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BOARD OF DIRECTORS POLICY AGENDA

Friday, October 12, 2007
10 a.m. to 12 noon
SANDAG Board Room
401 B Street, 7th Floor
San Diego

AGENDA HIGHLIGHTS

- **GRADE SEPARATION PRIORITY LIST
NOMINATIONS**
- **POTENTIAL REGIONAL INFRASTRUCTURE
INVESTMENTS**

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MISSION STATEMENT

The 18 cities and county government are SANDAG serving as the forum for regional decision-making. SANDAG builds consensus, makes strategic plans, obtains and allocates resources, plans, engineers, and builds public transit, and provides information on a broad range of topics pertinent to the region's quality of life.

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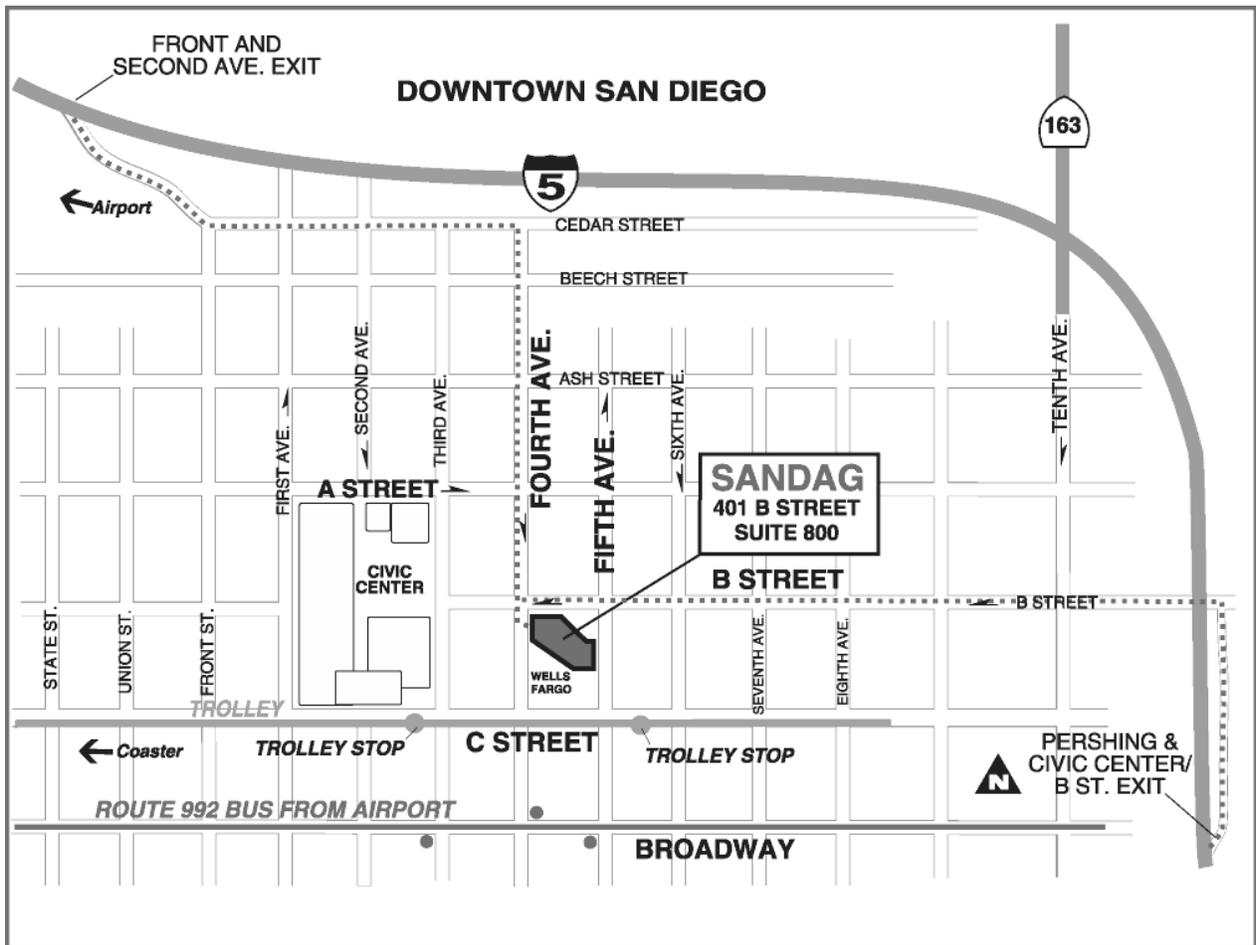


Welcome to SANDAG. Members of the public may speak to the Board of Directors on any item at the time the Board is considering the item. Please complete a Speaker's Slip, which is located in the rear of the room, and then present the slip to the Clerk of the Board seated at the front table. Also, members of the public are invited to address the Board on any issue under the agenda item entitled Public Comments/Communications/Member Comments. Speakers are limited to three minutes. The Board of Directors 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 12 noon, two working days prior to the Board of Directors meeting.

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BOARD OF DIRECTORS POLICY AGENDA

Friday, October 12, 2007

ITEM #		RECOMMENDATION
1.	PUBLIC COMMENTS/COMMUNICATIONS/MEMBER COMMENTS	
	<p>Members of the public shall have the opportunity to address the Board on any issue within the jurisdiction of SANDAG. Anyone desiring to speak shall reserve time by completing a "Request to Speak" form and giving it to the Clerk of the Board prior to speaking. Public speakers should notify the Clerk of the Board if they have a handout for distribution to Board members. Speakers are limited to three minutes. Board members also may provide information and announcements under this agenda item.</p>	
+2.	GRADE SEPARATION PRIORITY LIST NOMINATIONS (John Haggerty)	APPROVE
	<p>Every two years, the California Public Utilities Commission (CPUC) requests nominations for railroad grade separations, and ranks the nominated projects using a standard formula. Projects on the CPUC priority list are eligible for certain state funding. The Board of Directors is asked to approve nominations to the FY 2009-FY 2010 CPUC grade separation list for Taylor Street, E Street, H Street, and Sorrento Valley Boulevard regional grade separation projects.</p>	
+3.	POTENTIAL REGIONAL INFRASTRUCTURE INVESTMENTS (Keith Greer)	DISCUSSION/ POSSIBLE ACTION
	<p>From May through June 2007, the Board of Directors held policy meetings to discuss three infrastructure areas identified in the Integrated Regional Infrastructure Strategy (IRIS) of the Regional Comprehensive Plan (RCP): stormwater management, beach sand replenishment, and habitat conservation. The IRIS recommended that SANDAG take a role in developing systems to address funding these infrastructure needs. The Board of Directors is asked to (1) direct SANDAG staff to develop a regional investment strategy, a plan of investment options, funding alternatives, and a timeline to achieve desired level of infrastructure investments to be presented to the SANDAG Board at its annual retreat; and (2) consider whether to direct staff to schedule a hearing for a discussion of an amendment to the <i>TransNet</i> Extension Ordinance to extend the regional habitat conservation funding measure timeline.</p>	
4.	UPCOMING MEETINGS	
	<p>The next meeting of the Board of Directors is scheduled for Friday, October 26, 2007, at 9 a.m.</p>	
5.	ADJOURNMENT	

+ next to an agenda item indicates an attachment



**BOARD OF DIRECTORS
OCTOBER 12, 2007**

**AGENDA ITEM NO. 07-10-2
ACTION REQUESTED - APPROVE**

GRADE SEPARATION PRIORITY LIST NOMINATIONS

File Number 1210001

Introduction

Every two years, the California Public Utilities Commission (CPUC) requests nominations for railroad grade separations, and ranks the nominated projects using a standard formula. Projects on the CPUC priority list are eligible for certain state funding to assist in the construction of new grade separations. SANDAG is preparing four nominations for the CPUC list. On October 4, 2007, this regional list was reviewed and recommended by the SANDAG Cities/County Transportation Advisory Committee (CTAC). Typically, CTAC would recommend action on this item to the Transportation Committee. However, the deadline for the CPUC nominations (October 19, 2007) did not allow for this item to be brought to the Transportation Committee. Therefore, the Board of Directors is being asked to take an action on this item.

Recommendation

The Board of Directors is asked to approve nominations to the FY 2009-FY 2010 CPUC grade separation list for Taylor Street, E Street, H Street, and Sorrento Valley Boulevard regional grade separation projects.

Discussion

The CPUC biennially requests nominations to list projects on its grade separation priority list. Local jurisdictions, railroads, rail operators, and regional agencies may submit crossings for potential grade separation. The nominations are ranked based on a standard formula that primarily evaluates the safety and cost-effectiveness of the nominated projects. The list is adopted by the CPUC, and then applications are accepted for funding those projects ready for implementation. Each year, \$15 million is allocated statewide with a \$5 million maximum per project. The nominations for the FY 2009 and FY 2010 list are due by October 19, 2007.

SANDAG also has adopted its own evaluation criteria for regional grade separation projects. The SANDAG criteria (Attachment 1) were developed by CTAC and approved by the Transportation Committee. They also are included in the Draft 2007 Regional Transportation Plan (RTP) that is currently out for public review. The SANDAG criteria include safety, but they also are focused on improving regional mobility.

Staff recommends preparing four grade separation nominations for the CPUC priority list that have been identified as regional priorities in the past. These are:

1. Taylor Street in San Diego
2. E Street in Chula Vista
3. H Street in Chula Vista
4. Sorrento Valley Boulevard in San Diego

In order to evaluate how these four projects would compare with other potential rail grade separation projects in the San Diego region, staff analyzed a number of crossings using the SANDAG regional rail grade separation criteria. The results, which are summarized in Attachment 2, indicate that the four proposed crossings would rank high.

Taylor Street is proposed to be nominated because this crossing has a poor accident history. Railroad speeds have already been reduced, and improvements to safety and mobility, including potential grade separations, are desirable. The E Street and H Street crossings are proposed as they both have high volumes of rail and auto traffic and both are located at freeway interchanges and Blue Line Trolley stations. In addition, SANDAG is preparing to start a major rehabilitation of the Blue Line between San Ysidro and downtown San Diego, which may include one or both of these grade separations. Sorrento Valley Boulevard is proposed because it is a high volume link between Interstate 5 (I-5) and the Sorrento Valley and Mira Mesa areas. This crossing experiences long gate down times because of its proximity to the Sorrento Valley COASTER Station, and it is used by COASTER, Amtrak, and Burlington Northern Santa Fe (BNSF) trains, creating significant congestion and vehicle delays.

The proposed nomination to the CPUC list of the four grade separation projects was presented to CTAC on October 4, 2007, for its review. CTAC recommended approval of these four project nominations.

Other Potential Rail Grade Separations

Staff also contacted the North County Transit District (NCTD) to gauge its regional priorities. NCTD provided a number of crossings it considered candidates for the list. However, NCTD reported that typically the cities or County prepare its own nominations to the CPUC for the projects within their jurisdictions. Local governments and other eligible agencies may submit applications to the CPUC for any additional grade crossings within their jurisdictions.

In the adopted RTP, \$200 million is included in the Reasonably Expected Revenue scenario for potential regional grade separations. However, funding for grade separations is not likely to become available in the near future. As the funding becomes available to move forward with regional grade separations, SANDAG would issue a call for projects and develop a list of priority projects. This list would guide future requests for CPUC and other grade separation funding resources.

GARY L. GALLEGOS
Executive Director

Attachments: 1. Rail Grade Separation Evaluation Criteria
2. Rail Grade Crossing Evaluation Summary

Key Staff Contact: John Haggerty, (619) 699-6937, jhag@sandag.org

RAIL GRADE SEPARATION EVALUATION CRITERIA

The Cities/County Transportation Advisory Committee (CTAC) developed regional rail grade separation prioritization criteria that stress congestion relief, safety, and funding needs as the primary elements, with additional consideration of other factors including impacts to pedestrian traffic, bus transit operations, emergency services, truck freight operations, and noise.

In preparation for the development of the criteria staff conducted a literature search of other rail grade separation prioritization criteria. These included the California Public Utilities Commission criteria, other states' criteria, the federal government, as well as articles published in research journals. The findings formed the basis for the initial discussions within CTAC.

The intent of the implementation of a regional rail grade separation program is to provide funding for construction of significant traffic congestion relief projects through the implementation of rail grade separations where other more economical alternatives are demonstrably not feasible or practical. Elimination of crossings is considered a potentially practical alternative. Program allocations will need to be considered in conjunction with other regional transportation funding priorities and needs, and will be dependent on the availability of funding from federal, state, and local sources.

The rail grade separation prioritization criteria were accepted by the SANDAG Board of Directors for inclusion in the 2007 RTP on October 13, 2006. To date, a regional list of potential grade separations has not been created or prioritized.

Projects will be prioritized based on two criteria categories: Project Specific Criteria and Regional Housing Needs Assessment (RHNA) Housing Production. The Project Specific Criteria will be worth 75 percent and the RHNA Housing Production criteria will compose 25 percent of the total project score.

Project-Specific Criteria

These criteria take into account existing vehicular and train traffic, accident history, cost, noise, access to emergency services, and other factors.

The following criteria and point system will be implemented, with a potential maximum of 100 points. The total Project Specific Criteria score will be multiplied by .75 to produce a scaled 75 point score for the total regional rail grade separation project score.

1. **Peak Period Exposure Index** (PPEI) factor, measured as the product of the existing high directional traffic and the total measured blocking delay during the same three hours of the day experiencing the highest congestion at the crossing. **MAXIMUM POINTS = 20**

$$\text{PPEI} = \text{VT3} \times \text{BD3} \times \text{C3}$$

Where the score is the product of the above formula, rounded to the next whole number, up to a maximum of 20; and, where

VT3 = Vehicular traffic in high direction during selected three hour period

BD3 = Total blocking delay during same three hour period selected

C3 = 1/1,350,000, a mathematical constant used for the three hour peak period calculation

Notes:

- a. For crossings where two or more streets that are adjacent to each other that are impacted simultaneously by the operation of the train, the vehicular traffic volume on those streets is cumulative for purposes of the calculation of this congestion relief factor.
- b. Selected three hour period consists of three, one-hour periods which may be consecutive. However, the selected three-hour period shall be the same when counting vehicular and train traffic.
- c. Blocking delay shall be measured as the time period beginning when the warning devices are activated to the time when the warning devices are de-activated.

Example:

At a crossing, there are 5,400 total cars in the high direction counted between 6:30 am and 7:30 am, 8:00 am and 9:00 am and between 5:00 pm and 6:00 pm, with eight trains per hour during those same hours and 60 seconds delay time per train during those same hours.

$$VT3 = 5,400 \text{ cars in high direction selected three hour period}$$

$$BD3 = 8 \text{ trains} \times 2 \text{ directions} \times 3 \text{ hours} \times 60 \text{ second delay} = 2,880$$

$$PPEI = 5,400 \times 2,880 \times [1/1,350,000] = 11.52$$

Rounding up to next whole number: PPEI Score = 12

- 2. Peak Day Total Delay Exposure Index (PDEI) factor, measured as the product of the existing average daily traffic (ADT), the total number of trains, and an average train crossing delay time factor. **MAXIMUM POINTS = 20****

$$PDEI = PD-ADT \times PD-NT \times ATCDF \times PD-C$$

Where the score is the produce of the above formula, rounded to the next whole number, up to a maximum of 20; and, where

PD-ADT = Peak Day Average Daily Traffic

PD-NT = Peak Day Total Number of Trains

ATCDF = Average Train Crossing Delay Factor, corresponds to point scale as shown in table below.

PD-C = 1/1,000,000, a mathematical constant used for peak day period calculation

Average Train Crossing Delay Factor (ATCDF) Table

From (minutes)	To (minutes)	Points
0.00	0.75	1
0.75	1.00	2
1.00	1.25	3
1.25	1.50	4
1.50	2.00	5
2.00	3.00	6
3.00	4.00	7
4.00	6.00	8
6.00	8.00	9
8.00	10.00	10

Notes:

- a. For crossings where two or more streets that are adjacent to each other that are impacted simultaneously by the operation of the train, the vehicular traffic volume on those streets is cumulative for purposes of the calculation of this congestion relief factor.
- b. Average Annual Daily Traffic can be used for peak day, but ADT for weekday or week-end day may be used as appropriate if available. However, the selected day period shall be the same when counting vehicular and train traffic. As an example, if ADT for weekday is available, the highest train traffic of any day between Monday and Friday can be used for the calculations, and not the week-end day train traffic.
- c. Blocking delay shall be measured as the time period beginning when the warning devices are activated to the time when the warning devices are de-activated.

Example:

At a crossing, there is an arterial with an ADT of 30,000 vehicles on weekdays, 144 daily trains in both directions also on weekdays, averaging 55 seconds per crossing.

$$\begin{aligned} \text{PDEI} &= \text{PD-ADT} \times \text{PD-NT} \times \text{ATCDF} \times \text{PD-C} \\ \text{PD-ADT} &= 30,000 \text{ vehicles on weekdays} \\ \text{PD-NT} &= 144 \text{ trains in both directions, on weekdays} \\ \text{ATCDF} &= 2 \text{ points} \\ \text{PDEI} &= 30,000 \times 144 \times 2 \times [1/1,000,000] = 8.64 \end{aligned}$$

Rounding up to the next whole number: PDEI Score = 9

- 3. Accident History:** Accident History in the past five years involving vehicles, pedestrians and bicycles with trains, not including accidents involved in attempted suicides. **MAXIMUM POINTS = 20**

Assign points to according to the following schedule

Number of Qualifying Accidents	1	2	3	4	5+
Points	2	4	6	8	10

Increase the number of points for an accident or accidents by 100% when heavy rail is involved.

- 4. Funding Request:** The funding request criterion awards points for amount of funds requested from the program as an equivalent cost benefit criterion by awarding a higher score for those projects that request a lower amount of funds score points are based on the total request for funds, with a cap of \$45 million. **MAXIMUM POINTS = 20**

Note: Minimum 10% participation is required.

Assign points according to the following schedule:

Funding Request (\$millions)	Points (Planning Level Estimate)	Points (NEPA Level Estimate)
\$0.0 - \$15.0	10.0	20.0
\$15.1 - \$20.0	8.5	17.0
\$20.1 - \$25.0	7.0	14.0
\$25.1 - \$30.0	5.5	11.0
\$30.1 - \$35.0	4.0	8.0
\$35.1 - \$40.0	2.5	5.0
\$40.1 - \$45.0	1.0	2.0

NEPA: National Environmental Protection Act

5. Pedestrian Benefits

MAXIMUM POINTS = 4

Assign points according to following criteria:

- a. Grade separation would serve 1-50 pedestrians during top 4 hours: 1 point
- b. Grade separation would serve 51-100 pedestrians during top 4 hours: 2 points
- c. Grade separation would serve 101-150 pedestrians during top 4 hours: 3 points
- d. Grade separation would serve more than 150 pedestrians during top 4 hours: 4 points

6. Bus Operations Impacts

MAXIMUM POINTS = 4

Assign points according to following criteria:

- a. Grade separation would serve up to four buses an hour: 1 point
- b. Grade separation would serve from four to eight buses an hour: 2 points
- c. Grade separation would serve from eight to sixteen buses an hour: 3 points
- d. Additional point if the grade crossing is adjacent to a transit center.

7. Noise Reduction

MAXIMUM POINTS = 4

Assign points according to following criteria:

- a. Rail crossing area located within 200 feet of sensitive receptors: 4 points
- b. Rail crossing area located between 200-500 feet of sensitive receptors: 2 points
- c. Rail crossing area located more than 500 feet away from sensitive receptors: 0 points
- d. Sensitive receptors include: Residential areas, hospital, school, house of worship.

Rail crossing area includes crossing plus 200' along track in either direction away from crossing.

8. Benefit to Emergency Services

MAXIMUM POINTS = 4

Assign points according to following criteria:

- a. Rail crossing located within ½ mile of emergency service provider and no alternate grade-separated crossing exists within ½ mile: 4 points
- b. Rail crossing located between ½ and 1 mile of emergency service provider and no alternate grade-separated crossing exists within ½ mile: 2 points
- c. Rail crossing located between 1 and 1½ miles of emergency service provider and no alternate grade-separated crossing exists within ½ mile: 1 point
- d. Rail crossing located further than 1½ miles of emergency service provider and no alternate grade-separated crossing exists within ½ mile: 0 points

Emergency service providers include services such as police, fire, paramedic, ambulance, and hospital services. Distance is measured as driven distance from crossing.

9. Impact to Truck Freight Operations

MAXIMUM POINTS = 4

Assign points according to the following criteria:

- a. Rail crossing located between freeway and major truck freight transfer point (200+ trucks per day): 4 points
- b. Rail crossing located between freeway and medium sized truck freight transfer point (100-200 trucks per day): 2 points
- c. Rail crossing located between freeway and medium sized truck freight transfer point (0-100 trucks per day): 0 points

Step 2: Once the projects have been prioritized according to the criteria above, consideration for funding would include the following project readiness elements:

- a. Project feasibility (e.g. physical constraints, reliability of cost estimate)
- b. Environmental document status
- c. Right of way acquisition status
- d. Permits (e.g. PUC, Coastal Commission, Dep't of Fish & Game, etc.

Regional Housing Needs Assessment (RHNA) Criteria

As dictated in SANDAG Board Policy Number 033, rail grade separation projects must include incentive points (a minimum of 25 points out of 100 possible) to be given to projects in jurisdictions in which lower income housing units are being produced in accordance with the housing unit figures contained in Alternative 3 of the Board RHNA Memo.

A prioritized list of regional rail grade separation projects has not been created for the 2007 RTP. When a call for projects is made, local jurisdictions must satisfy the requirements of Board Policy Number 033 in order to be eligible for project funding. The Policy states that prior to January 1, 2007 jurisdictions shall have submitted a draft of its housing element to the state Department of Housing and Community Development

(HCD) or have self-certified its housing element in compliance with state law by the due date for the grant application. As of January 1, 2007, jurisdictions are required to have an adopted housing element (which has been found in compliance with state law by HCD or self-certified). Additionally, those jurisdictions that were not able to identify adequate sites to meet their RHNA goals and were required to include a program in their housing elements to identify additional sites by rezoning must be able to demonstrate that they are making progress toward implementing the rezoning program in conformance with the schedule contained in their housing elements. Making progress toward implementing the rezoning program is defined as having demonstrated a good faith effort in undertaking the rezoning program described in the housing element.

Incentive points shall be calculated as follows:

1. The jurisdiction has an adopted housing element (which has been found in compliance with state law by HCD or self-certified): **Pass/Fail**
2. Percentage of Alternative 3 low/very low income units produced to be calculated as follows:
Percentage of allocated low/very low income units x 25 = Incentive Points

Example:

The score is the product of the above formula, rounded to the next whole number, up to a maximum of 25.

Example:

Jurisdiction	Alt. 3 – Low-/ Very-Low Income Units*	Annual Number Year 1	Number Produced Year 1**	Percentage of Alt. 3 Year 1**	Incentive Points**
A	4,322	864	300	35%	9

Jurisdiction	Alt. 3 – Low-/ Very-Low Income Units	Cum. Annual Number Year 2	Cum. Number Produced Year 2**	Percentage of Alt. 3 Cum. Year 2**	Incentive Points Year 2**
A	4,322	1,728	400	23%	6

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

** These percentages and numbers are hypothetical for the purpose of explaining the methodology.

RAIL GRADE CROSSING EVALUATION SUMMARY
Points based on Rail Grade Separation Evaluation Criteria contained in the
SANDAG 2007 Regional Transportation Plan

Location	Points
Taylor Street Crossing	57
Sorrento Valley Boulevard Crossing	32
E Street Crossing	37
H Street Crossing	36
32nd Street Crossing	22
Grand Avenue Crossing	16
Carlsbad Village Drive Crossing	21
Leucadia Boulevard Crossing	25

RAIL GRADE SEPARATION EVALUATION CRITERIA

Taylor Street Crossing				Points
Peak Period Exposure Index, PPEI:				
PPEI=VT3xBD3xC3				
VT3 =	3351	vehicles in three hours one direction		
BD3 =	2424	seconds in three hours		
C3 =	0.000000741			
PPEI =	6.019012584	use	7	
Peak Day Total Delay Exposure Index, PDEI:				
PDEI= PD-ADTxPD-NTxATCDFxPD-C				
PD-ADT =	22010	vehicles per day		
PD-NT =	201	trains per day		
ATCDF =	4	assume average blocking delay = 1.35 min.		
PD-C =	0.000001			
PDEI =	17.69604	use	18	
Accident History:				
Accidents in the past 5 years =				7
Heavy rail (passenger trains) involved				
From table use				20
Funding Request				
Assume <\$15 million				
From table use				10
Pedestrian Benefits				
Assume 51-100 pedestrians served				
Use				2
Bus Operations Impacts				
Assume zero busses served				
Use				0
Noise Reduction				
Assume rail crossing is more than 500 feet away from sensitive receptors				
Use				0
Benefit to Emergency Services				
Assume alternate grade separation is less than 1/2 mile from crossing				
Use				0
Impact to Truck Freight Operations				
Assume truck freight transfer point not present				
Use				0
Total Points				57

RAIL GRADE SEPARATION EVALUATION CRITERIA

Sorrento Valley Boulevard Crossing				Points		
Peak Period Exposure Index, PPEI:						
PPEI=VT3xBD3xC3						
VT3 =	3882	vehicles in three hours one direction				
BD3 =	1200	seconds in three hour period				
C3 =	0.000000741					
PPEI =	3.4518744	use		4		
Peak Day Total Delay Exposure Index, PDEI:						
PDEI= PD-ADT x PD-NT x ATCDF x PD-C						
PD-ADT =	31350	vehicles per day				
PD-NT =	53	trains per day				
ATCDF =	5	assume average blocking delay = 1.5 min.				
PD-C =	0.000001					
PDEI =	8.30775	use		9		
Accident History:						
Accidents in the past 5 years =					2	
Heavy rail (passenger trains) involved						
From table use					8	
Funding Request						
Assume < \$15 million						
From table use					10	
Pedestrian Benefits						
Assume 1-50 pedestrians served						
Use					1	
Bus Operations Impacts						
Assume zero busses served						
Use					0	
Noise Reduction						
Assume rail crossing is more than 500 feet away from sensitive receptors						
Use					0	
Benefit to Emergency Services						
Assume alternate grade separation is less than 1/2 mile from crossing						
Use					0	
Impact to Truck Freight Operations						
Assume truck freight transfer point not present						
Use					0	
Total Points					32	

RAIL GRADE SEPARATION EVALUATION CRITERIA

E Street Crossing							
				Points			
Peak Period Exposure Index, PPEI:							
	PPEI=VT3xBD3xC3						
	VT3 =	3835	vehicles in three hours one direction				
	BD3 =	1560	seconds in three hour period				
	C3 =	0.000000741					
	PPEI =	4.4331066	use	5			
Peak Day Total Delay Exposure Index, PDEI:							
	PDEI= PD-ADT x PD-NT x ATCDF x PD-C						
	PD-ADT =	32458	vehicles per day				
	PD-NT =	208	trains per day				
	ATCDF =	3	assume average blocking delay = 1 min.				
	PD-C =	0.000001					
	PDEI =	20.253792	use	20			
Accident History:							
	Accidents in the past 5 years =			0			
	Heavy rail (passenger trains) involved						
	From table use			0			
Funding Request							
	Assume <\$15 million						
	From table use			10			
Pedestrian Benefits							
	Assume 1-50 pedestrians served						
	Use			1			
Bus Operations Impacts							
	Assume up to 4 busses served per hour						
	Use			1			
Noise Reduction							
	Assume rail crossing is more than 500 feet away from sensitive receptors						
	Use			0			
Benefit to Emergency Services							
	Assume alternate grade separation is less than 1/2 mile from crossing						
	Use			0			
Impact to Truck Freight Operations							
	Assume truck freight transfer point not present						
	Use			0			
Total Points				37			

RAIL GRADE SEPARATION EVALUATION CRITERIA

H Street Crossing				Points		
Peak Period Exposure Index, PPEI:						
PPEI=VT3xBD3xC3						
VT3 =	3675	vehicles in three hours one direction				
BD3 =	1224	seconds in three hour period				
C3 =	0.000000741					
PPEI =	3.3331662	use		4		
Peak Day Total Delay Exposure Index, PDEI:						
PDEI= PD-ADT x PD-NT x ATCDF x PD-C						
PD-ADT =	30798	vehicles per day				
PD-NT =	208	trains per day				
ATCDF =	3	assume average blocking delay = 1 min.				
PD-C =	0.000001					
PDEI =	19.217952	use		20		
Accident History:						
Accidents in the past 5 years =					0	
Heavy rail (passenger trains) involved						
From table use					0	
Funding Request						
Assume <\$15 million						
From table use					10	
Pedestrian Benefits						
Assume 1-50 pedestrians served						
Use					1	
Bus Operations Impacts						
Assume up to 4 busses served per hour						
Use					1	
Noise Reduction						
Assume rail crossing is more than 500 feet away from sensitive receptors						
Use					0	
Benefit to Emergency Services						
Assume alternate grade separation is less than 1/2 mile from crossing						
Use					0	
Impact to Truck Freight Operations						
Assume truck freight transfer point not present						
Use					0	
Total Points					36	

RAIL GRADE SEPARATION EVALUATION CRITERIA

32nd Street Crossing							
				Points			
Peak Period Exposure Index, PPEI:							
	PPEI=VT3xBD3xC3						
	VT3 =	1673	vehicles in three hours one direction				
	BD3 =	1440	seconds in three hour period				
	C3 =	0.000000741					
	PPEI =	1.78515792	use	2			
Peak Day Total Delay Exposure Index, PDEI:							
	PDEI= PD-ADTxPD-NTxATCDFxPD-C						
	PD-ADT =	14020	vehicles per day				
	PD-NT =	208	trains per day				
	ATCDF =	3	assume average blocking delay = 1 min.				
	PD-C =	0.000001					
	PDEI =	8.74848	use	9			
Accident History:							
	Accidents in the past 5 years =			0			
	Heavy rail (passenger trains) involved						
	From table use			0			
Funding Request							
	Assume <\$15 million						
	From table use			10			
Pedestrian Benefits							
	Assume 1-50 pedestrians served						
	Use			1			
Bus Operations Impacts							
	Assume zero busses served per hour						
	Use			0			
Noise Reduction							
	Assume rail crossing is more than 500 feet away from sensitive receptors						
	Use			0			
Benefit to Emergency Services							
	Assume alternate grade separation is less than 1/2 mile from crossing						
	Use			0			
Impact to Truck Freight Operations							
	Assume truck freight transfer point not present						
	Use			0			
Total Points				22			

RAIL GRADE SEPARATION EVALUATION CRITERIA

Grand Avenue Crossing				Points
Peak Period Exposure Index, PPEI:				
PPEI=VT3xBD3xC3				
VT3 =	803	vehicles in three hours one direction		
BD3 =	1200	seconds in three hour period		
C3 =	0.000000741			
PPEI =	0.7140276	use	1	
Peak Day Total Delay Exposure Index, PDEI:				
PDEI= PD-ADT x PD-NT x ATCDF x PD-C				
PD-ADT =	7311	vehicles per day		
PD-NT =	53	trains per day		
ATCDF =	5	assume average blocking delay = 1.5 min.		
PD-C =	0.000001			
PDEI =	1.937415	use	2	
Accident History:				
Accidents in the past 5 years =				0
Heavy rail (passenger trains) involved				
From table use				0
Funding Request				
Assume <\$15 million				
From table use				10
Pedestrian Benefits				
Assume 1-50 pedestrians served				
Use				1
Bus Operations Impacts				
Assume six busses served per hour				
Use				2
Noise Reduction				
Assume rail crossing is more than 500 feet away from sensitive receptors				
Use				0
Benefit to Emergency Services				
Assume alternate grade separation is less than 1/2 mile from crossing				
Use				0
Impact to Truck Freight Operations				
Assume truck freight transfer point not present				
Use				0
Total Points				16

RAIL GRADE SEPARATION EVALUATION CRITERIA

Carlsbad Village Drive Crossing				Points		
Peak Period Exposure Index, PPEI:						
PPEI=VT3xBD3xC3						
VT3 =	1478	vehicles in three hours one direction				
BD3 =	1200	seconds in three hour period				
C3 =	0.000000741					
PPEI =	1.3142376	use		2		
Peak Day Total Delay Exposure Index, PDEI:						
PDEI= PD-ADT x PD-NT x ATCDF x PD-C						
PD-ADT =	13458	vehicles per day				
PD-NT =	53	trains per day				
ATCDF =	5	assume average blocking delay = 1.5 min.				
PD-C =	0.000001					
PDEI =	3.56637	use		4		
Accident History:						
Accidents in the past 5 years =					1	
Heavy rail (passenger trains) involved						
From table use					4	
Funding Request						
Assume <\$15 million						
From table use					10	
Pedestrian Benefits						
Assume 1-50 pedestrians served						
Use					1	
Bus Operations Impacts						
Assume zero busses served per hour						
Use					0	
Noise Reduction						
Assume rail crossing is more than 500 feet away from sensitive receptors						
Use					0	
Benefit to Emergency Services						
Assume alternate grade separation is less than 1/2 mile from crossing						
Use					0	
Impact to Truck Freight Operations						
Assume truck freight transfer point not present						
Use					0	
Total Points					21	

RAIL GRADE SEPARATION EVALUATION CRITERIA

Leucadia Boulevard Crossing				Points
Peak Period Exposure Index, PPEI:				
PPEI=VT3xBD3xC3				
VT3 =	1508	vehicles in three hours one direction		
BD3 =	1200	seconds in three hour period		
C3 =	0.000000741			
PPEI =	1.3409136	use	2	
Peak Day Total Delay Exposure Index, PDEI:				
PDEI= PD-ADT x PD-NT x ATCDF x PD-C				
PD-ADT =	13200	vehicles per day		
PD-NT =	53	trains per day		
ATCDF =	5	assume average blocking delay = 1.5 min.		
PD-C =	0.000001			
PDEI =	3.498	use	4	
Accident History:				
Accidents in the past 5 years =				2
Heavy rail (passenger trains) involved				
From table use				8
Funding Request				
Assume <\$15 million				
From table use				10
Pedestrian Benefits				
Assume 1-50 pedestrians served				
Use				1
Bus Operations Impacts				
Assume zero busses served per hour				
Use				0
Noise Reduction				
Assume rail crossing is more than 500 feet away from sensitive receptors				
Use				0
Benefit to Emergency Services				
Assume alternate grade separation is less than 1/2 mile from crossing				
Use				0
Impact to Truck Freight Operations				
Assume truck freight transfer point not present				
Use				0
Total Points				25



POTENTIAL REGIONAL INFRASTRUCTURE INVESTMENTS

File Number 3007200

Introduction

On January 12, 2007, the Board of Directors was presented with information regarding regional funding needs and potential future investments for stormwater management, beach sand replenishment, and habitat conservation. These three infrastructure areas were selected because of recommendations in the Integrated Regional Infrastructure Strategy (IRIS) of the Regional Comprehensive Plan (RCP) and because of specific language regarding funding for habitat preservation that was included in the *TransNet* Extension Ordinance. The Board requested staff to provide a series of three workshops on each of the individual infrastructure areas to determine the current status, future needs, and regional collaboration required to meet demands of these infrastructure types. The policy forums were held with the goal of ensuring all Board members were informed of the status of planning and implementation efforts for these three infrastructure types, and to provide direction on how, or if, SANDAG should be involved with future planning and implementation activities in these areas.

Recommendation

The Board of Directors is asked to (1) direct SANDAG staff to develop a regional investment strategy, a plan of investment options, funding alternatives, and a timeline to achieve desired level of infrastructure investments to be presented to the SANDAG Board at its annual retreat; and (2) consider whether to direct staff to schedule a hearing for a discussion of an amendment to the *TransNet* Extension Ordinance to extend the regional habitat conservation funding measure timeline.

During the Board policy meetings, staff presented background information on stormwater management (May 11, 2007), beach sand replenishment (June 8, 2007), and habitat conservation (July 13, 2007), followed by a panel of experts that provided perspectives on the importance, challenges, and opportunities that exist to address these regional infrastructure needs. In addition to the general discussion by Board members during the three workshops, staff was asked to research a series of specific questions asked by various Board members and provide the information at the October 12, 2007, Board meeting. These questions have been addressed and are attached to this report (Attachment 1).

This meeting will give the Board the opportunity to discuss approaches for investments in these infrastructure areas, estimated costs, the SANDAG role, if any, and a series of next steps required if the Board decides to have SANDAG pursue a regional solution to address these infrastructure needs.

Discussion

The three workshops provided the SANDAG Board with information explaining how stormwater management, beach sand replenishment, and habitat conservation can be viewed as regional infrastructure needs that should be addressed through a regional funding strategy. However, several questions remain regarding how a regional funding strategy should be developed and which agencies and stakeholders should be involved. As pointed out at the end of the July workshop, the environmental infrastructure areas discussed often overlap where investment into one (e.g., habitat conservation) may provide a benefit to another (e.g., water quality/stormwater management).

As discussed during the three workshops, two of the infrastructure areas, beach sand replenishment and habitat conservation, have strategic plans and cost estimates for various levels of investment. Stormwater management currently does not have a strategic plan, and the SANDAG Board could take several alternative approaches in addressing this need. This report will present refined cost estimates and approaches for investments into these three infrastructure areas at various levels.

In addition, as discussed during the July 13, 2007, workshop on habitat conservation, the voters in 2004 adopted the Environmental Mitigation Program (EMP) within the *TransNet* Extension Ordinance to help implement the regional habitat conservation plans through mitigation for regional and local transportation projects. The EMP was a significant first step toward successful long-term implementation of the habitat conservation plans; however, it was always recognized that additional funding would be required to successfully complete implementation of the plans. To this end, the Board included a provision in the 2004 *TransNet* Extension Ordinance that states:

“SANDAG agrees to act on additional regional funding measures (a ballot measure and/or other secure funding commitments) to meet the long-term requirements for implementing habitat conservation plans in the San Diego region, within the timeframe necessary to allow a ballot measure to be considered by the voters no later than four years after passage of the TransNet Extension Ordinance (Environmental Mitigation Program Principle 10).”

A discussion regarding the timing issues with this provision of the Extension Ordinance appears in the last section of this report.

Refined Cost Estimates and Alternative Approaches

Beach Sand Replenishment

Based on comments made at the June 8, 2007, SANDAG Policy Board workshop on regional beach sand replenishment, SANDAG staff has developed two cost options for long-term sand replenishment. While both options include sand replenishment, Option B also includes assumptions regarding construction of permanent sand retention structures.

Option A – Regional Beach Sand Replenishments Every Five Years

With input from the Shoreline Preservation Working Group (SPWG), the consulting firm of Moffatt and Nichol prepared an estimate outlining the detailed costs associated with implementing a beach sand replenishment project similar to the project implemented in 2001. This cost estimate assumes that regional replenishment would occur every five years, beginning in 2010 through 2030.

An escalation rate of 3 percent each year was assumed. The total estimated cost for beach sand replenishment activities similar to what was implemented in 2001 would be \$165 million (2008 dollars).

Option B – Sand Retention Structures with Regional Beach Sand Replenishments Every Ten Years

Construction of sand retention structures is recognized in the Shoreline Preservation Strategy, adopted in 1993, as one of a number of tactics that can be used to compliment the placement of sand on the region's beaches. Therefore, this option includes costs for regional sand retention structures as well as regional sand replenishment activities, which would occur less frequently.

SANDAG staff used the Regional Beach Sand Retention Strategy, prepared by Moffat and Nichol in 2001, to determine the costs of potential retention structures that could be placed throughout the region for Option B. The report primarily looks at the potential for breakwaters, groins, and artificial reefs to be placed in various locations throughout the region. For the purpose of this estimate, it was assumed that reefs would be built in Carlsbad, Encinitas, Solana Beach, and San Diego, and groins would be built in Oceanside and Coronado. A copy of the report can be found on the SANDAG Web site: www.sandag.org/shoreline.

This cost estimate for Option B assumes that regional replenishment would occur every ten years, 2010 through 2030, rather than every five years as assumed in Option A. An escalation rate of 3 percent each year also was assumed. The total estimated cost for beach sand replenishment activities similar to what was implemented in 2001 plus retention structures is \$200 million (2008 dollars).

Habitat Conservation

Each of the regional habitat conservation plans (Multiple Species Conservation Plan (MSCP) and North County Multiple Habitat Conservation Plan, along with draft plans for unincorporated north county and unincorporated east county) call for acquisition of habitat lands, provision of management of those lands to promote habitat conservation, and periodic monitoring to assess the effectiveness of the plans in conserving sensitive species. As discussed at the July 13 workshop, each habitat conservation plan has a target goal for land acquisition, management, and monitoring. The IRIS estimates for habitat conservation were updated in 2007 and presented to the SANDAG Board on January 12 and July 13, 2007.

The IRIS estimate of \$1.5 billion was based upon acquisition assumptions and land management and monitoring costs, though it was recognized that refinements to this number would be required. Since July 13, SANDAG staff has worked with several of jurisdictions (County of San Diego, City of San Diego, and City of Carlsbad) to get updated estimates on acquisition needs and land management costs. These updated costs were compiled and presented to the Environmental Mitigation Program Working Group (EMPWG) on September 11, 2007. While the EMPWG did not reach consensus on a specific cost estimate, there was general agreement that an estimate that included a range of costs would be more appropriate at this time.

SANDAG staff revised the IRIS 2007 update for habitat conservation based upon the information provided by the jurisdictions which resulted in a revised estimate range of \$1.8 billion to \$2.4 billion. The low end of the range is based upon recent acquisition requirements and land management costs provided by the jurisdictions. The high end represents assumptions made in the

original IRIS in 2003 that private land dedicated to the County of San Diego would not require an endowment from private land owners for basic land stewardship management, and would therefore, be required through another mechanism. Adaptive biological management and regional biological monitoring would still be considered a regional obligation under both cost estimates.

Several policy decisions could reduce the overall cost in this estimated range. These include the amount of *TransNet* funding to be credited toward the regional funding obligation, possible provision for a perpetual endowment for management and monitoring, and the amount of land that is required to be preserved for the East County MSCP (anticipated adoption of 2009). These policy decisions could decrease the required funding by \$0.2 billion to \$1 billion from the estimate range of \$1.8 billion to \$2.4 billion above.

Stormwater Management

There has been substantial progress made by the region's 18 incorporated cities, County of San Diego, the San Diego Unified Port District, and the San Diego County Regional Airport Authority (Copermittees) under the 2007 National Pollutant Discharge Elimination System (NPDES) Permit. Working with the Regional Water Quality Board (Regional Board) and the County of San Diego, SANDAG staff utilized two methods to estimate total regional stormwater compliance costs in 2006 dollars from 2010 through 2030 to meet federal and state requirements.¹

First, NPDES permit compliance costs per household determined by a study prepared in January 2004 for the California State Water Resources Control Board, prepared by Office of Water Programs, California State University, Sacramento (CSUS) were multiplied by the SANDAG 2006 estimate for the number of households within the region. The annual cost estimate for compliance with the NPDES permit through 2030 is \$1.5 billion (based on an average per household cost).²

The second cost estimate combines all current Jurisdictional Urban Runoff Management Program (JURMP) cost estimates. The JURMP, which is developed and implemented by each jurisdiction, describes what activities are being conducted to reduce the pollution levels found in their municipal separate storm sewer systems to the maximum extent practicable. The program establishes clear minimum stormwater management requirements and controls for four primary activities: commercial, industrial, municipal, and new construction/development. The annual cost estimate using the Copermittees' JURMPs is \$3.4 billion, escalated at three percent through 2030.

These two estimates are imperfect. The study completed by CSUS did not account for activities, such as street sweeping and trash collection, that are not considered permit compliance costs by the Regional Board, but which are accounted for in many of the jurisdictional programs. Additionally, there are disparities in how costs are accounted and expenditures are tracked for each of the local jurisdictions. Lastly, these estimates should not be compared but should be used to provide the range of potential costs. The low end estimate is an average for households in California, and the high end estimate represents actual costs.

As stated above, these estimates only address costs associated with federal and state requirements to comply with current stormwater regulations; it would not proactively address comprehensive

¹ Both cost estimates assume that the Copermittees should be absorbing the costs for stormwater management, monitoring, education and outreach, and California Stormwater Quality Administration (CASQA) membership (\$.044 billion) through 2030.

² The NPDES Stormwater Cost Survey looked at five municipalities and one metropolitan area within California that demonstrate meaningful progress toward maximum extent practicable (MEP) compliance.

water quality enhancement in the region. In follow-up discussions with Copermittees and stakeholders, there was a consensus that the region should consider an alternate approach that may get the region closer to meeting clean water goals instead of focusing on meeting permit requirements, which change every five years when the NPDES permit is reissued. This approach would involve the preparation and adoption of a regional water quality improvement plan (plan).

The plan would build off of the water quality planning efforts throughout the region, such as the various watershed management plans and the Integrated Regional Water Management Plan (IRWM). The IRWM Plan preparation included many regional stakeholders who worked to establish regional objectives and water management strategies that aided in the development of a list of potential implementation projects proposed for state funding (Propositions 50 and 84). This approach would address clean water at the regional level, outlining strategies that would help to meet water quality objectives within and across watersheds, identify water quality problems and solutions, and organize water quality information into a centralized database for a more comprehensive analysis. Most importantly, the plan would reach out to regional stakeholders to identify existing and new regional water quality goals, objectives, and targets. Finally, the planning process would include defining an implementation strategy that would meet these regional goals, objectives, and targets. The results of the plan would be included in the RCP to coordinate and plan for the implementation of clean water in the region.

Next Steps

If the SANDAG Board determines that SANDAG should have a role in pursuing investments for one or more of these regional infrastructure needs, staff would provide the Board with the following items for consideration in January prior to its annual retreat:

1. A package of alternatives of infrastructure needs along with a cost for various levels of investments for each of the three infrastructure types,
2. Funding options to achieve the desired infrastructure investments,
3. A timeline of necessary steps to achieve the various funding options,
4. Identification of other regional funding needs that should be considered along with the three infrastructure types outlined in this report, if any,
5. Establishment of an ad hoc steering committee of Board members that to provide input into the formation of funding options,
6. An analysis of the legislative changes necessary for SANDAG or other entities to seek funding for environmental infrastructure investments through the RCP,³
7. A legal analysis for how these environmental infrastructure measures could be accommodated into a potential ballot measure, one of the funding options,

³ The SANDAG Office of General Counsel has concluded that an amendment to the SANDAG taxation authority would be required to make the full range of the environmental infrastructure projects discussed in this report eligible for funding by the tax. The RCP, adopted by the SANDAG Board in July 2004, includes these environmental infrastructure components and could serve as the justification for modification to the taxation authority.

8. An analysis of the process requirements for environmental compliance with the California Environmental Quality Act (CEQA), such as a possible supplement to the RCP Final Environmental Impact Report, and
9. The budgetary demands and Overall Work Program changes necessary to implement SANDAG Board direction.

Direction Requested

A review of the timeline and Work Program for the *TransNet* Extension Ordinance (Attachment 2) indicates that, given the various steps necessary to develop a new ballot measure to finance habitat conservation plans, it would be very difficult to do so by November 2008 as referenced in the *TransNet* Extension Ordinance.⁴ Therefore, the Board should consider whether to direct staff to schedule a SANDAG Board meeting to address a revision to the *TransNet* Extension Ordinance to modify EMP Principle 10 in the Ordinance, to extend the time for the SANDAG Board to *act on* additional regional funding measures for habitat conservation. Extension of the time would require a public hearing and a two-thirds vote of the SANDAG Board in support of an amendment pursuant to the *TransNet* Extension Ordinance.

In conclusion, the SANDAG Board has engaged in discussions over the past six months on three regional environmental infrastructure areas that currently do not have a system in place to address funding and prioritize expenditures. Funding for these regional infrastructure needs could be addressed regionally in a collaborative manner with the SANDAG member agencies and interested stakeholders. Staff is seeking the Board's direction to initiate the next steps to address the legal, policy, and procedural requirements necessary to bring back a recommendation on a timeline, specific approaches, and costs for each of the infrastructure investments, and the exploration of existing and potential funding options for these infrastructure needs.

GARY L. GALLEGOS
Executive Director

Attachments: 1. Response to Regional Environmental Infrastructure Questions
2. *TransNet* Extension Work Program

Key Staff Contact: Keith Greer, (619) 699-7390, kgr@sandag.org

No Budget Impact

⁴ This timeline from 2002 does not take into account the time needed to extend SANDAG's taxation authority to cover regional infrastructure projects related to the RCP via new legislation.

Response to Regional Environmental Infrastructure Questions

1. Shoreline Management and Beach Sand Replenishment (June 8, 2007)

SANDAG staff has listed below questions that came up during the SANDAG Policy Board of Directors meeting on June 8, 2007, as well as responses to the SANDAG Board questions.

a. How many overnight visitors and where are they staying?

According to data collected for the San Diego Convention & Visitors Bureau, visitors to the San Diego region come for many reasons: parks, nightlife, and amusement parks, such as SeaWorld and the San Diego Zoo. These data indicate that 19 percent of overnight visitors to the region are going to the beaches and bays, 26 percent are going to amusement parks, and the balance are enjoying San Diego's other attractions.

Approximately 57 percent of the beach and bay visitors stay overnight in San Diego at: private homes (24.7 percent), hotels/motels (23.2 percent), campgrounds (4.5 percent), or other accommodations (4.6 percent). The remaining 43 percent of beach and bay visitors are on day trips from outside the region (e.g., Orange, Los Angeles, and Riverside Counties) and do not stay the night.

Additionally, the table below lists the geographic distribution of all overnight stays by beach and bay visitors in San Diego (includes hotel/motel and home stays). Data for hotel/motel stays only by geographic area are not available.

Jurisdiction	% Overnight Visitors
San Diego	34.1
Imperial Beach	13.1
Coronado	12.7
Oceanside	11.4
Carlsbad	8.3
Vista	4.7
Chula Vista	3.0
San Marcos	2.7
Del Mar	2.3
Encinitas	2.2
National City	1.9
Escondido	1.0
Unincorporated	0.8
El Cajon	0.7
La Mesa	0.3
Solana Beach	0.3
Poway	0.2
Lemon Grove	> 0.1
Santee	> 0.1

b. How is sea level rise impacting the region's coastline?

According to the Scripps Institution of Oceanography (Scripps), by year 2030, the sea is estimated to rise between two centimeters (cm) to 16 cm (or between one inch to six inches). Scripps uses data from the International Panel for Climate Change (IPCC), which publishes estimates of sea level rise every five years. Although sea level rise due to global climate change may be minimal (through 2030), the combination of global climate change, higher tides, larger waves, beach erosion, El Niño weather patterns, changes in the frequency and severity of winter storms may have a dramatic impact on the sea level within the region, which could result in inundation of coastal areas. Regional beach replenishment would provide some property protection benefits and combat the impacts of sea level rise.

The Board of Directors requested that staff prepare a model of what would occur without beach replenishment. However, this is very difficult to estimate because, as mentioned above, there are several factors to take into consideration other than global climate change. Taking sea level rise only into account, the amount of impact between now and 2030 is relatively small, and difficult to depict on a map.

Recently, Scripps prepared a series of maps for the City of San Diego that show impacts from global climate change that extended out to 2100. A link to these maps can be found on the SANDAG Web site: www.sandag.org/shoreline.

c. Can sand dredged from harbors be used for beach replenishment?

Sand dredged from harbors can be used for beach replenishment if it is compatible with local beaches. For example the City of Oceanside, through the United States (U.S.) Army Corps of Engineers, dredges Oceanside Harbor every year, generally in the spring. Typically, between 150,000 cubic yards (CY) and 250,000 CY of sand are pumped on the beach in the area of Tyson Street Park, about a quarter of a mile south of the Oceanside Pier.

When the U.S. Navy dredged San Diego harbor, the incompatibility of sand and the fact that there were munitions in the sand, made it unsuitable for placement on the region's beaches. Money was provided to SANDAG for the planning and implementation of the 2001 Regional Beach Sand Project as mitigation for the impacts associated with dredging the San Diego Bay.

d. What beaches are state-owned versus locally-owned?

There are several beaches in the region owned by the State of California. The State beaches at Carlsbad, South Carlsbad, Leucadia, Moonlight, San Elijo, Cardiff, Torrey Pines, and Silver Strand would be affected by the implementation of a project similar to the 2001 Regional Beach Sand Project (RBSP). The following locations would be directly affected with a total direct fill of 955,000 CY (approximately 45 percent of the total project fill):

- Carlsbad (200,000 CY)
- South Carlsbad (160,000 CY)
- Cardiff (135,000 CY)
- Moonlight (90,000 CY)

- Leucadia (130,000 CY)
- Torrey Pines (240,000 CY)

In addition, the following State Parks would be indirectly benefited by adjacent fills for a total indirect fill of 800,000 CY (approximately 40 percent of the project):

- Carlsbad via Oceanside fill (380,000 CY)
- Leucadia via Batiquitos fill (120,000 CY)
- Torrey Pines via Del Mar fill (180,000 CY)
- Silver Strand via Imperial Beach fill (120,000 CY)

The numbers above, provided by the California Department of Boating and Waterways (DBW), do not include all State Park land in the San Diego region, only State Park land that is directly or indirectly impacted by building a project similar to the RBSP.

e. Are there solutions to erosion other than beach sand replenishment?

SANDAG adopted the Regional Shoreline Preservation Strategy in 1993. Sand retention strategies are recognized in the Shoreline Preservation Strategy as one of a number of tactics that can be used to complement the placement of sand on the region's beaches. Sand retention has the potential to increase the cost effectiveness of beach replenishment activities, and may even help to reduce potential environmental effects of beach filling by protecting sensitive resources such as reefs and lagoons from sedimentation, and possibly providing new habitat areas.

In 2001, SANDAG prepared the Regional Beach Sand Retention Strategy (Retention Strategy), which evaluates sand retention strategies at locations along the region's shoreline. The Retention Strategy evaluates both soft and hard structures as potential options for retaining sand and addresses the potential positive and negative impacts of each type of structure. Additionally, the Retention Strategy includes preliminary designs and costs estimates for sand retention strategies. It is a first step in what must be a carefully planned process that may ultimately result in regional beaches enhanced by retention structures. SANDAG staff will continue to work with the Shoreline Preservation Working Group (SPWG) on the consideration and incorporation of retention structures where applicable in the design and implementation of regional beach sand replenishment projects. A copy of the Retention Strategy can be found on the SANDAG Web site: www.sandag.org/shoreline.

Additionally, an evaluation of beach protective systems and innovative technologies, such as the Pressure Equalization Modules, will be considered during the development of the Coastal Regional Sediment Management Plan. Data gathering and analysis is included in the scope of work for this effort, which is expected to begin in late October 2007.

f. What have other states done to address the issue of funding beach sand replenishment activities?

California has received a very small amount of federal funding for beach nourishment

projects, both in absolute numbers and relative to miles of coastline. From FY 1995 to FY 1999, California received around \$12,000 in federal funding for each mile of coastline. New York and New Jersey received more than \$800,000 a mile during this time. Delaware received nearly \$180,000 a mile. (*The Fiscal Impact of Beaches in California*, King 1999). A major reason for this discrepancy is the way the Army Corps of Engineers sets its priorities for beach nourishment. Most of the development on the east coast is in the low coastal plain, making it particularly susceptible to coastal flooding. Therefore, the Army Corps of Engineers invests more funding on the east coast. In addition, California's congressional delegation has been less vocal than the other states' delegations.

The California State Budget is highly constrained, and therefore some California communities have turned to local funding mechanisms such as Transient Occupancy Taxes (TOT) and beach parking fees for beach sand replenishment. Two local communities that have already implemented a TOT specifically for beach sand replenishment are Solana Beach and Encinitas.

The following table summarizes federal funding amounts and state and local funding mechanisms for beach nourishment projects.

State	Federal Funding FY 1995 to FY 2005 (\$Million)	State / Local Funding mechanism	State /Local Match
Florida	\$222.7	Real estate transfer taxes, tourist development taxes (1% to 3% on hotel and condo rentals), sales tax, special assessments on coastal property.	At least 50% of nonfederal funds must be local
New York	\$178.9	Both state and local funding comes from general fund appropriations. Fire Island has a special assessment.	State 70%/ Local 30%
New Jersey	\$252.4	State contributions come from a real estate transfer tax, place in a "Shore Protection Fund," municipal and county bonds repaid from the general fund meet local obligations.	State 75%/ Local 25%
Delaware	\$33.1	At least \$1 million/year from state general fund for beach nourishment and protection, 1% statewide hotel tax for beach nourishment used as local share.	State 50%/ Local 50%
Texas	\$2.7	No dedicated source of funds. Previous erosion control projects were financed using oil spill recovery fund. Possible funding sources may include a TOT, fees on oil and gas extraction, fees on commercial ship docking and cruise ship passengers, and taxes for vessel fuel and lubricant.	
North Carolina	\$52.6	State general fund appropriations, local TOT.	State 75%/ Local 25%
Illinois	\$181	City of Chicago general revenues.	100% Local

Source: California Department of Boating and Waterways and Marlowe & Company

g. What are the economic costs and benefits associated with beach replenishment?

The SPWG has completed work on a Feasibility Study that will allow SANDAG to compete for funds from the DBW Beach Erosion and Public Beach Restoration Program for the implementation of a regional beach sand replenishment project similar to the RBSP in 2001. A component of the Feasibility Study is the development of a regional cost-benefit analysis (CBA), the Economic Considerations portion of the feasibility study, which quantifies the economic benefit of a nourishment project similar in scope to the RBSP. Specifically, the CBA estimates the increase in recreational value from widening specific beach sites by looking at the increase in recreational value per visitor and the increase in visitors. Additionally, the CBA quantifies the storm damage prevention benefits associated with beach nourishment. And, finally, the CBA will estimate the increase in direct economic and tax revenue impact for the San Diego region. A copy of the Feasibility Study can be found on the SANDAG Web site: www.sandag.org/shoreline.

h. What is the status of the potential for purchasing a dredge for the State of California?

DBW has hired a consultant to prepare a feasibility study to determine whether the State of California should invest in a dredge for use by the State and local jurisdictions. It is estimated that this feasibility study will be completed by the end of the year.

i. How can opportunistic sand be used throughout the region?

Since long-term funding sources are not currently available for ongoing replenishment efforts, SANDAG is working with local cities to develop opportunistic sand programs that place compatible excess sandy material from sources, such as development projects and detention basins, on regional beaches. SANDAG has been working through a grant from DBW on a pilot program called the Sand Compatibility and Opportunistic Use Program (SCOUP), which is a mechanism for coastal jurisdictions to place small quantities of suitable sand material on beaches when it becomes available. The cities of Coronado, Encinitas, Imperial Beach, Oceanside, and Solana Beach participate in SCOUP. The City of Carlsbad also implements a similar program.

Recently, SANDAG received another grant from DBW to develop a pilot Coastal Regional Sediment Management Plan (Regional Management Plan) for the San Diego region. Building upon what was developed for the California Coastal Sediment Management Master Plan, the Regional Management Plan is a guidance and policy document that will discuss how management of sediment targeted at coastal erosion can be implemented in an expeditious, cost-effective, and resource-protective manner throughout the San Diego region. The goal is to maximize use of sediment in the region and place all available compatible materials on the region's beaches.

2. Habitat Preservation (July 13, 2007)

SANDAG staff has listed below questions that came up during the SANDAG Policy Board meeting on July 13, 2007, as well as responses to the SANDAG Board questions.

a. What have the jurisdictions provided in their budgets for Natural Communities Conservation Program/Habitat Conservation Program Implementation?

Currently, six jurisdictions representing 20 percent of the region’s geographic area have adopted Natural Communities Conservation Program (NCCP)/Habitat Conservation Program Subarea Plans. Each Subarea Plan has its own set of requirements for acquisition, and corresponding management and monitoring. For example, La Mesa is outside of any core biological area and its only requirement is to direct biological mitigation towards more sensitive areas in the region. The following provides the statistics and budgets for those jurisdictions.

Jurisdiction	Date of Adoption	Target Size of Subarea (acres)	2007 Budget Information	Funding Source
County	March 1998	98,379	\$7,870,000	General Fund
City of San Diego	March 1997	52,012	\$4,430,214	General Fund & Water Enterprise Fund
Poway	July 1996	11,843	\$60,000	General Fund
Carlsbad	November 2004	6,400	\$313,000	General Fund
Chula Vista	January 2005	9,243	\$315,000	Community Facility District
La Mesa	November 1999	51	\$0	Not Applicable
Total		177,928	\$12,988,214	

Sources: County of San Diego Adopted Operational Plan FY 2006-2007 and FY 2007-2008 (page 24) – \$5 Million for acquisitions (County acquisition requirement is 9,425 of which over 50 percent has already been acquired).

County of San Diego Adopted Operational Plan FY 2006-2007 and FY 2007-2008 (page 253) – stewardship, monitoring and adaptive management funding is included Department of Parks and Recreation in Salaries and Benefits and Services and Supplies for management and monitoring costs. In addition, one-time funding in the amount of \$870,000 was appropriated for MSCP stewardship and the preparation of Area Specific Management Directives.

City of San Diego NCCP Managers Report, May 30, 2007.

City of Poway: e-mail From Patti Brindle, August 23, 2007.

City of Carlsbad Budget FY 2007-2008, Program Options pp. 1-2, reoccurring costs.

City of Chula Vista: e-mail from Josie McNeeley, September 28, 2007.

La Mesa Subarea Plan. Confirmed per e-mail from Bill Chopyk, September 27, 2007.

b. How are the jurisdictions working with the tribes to integrate Habitat Conservation Planning?

The tribal lands are predominately included in the unincorporated portion of the County of San Diego; however, they are sovereign nations that are not part of County of San Diego jurisdiction. Similar to lands owned by the State of California, federal government, and water districts, the tribal lands are located within the North County and East County MSCP Study Areas, but the County does not have land use authority over lands owned by these entities. Tribal lands in the North County MSCP consist of 35,000 acres (10 percent) of the study area, and 100,000 acres (6 percent) in the East County MSCP.

Early in the planning for the North County MSCP, the County sent letters to all of the tribes explaining the goals, objectives, and process of the proposed habitat conservation planning.

An initial meeting was held with Rincon and Pauma tribes after they expressed interest in the process. Additional meetings with the Rincon tribe have occurred as it works on developing its own habitat conservation plan, which will complement the County plan. Within the past two years, the County also has had additional discussions with members of the Pala tribal staff.

For the East County MSCP, which has just started in the public outreach phase, the County has held one specific meeting with all of the tribes invited. The County has and will continue to coordinate with the tribal governments to collaborate on habitat conservation planning. It should be noted that the County habitat conservation plans do not rely on the tribal lands for purposes of species protection. Joint conservation planning among the County and the tribes is welcomed and encouraged.

c. Explain how the Environmental Mitigation Program Working Group is developing cooperative managing and monitoring infrastructure throughout the county?

The Environmental Mitigation Program Working Group (EMPWG), chaired by Coronado Mayor Pro Tem Carrie Downey, developed a set of recommendations to provide funding to address comprehensively the most critical regional needs for biological management and monitoring for the successful implementation of the regional Habitat Conservation Plans. This comprehensive approach to management and monitoring has resulted in identification of four significant gaps: (1) the lack of a regional coordinating entity for management and monitoring; (2) the lack of a strategic plan for the removal and control of exotic species at the watershed-level; (3) the lack of a structure and standards for regional monitoring activities, data storage, and analysis of information to the policymakers and the public; and (4) specific regional monitoring efforts to track the populations of the region's flagship species, the California Gnatcatcher, and the resilience of plant and animal species after the catastrophic wildfires of 2003.

In addition, the EMPWG has identified a conceptual five-year funding strategy for implementing regional management and monitoring priorities as funds become available. The five-year funding strategy is a flexible document to chart the course of future management and monitoring activities. Specific activities would continue to be reviewed by the Regional Planning Committee and considered by the SANDAG Board on an annual basis or as needed. Details on activities funded in the previous year and recommendations for changes in the strategy would be presented along with future funding requests.

Based upon recommendation from the Regional Planning Committee, the SANDAG Board approved funding for management and monitoring activities totaling \$2 million dollars on December 15, 2006, up to \$700,000 of which is authorized for time-sensitive field monitoring work which has been completed, and the remaining \$1.3 million which will be released when funding is available. The SANDAG Board also approved a five-year funding strategy for management and monitoring activities which will result in a blueprint for the annual recommendations from the EMPWG through the Regional Planning Committee.

d. How have the costs for regional Habitat Conservation Planning been refined and what are the assumptions in the cost estimates?

As part of the Integrated Regional Infrastructure Strategy (IRIS) of the Regional Comprehensive Plan (2004), regional cost estimates were reviewed and refined for the habitat conservation plans. Estimates were based upon those costs identified in the habitat conservation plans and revised through discussions at a joint stakeholders meeting held on December 2, 2003. These revised cost estimates were approved by the SANDAG Board as part of the adoption of the Regional Comprehensive Plan in July 2004. In December 2006, the cost estimates were updated to reflect inflation since 2004 and presented to the SANDAG Board on January 12, 2007. Total costs for implementation of all habitat conservation plans in the region were estimated at approximately \$1.5 billion.

In order to update the costs associated with regional habitat conservation plans, SANDAG staff needed additional input on the land to be acquired and managed publicly and an updated cost of management and monitoring. In the review of the MSCP South and MHCP plans, it became clear that terminology is critical in understanding what is meant by management and monitoring.

The following working definitions were developed and discussed by the EMPWG on August 14 and September 11, 2007:

Categories	Examples
<i>Land or Stewardship Management</i> – Basic property management to protect the existing habitat. Annual cost.	Fence Repair, Continuing Trash Removal, Trail Maintenance, Signage Installation, Enforcement, Fire (Brush) Management
<i>Adaptive Habitat Management Contingency</i> – Biological management based upon experimental testing to enhance native species and reduce non-native species. This includes preserve-level monitoring, observational studies to assess the condition of a preserve unit, and general status of the vegetation and species in a preserve unit. Annual cost.	Invasive Species Removal, Habitat Restoration Projects, Tracking and Reporting Success of Projects
<i>Preparation of Area Specific Management Directives</i> – Management plans designed to identify a list of actions for the management (stewardship and adaptive) of a given preserve unit. One-time cost.	Baseline Biological and Cultural Surveys, Plan Preparation, including graphics, Incorporation into a GIS
<i>Start Up Costs</i> – Initial cost of site preparation. (Excluding land acquisition costs). One-time cost.	Initial Fencing, Litter Removal, Initial Habitat Restoration
<i>Regional Biological Monitoring</i> – Statistically robust, quantitative, or semi-quantitative monitoring designed to establish regional status and trends of species and vegetation communities. Annual cost.	Rare Plant and Faunal Monitoring Tracking Status and Trend, Vegetation Change, Monitoring, Wildlife Corridor Monitoring
<i>Program Administration</i> – Implementation of plan. Annual cost.	Coordination and implementation of subarea plan, legal support, financial management, database management, facilities and equipment

Based upon the definitions above, SANDAG staff solicited cost estimates from the County of San Diego, the City of San Diego, and the City of Carlsbad. These three jurisdictions were selected since they represent a large portion of the region with habitat to be acquired and managed under the regional habitat conservation plans and have existing data on management and monitoring costs that could be readily allocated into the categories described above.

The EMPWG did not make a recommendation on a specific per acre cost for any of these estimates, but there was general agreement that a range would be more appropriate at this time, allowing for various components of the cost estimate to be vetted by the SANDAG Board. There was also strong input from the U.S. Fish and Wildlife Service that a contingency on management be included to address unforeseen circumstances, such as the catastrophic wildfires of 2003.

SANDAG staff, working through its consultant Dr. Jun Onaka, revised the IRIS model for habitat conservation planning cost based upon the numbers provided by the jurisdictions and wildlife agencies, including a 10 percent contingency for annual recurring costs for unforeseen circumstances.

The updated cost was a range of \$1.8 billion to \$2.4 billion depending on the amount of private land dedicated to the County and managed with regional funds. The low end of the range is based upon recent numbers provided by the County of San Diego staff. The high end represents assumptions made in the 2003 IRIS that private land dedicated to the County would not require an endowment from private land owners for basic land stewardship management and would therefore, be require through another mechanism. Adaptive biological management and regional biological monitoring would still be considered a regional obligation under both cost estimates. This cost represents a comprehensive cost of all habitat conservation planning areas, including the North County MSCP (anticipated adoption 2008) and the East County MSCP (anticipated adoption 2009).

There are several key policy issues that could reduce these cost: the amount of *TransNet* funding attributable to regional funding (\$200 million), inclusion or exclusion of a perpetual endowment (\$581 million) for management and monitoring, and inclusion or exclusion of the East County MSCP (anticipated adoption of 2009) (\$170 million). Depending on the SANDAG Board decisions on these policies, the overall costs could decrease by \$200 million to \$1 billion.

TransNet Extension Work Program

	2002			2003			2004												
	J	F	M	A	M	J	J	F	M	A	M	J	J	A	S	O	N	D	
SANDAG ACTIVITIES																			
Initial RTP/TransNet Outreach Efforts																			
Workshops on Trans. Needs/Issues																			
Focus Groups																			
Expenditure Plan Options/Issues																			
Base Poll - Expenditure Plan																			
Develop Draft Expenditure Plan																			
Tracking Polls																			
Workshops on Expenditure Plan																			
Final Expenditure Plan Adoption																			
Public Education/Info regarding Expenditure Plan																			
PRIVATE SECTOR EFFORTS																			
Initial SANDAG Coordination with Interest Groups																			
Participate in RTP/TransNet Workshops																			
Organize Support Organization																			
Speaker's Bureau/Education Effort																			
Campaign Committee Organizes Campaign Efforts																			
2030 RTP PROCESS																			
Development of Draft RTP																			
Draft RTP Review/Final Adoption																			
REGIONAL PLAN DEVELOPMENT																			
Vision Component																			
Development of Draft Plan																			
Draft Review/Final Plan Adoption																			

TransNet MEASURE RENEWAL PROGRAM

Target Dates	SANDAG Actions
June to September 2002	<p>Initial RTP/TransNet Outreach Efforts: Initial community outreach (private, small group meetings with opinion leaders, interest groups, etc.) / Public education programs focused on long-term transportation needs versus revenue limits. These efforts to be coordinated with 2030 RTP development process.</p>
September 2002 to March 2003	<p>Workshops on Transportation Needs/Issues: Transportation Committee/Board workshop discussions on various program elements and transportation issues. Discussions to be coordinated with 2030 RTP process. Efforts also begin in this timeframe in support of legislation to reduce the voter threshold.</p>
March to May 2003	<p>Focus Groups: A series of focus groups to be conducted to gain input on issues, projects and programs related to the development of an expenditure plan.</p>
June to September 2003	<p>Expenditure Plan Options/Issues: Based on focus group findings, Staff/Consultant to work with Transportation Committee/Board on refining issues and options for the expenditure plan. Potential for a short tracking poll to frame issue for baseline poll later.</p>
October to November 2003	<p>Base Poll Expenditure Plan: Conduct Expenditure Plan baseline poll focusing on key program and project options, remaining policy issues, and testing of ballot language options.</p>
December 2003 to January 2004	<p>Develop Draft Expenditure Plan: Based on survey results and ongoing discussions with interest groups, etc., staff/consultant develop a draft expenditure plan</p>
December 2003 to March 2004	<p>Tracking Polls: One or two short tracking polls may be needed to test outstanding issues and refine Expenditure Plan components.</p>
February to March 2004	<p>Workshops on Expenditure Plan: Transportation Committee / Board to hold workshops/hearings to obtain input on Draft Expenditure Plan.</p>

TransNet MEASURE RENEWAL PROGRAM

Target Dates	SANDAG Actions
March to April 2004	Final Expenditure Plan Adoption: Based on any refinements needed after the draft review process, the first and second readings of the final expenditure plan and ordinance are conducted (to be completed after 55% vote threshold measure is decided, if on the Primary Ballot).
March or June 2004 Primary Election	Potential vote on constitutional measure to lower the voter threshold to 55%
Immediately After Final Expenditure Plan Process to November 2004	Public Education/Info. regarding Expenditure Plan: Public education/ speakers bureau to provide factual explanation of the adopted Expenditure Plan and Ordinance

Private Sector/Community Support Program

Target Dates	Private Sector Support Actions
June to October 2002	Initial SANDAG Coordination with Interest Groups: SANDAG and Program Consultant meet with potential support interest groups on the overall sales tax extension issue to survey their concerns, questions and needs, and to enlist support of legislation to lower voter threshold in the 2003 State Legislative Session.
October 2002 to March 2003	Participate in RTP/TransNet Workshops: Community support groups participate in SANDAG RTP/sales tax extension hearings on transportation future plans/programs/funding issues.
March to May 2003	Organize Support Organization: Supporters organize "coalition" support organization, such as a 501(3)(c) foundation for voter research and public education effort on San Diego transportation needs.
May to December 2003	Speaker's Bureau/Education Effort: Coalition support group implements countywide speaker's bureau based on voter opinion research, transportation needs and importance of extending the local sales tax. A constant effort is needed to broaden the breadth and depth of community understanding and support of dealing with the need.
January to March 2004	Campaign Committee Organizes: Formal campaign committee is organized, lead campaign consultant is hired, a work program is developed from April 2004 through election day November 2004, and campaign budget adopted and fundraising is started for measure campaign.
April 2004	Ballot Measure Finalized: SANDAG adopts final expenditure plan and ordinance for November 2004 ballot.
April to November 2004	Campaign Efforts: Formal campaign commences and continues through election day.



*The Carlsbad Desalination Project
is in the critical final stages of the approval process*

Please come out in support!

*The Project will bring a high-quality, drought proof water supply
to 300,000 residents of San Diego County by 2010.*

California State Lands Commission
Tuesday, October 30th, 10 AM - Port Administration Building
3165 Pacific Highway
San Diego, CA 92101

- * Transportation from the Carlsbad Chamber headquarters will be provided -
Buses leave the Chamber at 8a.m. and will return at approximately 2p.m.
* Continental breakfast and lunch will be provided to all in attendance

California Coastal Commission
Thursday, November 15th 9 AM - Sheraton San Diego Hotel
1433 Camino Del Rio South
San Diego, CA 92108

- * Transportation from the Carlsbad Chamber headquarters will be provided -
Buses leave the Chamber at 7a.m. and will return at approximately 4p.m.
* Continental breakfast and lunch will be provided to all in attendance

Carlsbad Chamber of Commerce is located at 5934 Priestly Drive, Carlsbad.
Please call Jessica at # 619-595-7802 if you can join us!



Potential Regional Infrastructure Investments



October 12, 2007

1

Potential Regional Infrastructure Investments

- ◆ Background
- ◆ Discussion of refined cost estimates
- ◆ Requirements under the *TransNet* Extension Ordinance
- ◆ Next Steps
- ◆ Recommendations



2

Background

- ◆ At the January 12, 2007 Policy Board meeting SANDAG staff presented funding options and potential future investments for three infrastructure types



Background

- ◆ RCP recognized there is no overall system in place to address funding or prioritize expenditures for:
 - Storm water management
 - Beach sand replenishment
 - Habitat conservation
- ◆ These infrastructure types are included together for Board consideration because they are interconnected

Background

- ◆ Separate workshops held on:
 - Stormwater management (May)
 - Beach sand replenishment (June)
 - Habitat conservation (July)
- ◆ Board requested that staff provide a range of refined cost estimates and approaches to investments



5

Beach Sand Replenishment

- ◆ Option A - Implementation of regional beach sand replenishment projects every five years through 2030
 - ***\$165 million***
- ◆ Option B - Regional beach replenishment every ten years with construction of sand retention structures through 2030
 - ***\$200 million***



6

Habitat Conservation

- ◆ Revised Costs Estimates (2007\$)
 - \$1.8 billion to \$2.4 billion depending on land to be managed in County with public funds



7

Stormwater Management

- ◆ Cost Estimate – Permit Compliance Approach
 - Range of costs between \$1.5 billion and \$3.4 billion



8

Stormwater Management

- ◆ Alternate Approach
 - Build upon Integrated Regional Water Management Plan and other water quality planning efforts throughout region
 - Strategy to implement regional water quality goals, objectives, and targets to move beyond permit compliance toward clean water



9

Summary of Estimates

Beach Sand
Replenishment \$165m to \$200 million

Habitat Conservation \$1.8b to \$2.4 billion

Stormwater
Management \$1.5b to \$3.4 billion

Estimated Range \$3.5b to \$6.0 billion



10

TransNet Extension Ordinance

“SANDAG agrees to act on additional regional funding measures (a ballot measure and/or other secure funding commitments) to meet the long-term requirements for implementing habitat conservation plans in the San Diego region, within the timeframe necessary to allow a ballot measure to be considered by the voters no later than four years after passage of the *TransNet Extension*.”

TransNet Extension EMP Principle #10



TransNet Extension Ordinance Habitat Conservation Funding

- ◆ *TransNet* Extension Ordinance
Timeline: 2-2.5 year process
- ◆ Legislation would be required for SANDAG to secure funding for these infrastructures types
- ◆ Staff recommendation is for the Board to extend timeline for action on habitat conservation funding



Next Steps

- ◆ Identify package of alternatives
- ◆ Identify funding options
- ◆ Identify other regional funding needs
- ◆ Establish ad hoc steering committee
- ◆ Analyze legislative changes needed
- ◆ Analyze options for potential ballot measure
- ◆ Develop timeline and work program

Recommendations

- ◆ Direct SANDAG staff to take next steps and present to Board for consideration at its annual retreat in January 2008
- ◆ Consider future hearing on extending timeline for *TransNet* habitat conservation funding



Potential Regional Infrastructure Investments



October 12, 2007