Board Members
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Mayor, Lemon Grove
Lori Holt Pfeiler, First Vice Chair
Mayor, Escondido
Jerome Stocks, Second Vice Chair
Deputy Mayor, Encinitas
Matt Hall
Councilmember, Carlsbad
Cheryl Cox
Mayor, Chula Vista
Phil Monroe
Councilmember, Coronado
Crystal Crawford
Councilmember, Del Mar
Mark Lewis
Mayor, El Cajon
Jim Janney
Mayor, Imperial Beach
Art Madrid
Mayor, La Mesa
Ron Morrison
Mayor, National City
Jim Wood
Mayor, Oceanside
Mickey Cafagna
Mayor, Poway
Jerry Sanders
Mayor, San Diego
Toni Atkins
Councilmember, San Diego
Jim Desmond
Mayor, San Marcos
Jack Dale
Councilmember, Santee
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Mayor, Solana Beach
Judy Ritter
Mayor Pro Tem, Vista
Ron Roberts
Chairman, County of San Diego
Bill Horn
Supervisor, County of San Diego
Advisory Members
Victor Carrillo, Chairman
Imperial County
Will Kempton, Director
California Department of Transportation
Harry Mathis, Chairman
Metropolitan Transit System
Ed Gallo, Chairman
North County Transit District
RDML (Sel) Michael Giorgione, USN
U.S. Department of Defense
Sylvia Rios, Chair
San Diego Unified Port District
Marilyn Dailey, Commissioner
San Diego County Water Authority
Robert Smith, Chair
Southern California Tribal Chairman's Association
Luis Cabrera C.
Consul General of Mexico
Gary L. Gallegos
Executive Director, SANDAG

BOARD OF DIRECTORS
POLICY AGENDA

Friday, May 11, 2007
10 a.m. to 12 noon
SANDAG Board Room
401 B Street, 7th Floor
San Diego

AGENDA HIGHLIGHTS

• URBAN PARTNERSHIP AGREEMENT PROPOSAL
• REGIONAL STORMWATER MANAGEMENT OVERVIEW

PLEASE TURN OFF CELL PHONES DURING THE MEETING

YOU CAN LISTEN TO THE BOARD OF DIRECTORS MEETING BY VISITING OUR WEB SITE AT WWW.SANDAG.ORG

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.
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.

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.

SANDAG offices are accessible by public transit.
Phone 1-800-COMMUTE or see www.sdcommute.com for route information.
1. PUBLIC COMMENTS/COMMUNICATIONS/MEMBER COMMENTS

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.

REPORTS (2 through 4)

+2. CLOSED SESSION – CONFERENCE WITH LEGAL COUNSEL PURSUANT TO GOVERNMENT CODE SECTION 54956.9 SUBDIVISION (b): ANTICIPATED LITIGATION – ONE POTENTIAL CASE (John Kirk)

+3. URBAN PARTNERSHIP AGREEMENT AND FEDERAL TRANSIT ADMINISTRATION SECTION 5309 AND SECTION 5339 APPLICATIONS (Councilmember Jim Madaffer, Transportation Committee Chair; Kim York and Samuel Johnson, SANDAG) APPROVE

On March 23, 2007, the Federal Transit Administration (FTA) announced an opportunity for designated agencies to apply for the $438 million in FTA Section 5309 Bus and Bus-Related Facilities Program funding available during FY 2007 and $12 million in Section 5339 Alternatives Analysis funding. Staff has worked with the staffs from Metropolitan Transit System and North County Transit District to identify potential projects and to develop two separate regional applications for the Bus Program as well as an application for the Alternatives Analysis Program. Pending action at its May 4, 2007, meeting, the Transportation Committee recommends Board approval of the two Section 5309 (UPA and Standard) Bus and Bus-Related Facilities grant applications and the Section 5339 Alternatives Analysis grant application consistent with the FTA notices.

+4. WORKSHOP ON REGIONAL WATER QUALITY AND STORMWATER MANAGEMENT (Rob Rundle) DISCUSSION

At the January 12, 2007, Board Policy meeting, staff presented an overview of the Integrated Regional Infrastructure Strategy (IRIS) of the Regional Comprehensive Plan, and provided the Board of Directors with updated costs for implementing three elements of the IRIS: Habitat Preservation, Stormwater Management, and Beach Sand Replenishment. Today's Policy Board meeting will continue the discussion on Stormwater Management and provide the Board an overview of stormwater management as it is today, its impact on local stakeholders, the scientific perspective on stormwater management, and how the region can work together to achieve clean water.
5. **UPCOMING MEETINGS**

   The next meeting of the Board of Directors is scheduled at 9 a.m. on Friday, May 25, 2007.

6. **ADJOURNMENT**

   + next to an agenda item indicates an attachment
URBAN PARTNERSHIP AGREEMENT AND FEDERAL TRANSIT ADMINISTRATION SECTION 5309 AND SECTION 5339 APPLICATIONS

Introduction

On April 27, 2007, the Board of Directors approved the SANDAG Urban Partnership Program Agreement (UPA) proposed application. The UPA proposal consists of a comprehensive plan for reducing congestion including innovative and aggressive initiatives that our region can implement and measure by the end of FY 2009.

UPA designation, if received, would give SANDAG preferential consideration for the UPA funding programs. These funding programs consist of several existing discretionary programs managed by the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA). Staff has identified six of these funding programs as targets for submission, based on the applicability to the region and the ability to be competitive.

Consistent with SANDAG Board action on April 27, 2007, UPA grant applications for the following three FHWA programs were submitted to the U.S. Department of Transportation (USDOT) by the April 30 deadline: Intelligent Transportation Systems Operational Testing to Mitigate Congestion (ITS-OTMC); Value Pricing Pilot Program (VPPP); and Transportation, Community, and System Preservation (TCSP).

The FTA has its own separate application processes, and the first programs to come under consideration are the Section 5309 Bus and Bus-Related Facilities (Section 5309 Bus Program) and the Section 5339 Alternatives Analysis programs. This report focuses on funding opportunities under these two programs, for which grant applications are due on May 22, 2007. SANDAG proposes to submit three applications in response to these programs: Section 5309 UPA; Section 5309 Standard; and Section 5339 Alternatives Analysis. (A future UPA grant funding opportunity is the New Starts/Small Starts Program.)

The Transportation Committee is scheduled to review this report and consider a recommendation at its regularly scheduled meeting on May 4, 2007.

Recommendation

Pending action on May 4, 2007, the Transportation Committee recommends that the SANDAG Board of Directors approve two SANDAG Section 5309 (UPA and standard) Bus and Bus-Related Facilities grant applications and the Section 5339 Alternatives Analysis grant application consistent with the March 23, 2007, Federal Transit Administration notices.
**Discussion**

For the past several years, Congress had fully earmarked the Section 5309 Bus Program through the appropriations process. However, for FY 2007, the congressional leadership limited earmarks to just those projects specifically authorized in the SAFETEA-LU (Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users). The SAFETEA-LU earmarks amounted to just over 51 percent ($459.7 million of $897.9 million) of the available funding, leaving a balance of $438.2 million available for FTA priorities.

The FTA has published two notices that delineate two avenues through which to access the Section 5309 Bus Program. The first notice entitled, “Section 5309 Bus and Bus-Related Facilities Discretionary Program to Support Urban Partnerships” (Section 5309 UPA Application) indicates that a “significant portion” of the $438.2 million has been reserved for projects that support the Urban Partnership Program. The term “significant portion” is not defined in the text of the FTA notice, but the notice clearly delineates that this solicitation must be limited to the 36 metropolitan areas that exceed certain levels of congestion. San Diego is one of those metropolitan areas.

The second notice is for the standard Bus and Bus Facilities Discretionary Program (Section 5309 Standard Application). This notice provides for the submittal of grant applications to fund capital projects of the more traditional nature with an emphasis on mobility, system accessibility, integration and efficiency, and flexibility of choices. Both solicitations are limited by law to bus capital projects allowed under Section 5309 of the Federal Transit Act and may not include operating subsidies.

The third notice published by the FTA is for the Section 5339 Alternatives Analysis Discretionary Program. This notice solicits proposals to compete for $12 million in Section 5339 funds to support technical work conducted within an alternatives analysis, in which one of the alternatives is a major transit capital investment.

**Section 5309 UPA Application**

The Transit element of the Four Ts consists of the strategy to reduce congestion by increasing the quality and capacity of peak-period transit service in order to offer a more attractive alternative to automobile travel and to accommodate peak-period commuters who elect to switch to transit in response to the adoption of congestion pricing. The selection criteria for this program, which is limited to those 36 metropolitan areas meeting minimal congestion criteria, include the following:

- Congestion reduction from current levels on major highways and arterial facilities within the demonstration area as measured by projected travel speeds, levels of service, or other objective measures of performance during the hours when the congestion reduction demonstration is in effect.

- Congestion reduction reasonably projected to enable improvements in transit service on major highways and arterial facilities within the demonstration area as measured by projected reductions from current levels in scheduled running times or intervals between departures or other objective measures of performance.

- Extent that the capital project is necessary to enable improvements to transit service as measured by qualitative benefits to transit users.
• Extent that the capital project is necessary to enable improvements in transit service in the above criteria.

Attachment 1 shows how each of the recommended projects for the Section 5309 UPA application support each of these criteria.

Section 5309 Standard Application

The Section 5309 Standard Bus Program solicitation is not limited to certain metropolitan areas. The notice details a preference for FTA priorities which include:

• Fleet replacement needs that cannot be met with formula funds
• Fleet expansion that allows significant service increase and/or improvements and/or operating efficiencies
• Strategic investments in rural areas where formula funding is inadequate
• Purchase of clean fuel vehicles
• Intermodal terminal projects that include intercity bus providers
• Gulf Coast recovery

The evaluation criteria for the Section 5309 Standard application are:

• Cost-Effective Strategic Investment
  1. Not reasonably funded with formula funds
  2. Insufficient SAFETEA-LU earmark
  3. Fleet age at 75 percent of useful life
  4. Significant impact on service delivery

• Planning and prioritization at local/regional level
  1. Identified in regional plan
  2. Local support in the form of identifying local match
  3. Supported by population trends
  4. Demonstrated cooperation between operators

• Addresses one or more bus priority areas (see above list)
• Ready to implement (the closer to implementation the better the project will rate)
  1. Environmental work initiated (minimum standard)
  2. Design completed/plans developed
  3. Regional Transportation Improvement Program/State Transportation Improvement Program can be easily amended to add project
  4. Early obligation such as use of existing procurement options

• Demonstrated ability to carryout project

Attachment 2 shows how each of the recommended projects for the Section 5309 standard application support each of these criteria.
Section 5339 Alternatives Analysis Application

The FTA will allocate available discretionary funding for alternatives analysis to support technical work that will improve and expand the information available to decision-makers considering funding for proposed New Starts/Small Starts projects. The FTA will give priority to alternatives analyses that would add one or more of the following tasks to:

- Collect and analyze data on transit ridership patterns and use the results to validate travel forecasting models.
- Collect and analyze the travel times of buses operating in mixed traffic, and other information on the current performance of the transit system, and use the results to determine the user benefits attributable to better the reliability of fixed guideway projects.
- Develop and apply simplified travel forecasting approaches for Small Starts alternatives.
- Develop improved methods for estimating the highway system user travel time savings associated with public transit alternatives.

Eligible study sponsors must be able to incorporate the results of this work into an ongoing alternatives analysis study or must commit to initiate an alternatives analysis study within 12 months of the grant approval. The selection criteria for this program are:

- Demonstrated need
- Potential impact on decision-making
- Capacity of the applicant to carry out the proposed work successfully

Attachment 3 shows how each of the recommended projects for the Section 5339 Alternatives Analysis application support each of these criteria.

Proposed Approach

With a May 22, 2007, application deadline, the application process did not allow adequate time to develop criteria and undergo a formal call for projects. Instead, staff has worked with the staffs and management of the Metropolitan Transit System (MTS) and the North County Transit District (NCTD) to develop the projects for which SANDAG will apply on behalf of the region.

Brief descriptions of the following recommended projects are included as Attachment 4. Some projects are represented in more than one application.
<table>
<thead>
<tr>
<th>Project</th>
<th>Alternatives Analysis Application</th>
<th>Section 5309 UPA Application</th>
<th>Section 5309 Standard Application</th>
</tr>
</thead>
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<tr>
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<tr>
<td>2. Express from San Ysidro, National City, Chula Vista to Downtown</td>
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<tr>
<td>3. Regional Transit Management System Expansion including Automated Passenger Counters</td>
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<td>✅</td>
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<tr>
<td>4. San Luis Rey Transit Center</td>
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<tr>
<td>5. Regional Signal Priority</td>
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<td>✅</td>
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<tr>
<td>6. Super Loop Buses</td>
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<tr>
<td>7. MTS East County CNG Fueling Station/Buses</td>
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<tr>
<td>8. Transition Route 303 to Rapid Bus in Vista/Oceanside</td>
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<td>9. Additional Wi-Fi/Mesh Network installation (Intermodal Stations)</td>
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<tr>
<td>10. 511 System Integration/Updates</td>
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<td>11. Smart Parking</td>
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<td>12. Express Bus Service Wi-Fi Access</td>
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<td>13. Real-Time Passenger Information at Transit Centers (Bus Component)</td>
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<td>14. Joint Transportation Operations Management Center/Systems Development</td>
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<td>15. Corridor-Based Ramp Metering</td>
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The New Starts/Small Starts program applications will be filed individually by project and are not subject to the same May 22 due date as the Sections 5309 and 5339 proposals. Staff will update the Board of Directors on the progress of the UPA-related New Starts/Small Starts applications at a future meeting.

GARY L. GALLEGOS  
Executive Director

Attachments: 1. FTA Section 5309 UPA Program Criteria Matrix  
2. FTA Section 5309 Standard Program Criteria Matrix  
3. FTA Section 5339 Alternatives Analysis Program Criteria Matrix  
4. Project Descriptions

Key Staff Contact: Kim York, (619) 699-6902, kyo@sandag.org
<table>
<thead>
<tr>
<th>Ref No.</th>
<th>Project</th>
<th>Estimated Total Cost (000's)</th>
<th>Congestion Reduction</th>
<th>Measurable Transit Improvements</th>
<th>Qualitative Transit Improvements</th>
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<tr>
<td>11</td>
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<td>$5,500</td>
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**Flexible Transit & Transportation Alternatives**

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<tr>
<td>4</td>
<td>San Luis Rey Transit Center</td>
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<tr>
<td>6</td>
<td>Super Loop Buses</td>
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<tr>
<td>7</td>
<td>MTS East County CNG Fueling Station/Buses</td>
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<td>✓</td>
<td>✓</td>
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<tr>
<td>8</td>
<td>Transition Route 303 to Rapid Bus in Vista/Oceanside</td>
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**Regional Wireless Data Network**

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<td>Additional Wi-Fi/Mesh Network installation (Intermodal Stations)</td>
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**Enhanced 511**

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**Integrated Performance Management**

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**Total Cost** $138,165
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<td>Total Cost</td>
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<td>1</td>
<td>SWOOP</td>
<td>$18,000</td>
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<td>This project would introduce a BRT route extending from South Bay to Kearny Mesa and Sorrento Valley. The route would expand the region's &quot;buses on freeway shoulders&quot; demonstration and utilize some advance technologies to make the driver's job easier. If successful a later phase of the project would include a value pricing demonstration for goods movement.</td>
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<td>2</td>
<td>Express from San Ysidro, National City, Chula Vista to Downtown</td>
<td>$5,600</td>
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<td>This route would provide express service between South Bay and Kearny Mesa via downtown San Diego. Stops would be limited to San Ysidro, Iris Trolley Station, H Street in Chula Vista, downtown San Diego, and Kearny Mesa. Based on market research, this service can support 7.5 minute average frequencies during the peak periods, assuming over the road coaches, or 15 minute frequencies using high capacity vehicles.</td>
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<td>3</td>
<td>Regional Transit Management System (RTMS) Expansion including Automated Passenger Counters</td>
<td>$12,550</td>
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<td>This project provides for system expansion to include 300 suburban and contract vehicles, additional frequencies, and automatic passenger counting for 500 buses, 175 light rail vehicles, and 30 COASTER vehicles.</td>
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<td>4</td>
<td>San Luis Rey Transit Center</td>
<td>$6,415</td>
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<td>This project will anchor five local transit routes in northeastern Oceanside and provide regional links to the Oceanside Transit Center (AMTRAK, COASTER METROLINK, and SPRINTER rail services), Vista Transit Center, Marine Corp Base Camp Pendleton, and to six SPRINTER stations. Federal and local environmental approvals have been received and the project is ready for construction. The transit center is an integral part of a larger &quot;Master&quot; mixed use project called North River Village.</td>
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<td>5</td>
<td>Regional Signal Priority</td>
<td>$6,000</td>
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<td>This project provides for the equipping of 800 transit vehicles and upgrades to approximately 50 traffic signals along several regional transit routes to support transit signal priority.</td>
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<td>6</td>
<td>Super Loop Buses</td>
<td>$8,000</td>
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<td>The Super Loop is a new, two-way circular transit system that will serve the North University City area of San Diego. Super Loop improvements will include priority traffic treatments such as signal prioritization, queue jumper lanes, and possibly special road markers that will allow Super Loop vehicles to move through traffic more rapidly than traditional buses. Planning for this project is now complete and the design phase is underway. This application is for Super Loop buses only. Signal priority treatments are included in the Regional Signal Priority project.</td>
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<td>7</td>
<td>MTS East County CNG Fueling Station and Buses</td>
<td>$11,000</td>
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<td>The Alternative Fuel Bus Program will purchase 18 40-foot CNG revenue vehicles and construct a CNG fueling facility at the East County Bus Maintenance Facility (ECBMF) in El Cajon. Operational management effectiveness in the San Diego region and the I-15 corridor will be maximized by the implementation of an alternative fuel bus program by San Diego MTS and will result in significant air quality benefits.</td>
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<td>8</td>
<td>Transition Route 303 to Rapid Bus in Vista/Oceanside</td>
<td>$12,000</td>
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<td>This project will convert the existing NCTD bus route 303 to rapid bus service. This conversion will provide passengers with upgraded service including increased frequencies, new vehicles and stations, added trips, lane delineations, and signal priority/queue jumpers.</td>
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<td>9</td>
<td>Additional Wi-Fi Mesh Network Installation (Intermodal Stations)</td>
<td>$1,000</td>
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<td>This project provides for the expansion of the Coaster wireless network to extend from end to end.</td>
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<td>10</td>
<td>511 System Integration/Updates</td>
<td>$4,000</td>
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<td>This project enhances the region's 511 system to provide increased functionality for real-time transit service and inclusion of smart parking services. Extends the 511 service to support in-vehicle systems and mobile devices.</td>
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<td>11</td>
<td>Smart Parking</td>
<td>$5,500</td>
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<td>This project implements a parking availability, guidance and fee-based reservation system for transit facilities. It provides for the evaluation of value pricing as a means to fund construction of additional parking, and provides for the implementation of highway and arterial changeable message signs to provide customers with information on transit alternatives and parking availability. Later phases of the project would evaluate partnership deployments with universities and the Centre City area.</td>
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<td>12</td>
<td>Express Bus Service Wi-Fi Access</td>
<td>$100</td>
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<td>This project deploys infrastructure and/or services to support public internet access for long distance routes and includes the evaluation of business models to avoid regional cost impacts.</td>
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<td>13</td>
<td>Real Time Passenger Information at Transit Centers</td>
<td>$6,000</td>
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<td>This project provides for the deployment of 100 next arrival signs for bus and rail service throughout the region.</td>
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<td>14</td>
<td>JTOC / Systems Development</td>
<td>$42,000</td>
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<td>This project provides for the implementation of a combination virtual/physical facility that promotes network based management of our transportation system. This project will also provide for the development of a real-time traffic simulation and decision support system to create a proactive management system.</td>
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<td>15</td>
<td>Corridor Based Ramp Metering</td>
<td>$1,000</td>
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<td>This project provides for the analysis, development, and implementation of corridor/system based ramp metering plans.</td>
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WORKSHOP ON REGIONAL WATER QUALITY
AND STORMWATER MANAGEMENT

Introduction

On January 12, 2007, a report on the Integrated Regional Infrastructure Strategy (IRIS) of the Regional Comprehensive Plan (RCP) was provided to the SANDAG Board of Directors. The report included updated cost estimates and potential revenue sources for three specific infrastructure areas, including stormwater management, beach sand replenishment, and habitat preservation. The Board discussion was followed by additional discussions at the Board Retreat in late January. Based on input from these discussions, it was determined that Board policy forums should be held on each of the three infrastructure topics. Today’s meeting is the first of the three forums. Shoreline Management and Beach Sand Replenishment will be discussed at the Policy Board meeting on Friday, June 8, 2007, and Habitat Preservation will be discussed on Friday, July 13, 2007.

Today's Board Policy meeting will continue the discussion on stormwater management and provide an overview of stormwater management in the San Diego region as it is today, its impact on local stakeholders, the scientific perspective on stormwater management, and how the region can work together to achieve clean water. Additionally, a white paper on water quality (Attachment 1) has been prepared to update the information on existing plans and programs originally presented in the RCP Healthy Environment chapter in 2004, as well as provide information on notable regional water quality planning efforts underway in the State of California, including Integrated Regional Water Management planning in the San Diego region.

Discussion

Because of lack of available resources at the national and state level to help finance transportation as well as other regional and local infrastructure needs, regions are increasingly being asked to leverage or match state and federal funds with local money or programs that help fill the infrastructure gaps. The IRIS was produced by SANDAG and approved by the Board in 2004 as a key component to the RCP. The IRIS identifies ways of addressing this trend of greater regional responsibility for planning and funding its infrastructure needs. It outlines a strategy for working with regional infrastructure providers to develop a forward-looking planning, investment, and financing strategy that will help the San Diego region meet its collective regional infrastructure needs.

IRIS identified three regional infrastructure areas in San Diego that do not have an overall system in place to address their funding needs and prioritize their expenditures: stormwater management, beach sand replenishment, and habitat preservation. The IRIS recommended that SANDAG take a role in developing a system to address each of these areas of infrastructure needs.
It was determined that before further discussing funding options at the Board, three policy forums would be held to ensure all Board members are better informed about 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. The specific discussions on each of the three infrastructure areas will address:

- What is currently being done to address the issue?
- What should the region be doing?
- What should be SANDAG’s future involvement, if any?

An outline of today’s speakers is included in Attachment 2.

GARY L. GALLEGOS
Executive Director

Attachments: 1. Water Quality White Paper
               2. List of Speakers/Discussion Topics

Key Staff Contact: Rob Rundle, (619) 699-6949, rru@sandag.org

No Budget Impact
Introduction

SANDAG adopted the Regional Comprehensive Plan (RCP) in 2004. The RCP included a Healthy Environment chapter that discussed the topic of water quality in the region. This white paper includes an update of information on existing plans and programs presented in the RCP (page 165) on this subject. Additionally, this white paper provides information on notable water quality planning efforts in the State of California, including Integrated Regional Water Management planning in the San Diego region.

Water Quality Regulation

Several federal, state, and local government entities are responsible for monitoring and/or regulating water quality within the region. Additionally, numerous laws provide a basis for water quality and establish the goals and objectives that guide the region’s water quality programs.

At the state level, the Porter-Cologne Act of 1969 established a regulatory program to protect water quality and the beneficial uses of state waters. It created and designated the State Water Resources Control Board and the Regional Water Quality Control Boards as the principal state agencies responsible for water quality control.

The Regional Water Quality Control Boards (RWQCB) formulate and adopt, for all areas within each region in California, a Water Quality Control Plan (Basin Plan) that designates beneficial uses for surface and ground waters; sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state’s anti-degradation policy; describes implementation programs to protect the beneficial uses of all waters in the region; and describes surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan.1

The 1972 Clean Water Act (CWA), a federal statute governing water quality regulation, established the National Pollutant Discharge Elimination System (NPDES) permit program to regulate the discharge of pollutants from point sources. Without a permit, the discharge of pollutants from point sources into navigable waters of the United States is prohibited. Point source pollutants originate from an identifiable source or “point” of waste release, such as municipal sewage treatment plant outfalls and stormwater conveyance system outfalls. These outfalls contain harmful substances that are emitted directly into waters of the United States.

The NPDES permit program includes two types of permits: individual and general. Most permits fall under the category of the general permit, which covers multiple facilities. Since its adoption, several NPDES permits have been issued by the RWQCB, and pollution from point sources has been diminished. These permits have been issued for work being done throughout the region to local, state, and federal agencies, such as the County of San Diego, the California Department of Transportation (Caltrans), and the Navy. In addition, private industrial businesses, such as certain manufacturing, biomedical, and scrap yard facilities are subject to individual NPDES permits.

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1 Information on the Basin Plan can be found at www.swrcb.ca.gov/rwqcb9
Amendments to the CWA in 1987 further strengthened regulation of pollutants by establishing a framework for the regulation of stormwater and other types of urban runoff. (Stormwater is one component of the water quality discussion included in the RCP. The RCP defines “stormwater” as water from rain or melting snow that does not soak into the ground. The key factor in determining if a discharge is stormwater or non-stormwater is based entirely on whether or not the discharge originated from a precipitation event. Only discharges originating from precipitation events are considered stormwater.) Urban runoff is primarily caused by non-point source pollutants, which now contribute a larger portion of many kinds of pollutants into our waters. Non-point source pollutants originate from diffuse sources and are the result of man’s uses or disturbances of land. Non-regulated, non-point sources of pollution come from sources such as, agriculture, residential, energy production, mining, livestock, and forestry. Non-point source pollution is caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and even underground sources of drinking water.

The CWA (Section 303(d)) also mandates that states develop a list of segments of water that do not meet water quality standards, even after pollution control technology has been implemented for point sources of pollution. The State Water Resources Control Board (SWRCB) works with the regional water quality control boards and local jurisdictions to prepare the 303(d) list of impaired water bodies. Local jurisdictions are required by law to establish action plans and rank the waters in order to move towards improvement of these segments.

Total Maximum Daily Loads (TMDLs) are action plans prepared by local jurisdictions to restore waters that do not meet water quality standards. TMDLs examine the water quality problems and identify sources of pollutants in order to create specific actions that will address the problems. As of 2006, there are approximately 78 water segments in the San Diego region, such as streams, waterbodies, and the shoreline, that are considered impaired and do not meet water quality standards and will require a TMDL.

**Stormwater Permits and Water Quality Programs**

To reduce pollution in urban runoff, the San Diego RWQCB issued an NPDES Stormwater Permit in 1990. This permit was renewed in 2001 and most recently in 2007. The current permit was issued to the 18 incorporated cities within San Diego County, the County of San Diego, the San Diego Unified Port District, and the San Diego County Regional Airport Authority. These agencies, with the County of San Diego as the lead agency, are collectively known as the “Copermittees.” The permit ordered the Copermittees to collaborate to control waste discharges in stormwater and other urban runoff from the Municipal Separate Storm Sewer Systems (MS4) that drain into the watersheds of the region.

The Permit requires in part, that the Copermittees develop and implement three water quality programs to address the pollution found in urban stormwater runoff: the Jurisdictional Urban Runoff Management Program, the Watershed Urban Runoff Management Program, and the new Regional Urban Runoff Management Plan.

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2 NPDES Order No. R9-2007-0001
**Jurisdictional Urban Runoff Management Program (JURMP)**

The JURMP, which is developed and implemented by each municipality, describes what the jurisdiction is doing within its own borders to reduce the pollution levels found in their MS4s to the maximum extent practicable (MEP). The program establishes clear minimum stormwater management requirements and controls for four primary activities: commercial, industrial, municipal, and new construction/development as well as implementation of an educational program.

In addition, the Copermittees have prepared a model Standard Urban Stormwater Mitigation Plan (SUSMP) as a component of the JURMP. The SUSMP addresses the JURMP requirements that apply to new construction and development activities. The SUSMP requires the development and implementation of a program addressing urban runoff pollution issues in planning for public and private Priority Development Projects, which are specific categories of new development and redevelopment projects.\(^3\) The new permit also requires some new components be included in the SUSMP, such as new programs to maximize changes to runoff discharge rates and requirements for low impact development (LID) best management practices (BMP). “LID BMPs will collectively minimize directly connected impervious areas and promote infiltration at Priority Development Projects.”\(^4\)

Hydromodification is another new component of the 2007 renewed permit that is addressed in the JURMP. Hydromodification is the alteration of the hydrologic characteristics of surface waters, such as channel modification and streambank erosion, which in turn could cause degradation of water resources.\(^5\)

Copermittees will work together to prepare a Hydromodification Management Plan (HMP) that will “manage increases in runoff discharge rates and durations from all Priority Development Projects, where such increased rates and durations are likely to cause increased erosion of channel beds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.”\(^6\)

**Watershed Urban Runoff Management Program (WURMP)**

The WURMP, which is developed through coordination and collaboration by the Copermittees within a particular watershed, includes the identification of high-priority water quality issues and pollutants found within the watershed and a list of activities that target those water quality issues in order to “prevent urban runoff discharges from the MS4 from causing or contributing to a violation of water quality standards.”\(^7\) One copermittance takes the responsibility of coordinating with the other Copermittees in their watershed to develop their WURMP. For example, the City of Oceanside is responsible for the development of the San Luis Rey WURMP and collaborates with the cities of Vista and San Diego. A WURMP has been developed and implemented for every watershed within the San Diego Hydrologic region.\(^8\)

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\(^3\) NPDES Order No. R9-2007-0001, page C-7  
\(^4\) NPDES Order No. R9-2007-0001, page 19  
\(^5\) http://www.epa.gov/owow/nps/MMGI/hydro.html  
\(^6\) NPDES Order No. R9-2007-0001, pages 25-26  
\(^7\) NPDES Order No. R9-2007-0001, page 47  
\(^8\) Copies of the WURMPs can be found on the Project Clean Water website at www.projectcleanwater.org
Regional Urban Runoff Management Plan (RURMP)

The RURMP is a new requirement under the renewed 2007 permit. It “describes the Copermittees' urban runoff management programs in their entirety.” This document will include at a minimum a discussion of collaborative efforts undertaken by the Copermittees to implement a Regional Residential Education Program, develop a standardized fiscal analysis method, and facilitate the assessment of the effectiveness of jurisdictional, watershed, and regional programs. The RURMP may also include the following at the discretion of the Copermittees: development and implementation of urban runoff management activities on a regional level; development and implementation of a strategy to integrate management, implementation, and reporting of jurisdictional, watershed, and regional activities; facilitation of Total Maximum Daily Load management and implementation; and facilitation of the development of strategies for implementation of activities on a watershed level.

Water Quality Monitoring

The NPDES permits also require regular water quality monitoring. Assessments must be completed to ensure compliance with the permit standards. There are several local jurisdictions and government agencies throughout the San Diego region that perform water quality assessments. In addition, there are non-profit organizations and other interested parties that routinely assess water quality.

Caltrans Statewide NPDES Permit

In 1999, Caltrans was issued a statewide NPDES permit, similar to the NPDES permit issued to the Copermittees. The Caltrans permit requires development of a program for communication with local agencies, and coordination with other MS4 storm sewer system programs where those programs overlap geographically with Caltrans facilities. As part of the permit, Caltrans is required to create a Stormwater Management Plan (SWMP) that is used to outline the regulation of pollutant discharge caused by current and future construction and maintenance activities. These projects are required to comply with water quality regulations outlined in the Caltrans NPDES permit.

Integrated Regional Water Management Planning

An innovative approach to water management that evolved out of Proposition 50 (the Water Security, Clean Drinking Water, Coastal and Beach Protection Act [2002]) was the Integrated Regional Water Management (IRWM) planning process. The IRWM planning process is a local water management approach aimed at securing long-term water supply reliability within California by first recognizing the inter-connectivity of water supplies and the environment and then pursuing projects yielding multiple benefits for water supplies, water quality, and natural resources.

Through Proposition 50, grant funds are available to fund projects identified in adopted IRWM plans. Additionally, Proposition 84 the Clean Water, Parks, and Coastal Protection Act (2006), provides funding for IRWM plans and projects. Beyond that, state officials have indicated that certain future state grants will require that eligible projects be part of an adopted IRWM plan.

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9 NPDES Order No. R9-2007-0001, page 6
10 NPDES Order No. R9-2007-0001, page 50
11 NPDES Order No. R9-2007-0001, pages 50-51
12 NPDES Order No. 99-06-DWQ
draft IRWM plan for the San Diego region should be available for public review during summer 2007.

The Regional Water Management Group is a partnership of the County of San Diego, the City of San Diego and the San Diego County Water Authority. It was formed in 2005 to develop an IRWM plan for the San Diego region and to ensure the San Diego region is eligible for future state grant funding. Regional stakeholders, including SANDAG, make up the Regional Advisory Committee (RAC) that advises the Regional Water Management Group. The RAC has approximately 22 members who provide expertise in the areas of water supply, wastewater, recycled water, stormwater and urban runoff, natural resources, and environmental stewardship.

Specifically, the RAC provides feedback on selected portions of the draft IRWM plan. The RAC will help determine criteria for how implementation projects will be prioritized within the IRWM plan and selected for future funding. Additionally, the RAC will assist in identifying and evaluating a long-term governance structure for ongoing IRWM planning in the region. The RAC is a transitional advisory body and will eventually be replaced by a long-term governance structure.

The concept of IRWM planning also is included in the California Water Plan (Water Plan), which was updated in 2005. “The Water Plan provides a framework for water managers, legislators, and the public to consider options and make decisions regarding California’s water future. The Water Plan, which is updated every five years, presents basic data and information on California’s water resources including water supply evaluations and assessments of agricultural, urban, and environmental water uses to quantify the gap between water supplies and uses. The Water Plan also identifies and evaluates existing and proposed statewide demand management and water supply augmentation programs and projects to address the State’s water needs.”

**Planning Efforts outside the San Diego Region**

There are regional water quality planning efforts underway throughout the state. The following are examples of work that is being done in the San Francisco bay area, Los Angeles area, and Lake Tahoe.

**Bay Area Stormwater Management Agencies Association**

The Bay Area Stormwater Management Agencies Association (BASMAA) was established in order to effectively implement NPDES permitting, improve stormwater runoff quality to the San Francisco Bay and Delta, and create regional consistency and efficiency. The organization facilitates information sharing, establishing common interests among members, and developing regionally integrated programs. Utilizing a watershed approach has helped BASMAA cut across jurisdictional and departmental boundaries and create consensus on NPDES permits beyond the scope of those previously administered. Examples of this comprehensive approach to Water Quality management include linking air and water quality through work with the regional air quality district, strengthening integration of storm water and wastewater, developing practical industrial/commercial water quality programs with trade associations, and working with rural agencies and programs in upper watersheds.

BASMAA’s integrated, regional approach allows cost-effective urban storm water programs that also address wider environmental issues. Also, the organization collaborates with regional, state, and federal water quality groups and agencies such as the San Francisco Regional Water Quality

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13 More information on the California Water Plan can be found at www.waterplan.water.ca.gov/index.cfm
Southern California Association of Governments

The Southern California Association of Governments’ (SCAG) region has aging infrastructure systems, uneven water conservation success, and a lack of dedicated funding for water projects and operations. They are addressing these issues as part of their RCP chapter on Water Resources and Policy. The purpose of the chapter is to establish regional goals and an action plan, including performance indicators that will measure progress in the management of water resources within their region.

Although their RCP is in the visionary stage, SCAG is planning to look at water resources more holistically. The overall objective of the chapter is to encourage the creation and growth of environmentally sustainable communities, in which planning and policies support the sound development and management of water resources and encourage economic vitality throughout the region. SCAG plans to meet this objective by bringing a wide range of interests to the table in a formalized process. By looking at water resources more comprehensively, SCAG hopes to integrate bond money with planning funds in order to make better infrastructure investments.

Tahoe Regional Planning Agency

The Tahoe Regional Planning Agency (TRPA) is charged with protecting Lake Tahoe “for the benefit of current and future generations.” Their “vision is to have a lake and environment that is clean, healthy, and sustainable for the community and future generations.” TRPA is unique in that they have Congressional regulatory authority, which supersedes other water quality regulations. TRPA addresses water quality on private lands through storm water regulations implemented on-site parcel by parcel.

In 1997, TRPA adopted their Environmental Improvement Program (EIP). The EIP outlined a 10-year program of investment in the Tahoe Basin totaling $908 million for public projects. The EIP includes investments for watershed improvements, public access and recreation, vegetation and fuels management, air quality improvements, and research/monitoring and technical assistance.

Implementation of storm water quality projects included in the Lake Tahoe Basin (Basin) EIP involves collaboration between federal, state, and local partner agencies. These regulatory, implementation, and funding partner agencies are committed to advancing Basin-wide stormwater quality, project-related EIP goals. There are several committees and working groups made up of stakeholders from the Basin region and beyond that work together to implement their shared vision.

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14 More information on BAASMA can be found at http://basmaa.org/about/
15 http://www.trpa.org, about TRPA section
16 http://www.trpa.org, about TRPA section
17 http://www.trpa.org/documents/docdwnlds/EIP_FOUR_FNL.pdf
18 More information on the Tahoe Regional Planning Agency at http://www.trpa.org
# SANDAG BOARD POLICY MEETING
## ON REGIONAL STORMWATER MANAGEMENT

### List of Speakers/Discussion Topics

Friday, May 11, 2007

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UPA / FTA
Section 5309 and
Section 5339
Applications

UPA Funding Programs

Urban Partnerships Agreement

- Intelligent Transportation Systems (ITS-OTMC)
- Value Pricing Pilot Program (VPPP)
- Transportation, Community, and System Preservation (TCSP) Program
- New Starts/Small Starts Program
- Bus & Bus Facilities Program
- Alternatives Analysis Program
FTA Section 5309 Program

- Three Federal Transit Administration programs
  - Fixed Guideway Modernization – Formula
  - Fixed Guideway New Starts – Discretionary for full funding grant agreements
  - Bus and Bus-Related Facilities – Discretionary
    - Total appropriation $898 million
    - Total SAFETEA-LU earmarks - $460 million
    - $438 M un-earmarked Bus Program available

FTA Section 5309 Program

Two Notices/Calls for Projects due May 22, 2007:

1. **Section 5309 UPA Program**
   - “Significant” Portion of Un-earmarked Funds
   - Preference Given to UPA Projects

2. **Section 5309 Standard Program**
   - Targeted at Improved Mobility, Access, System Integration and Efficiency
   - Preference to FTA Priorities
FTA Section 5339 Alternatives Analysis Program

- Technical work conducted within an alternatives analysis
- $12 million available
- Preference given to UPA projects
- Application deadline: May 22, 2007

Proposed Projects

<table>
<thead>
<tr>
<th>Project</th>
<th>UPA Application</th>
<th>Standard Application</th>
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<tbody>
<tr>
<td>1 SWOOP</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>2 Express from South Bay to Downtown</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>3 RTMS Expansion/Automated Passenger Counters</td>
<td>✓</td>
<td>✓</td>
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<td>4 San Luis Rey Transit Center</td>
<td>✓</td>
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<td>5 Regional Signal Priority</td>
<td>✓</td>
<td>✓</td>
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### Proposed Projects (cont.)

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<tr>
<th>Project Description</th>
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<tbody>
<tr>
<td>6. Super Loop Buses</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>7. MTS East County CNG Fueling Station/Buses</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>8. Route 303 to Rapid Bus in Vista/Oceanside</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>9. Additional Wi-Fi/Mesh Network installation</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>10. 511 System Integration/Updates</td>
<td>✓</td>
<td>✓</td>
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<tr>
<td>11. Smart Parking</td>
<td>✓</td>
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<tr>
<td>12. Express Bus Service Wi-Fi Access</td>
<td>✓</td>
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<td>13. Real-Time Passenger Information at Transit Centers</td>
<td>✓</td>
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<td>14. Joint Transportation Operations Center</td>
<td>✓</td>
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<tr>
<td>15. Corridor Based Ramp Metering</td>
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Next Steps

- May 11, 2007 – Board of Directors Policy Meeting
- May 22, 2007 – Proposal submittals
- June 8, 2007 – USDOT begins negotiation with Preliminary Urban Partners
- July 17, 2007 – Standard 5309 Bus Program Project Selection Notification
- August 8, 2007 – USDOT announcement of Urban Partnerships
- October 1, 2007 – UPA Program Grant award

Recommendation

The Transportation Committee recommends that the SANDAG Board of Directors approve two SANDAG Section 5309 (UPA and standard) Bus and Bus-Related Facilities grant applications and the Section 5339 Alternatives Analysis grant application consistent with the March 23, 2007, Federal Transit Administration notices.
Questions?

www.sandag.org

UPA / FTA  
Section 5309 and  
Section 5339  
Applications
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What is Stormwater?

- Water from rain that does not soak into the ground
- Discharges originating from a precipitation event
Stormwater Management

Regulatory Authority & Programs

Regulatory Authority and Programs

- Federal: Clean Water Act
  - Beneficial Uses, Water Quality Standards
  - Reduce Pollutants to MEP
  - NPDES Permits for Stormwater Discharges
  - TMDLs for Impaired Beneficial Uses
  - Must Meet Water Quality Standard
Regulatory Authority and Programs

- **State: Porter Cologne Act**
  - Waste Discharge Requirements for Waters of the State
  - General and Individual Permits
  - (Municipal + Industrial + Construction)
  - Petitions, Policies and Water Rights

- Regional Water Quality Boards
  - NPDES Permits for Surface Water Discharges
  - Municipal MS4 Permits by County
  - Oversee Construction and Industrial Dischargers
  - Develop and Implement TMDLs
  - 401 Water Quality Certifications
  - Contracting for Water Bonds Grants & Projects
Regulatory Authority and Programs

- County & Municipal Level
  - Control Waste Discharges into and from the MS4
  - Establish a Stormwater Program (JURMP)
    - Reduce pollutants to Max. Extent Practicable
    - Use local ordinances and code enforcement
    - Implement BMPs and measure effectiveness
      - Non-structural & Structural
      - Iterative process to attain WQ Standards

- Jurisdictional Urban Runoff Management Plan
- Watershed Urban Runoff Management Plan
- Regional Urban Runoff Management Plan
Regulatory Authority and Programs

- Stormwater Enforcement and Compliance
  - Programs and Behavior
  - Pollutant Sources and Waste Streams
  - Receiving Waters @ Point of Discharge
  - Ambient Waters with Co-mingled Discharges

Stormwater Management

Regulatory Authority & Programs
Defining Basic Stormwater Concepts

Chandra L. Wallar
Deputy Chief Administrative Officer
Land Use Environment Group
County of San Diego
Activities Covered Under Stormwater Programs

- Construction and development
- Industrial and commercial business
- Municipal operations
- Pesticide application
- Irrigation runoff

The Need For Change
National Pollution Discharge Elimination Program (NPDES)

• Issued to 18 cities, Port and Airport
• County serves as lead copermitee

Jurisdictional Urban Runoff Management Program (JURMPS)

• Describes what a jurisdiction is doing to reduce pollution levels

Standard Urban Stormwater Management Plan (SUSMP)

• Component of JURMP
**Watershed Urban Runoff Management Program (WURMP)**

- Developed for each watershed
- Identifies high priority water quality issues
- Identifies activities to target those issues

**Regional Urban Runoff Management Program (RURMP)**

- Ensures regional coordination
- Defines joint regional initiatives
Integrated Regional Water Management Plan (IRWM)

• Regional blueprint for programs that are beneficial to water supply, water quality and natural resources

• Enables eligibility for Prop 50 and Prop 84 grant funding
A Strategic Framework for Cleaner Water

May 11, 2007

Regulatory Context

1. Updated Municipal Storm Water Permit, No. 2007-001
   “Maximum Extent Practicable”
   Prescribes Jurisdictional, Watershed and Regional activities intended to achieve the Basin Plan’s Water Quality Standards

2. Total Maximum Daily Load (TMDLs)
   “Numeric Standard - Attain the pollutant reductions prescribed”
   A) Chollas Creek Dissolved Metals (zinc, copper, lead)
   B) Indicator Bacteria Project 1- Beaches and Creeks in the San Diego Region

3. Areas of Special Biological Significance (ASBS)
   “Numeric Standard - Attain the pollutant reductions prescribed”
   La Jolla Shores, Scripps, and 34 others up the coast
City of San Diego Permit Watersheds

- Development Planning - infiltration, hydromodification
- Construction - inspections & BMPs
- Education - targeted outreach, behavior modification
- Enforcement - inspections of existing businesses, timely response to hotline calls
- Water Monitoring: Dry Weather, Coastal, MS4; includes follow-ups
- Municipal, Regional, Watershed - Increased coordination and integration

Chollas TMDL Area

The area affected by the Chollas Creek TMDL is the “Chollas Creek watershed”, a sub-basin within the permit-defined “San Diego Bay” watershed.
Bact-1 TMDL Area

The area affected by the “Bacti-1” TMDL includes the Chollas Creek watershed and all areas of the City north into adjacent jurisdictions and southern Orange County with the exception of a portion of the Mission Bay watershed.

TMDL Overview

Pollutant Loading Reductions Required:

1. Chollas Creek Dissolved Metals:
   45% to 92% reduction of dissolved copper, lead and zinc

2. Bacteria 1:
   100% of anthropogenic; Zero Bacteria from sources related to contemporary civilization: pet waste, regrowth in storm drains, human sewage, etc.

3. ASBS – Reductions TBD by State Water Board

Sources are Ubiquitous and Legal –
Existing Data Suggest Treatment is Required
Land Ownership in Chollas Creek

Most of the Chollas Creek Watershed is Privately Owned and Developed

TMDL Issues
TMDLs – BMP Type, Siting, and Size

• Compliance with the TMDLs requires the construction of treatment BMPs, located close to (to minimize bacteria re-growth), but above, storm drain outfalls, on land that is mostly privately-owned and already developed with other land uses.

• Size Unknown without Design Storm, but Significant

Preferred Compliance Strategy

Strategic Framework for Cleaner Water-

Holistic Approach addressing Storm Water Permit and foreseeable numeric standard regulations

• Integrated, High Priority Pollutants
• Tiered Approach
• High Priority Sectors identified in each watershed
Preferred Compliance Strategy

Tiered Approach

• Tier I- Non-Structural
• Tier II- Structural
• Tier III- Treatment

Initiate Pilot projects to determine efficacy of TIER I and II activities in achieving compliance standards

• Tier I- Non-Structural
  • Legislation- ban copper in brakes
  • Target Priority Source(s)- Outreach (Community Based Social Marketing and Incentive Programs) & Enforcement (e.g., Sweeping of Privately-owned Parking Lots)

• Tier II- Structural BMPs
  • Intensive Street Sweeping
  • Low Impact Development (infiltration) on Public Property

• Tier III- Treatment Where Required
Preferred Compliance Strategy

- **Strategy Already Underway:**
  - Permit requires two watershed water quality projects per watershed per year.
  - The proposed TMDL approach advocates for maximizing “Tier I” and “Tier II” BMPs to minimize “Tier III” BMPs.
  - Project sites are being chosen to fulfill permit requirements AND contribute to TMDL “experiments”.
  - Site selection criteria also include water quality data, topography, hydrology, storm drain location, and availability of public land.
  - CBSM outreach and enforcement activities in targeted areas is also proposed.

- **Preferred Compliance Strategy**
  - Kellogg Park (La Jolla Shores) Parking Lot – Permeable Paving on half
  - Mt. Abernathy – “Green Street” infiltration planters in roadside parking aisles.
  - Dalbergia and Thor – Green Street infiltration planters in roadside parking aisles.
  - Memorial Park – Infiltrate impermeable portions of park, potentially in ball fields
Memorial Park
There are no guarantees that San Diego’s magnificent coasts will remain forever.

San Diego Coastkeeper protects the region’s bays, beaches, watersheds and ocean for the people and wildlife that depend on them.
Agenda for Today

- Scope of problem
- Addressing the urban runoff problem
  - Land-use planning
  - Monitoring & enforcement
  - Changing behavior
  - Treatment
- Regulations
- Funding
- Q&A

Scope of the NPS Problem
Urban Runoff (‘NPS’) – The Problem

‘NPS’ is largest contributor of pollution to CA & SD waters
- 1 trillion gallons of run-off reach So Cal waters every year (two swimming pools for every person in the region).
- Includes: pet waste; oil and grease from improperly maintained cars; pesticides that come off our lawns; debris from inland waterways; and a host of toxins from our daily activities.
- In US, experience Exxon Valdez oil spill every eight months (11 million gallons) from streets and driveways.
- Santa Monica Bay study equates health risks with swimming near stormdrains. Illnesses include headaches, skin reactions, sore throat, respiratory and sinus infections, eye and ear infections, fever, vomiting, gastrointestinal disease, dysentery and hepatitis.

Debris accumulates at the mouth of Chollas Creek in SD Bay after a storm. In addition to trash, Chollas Creek is ‘impaired’ for metals, pesticides & bacteria.
**The Challenge with NPS**

- Urban runoff pollution encompasses the activities of everyone who lives within our watersheds.
- We are all responsible for contributing to urban runoff pollution. Therefore, everyone must necessarily be part of the solution.

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**Addressing NPS Pollution**

Early Planning: Close to Home
Land-Use Planning

“...imperviousness is the key predictive variable in most simulation and empirical models used to estimate urban pollutant loads.”


“Sprawl development is consuming land at a rate of five or more times the rate of population growth in many coastal areas.”


Land-use decisions & stormwater controls disconnected.
We must engage in regional land-use/water planning (GP, IRWMP)

• Incentivize renewal of urban centers, disincentivize sprawl
• Promote urban growth boundaries, brownfield redevelopment, preserve open space, increase transit
• Implement Low Impact Development ordinances

Monitoring & Enforcement

Monitoring

• Regional/rotational
• Source identification (triage monitoring)
• Increase data management – statewide consistency

Enforcement

• Integrate with other enforcement efforts (e.g. police, City Attorney)
• ‘Real’ enforcement (timing of investigations, strong fines)
Changing Behaviors

- Children – systemic, ongoing (e.g. Project SWELL)
- Adults – Community Based Social Marketing (CBSM)
  - Innovative approach to: identify barriers to a sustainable behavior, design a strategy that utilizes behavior change tools; piloting the strategy with a small segment of a community; and finally, evaluate the impact of the program once it has been implemented across a community.
  - Application of a proven methodology – integrated, adaptive approach to bring about positive behavioral change
- General Outreach (e.g. Ocean Communicators)

Treatment

- Low Impact Development (LID)
  - An approach to site planning, design and development that reduces stormwater impacts.
  - Aims to mimic pre-development hydrology, treat stormwater as close to its source as possible, preserve natural drainage systems and open space, and incorporate small-scale controls that replicate natural processes in detaining and filtering stormwater.
  - Uses “divide and conquer” theory to treat relatively small amounts of stormwater and utilize it in beneficial ways.
- Explore public-private partnerships (commercial products)
- End of pipe treatment (last resort)
Regulations

Regulatory Overview

- Regulation of urban & ag runoff has moved from non-point source to point-source (NRDC lawsuit).
- Still less restrictive than traditional point-source (NPDES) permits.
  - No numeric effluent limitations; BMP/MEP model
- Moving towards numerics - achieve WQ Standards; SUSMP
- Must move beyond permit compliance (e.g. TMDLs)
Funding

Funding Overview

Addressing NPS pollution requires significant funding. Options include:

• General fund
• Local or regional bond initiative (Prop O in LA; $500M)
• Amend CA constitution to exempt stormwater fee increase from vote (like other essential utilities); challenge is political will & ability to properly meter/allocate fee
• Pursue grants (Prop 50, 84)
• Developer impact fees
Q&A
Introduction

- Industrial Facility Regulation:
  - NPDES (Direct Discharge)
  - Statewide General Industrial
  - Municipal MS4
  - TMDLs
  - Ocean Plan
Industrial Elements of Municipal Permit

*Source Identification
*Threat to Water Quality Prioritization
*BMP Implementation
*Pollution Prevention
*Monitoring
*Inspection
*Enforcement
*Non-Compliant Sites

Industry Position on Stormwater Regulation

*Need for statewide consistent policy based on quality datasets and scientific methods

*Regulations should be incremental and achievable

*Numeric limits should be realistic, attainable and result in measurable environmental benefit
Stormwater Collection and Treatment System

Numeric Limits

*Difficult to establish
*End-of-pipe versus receiving water limitations
*Need to consider economic impact
Managing Stormwater

1” or rainfall on a 10-acre industrial site =

265,000+ gallons of stormwater

Industrial Issues with Municipal Permits

* Thousands of new businesses in the program
* Need for extensive education
* Clearly defined and updated BMPs
* Inspection Criteria
Building Industry Issues Surrounding Significant Changes to the San Diego Municipal Storm Water Permit

Jerry Livingston

Construction Issues

- Advanced Treatment
- Grading Limitations
- Hydromodification
- Low Impact Development (LID)
Advanced Treatment

What is it?

**Advanced Treatment** - Using mechanical or chemical means to flocculate and remove suspended sediment from runoff from construction sites prior to discharge.

- Capture
- Flocculate
- Filter
Who has to do it?

Each Copermittee shall require implementation of advanced treatment for sediment at construction sites that are determined by the Copermittee to be an exceptional threat to water quality.

In evaluating the threat to water quality, the following factors shall be considered by the Copermittee:

- Soil erosion potential or soil type;
- The site’s slopes;
- Project size and type;
- Sensitivity of receiving water bodies;
  - 303(d) listed for silt and sediment?
  - Tributary to a lagoon?
- Proximity to receiving water bodies;
- Non-storm water discharges;
- Ineffectiveness of other BMPs; and
  - Issuance of an NOV, CAO or stop work order?
- Any other relevant factors.
  - Citizen complaint?
  - Complaint by an environmental group?
  - Complaint by a labor organization?

Technical Issues

Toxicity
- Only three flocculants have ever been demonstrated to work on silt and sediment in storm water at construction sites.
  - Chitin – toxic to fish if overdosed
  - Polyacrilimides – a known carcinogen and illegal in CA.
  - Alum – not recommended for drainages under 50 acres.

Physical Space
- Need sufficient space in front of each outfall to capture the water to be treated.
  - Design to what rain event?
    - Note preliminary draft of General Construction Permit

Chemistry
- Different suspended solids may require different flocculants.

Filtration
- How much suspended sediment must be removed?
- Micron size of filters

Energy Requirements
- How to power these mini waste treatment plants?
Financial Issues

- Cost per Treatment Plant
  - $5,000 to $25,000 per month
  - One treatment plant per outfall
  - 18 to 24 month build out schedule
- Construction and Demolition of Holding Basins
  - $1.50 per cubic yard
- Technical Staff
  - Each site (or facility) will require a trained operator available
    - 24 hours per day
    - 7 days per week
    - 365 days per year
- Chemical Costs
  - The only flocculent demonstrated to be effective and legal in California is a patented product.
  - You do the math!!

Policy Issues

- Blue Ribbon Panel
  - The State Water Board engaged a panel of experts to look at storm water issues.
  - Panel’s conclusions
    - Advanced treatment could have serious negative environmental impacts
    - Only should be considered for use under limited circumstances
- General Construction Permit
  - State Water Board will consider Advanced Treatment as part of the reissuance of the Construction Permit
    - Preliminary draft issued
    - Conflicts with Municipal Permit
  - Previous Regional Board Chairman recommended that this issue be left to the state board.
  - State Board Chairman testified at permit hearing warning about “irrational inconsistencies” between State and Regional Boards
Legal Issues

- The use of flocculants violates the CWA
  - Addition of a pollutant
  - Water of the United States
  - Without a permit
  - Enforceable by Citizen Suit

- The use of flocculants violates Porter Cologne
  - Addition of a pollutant
  - Water of the State
  - Without Waste Discharge Requirements

Grading Limitations
What are they?

- Minimization of grading during the wet season and correlation of grading with seasonal dry weather periods to the extent feasible.
- Limitation of grading to a maximum disturbed area as determined by each Copermittee before either temporary or permanent erosion controls are implemented to prevent storm water pollution.
  - The Copermittee has the option of temporarily increasing the size of disturbed soil areas by a set amount beyond the maximum, if
    - the individual site is in compliance with applicable storm water regulations and
    - the site has adequate control practices implemented to prevent storm water pollution.
- Temporary stabilization and reseeding of disturbed soil areas as rapidly as feasible.

Technical Issues

- How will the Copermittees determine feasibility?
  - Feasibility is like beauty.
- How will Copermittees determine the appropriate maximum disturbed area?
  - One size fits all?
  - Individual determinations for each site.
- How will Copermittees measure how much land has been disturbed without installation of temporary erosion controls.
- Will temporary erosion controls have to be called out with specificity in the SWPPP?
Financial Issues

- Spray today, grade tomorrow.
- Project Bifurcation
  - Will slopes have to be built in segments?
- Can't grade in the winter because of rain, can't grade in the nesting season for endangered species. What will it cost when everyone wants to grade during the same two months of the year?

Legal Issues

- How will Copermittees enforce the limitation?
  - Limit the acreage covered by a grading permit?
  - Certifications by third party engineers and surveyors?
Grandfathering Provisions

Hydromodification requirements shall apply to all priority projects or phases of priority projects which have not yet begun grading or construction activities at the time any hydromodification requirement commences.

If a Copermittee determines that lawful prior approval of a project exists, whereby application of a hydromodification requirement to the project is infeasible, the hydromodification requirement need not apply to the project.

- What is a lawful prior approval?
- What is infeasible?
  - Legal
    - California Subdivision Map Act vested rights
  - Technical

Maintenance into Perpetuity

The HMP shall include a description of inspections and maintenance to be conducted for management practices and measures to control flow rates and durations and address potential hydromodification impacts.

- Who will perform the maintenance and inspection of HMP controls?
- Who will own the HMP controls?
- Who will pay for HMP maintenance and inspection?
Interim Criteria

- Within 365 days of adoption of this Order, the Copermitees shall collectively identify an interim range of runoff flow rates for which Priority Development.
- Project post-project runoff flow rates and durations shall not exceed pre-project runoff flow rates and durations (Interim Hydromodification Criteria), where the increased discharge flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in flow rates and durations.
- Development of the Interim Hydromodification Criteria shall include identification of methods to be used by Priority Development Projects to exhibit compliance with the criteria, including continuous simulation of the entire rainfall record.
- Starting 365 days after adoption of this Order and until the final Hydromodification Management Plan standard and criteria are implemented, each Copermitee shall require Priority Development Projects disturbing 50 acres or more to implement hydrologic controls to manage post-project runoff flow rates and durations as required by the Interim Hydromodification Criteria.

Low Impact Development (LID)

- Technical Issues
- Grandfathering
Conclusions

- Advanced Treatment will require greater focus on SWPPP implementation and costs.
  - The failure to fully implement the SWPPP will result in draconian costs of Advanced Treatment.

- Grading Limitations will add significant development costs.
  - Verification of amount of disturbed areas.
  - Verification of implementation of temporary BMPs
  - Reinstallation of erosion control BMPs

- Hydromodification
  - Extremely expensive
  - Technical feasibility
  - Long term obligations

- Low Impact Development (LID)
  - Extremely expensive
  - Legally questionable
A TEN MINUTE TOUR OF RUNOFF WATER QUALITY:
WHAT DO (AND DON’T) WE KNOW?
IS IT A REGIONAL ISSUE?

Stephen B. Weisberg
Southern California Coastal Water Research Project Authority

PRIMARY MODES OF POTENTIAL IMPACT

• Bacteria
• Chemistry / Toxicity
• Debris
PRIMARY MODES OF POTENTIAL IMPACT

- Bacteria
- Chemistry / Toxicity
- Debris

DRY WEATHER

% Of Shoreline Failing Standards

- Wavewash
- Within 100m of a storm drain
- Remaining Shoreline

HOW MUCH OF THIS IS NATURAL?

Bacteria Concentration (MPN/100mL)

<table>
<thead>
<tr>
<th>Bacteria Type</th>
<th>Natural (N=5)</th>
<th>Developed (N=26)</th>
</tr>
</thead>
<tbody>
<tr>
<td>E. coli</td>
<td>235</td>
<td>1000</td>
</tr>
<tr>
<td>Enterococcus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Coliform</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Legend:
- Natural (N=5)
- Developed (N=26)
RUNOFF IS TOXIC TO ANIMALS

• More than 50% of urban runoff samples have been found to be toxic
  – It’s even worse during wet weather runoff

• Many samples are even toxic after a 10:1 dilution
  – That’s potent!

• After a storm, toxic plumes often extend 2-4 miles from shore
  – Offshore toxicity typically lasts a day or two before dissipating
IS RUNOFF A REGIONAL PROBLEM?

- Atmospheric deposition
- Land use patterns
IS DEPOSITION AN IMPORTANT SOURCE OF RUNOFF?

![Deposition versus Runoff Chart]

EFFECTS OF HIGHER IMPERVIOUS COVER (HYDROMODIFICATION)

- Increase in:
  - Imperviousness
  - Drainage slope
  - Direct runoff
- Decrease in:
  - Evapotranspiration
  - Recharge
  - Base flow

- Increased runoff volume
- Increased peak flow rates
- Peak flows occur sooner
- Increased duration of high flow
- Increased frequency of high flow
EFFECT OF IMPERVIOUS COVER ON CHANNEL ENLARGEMENT

EFFECT OF IMPERVIOUS COVER ON WATER QUALITY (METALS CONCENTRATION FROM RESIDENTIAL LAND USES)
AN ENTIRE FIELD IN TEN MINUTES!

• Hopefully I left time for questions
Policy Issues with Copermittees

Currently:
• Appeal to the State Commission on Unfunded Mandates. June 2008
• Cities Using Various Methods to fund Stormwater Management
• Challenges to Funding
  - Encinitas
  - Solana Beach
• Seeking State Dollars

Potential Regional Roles

1. Lobby for Legislation
   • State Funds
   • Give voters a chance to make stormwater equivalent to sewer fees
   • Top down laws/regulations on sources of pollution

2. Coordination
   • WURMP – Watersheds
   • IRWM – Integrated Regional Waste Management
   • Other Agencies – Regional, State, & Federal
3. Efficiencies
• Data Collection
• Analysis of Best Practices
• Funding of Work
• Work within Boundaries that make “earth sense”, not just jurisdictional

4. Money
• Regional Funding for Regional Topics

5. Infrastructure
• Regional improvements that resolve regional challenges

6. Knowledge Sharing
7. Achieve multiple goal when opportunities are spotted
Holistic Approach to Clean Water

• Requires integration of parts
• Involves stakeholders representing
  • Local government
  • Non-profits
  • Conservancies

Functional Relationships

• Individuals
• Organizations
• Programs
• Initiatives
• Laws
• Regulations
Public Participation

• Vital to success of initiatives

• Ensures regulations are reasonably applied

• Helps to identify public role

A Holistic Approach Requires

1. Establish program priorities
2. Be broad and inclusive
3. Manage the data
4. Regional, watershed & local roles
Establish Program Priorities

• We can’t integrate everything at once
• We must identify priorities for the region
• Establish a road map

Be Broad and Inclusive

• Do not adopt a narrow view
• Planning must avoid a silo approach, it must cut across traditional divisions of water
• Cradle to grave orientation
• Consider relationships that are otherwise unconnected via regulatory schemes
Manage the Data

• There is a wide array of existing watershed programs in the region

• Many programs already help address watershed issues

• The key is to coordinate these programs

Regional, Watershed and Local Roles

• We must consider regional, watershed, and jurisdiction scales

• Everyone has a role to play
Board Discussion
Stormwater Management

- What should the region be doing?
- What should be SANDAG’s future involvement, if any?