/services.

- Offices.
- Elevators.
- Horizontal connections.
- Commerce.
REDEVELOPMENT PROPOSAL
Multimodal Transportation Complex  lower level

- Green areas.
- Commercial area.
- Vertical connections.
- Service area.
- Buses route.
- Taxis, cars route.

REDEVELOPMENT PROPOSAL
Multimodal Transportation Complex  first level

- Vehicular ramps.
- Commercial area.
- Vertical connections.
- Service area.
REDEVELOPMENT PROPOSAL
Multimodal Transportation Complex  second level

- Vehicular ramps.
- Commercial area.
- Vertical connections.
- Service area.

REDEVELOPMENT PROPOSAL
Multimodal Transportation Complex  rooftop level

- Vehicular ramps.
- Vertical connections.
- Service area.
Project Status: “Sistema Puerta Bicentenario”.

• Diplomatic notes have been exchanged in both countries.
• The “El Chaparral-Puerta Mexico-Puerta Mexico Este” Project is being developed by INDAABIN, SCT and Aduanas and will be finished by 2010.
• Baja’s State Government finished the road connections Projects, construction will begin April 2010.
• The project has been registered in the Mexican Treasury Department to obtain funding.
• Land for the proposed Puerta Mexico East pedestrian crossing is being purchased by Baja’s State Gov.
• 8 new SENTRI lanes will be open.
• Construction of the federal facilities will begin in 2011.
• Total cost of the project: $700 million pesos.