INTEGRATED REGIONAL INFRASTRUCTURE STRATEGY (IRIS)
Ensuring the Foundation of our Vision for the Future

INTRODUCTION

The first hint of trouble came during the late 1970s and early 1980s; policy makers, engineers, and economists across the nation expressed their deep concern about the nation’s inadequate infrastructure investments. This concern quickly spread to the states. In California, landmark reports like Rusty Hinges on the Golden Gate released during 1983 identified the many reasons for inadequate infrastructure investment, although the report suggested things were not as bad in California as they were elsewhere in the nation.

Since the release of that publication, Sacramento policy analysts have produced a virtual flood of reports identifying the state’s infrastructure inadequacies and a range of proposals to remedy the problems. During the late 1990s, the Business Roundtable and the state’s Legislative Analyst Office produced a series of publications on reforming infrastructure policy, stimulating renewed interest in planning issues in the state. More recently, the state’s Commission on Building for the 21st Century assessed the state’s infrastructure issues and formulated policy options for improving infrastructure quality. About the same time, the Public Policy Institute of California commissioned three studies on infrastructure policy and institutional planning.

While all the hand wringing has gone on at the national and state level, regions and local jurisdictions have suffered. More recently, they have begun to act.

In the San Diego region, for example, more local funding sources have been developed to fund needed improvements to our infrastructure, such as transportation systems and schools. More recently, the water agencies in the southern California region signed a joint agreement to reduce California’s over-dependence upon the Colorado River. For those closely watching these events, none were easy, but each represents progress in solving our regional infrastructure issues.

Will this trend stick? Will regions become more responsible for planning and paying for their own infrastructure solutions? The lack of available resources at the national and state level may make this our best option. This is not to say we don’t need state or federal funds that help finance infrastructure planning, programming, and maintenance. But it does seem that regions are being asked increasingly to leverage or match state and federal funds with local money or programs that help fill the infrastructure gaps.
The Integrated Regional Infrastructure Strategy (IRIS) was produced with the idea of addressing this trend. As an integral part of the San Diego Regional Comprehensive Plan (RCP), the IRIS outlines a forward-looking investment and financing strategy that will help the San Diego region meet its collective infrastructure needs.

Planning for the Future

Since the days of the California Gold Rush, demand for infrastructure has been driven by population growth. In the next 30 years, the San Diego region is expected to add more than one million people, bringing the total population to just less than four million. Where will these people live? Where will they work? Will they have clean air to breathe, clean water to drink? Will their highways be choked with traffic, or will they find other, smarter ways to commute? The truth is, no one knows with certainty the answers to these questions. What we do know is that how well we respond to these challenges will largely define our region’s quality of life for decades to come. In drafting the Regional Comprehensive Plan, we are developing a long-term blueprint for the San Diego region that will help us achieve our goal of balancing population growth and sustainable development.

Achieving Quality of Life Goals through Infrastructure Investments

The RCP is based on the premise that we must plan for our future differently than we have in our past—striving to create an urban form that supports sustainable and balanced communities with a high quality of life. The region’s quality of life, as expressed in the Core Values of the RCP, is greatly affected by the quality of our infrastructure. As the San Diego region continues to change, we must regularly assess the ability of our infrastructure to keep pace and to maintain our quality of life at acceptable levels.

Local jurisdictions, acting together as SANDAG, have endorsed an urban form that channels much of the region’s future growth into existing urban (primarily incorporated) communities, preserving and protecting the lifestyle and sensitive environment of our rural (primarily unincorporated) areas.\(^1\) For example, over time, if the RCP goals and objectives are implemented, an increasing proportion of the growth will occur as redevelopment and urban infill. To adequately prepare for this change, the urban form and design goals in the RCP should be universally embraced to help ensure that infrastructure is in place prior to or concurrent with the land use decisions that implement the urban form goals. The relationship between the IRIS and RCP is illustrated in Figure 7.1.

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\(^1\) All 18 of the region’s cities recently have adopted resolutions supporting Smart Growth in the San Diego Region. The major land use principles noted in these resolutions have been incorporated into the urban form and design goals of the RCP.
Today, however, most infrastructure planning is done without a framework that coordinates long-
term visionary planning with short-term capital expenditures. Integration of long-range planning 
with current expenditures should be the standard practice, as it is with transportation and water
supply. In fact, a number of recent studies and reports have cited this as being a fundamental necessity for addressing the state’s infrastructure needs. One of the objectives of the IRIS is to put 
the most important pieces of the infrastructure puzzle on the table at one time, substantially 
improving the region’s opportunity to address needs in a comprehensive, not piecemeal, fashion.
This is why the IRIS is a key component of the RCP.

Defining Regional and Subregional Infrastructure

The IRIS identifies a set of criteria for selecting key infrastructure areas. Based on direction from the 
Regional Planning Committee and the SANDAG Board of Directors, the criteria reflect primarily 
region-serving infrastructure. These eight infrastructure areas will likely be expanded in future 
updates to the IRIS and RCP.

To be included in the IRIS, the infrastructure needed to meet all of the criteria listed below:

- Must be a public facility or regulated monopoly;
- Must be a publicly shared system, network, or resource used by or benefiting a majority of the 
  region on a regular and consistent basis;
- Must provide for equal opportunity for all residents and businesses to benefit;
- Must be run, regulated, or overseen by state or local elected officials or their appointed 
  representatives;
- Must ensure that the level of service available and the price of the service be about the same for 
  all users;
- Must play an integral part in maintaining the quality of every day life for the average resident; 
  and
- Must include ports of entry with Mexico due to the unique location of the San Diego region.

Based on these criteria, the following eight infrastructure areas were selected for evaluation in the 
IRIS:

- Transportation (including regional airport, maritime port, transit, highways, and international 
  ports of entry)
- Water supply and delivery system
- Wastewater (sewage collection, treatment and discharge system)
- Storm water management
- Solid waste collection, recycling, and disposal
- Energy supply and delivery system
- Education (including K-12, community colleges and universities)
- Parks and open space (including parks and recreation, shoreline preservation, and habitat 
  preservation)

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2 Dowall, David and Whittington, Jan. “Making Room for the Future: California’s Infrastructure.” Public Policy Institute of 
California, 2003. “California’s Five Year Infrastructure Report, 2002”. Prepared for Governor Gray Davis by the California 
Department of Finance.
In addition, infrastructure facilities and needs can be categorized broadly into two groups, regional and subregional. Regional infrastructure primarily addresses aggregate supply or capacity. Subregional infrastructure involves more localized distribution and service provision. Water supply can be used to illustrate this distinction between regional and subregional infrastructure. The regional aqueducts and reservoirs help transport and store water, while subregional facilities are used to distribute potable water to households and businesses. Although regional and subregional facility needs are different, they must be integrated. All communities share in the regional need, but each community has its own set of specific needs.

Objectives of the IRIS

The IRIS proposes a process that will better align our RCP goals and objectives with our infrastructure investments. The process applies market-based financial and public policy incentives within a competitive capital improvement programming framework to implement the urban form and design goals of the RCP. The incentives and framework are intended to provide local jurisdictions and infrastructure providers with a process and resources for incrementally moving toward sustainable and livable communities.

The primary IRIS objectives are to:

1. Provide a framework to strengthen the relationship between local and regional plans and policies.

2. Link capital improvement programming and land use decisions that support the urban form and design goals envisioned in the RCP.

3. Determine if capital improvement programs and plans can be better integrated to support the smart growth urban form and design goals in the RCP.

4. Create a flexible, incentive-based process, so each community has the opportunity to implement smart growth within the framework established by the RCP.

Research Approach

The IRIS was completed in a four-step process:

1. Infrastructure Inventory and Evaluation: First, data was gathered to verify the following: who is responsible for the infrastructure; who are the key decision-makers; how is it currently financed; and, what types of capital and operating budgets are available and where are the capital investments being made? So comparisons could be made across infrastructure areas, to the extent possible, this information was organized into a framework that links capital budgeting to strategic planning; similar to SANDAG’s Regional Transportation Plan (a long-range strategic planning document) and Regional Transportation Improvement Plan (a short-term capital improvement programming document). This information has been summarized in the eight technical appendices that have been produced as part of the IRIS. The Technical Appendices are available at www.sandag.org.
2. Needs Assessment: The second step was to identify how infrastructure needs are currently being met and planned, using existing programmed expenditures and strategic plans. Regional needs addressed capacity in a broad context while subregional needs primarily addressed service delivery capabilities. The needs assessment recognizes that the overall request for infrastructure is greater than the available pool of resources.

3. Financing and Public Policy Options: The third step developed a set of policy and/or investment options that could be used to support the urban form and design goals called for in the RCP. The options came from three main areas: current capital investment and operational practices, current or new public policy changes, and if necessary, raising new revenue. The IRIS options favor an approach that invites collaboration, relying on incentives and competition to achieve our urban form and design goals.

4. IRIS: Finally, a process is identified that integrates the public policy and financing options into the RCP, as well as creating a framework for a procedure that can be used to monitor the region’s progress and performance in meeting the quality of life goals and objectives identified in the RCP.

INTEGRATED REGIONAL INFRASTRUCTURE STRATEGY

Leading the Way - Linking Transportation and Land Use

One way to achieve the urban form and design goals identified in the RCP is to create an incentive-based process that links transportation funding and land use. SANDAG is the logical agency to spearhead such an effort. As the regional planning agency, SANDAG is responsible for regional transportation funding; the cities and county that make up its policy board have control over local land use decisions—the key ingredients for linking transportation and land use.

One of the most powerful incentives to implement the RCP smart growth goals rests in SANDAG’s authority over regional transportation funding decisions. As the Metropolitan Planning Organization (MPO), Regional Transportation Planning Agency (RTPA), and Regional Transportation Commission (RTC), SANDAG is responsible for programming federal, state, and local (TransNet) transportation funds in the San Diego region.

San Diego’s Regional Transportation Plan (RTP), MOBILITY 2030, is the blueprint to address the mobility challenges created by our region’s growth. MOBILITY 2030 serves as the transportation component of the RCP. In addition to its RTP responsibilities, as the MPO, SANDAG is required to develop a Regional Transportation Improvement Program (RTIP). The 2002 RTIP is a $4.4 billion five-year program of major highway, transit, arterial, and non-motorized projects funded from FY 2003.
to FY 2007. The 2002 RTIP is a prioritized program of transportation improvement projects, based on SANDAG Board-established criteria, designed to incrementally develop the projects identified in the RTP (representing vertical integration).

The RTIP indicates the region’s priorities for the implementation of transportation projects. It is required to include realistic estimates of project cost and anticipated program revenue; this means that funding must be available and committed to implement the projects listed in the document.

Following the adoption of MOBILITY 2030 (March, 2003), SANDAG began a process to modify the transportation criteria used to evaluate and prioritize major highway, transit, and regional arterial system projects for planning and funding purposes. The purpose of modifying the evaluation and prioritization process is to better link major transportation planning and programming decisions to land use and the smart growth priorities identified in the RCP. This link would allow the region to leverage the RTIP funds to influence the location and character of future land use decisions; the land use decisions would encourage the urban form and design goals of the RCP.

To improve the transportation-land use link, transportation projects should be evaluated using criteria that include both transportation and land use objectives, as illustrated in Figure 7.3. The current RTIP process evaluates projects from both of these perspectives, but the criteria used do not weight the land use criteria on a level equivalent to transportation-specific criteria. The current transportation project evaluation criteria, for example, could be expanded to include an element that encourages cities to approve development in smart growth opportunity areas at higher densities than those allowed in current general plans. Including land use criteria of this type in the transportation project funding evaluation process would focus future growth in the cities, reduce sprawl and increase housing supply relative to land consumption; these results are consistent with the Vision and Core Values of the RCP and further strengthen the local and regional plan relationship, as illustrated in Figure 7.4.

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Following the Lead -
Linking Infrastructure Investments to Transportation and Land Use Plans

Transportation funds in the RTIP will act as the initial incentive (in the form of prioritized transportation project expenditures) for communities willing to adopt land use changes that support the RCP goals. Taking advantage of the competitive RTIP funding allocation process should ensure meaningful urban design changes, influencing the land use elements of each jurisdiction’s general plan. Because the land use elements of general plans serve as a planning framework for developers and most non-transportation infrastructure providers, any change in the general plans will ripple through the capital improvement programs of most non-transportation infrastructure and service providers. The proposed process takes advantage of this relationship; most non-transportation infrastructure facility and service providers largely follow the land use plans and decisions approved by local land use agencies (primarily jurisdictions) and are funded through development fees and exactions. Thus a stronger transportation-land use connection will also result in a coordinated process to prioritize and synchronize capital improvement programs and strategic plans, as illustrated in Figure 7.5.

Implementing these changes would likely bring a number of benefits to the region’s communities. First, we will have created a regional framework for achieving smart growth and integrated it with the local planning process. Second, while continuing to rely on existing procedures, the changes will lead to the necessary infrastructure in place prior to or concurrent with growth. Lastly, the urban form created will help the region move towards more sustainable communities through the implementation of the RCP’s vision and core values. The core values emphasize the importance of creating livable neighborhoods and a healthy environment, linking jobs to housing, improving the region’s workforce through education, and providing infrastructure systems that serve the needs of a growing region.

It is unlikely that the IRIS approach, as discussed, will affect the current set of capital improvement programs, as these funds have already been allocated based on existing prioritized needs. It will likely take three to five years for the region to incorporate the incentive-based approach into the local planning process so that it coincides with new capital improvement program budgets. This provides the region with the opportunity to refine the framework, obtain a collaborative regional agreement on the approach, and address specific challenges and opportunities.

Engaging Communities in Smart Growth

As part of an incentive-based financing approach, infrastructure and transportation investments will be made in areas where local jurisdictions have identified opportunities and put in place programs
to further smart growth and the goals of the RCP. The addition of a smart growth framework to the process of selecting and funding regional and subregional infrastructure projects will help local jurisdictions prioritize those projects that directly address the regional goals and objectives of the RCP while simultaneously achieving local community goals.

Allowing communities to implement smart growth in their own terms (within the RCP framework) helps to ensure that the smart growth approach reflects the unique sense of place of each community and avoids changes that may not fit within its existing character. The IRIS allows communities to implement smart growth themselves, rather than applying a “one size fits all” approach to smart growth that may or may not be applicable to an individual neighborhood, community, or transportation corridor.

To effectively encourage smart growth, our region should continue the current competitive process to allocate the scarce RTIP resources. Competition for these funds will help encourage communities to offer or show enough existing smart growth commitments to get their project ranked high on the priority list, providing local jurisdictions with choices in determining their level of smart growth participation. Incentives and competition work. For example, the City of San Diego’s experience with downtown redevelopment showed that the first developers received the greatest levels of assistance or incentives in return for taking on the initial, biggest risk. Subsequent redevelopment activity required less public assistance and today developers compete for the right to develop parcels prioritized by the city’s redevelopment agency.

**Linking Capital Budgeting and Strategic Planning**

Our region spends billions annually to maintain, operate, and construct infrastructure facilities. Given the amount of money we invest annually on infrastructure, it seems that the expenditure plans should be consistent with the overall long-term vision or strategic plan for supplying and delivering services. Today, however, most infrastructure planning is done without a coordinated “vertical” framework that prioritizes the annual expenditures of capital improvement programs to meet the goals of the longer-term strategic plans that form the basis of facility master plans. With notable exceptions, most infrastructure programming and planning is not coordinated or prioritized with respect to regional plans. A broader prioritization of infrastructure expenditures requires that a regional framework be established, based on RCP goals, that can be incorporated into and addressed as part of the evaluation of infrastructure projects.

Infrastructure programming and planning should be based on principles of strategic planning. Strategic planning provides a means for more rigorously assessing capital expenditure proposals. It addresses the question of whether the agency actually needs the infrastructure asset, while capital budgeting concentrates on achieving more for the money invested. Strategic planning includes more than supply-side concepts, such as a process to explore and identify alternative forms of service delivery as well as non-capital alternatives for meeting future needs.

A best practices approach to integrating strategic planning and capital budgeting is available from the U.S. General Accounting Office and the Office of Management and Budget. One trait shared by many practitioners and relevant to the IRIS, according to the GAO approach, is that many use strategic planning and visioning to drive their capital decision-making process. In the absence of a unified strategic vision, the budget process paints a large part of the “big picture” for infrastructure planning by default. Each infrastructure provider intuits its own vision of the region’s future from
various board actions, administration edicts, and overall climate of opinion and builds its capital budget from individual construction project proposals. The project-based budget, an annual snapshot, attempts to replace the big picture.

Managing the Demand for Infrastructure Services

Some long-time Californians call for a return to the state’s “golden era” of infrastructure investment. After all, large infrastructure projects have had a lot to do with shaping California. The most popular perception is that the state’s prosperity is due the state’s vision and commitment to build three grand systems: aqueducts, highways, and universities. The systems were, and still are, the cornerstones of the state’s economy and society.

Traditional supply-side infrastructure planning made sense in the 1950s when the sectors were in their infancy, California was growing rapidly, and there was a broad consensus in support of growth. But now, the environment has changed. Not all citizens view the state’s economic and demographic growth as desirable. In short, the context in which the state or regions plan and fund capital infrastructure investments is vastly different now than during the eras of former Governors Earl Warren and Pat Brown.

Most infrastructure agencies do not explore alternative forms of service delivery or identify non-capital alternatives for meeting future needs. Strategic infrastructure planning poses some basic questions, such as: Are there ways to meet infrastructure needs without investing in new capital equipment? It may be possible, for example, to manage the demand for existing infrastructure in ways that encourage its most efficient use and thereby minimize the need for new investment. This sort of demand management contrasts with traditional planning approaches, which focus almost exclusively on increasing the supply of infrastructure. Generally, supply-oriented planning forecasts infrastructure needs based on per capita estimates of consumption. These per capita estimates, in turn, are based on historical patterns of infrastructure use. Demand management, in contrast, begins with consumers’ willingness and ability to pay for services. It recognizes that the demand for infrastructure is dynamic, and it seeks to control the key drivers of that demand to make the most efficient use of existing resources.

Studies on demand management have identified eight drivers of infrastructure demand, identified below. All eight factors will help shape our region’s infrastructure requirements in the future and should be incorporated into infrastructure strategic plans:

- Growth and composition of the population - age profiles would help determine school and health care needs.

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Levels of economic activity - different types of economic growth have varied impacts on transportation, energy, and water.

Income - as income rises, the demand for infrastructure services increases.

User fees - consumers economize their use of services as prices rise.

Tastes and preferences - demand for services can change as social groups or age cohorts change preferences.

Availability of alternative services - increased availability of private services diminishes the demand for public service.

Technology - electronic shopping and on-line education are changing the demand for infrastructure.

Conservation - incentives to buy low-flush toilets, drip-irrigation systems, and drought tolerant landscaping are conserving water; and incentives to utilize energy efficient construction materials, home appliances and photovoltaic cells are conserving energy.

Infrastructure Revenue Options and Gaps

Financing Options

Whether one considers infrastructure needs at the federal, state, or local level, one finding is consistent across all infrastructure providers: the overall request for infrastructure resources is greater than the available pool of resources.

As a starting point, the IRIS has defined infrastructure needs in terms of available resources, using existing capital improvement programs and operations and maintenance budgets as a reasonable estimate of infrastructure need determined in an environment of limited public resources. SANDAG’s research shows that infrastructure agencies in the San Diego region spent $3.4 billion on capital projects and another $8 billion on operations and maintenance during FY 2003. However, the need for some of the infrastructure areas is not adequately represented by capital and operations and maintenance (O&M) budgets; these needs, preceded by a general discussion on infrastructure financing are discussed below.

Most finance professionals agree that infrastructure can be financed in three basic ways: pay-as-you-go, long-term financing, and private provision, including leasing. In the first two options, the government or the community purchases the assets and facilities that provide the infrastructure service. In the third option, the government leases the facility providing the service or procures the service from a nongovernmental provider.

Policymakers must decide which combination of these methods is most appropriate. In general, a balance of pay-as-you-go and long-term financing, with some limited emphasis on private provision, most closely describes the current way infrastructure is financed. For services generating user and beneficiary fees, long-term financing or private provision is useful because of the predictable cash flow. Services that generate no income streams are generally financed from general funds on a pay-as-you-go or on a debt-financed basis.

In addition to the three basic choices available to policymakers, there are municipal finance fund groups and revenue categories. The basic fund groups are:
• General funds are unrestricted, and account for all revenues that are not placed in other funds; examples of general fund revenues include property and sales taxes.
• Special revenue funds account for revenues that are earmarked for a specific purpose; examples include the gas tax used for streets and roads.
• Enterprise funds pay for a majority of local governments’ infrastructure facilities and services, including sewer, water, electric utilities, and parking facilities.\(^5\)
• Debt service funds repay indebtedness.

The basic sources of municipal revenue categories are:

• General taxes
• Special taxes
• Special assessments
• Fees and charges for current services
• Intergovernmental

In California, as elsewhere, local governments have been shifting infrastructure capital costs from general fund sources to user and beneficiary groups. This shift is occurring for many reasons, including predictable funding levels, clarity of responsibility, and incentive for users to adjust their usage to the real costs of the facility and services.

Smart Growth Incentive Program

In addition to the revenue sources identified above, as part of the RTP, SANDAG established a $25 million Smart Growth Incentive Program. The purpose of the program is to provide incentives to communities to implement smart growth. To qualify for funding, any proposed improvement must be within one of the smart growth areas that will be identified in the first phase of RCP implementation. These smart growth areas will be designated based on land use and transportation criteria included in the RCP, and on guidelines for collaboration between local and regional plans that are part of the regional framework plan. The greater the number of infrastructure providers that participate in the Smart Growth Incentive Program the greater the resources available and the more important the program becomes as a tool to implement smart growth.

The fund would help the region’s municipalities and infrastructure providers collaborate in developing a competitive process to implement smart growth and strengthen the relationship between local and regional plans. Establishing a smart growth incentive fund for infrastructure improvements needed by smart growth projects would be useful in implementing the goals and core values of the RCP, especially if those infrastructure improvements intended to support smart growth.

\(^5\) The Governmental Accounting Standards Board defines enterprise funds as those funds used “to account for operations (a) that are financed and operated in a manner similar to private business enterprises - where the intent of the governing body is that the cost (expenses, including depreciation) of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges; or (b) where the governing body has decided that periodic determination of revenues earned, expenses incurred, and net income is appropriate for capital maintenance, public policy, management control, accountability, or other purposes.” http://www.gasb.org/
growth cannot be funded through prioritization of existing CIP projects. By rewarding smart growth project areas through a competitive grant process, local jurisdictions would be able to help bring needed (supplemental) capital improvement resources to communities willing to accept change (smart growth). Introducing competition serves a number of purposes. Perhaps most importantly, having communities compete for smart growth resources allows for flexibility and for greater levels of smart growth planning. This proposed process is representative of the approach currently used by the City of San Diego’s City of Villages Pilot Program, which judges developments in a competitive fashion to receive prioritized infrastructure expenditures and fast-track permit processing. 

Filling Revenue Gaps

The IRIS identifies ways to begin to implement the urban form and smart growth goals of the RCP. These strategies include using transportation funds as an incentive to closer link regional and local plans, providing incentives to help local jurisdictions match smart growth and smart growth opportunity areas, implementing best practices techniques that focus on integrating strategic plans with capital budgets, and moving away from primarily supply-side infrastructure planning and embrace more of a demand management approach.

But what about those infrastructure areas that do not have a stable funding source? Unpredictable funding levels or lack of funding prohibits an infrastructure authority from acting on strategic needs and approaches, prioritizing expenditures and maintaining the system. In this section, we identify which of the eight infrastructure areas require funding for this purpose.

Among the eight infrastructure systems reviewed by IRIS, water, wastewater, and energy have clear benefit-based revenues (enterprise funds/rates), while storm water management, public education, and parks and open space rely substantially on general taxes or intergovernmental assistance. Solid waste collection with the exception of the City of San Diego is financed through user fees.

Transportation systems differ in the types of revenues used. Highways are generally constructed and maintained using general revenues or federal/state funds. Arterial streets are also constructed with general revenues or intergovernmental funds, although development exactions and impact fees play a significant role in investments by local jurisdictions. Transit systems are often constructed with federal or state funds, but maintained through fares supplemented by other revenues. In the San Diego region, transportation facilities and operations also are supported by funds from a ½ cent sales tax, a 20-year measure implemented during 1988 and administered by SANDAG as the Regional Transportation Authority. Air and maritime port facilities utilize federal and state funds and bonds financed with revenues from operations, which are also used for operation and maintenance.

Facility master plans of infrastructure service providers identify improvements needed to serve the future growth in service demand. In many cases, continuation or gradual increases in existing revenue sources, such as charges for services, would provide adequate funding to implement the master plans. However, there are funding shortfalls for some of the infrastructure systems, as shown

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6 For more information on the City of Villages Pilot Program, please refer to: http://www.sannet.gov/cityofvillages/index.shtml
in Table 7.1. The following is a discussion on infrastructure areas in need of revenue to fill such shortfalls and possible revenue candidates.

Transportation - Streets, Highways, and Transit. SANDAG's Regional Transportation Plan, MOBILITY 2030, is based on the adopted "Reasonable Expected Revenue" financing option. This funding option includes current sources and levels of federal, state, and local transportation revenue, as well as, additional revenue from three sources: an extension of the TransNet ½-cent local sales tax, higher levels of state and federal discretionary funds, and increases in state and federal gas taxes based on historical trends. The three additional revenue sources account for $12 billion of the $42 billion plan.

There is growing concern in the region that development is not paying its “fair share” of the cost of constructing new regional transportation facilities. To address this concern, SANDAG is analyzing a program of regional transportation impact fees. A development impact fee is a form of benefit charge, since the fee is required by state law to be proportional to impact. Local jurisdictions would cooperate in the establishment, collection, and use of a regional impact fee by identifying the impacts of new development on transportation facilities that serve multiple jurisdictions or that may be located outside the boundaries of a jurisdiction that is levying the fee. A local example of a regional infrastructure fee is the capacity charge currently levied by the San Diego County Water Authority (Water Authority) on new water meter hookups. The charge is paid to a local jurisdiction, or water agency, which then transfers it to the Water Authority. A regional transportation impact fee would be structured in a similar manner, but used to implement the RTP.

Storm Water Management. While substantial progress has been made by local agencies acting as "Copermittees" of the Unified Watershed Urban Runoff Management Program in preparing various watershed plans, much work still remains to be done. In particular, the region needs a comprehensive master plan for storm water management, including specific programs of storm drain and water management facilities required to control and clean runoff water which is discharged directly into the region's lakes, rivers, and the Pacific Ocean. These plans are part of a comprehensive approach, which should include an assessment of implementation costs or identification of appropriate revenue sources.

Thus, the key revenue gap associated with the region's storm water management programs is the funding required to prepare a comprehensive, watershed-based storm water master plan, identifying actions and facilities necessary to improve the region's water quality. The cost of preparing such plans should be shared among local jurisdictions, special districts, and state and federal governments. Local jurisdictions and special districts are responsible for storm water runoff generated by land uses under their jurisdiction, and state and federal governments have an important public interest in maintaining the quality of waters under their jurisdiction.

Among these agencies, transportation agencies, such as Caltrans and SANDAG, have special interests and responsibilities, since transportation projects and the urban development they make possible are the primary generators of urban runoff. Thus, it is recommended that Caltrans and SANDAG cooperate with the Regional Water Quality Control Board in initiating and coordinating the preparation of a comprehensive storm water master plan.

When a comprehensive master plan has been completed and needed facility improvements are identified, funding sources adequate to undertake these improvements should then be identified.
These funding sources could include a regional storm water impact fee, special assessment, or special tax, together with federal and state assistance. The appropriate mix of funding sources should be determined during the planning process.

Solid Waste. Long-term planning for the disposal of municipal solid waste in the San Diego region is the responsibility of San Diego County, which prepares the Integrated Waste Management Plan. The final draft of the current plan (issued in September 2003) indicates that the region has sufficient capacity to manage solid waste through 2015, if waste diversion (i.e., recycling) is increased to 50% (from the current 48%) and landfill capacity is secured at two sites—expansion of Sycamore Canyon landfill and opening of Gregory Canyon landfill. However, neither site has been permitted, and significant unresolved issues remain regarding the financing of landfill construction and opposition by local agencies and nearby residents.

A key source of uncertainty lies with the fact that, except in the City of San Diego, private companies perform waste collection and disposal in the region. Although the county is responsible for preparing the Integrated Waste Management Plan, it lacks the means to undertake the necessary investment and other actions to implement the plan's recommendations.

The "gap" with respect to solid waste infrastructure has less to do with funding and more with an appropriate authority to implement the long-term plan, although, a revenue source is needed to exercise such authority. The most suitable revenue source is a fee or charge for solid waste collection, which is already levied by most jurisdictions. It is recommended that jurisdictions that do not currently charge fees for solid waste collection do so and that a portion of the fee revenues be used to implement the goals of the Integrated Waste Management Plan. As recommended in the City of San Diego’s Facilities Financing Study (July 2002), implementing a user fee for residential refuse collection could generate over $32 million every year.

Education: K-12 and Community Colleges. New K-12 schools and community college facilities are funded from a combination of state and local funds. In order to generate local matching funds and, in some cases, to supplement state funding, local bond issues will be needed. Proposition 39, passed in 2000, reduced the voting requirement for bonds to finance construction of K-12 schools and community colleges from two-thirds to 55 percent. School districts, as well as other infrastructure and service providers, will likely be affected by the general plan changes called for under the RCP. Channeling growth into existing urban communities will likely increase school enrollment, where land is scarce and expensive. School districts should consider different kinds of sites, more vertical and shared resources, to cope with a more urban setting.

Beach Sand Replenishment. Currently no revenue source exists to implement the beach sand replenishment program, although the start of a strategic plan and capital budget do exist. SANDAG’s Shoreline Preservation Committee initiated the plan and has proposed several funding options. In one option, the Shoreline Preservation Committee has proposed dedicating a portion of revenues from the transient occupancy tax (hotel/motel visitor’s tax) to fund the program. The transient occupancy tax would provide a reliable source and is consistent with the goal of improving visitor-serving facilities.
Habitat Conservation. The regional habitat conservation plans, the MSCP and MHCP (see RCP Appendix section on Parks and Open Space and the Healthy Environment chapter for more information), have estimated the local jurisdictions' cost to assemble and manage a regional preserve system in perpetuity at $1.3 billion (discounted present value), but the local jurisdictions have not established a funding source to cover this cost.

Construction of transportation facilities for the RTP will require mitigation of impacts to biological resources, such as habitat of protected species, according to federal, state, and local environmental guidelines. Traditionally, mitigation programs have been designed and implemented on a project-by-project basis, subject to competition from other users for lands or natural resources to be conserved in compensation for identified impacts.

Under the IRIS it is proposed that a mitigation banking program be established, where important habitat lands and natural resources identified by the regional habitat conservation plans would be conserved and managed in advance of need by future transportation projects. Purchasing and managing land earlier and in larger quantities than would be the case under a project-by-project mitigation should result in substantial cost savings. The RTP and TransNet can thus help achieve some of the key conservation goals of the regional conservation programs.

Table 7.1 summarizes types of revenues that are currently used to fund operations and maintenance or capital investment (currently used revenues are indicated with a “−”) or that are proposed as new funding sources to meet the infrastructure needs of the RCP (indicated with a “+”).
### TABLE 7.1—SOURCES OF EXISTING OR NEW REVENUES FOR INFRASTRUCTURE

<table>
<thead>
<tr>
<th>INFRASTRUCTURE</th>
<th>REVENUE FOR OPERATION AND MAINTENANCE</th>
<th>REVENUE FOR CAPITAL INVESTMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>TRANSPORTATION</td>
<td>- Continuation of existing general revenues (streets and highways)</td>
<td>+ TransNet extension (1/2-cent sales tax; highways and transit)</td>
</tr>
<tr>
<td></td>
<td>- Continuation of existing fare/user charges (transit)</td>
<td>+ Gas tax increase (highways and transit)</td>
</tr>
<tr>
<td></td>
<td>- Continuation of income from operations (air and maritime ports)</td>
<td>- Development Impact Fees</td>
</tr>
<tr>
<td></td>
<td>+ User charges (land ports of entry)</td>
<td>- Continuation of bond financing based on income from operations and federal and state funds (air and maritime ports)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>+ Bond financing based on user charges (land ports of entry)</td>
</tr>
<tr>
<td>WATER</td>
<td>- Continuation of existing rate/user charges</td>
<td>- Continuation of pay-as-you-go or bond financing based on rate revenues and fees</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Development Impact Fees</td>
</tr>
<tr>
<td>STORM WATER MANAGEMENT</td>
<td>- Continuation of existing general revenues</td>
<td>+ Regional storm water impact fee, special assessment, or special tax</td>
</tr>
<tr>
<td>SOLID WASTE</td>
<td>+ User charge</td>
<td>+ User charge and bond financing based on user charges</td>
</tr>
<tr>
<td>ENERGY</td>
<td>- Continuation of existing rate/user charges</td>
<td>- Continuation of pay-as-you-go or bond financing based on rate revenues</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Continuation of existing general revenues and state funding (K-12)</td>
<td>+ Local bond financing (K-12, community colleges)</td>
</tr>
<tr>
<td></td>
<td>- Continuation of existing tuition/user charges, donations, and state funding (CSU, UC)</td>
<td>- Continuation of state funding (K-12, community colleges)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Continuation of local funding (donations) and state funding (CSU, UC)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Development Impact Fees</td>
</tr>
<tr>
<td></td>
<td>+ Special assessment or special tax (beach sand replenishment, habitat)</td>
<td>- Continuation of existing pay-as-you-go based on impact fees (local parks)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>+ RTP / TransNet mitigation bank (habitat)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>+ Special assessment or special tax. One possible source could be the Transient Occupancy Tax (beach sand replenishment, habitat)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Development Impact Fees</td>
</tr>
<tr>
<td>PARKS AND OPEN SPACE</td>
<td>- Continuation of existing general revenues</td>
<td></td>
</tr>
<tr>
<td></td>
<td>+ Special assessment or special tax (beach sand replenishment, habitat)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
INFRASTRUCTURE NEEDS AND EXPENDITURES

The IRIS evaluated infrastructure expenditures and needs through two types of documents: capital improvement programs and long-range strategic plans. As mentioned, capital improvement programs (CIPs) represent a balancing of short-term need and available resources. Long term needs for the region are addressed in strategic plans such as SANDAG’s Regional Transportation Plan (RTP), and the San Diego County Water Authority’s Regional Water Facilities Master Plan.

In addition, the IRIS categorizes infrastructure facilities and needs broadly into two groups, regional and subregional. Aggregate supply or capacity is the primary focus of regional infrastructure; distribution and service delivery are functions of subregional infrastructure. Although regional and subregional facility needs are different, they must be integrated to incrementally move towards an ultimate goal or objective.

Given the urban form and design goals that connect the IRIS with the RCP, the following are important considerations in assessing infrastructure needs and expenditures:

1. An infrastructure needs assessment should include a realistic estimate of available financial resources. In particular, total investment in infrastructure must be consistent with the region’s commitments of resources for this purpose.

2. Regional and subregional infrastructure projects generally serve different needs and differ in the scale of investment and service population.

3. The location of regional and subregional infrastructure facilities influences urban development patterns. Need and location for subregional facilities is tied closely to the urban form and design goals of the RCP.

All infrastructure needs cannot be met immediately. Timing is the key to ensuring the adequacy of infrastructure services and funding. The IRIS recommends a phased and incremental approach to meeting the region’s infrastructure needs emphasizing questions such as, “Over time are capital improvement expenditures incrementally addressing a long term goal or strategic objective?” If expenditures are working towards a long-term goal, then we are making progress toward addressing our needs in an efficient and targeted manner.

Population Growth

Demand for infrastructure has always been driven by population growth. On one hand, in the next 30 years, the San Diego region is expected to add more than one million people, bringing the total population to just less than four million. On the other hand, local jurisdictions, acting together as SANDAG, have endorsed an urban form that channels much of the region’s future growth into existing urban (primarily incorporated) communities, preserving and protecting the lifestyle and sensitive environment of our rural (primarily unincorporated) areas.

Focusing on the characteristics and location of population growth provides important information about future demand for many of the region’s infrastructure services. Because subregional infrastructure is designed to serve a particular community, it also suggests where many of the region’s subsequent rounds of expenditures on infrastructure facilities are most likely to be located.
One of the goals of the RCP is to create an urban form that channels much of the region’s future growth into existing urban (incorporated) communities, preserving and protecting the lifestyle and sensitive environment of our rural (unincorporated) areas. By examining the population growth maps and pie charts from 2000 to 2030, we can see that without action much of the region’s future growth will increasingly occur in the unincorporated areas where existing services and facilities are not in place.

**Figure 7.6**

**Distribution of Population Growth in the San Diego Region**

Source: Preliminary 2030 Regional Growth Forecast

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**Map 1**

**2000 to 2010**

*Increase of 421,800 persons*

Map 1

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**Map 2**

**2010 to 2020**

*Increase of 363,200 persons*

Map 2

---

**Map 3**

**2020 to 2030**

*Increase of 290,700 persons*

Map 3

---

1. SANDAG Preliminary Growth Forecast, 2003. The final forecast will replace the preliminary forecast and is scheduled for release at the end of 2003. The preliminary forecast includes smart growth land use policies that will not be carried over to the final forecast. The final forecast will be based on current general plans and policies, except for the County of San Diego, which provided population targets for communities in the unincorporated portion of the region. The maps show that even with some amount of smart growth planning concepts included, the distribution of population growth continues to move from the incorporated areas toward the rural unincorporated areas of the region. The growth trend is similar whether the preliminary or final forecast is used.
As shown in Figure 7.6, without a change in current general plans and policies an increasing amount of population growth in the San Diego region is expected to occur in unincorporated areas. For example, Map 1, Population Growth from 2000 to 2010, shows that most population growth over the next decade (approximately 90%) will occur in the urban (incorporated) areas of the region. Over this time period, most new development will be located in the north county coastal areas, in central San Diego, and in the south county areas around Chula Vista. Map 2, Growth from 2010 to 2020, shows a general eastward movement as new growth occurs on the edges of the previous decade’s development locations. In Map 2, approximately 80 percent of growth still occurs in the incorporated area. Finally, Map 3 shows population growth from 2020 to 2030 pushing further eastward into unincorporated communities. Between 2020 and 2030, over 25 percent of future growth is projected to occur in the rural, unincorporated communities.

The distribution of future population growth relates to a larger issue regarding infrastructure needs. Additional growth in the rural (unincorporated) communities will require new capital projects, facilities, and services that are currently not in place. Additional facilities will increase the operations and maintenance budgets for most, if not all infrastructure providers because there will be additions to service areas and potentially more facilities to manage. By growing outside of the urbanized areas, the total cost of maintaining the system is likely to increase more than it would if more of the growth occurred in existing urban communities. The growth trend also speaks to the importance of channeling future growth into the existing, urbanized areas of the region because these locations already have facilities, services, and support infrastructure in place.

Operations and Maintenance

Over the course of an infrastructure investment’s lifecycle, total costs include the sum of the initial investment, operations and maintenance (O&M) for the upkeep of the investment, and the eventual costs to replace old, outdated, or insufficient buildings, equipment, and facilities. It is important to note that O&M expenditures are recurring and must be spent every year.

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7 Source: SANDAG 2030 Final Forecast, 2004. The final forecast is based on current general plans and policies, except for the County of San Diego, which provided population targets for communities in the unincorporated portion of the region. The percent change is relative to the existing population in each CIPA area.
<table>
<thead>
<tr>
<th>INFRASTRUCTURE</th>
<th>REVENUE</th>
<th>EXPENDITURE</th>
<th>REVENUES OVER OR (UNDER) EXPENDITURES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cities and County ¹</td>
<td>$ 164.1</td>
<td>$ 164.0</td>
<td>$ 0.1</td>
</tr>
<tr>
<td>Transit Districts (MTDB and NCTD)</td>
<td>222.6</td>
<td>222.0</td>
<td>0.6</td>
</tr>
<tr>
<td>Airport (SDIA) and Maritime Port (SDUPD)</td>
<td>304.9</td>
<td>190.6</td>
<td>114.3</td>
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<tr>
<td><strong>Total</strong></td>
<td>691.6</td>
<td>576.6</td>
<td>115.0</td>
</tr>
<tr>
<td>Water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Water Agencies</td>
<td>623.5</td>
<td>603.9</td>
<td>19.6</td>
</tr>
<tr>
<td>San Diego County Water Authority</td>
<td>312.6</td>
<td>293.7</td>
<td>18.9</td>
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<tr>
<td><strong>Total</strong></td>
<td>936.1</td>
<td>897.6</td>
<td>38.5</td>
</tr>
<tr>
<td>Wastewater</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Wastewater Agencies</td>
<td>194.8</td>
<td>191.2</td>
<td>3.6</td>
</tr>
<tr>
<td>San Diego Metropolitan Wastewater</td>
<td>284.9</td>
<td>284.9</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>479.7</td>
<td>476.1</td>
<td>3.6</td>
</tr>
<tr>
<td>Storm Water Management</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cities and County</td>
<td>20.8</td>
<td>20.8</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>20.8</td>
<td>20.8</td>
<td>0.0</td>
</tr>
<tr>
<td>Solid Waste</td>
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<td></td>
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</tr>
<tr>
<td>City of San Diego</td>
<td>83.7</td>
<td>83.3</td>
<td>0.4</td>
</tr>
<tr>
<td>County of San Diego</td>
<td>13.1</td>
<td>13.1</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>96.0</td>
<td>95.8</td>
<td>0.4</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>K-12 School Districts</td>
<td>3,389.1</td>
<td>3,445.8</td>
<td>(56.7)</td>
</tr>
<tr>
<td>High Education (Community Colleges, CSU, UC)</td>
<td>2,505.2</td>
<td>2,315.0</td>
<td>190.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>5,894.4</td>
<td>5,760.8</td>
<td>133.6</td>
</tr>
<tr>
<td>Parks and Open Space</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cities and County</td>
<td>178.8</td>
<td>178.8</td>
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</tr>
<tr>
<td><strong>Total</strong></td>
<td>178.8</td>
<td>178.8</td>
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</tr>
<tr>
<td><strong>Total All Infrastructure</strong></td>
<td>$ 8,298.5</td>
<td>$ 8,006.1</td>
<td>$ 291.0</td>
</tr>
</tbody>
</table>

² Figures may not add due to rounding.
³ Energy was not included in this table. O&M information was not available for review.

Source: Local jurisdictions and special districts, Operating Budgets, FY 2002-03.
As shown in Table 7.2 and Figure 7.7, total O&M revenues for seven of eight infrastructure areas during FY 2003 were $8.3 billion and total expenditures were $8 billion. Revenues for operations and maintenance slightly exceed expenditures; some of these revenues are saved while others are used to fund capital projects (provided the infrastructure provider has the flexibility to do this).

A majority of the expenditures ($5.8 billion, or 73%) are attributed to education. Personnel costs (salaries and benefits) are the reason for the substantially larger costs experienced in the education sector. If education costs are removed from the total, the region still spends over $2 billion each year to operate and maintain the existing infrastructure systems of the seven remaining providers.

Over the next 30 years, the region will spend a significant amount of money for operations and maintenance for upkeep of the current system. Even more may be spent if we build additional capital facilities and continue to develop in newly urbanizing areas. If the benefits of a more efficient and compact urban form occur as described in the RCP, we may be able to help reduce some of these maintenance costs. For example, by channeling growth into incorporated areas, there will be fewer acres of school facilities to manage, fewer miles of pipelines, streets, and wires to maintain, and less service area to cover for many of the region’s infrastructure providers.

Capital Improvement Programs

The Capital Improvement Programs (CIP) are a reflection of an established need within a limited set of resources and can be viewed as a prioritized list of the most immediately needed capital investments from the perspective of the infrastructure provider. As such, CIP expenditures provide a guide to where the region has prioritized its resources over the next five to ten years. Furthermore, because infrastructure investments often require large capital outlays at the beginning of a project’s lifecycle and are amortized over many years, the investment is also expected to provide benefits over the long term. The location of the projects should be consistent with the system needs of the infrastructure (e.g. to resolve capacity issues or upgrade aging facilities) and address the demands of future population growth, as envisioned in the region’s general plans.

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8 Source: Local Jurisdictions and special districts operating budgets, FY 2002-03. Financial transactions of local jurisdictions on streets and roads, FY 2001 (Published 2003)
### Table 7.3: Capital Improvement Programs, 2 Seven of Eight Infrastructure Areas, 3 San Diego Region, FY 2003-07 ($ Millions)

<table>
<thead>
<tr>
<th>INFRASTRUCTURE1</th>
<th>FY 2003</th>
<th>FY 2004</th>
<th>FY 2005</th>
<th>FY 2006</th>
<th>FY 2007</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transportation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional</td>
<td>$916.4</td>
<td>$524.5</td>
<td>$286.6</td>
<td>$178.0</td>
<td>$186.5</td>
<td>$2,092.0</td>
</tr>
<tr>
<td>Subregional</td>
<td>705.3</td>
<td>565.6</td>
<td>410.4</td>
<td>249.4</td>
<td>132.0</td>
<td>2,062.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,621.7</td>
<td>1,090.1</td>
<td>697.0</td>
<td>427.4</td>
<td>318.5</td>
<td>4,154.6</td>
</tr>
<tr>
<td><strong>Water</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional</td>
<td>210.9</td>
<td>163.5</td>
<td>171.6</td>
<td>145.4</td>
<td>160.7</td>
<td>852.2</td>
</tr>
<tr>
<td>Subregional</td>
<td>242.5</td>
<td>157.5</td>
<td>168.7</td>
<td>96.7</td>
<td>66.7</td>
<td>732.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>453.4</td>
<td>321.1</td>
<td>340.3</td>
<td>242.2</td>
<td>227.4</td>
<td>1,584.4</td>
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<tr>
<td><strong>Storm Water</strong></td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Regional</td>
<td>20.3</td>
<td>25.8</td>
<td>22.9</td>
<td>19.8</td>
<td>7.3</td>
<td>96.0</td>
</tr>
<tr>
<td>Subregional</td>
<td>256.1</td>
<td>184.4</td>
<td>162.4</td>
<td>181.1</td>
<td>175.5</td>
<td>959.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>276.4</td>
<td>210.1</td>
<td>185.2</td>
<td>200.9</td>
<td>182.8</td>
<td>1,055.5</td>
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<tr>
<td><strong>Energy</strong></td>
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<td></td>
</tr>
<tr>
<td>Regional</td>
<td>121.5</td>
<td>137.3</td>
<td>168.7</td>
<td>189.3</td>
<td>166.4</td>
<td>783.2</td>
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<tr>
<td>Subregional</td>
<td>85.7</td>
<td>75.6</td>
<td>22.5</td>
<td>2.7</td>
<td>0.4</td>
<td>186.8</td>
</tr>
<tr>
<td>Subreg. - Non-alloc.2</td>
<td>77.7</td>
<td>80.7</td>
<td>86.6</td>
<td>98.9</td>
<td>112.2</td>
<td>456.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>284.8</td>
<td>293.6</td>
<td>277.8</td>
<td>290.9</td>
<td>279.0</td>
<td>1,426.1</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional</td>
<td>106.6</td>
<td>186.8</td>
<td>137.0</td>
<td>260.2</td>
<td>167.8</td>
<td>858.5</td>
</tr>
<tr>
<td>Subregional</td>
<td>530.1</td>
<td>704.8</td>
<td>394.2</td>
<td>136.3</td>
<td>96.3</td>
<td>1,861.7</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>636.7</td>
<td>891.7</td>
<td>531.3</td>
<td>396.5</td>
<td>264.1</td>
<td>2,720.2</td>
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<tr>
<td><strong>Parks / Open Space</strong></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Subregional</td>
<td>145.2</td>
<td>96.6</td>
<td>8.8</td>
<td>25.9</td>
<td>9.5</td>
<td>285.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>145.2</td>
<td>96.6</td>
<td>8.8</td>
<td>25.9</td>
<td>9.5</td>
<td>285.9</td>
</tr>
<tr>
<td><strong>All Infrastructure</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional</td>
<td>$1,375.7</td>
<td>$1,037.9</td>
<td>$786.8</td>
<td>$792.7</td>
<td>$688.8</td>
<td>$4,681.9</td>
</tr>
<tr>
<td>Subregional</td>
<td>1,985.8</td>
<td>1,804.9</td>
<td>1,173.9</td>
<td>698.9</td>
<td>485.4</td>
<td>6,149.0</td>
</tr>
<tr>
<td>Subreg. - Non-alloc.4</td>
<td>77.7</td>
<td>80.7</td>
<td>86.6</td>
<td>98.9</td>
<td>112.2</td>
<td>456.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>$3,439.2</td>
<td>$2,923.5</td>
<td>$2,047.3</td>
<td>$1,590.5</td>
<td>$1,286.4</td>
<td>$11,287.0</td>
</tr>
</tbody>
</table>

1 IRIS infrastructure sectors. "Regional" facilities serve all or substantial portions of the region, such as the international airport, the maritime port, and importation of water into the region. "Subregional" facilities are those which serve individual communities; subregional facilities require close coordination with the pattern of urban development in the region. Subregional investments in various infrastructure sectors are shown in the respective appendix sections.

2 Figures may not add due to rounding.

3 Solid waste was not included in this table. CIP information was not available for review.

4 Some energy-related investments, while subregional in nature, cannot be allocated to specific communities ahead of actual need. They have been excluded from the mapped distribution of subregional investments.

Source: Local jurisdictions and special districts, Capital Improvement Programs, FY 2003.
As summarized in Table 7.3 and Figure 7.8, the CIP’s for the seven of eight infrastructure areas analyzed showed project specific expenditures of $3.4 billion in FY 2003 and more than $11 billion between FY 2003 and FY 2007. The largest single capital investment program expenditure category is transportation, which plans to spend more than $4 billion over the five year time period. Within transportation, RTIP-related projects account for nearly 90 percent of the total expenditures. This is significant because the IRIS recommends using transportation project funding to provide incentives to help implement the smart growth urban form and design of the RCP.

Subregional CIP Expenditures

The region’s capital improvement expenditures have been divided into regional and subregional totals. Nearly $2 billion of the total expenditures in FY 2003 ($3.44 billion) are subregional in nature. Figure 7.9 shows the location of the region’s subregional expenditures on capital improvements for FY 2003.
Figure 7.9
All Infrastructure Systems Distribution of Subregional CIP Expenditures FY 2003 ($1,986 million)

* Some subregional expenditures cannot be assigned to specific communities ahead of actual need

- > 4% (> $79.4 million)
- 2% - 4% ($39.7M to $79.4 million)
- 1% - 2% ($19.9M to $39.7 million)
- 0.5% - 1% ($9.9M to $19.9 million)
- < 0.5% (< $9.9 million)

Incorporated Boundary
As shown in Figure 7.9, much of the infrastructure investment for FY 2003 is programmed to occur in coastal areas or in proximity to coastal areas in the western third of the region. This expenditure pattern is consistent with the urban form called for in the RCP, which recommends preparing our urban areas to accommodate a greater amount of future growth. However, there are some expenditures in outlying areas, such as Valley Center and Ramona, which may be viewed as preparing those rural communities for future urban growth.

The FY 2003 pattern of the expenditures is consistent with the RCP goals and objectives. However, if the pattern of growth projected in the forecast is not redirected, the growth in these rural communities will direct future expenditures outwards and will likely require increasing amounts of infrastructure, such as schools, water, energy, transportation, and sewage treatment. This emphasizes the inter-related nature of infrastructure spending, where one investment leads to others and almost all capacity planning is linked to the growth envisioned in the region’s general plans.

Infrastructure Summary

Most of the region’s infrastructure providers have a system in place to address their needs and prioritize their expenditures. However, not all share the same issues driving their planning processes (beyond population growth). In addition, some of the infrastructure providers do not have vertical integration between their long term, visionary, and strategic planning and their capital budgeting. Also, some providers are dependent upon sources of funding or behavioral changes that must take place in order for them to implement their strategic plans and accomplish their goals. For example, implementation of the RTP requires an extension of the TransNet ½-cent sales tax program, and meeting the energy, water, and solid waste needs of the region will require additional levels of recycling and conservation beyond what occurs today. If these assumptions do not occur as hoped, the implementation of the strategic planning and capital budgeting may fail.

If growth in demand for capacity outpaces growth in population, it may have several implications for the RCP. Perhaps most notably with respect to infrastructure financing, development impact fees and other population-based sources of revenue may not be sufficient to handle the infrastructure requirements. This will likely entail the need for identifying funding sources beyond impact fees, such as higher user fees, increased use of bond measures, or application of special assessment districts.9 Demand exceeding population growth also signals the need for efficient management of existing facilities and a prioritization of improvements designed to gain the most impact for the least cost. To complement this goal, the RCP recommends a more compact and efficient urban form as a way to maximize the use of existing resources.

The following is a highlight of some of the more significant findings from the IRIS research. For more detail on any particular infrastructure provider, please refer to the IRIS Technical Appendices

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9 The San Diego Local Agency Formation Commission (LAFCO) is responsible for coordinating, directing, and overseeing changes to local governmental boundaries, including annexation and detachment of territory, incorporation of cities, formation of special districts, and consolidation, merger, and dissolution of districts. LAFCO conducts Municipal Service Reviews and Sphere of Influence studies for a variety of infrastructure areas. These reviews and studies examine each infrastructure provider’s CIP and Sphere of Influence to determine if there are any improvements that can be made. In addition, LAFCO is charged with reviewing ways to reorganize, simplify, and streamline governmental structure. The Municipal Service Review process is required by the Cortese-Knox-Hertzberg Local Government Reorganization act of 2000. For more information about LAFCO, refer to their website at www.sdlafco.org.
Transportation - Streets, Highways, and Transit. The forecast increase in vehicle miles traveled is projected to outpace growth in population. This emphasizes the need for an urban form that makes the most efficient use of existing streets and highways. It also suggests a need to reduce the demand for trips and encourage the use of alternative travel modes, particularly transit, biking, and walking.

Aviation. San Diego International Airport (SDIA) at Lindbergh Field, as it currently exists, will not be able to meet the projected demand for air travel and cargo. To meet the demand, a new airport or expansion of the existing facility will be required. The San Diego Regional Airport Authority is analyzing a number of options, but no site has been identified and no specific cost estimates developed.

Maritime Port. Because all airport-related functions were transferred from the San Diego Unified Port District (Port) to the new airport authority, real estate and maritime port-related planning and operations are now the port district’s primary functions. The Port continues to develop its long term planning processes and restructure itself after the separation from SDIA. The maritime industry is projected to grow, and the economic opportunities it will provide could be considerable.

Land Ports of Entry. The international border with Mexico is still experiencing severe congestion from the growth in NAFTA-related goods movement. Furthermore, local workers commuting to and from San Diego experience significant delays crossing the border. The existing ports of entry may not be able to handle the projected growth in passenger and cargo without investments in facilities, staff, and technology.

Water. The San Diego County Water Authority's Draft Regional Water Facilities Master Plan is designed to meet the water supply needs of the region. It emphasizes the role of two sources of water that previously did not exist locally: seawater desalination, and the Imperial Irrigation District transfer. According to preliminary estimates, these new sources could contribute up to 30 percent of the region's water supply by 2030. The plan also suggests an increase in conservation above current levels. In order to secure a reliable water supply into the future, those key sources must be developed and conservation efforts must be successful.

Because water agencies respond to the land use changes in the region’s general plans, channeling growth into the incorporated areas will have implications for the region’s water districts. Implementation of the smart growth goals of the RCP may require changes to some water agencies' facility master plans. A capital improvement planning and funding mechanism is in place, providing a method for accommodating this growth. Fee- and exaction-based facility construction will follow new development or redevelopment and charges for services to existing users would continue to provide debt service payments for outstanding bonds.

Wastewater. Most of the region's proposed sewage treatment facility upgrades are intended to achieve secondary and tertiary treatment capacities. The capacities of the facilities, as well as pipe diameters, will need to expand in order to accommodate the increased flow volume and to arrest sewer overflows. Implementation of the smart growth urban form called for in the RCP is likely to
place additional demands on the existing system and will require capacity upgrades at these facilities.

Most cities and districts in the San Diego region have some form of wastewater capital improvement plans, capital planning documents, or long-term master plans. But these plans, with the exception of the City of San Diego, are created without reference to a regional master plan or an integrated strategy.

Storm Water. The county of San Diego Board of Supervisors initiated Project Clean Water’s Strategic Plan in July 2000 to develop a framework to guide solutions to shared water quality issues and concerns. Another strategic planning document is the Copermittees’ Unified Watershed Urban Runoff Management Program (WURMP), which establishes a programmatic framework for the continued development and implementation of various programs and activities that meet or exceed regulatory obligations. The Unified WURMP is an integration of the individual watershed plans.

Although these strategic plans establish a framework for development and implementation of various programs, they do not outline or refer to any capital improvement plans to meet these goals. They do not identify a regional need or capacity requirement for storm water and urban runoff or identify a secure funding source. In the absence of an adopted plan, agreed-upon need, and regionally accepted strategy, it is difficult to quantify capacity requirements or to determine the cost of meeting the region’s goals. Furthermore, there are a variety of potential approaches available to address the region’s needs. However, due to the lack of a regional, implementable strategy, it is difficult to determine if the expenditures represented in the region’s capital improvement programs adequately work towards addressing a long-term vision for storm water. As a result of limited regional planning, there are no reliable estimates of long-term need or cost.

Solid Waste. With the exception of the City of San Diego, solid waste collection and disposal is a privatized system (both landfill owners and haulers are run by private companies) and capital improvement plans (CIP) are unavailable for public review. Because a majority of the region’s waste collection and disposal facilities are privately owned and operated, it is difficult for the local jurisdictions to influence or affect the decisions made by these companies. Also, it is difficult to plan other infrastructure facilities designed to serve the landfills because of this lack of coordination, such as transportation facilities to accommodate the waste haulers.

Energy. San Diego Gas and Electric (SDG&E), a subsidiary of SEMPRA utilities, operates the electricity transmission lines in the San Diego region. The San Diego Regional Energy Office (SDREO) provides information, research, analysis and long-term planning on energy issues for the San Diego region. Both agencies are involved in the long-term planning for San Diego’s energy needs and agree that the long-term demand for electric energy will be met through a combination of local generation, increased amounts of conservation and continued reliance on imported power. An additional shared objective is to increase generation through alternative, non-fossil, fuel sources.

The energy plans from SDG&E and SDREO agree on the long-term need for energy and on a broad outline of strategies to meet that need. However, they advocate different emphases on local and imported power and on the extent of power generated from alternative sources that will become available by 2030.
Education. K-12: Although the annual growth rate of K-12 student enrollment is expected to slow over the next decade, the costs of continued maintenance, new school construction, and modernization will continue to pose serious problems for many school districts. With funding sources extremely unpredictable and cuts related to the current state budget deficit being passed on to the local school districts, costly decisions will have to be made even though smaller teacher-student ratios have recently been mandated by law. Many school districts also face growing backlogs of deferred maintenance.

Channeling future population growth into the incorporated areas and increasing levels of urbanization will impact school districts and require facility upgrades and additional capacity. Appropriate measures will have to be taken in order to fully address the impacts created from increased enrollment at existing facilities. To make room for more students, school districts will either have to increase capacity at current facilities (through measures such as development of multistory structures) or build new schools. Because school construction typically requires a significant amount of land, innovative approaches to funding construction will have to be explored in order to keep the costs of new school construction in urban areas reasonable.

There are opportunities to fund projects locally. For example, as a result of Proposition 39 school districts have the ability to pass bonds with 55 percent of voter approval, lower than the two thirds required for other infrastructure providers. Urban districts facing increasing levels of enrollment could take advantage of this opportunity to fund some of the improvements, similar to the way San Diego Unified School District passed Proposition MM, a local ballot initiative to fund school construction, to address its existing infrastructure needs.

Higher Education. The San Diego region contains three public universities: University of California, San Diego, San Diego State University, and Cal State University, San Marcos; and several community college districts: San Diego, Grossmont-Cuyamaca, Southwestern, and Mira Costa. The drivers of facility demands for the UC and CSU systems are similar to those for the state’s community college districts: increasing enrollment and aging infrastructure. These two factors combined with the current budget issues have also contributed to an increasing deferred maintenance backlog.

Parks and Open Space - Local Parks and Open Space. The application of park standards contained in local jurisdictions’ general plans indicates that a substantial increase in new local, active parks will be needed to serve the region’s projected increase in population. Local parks represent a subregional infrastructure, serving the adjacent communities. Similar to K-12 Education, increasing levels of urbanization will also require additional park lands in the incorporated areas of the region.

A three-pronged approach to meeting some of the need for parks and recreation might include: joint use of school playgrounds and athletic fields, development of new parks and facilities, and shoreline preservation as a way to address active park requirements. As additional growth occurs in the urbanized areas, the availability of new parkland will need to be considered in conjunction with planning for smart growth and implementation of the RCP.

Shoreline Preservation. Sand replenishment at the region’s beaches is needed to counter the effects of erosion and lack of deposits from rivers. Currently, the region has a shoreline preservation strategy, but no funding sources to implement it. The strategy encompasses both capital improvement plans and operations and maintenance expenditures.
Habitat Conservation. The San Diego region has several subregional habitat conservation plans and programs. Accordingly, habitat needs and cost estimates have been articulated. However, while various options for funding programs have been identified, no comprehensive capital and O&M program has been adopted at this time.
Currently, vehicle miles traveled (VMT) are projected to grow faster than population, increasing the likelihood of more traffic congestion. Encouraging the urban form and design (smart growth) pattern of development envisioned in the RCP provides an opportunity to increase convenient and safe transportation choices that will reduce VMT and expected congestion.

To increase transportation choices, SANDAG adopted a $42 billion plan that requires an extension of the 1/2 cent sales tax and an increase in the state gas tax.

Crossings of passengers and goods at the U.S.-Mexico international border are projected to increase by nearly 90% in 2030. The value of goods crossing the border is expected to increase by 200% to $34 billion. The current port of entry and roadway network serving the border are not adequate to handle the projected increase.

Air passenger travel is projected to nearly double by 2030. The regional economic opportunity cost of not meeting this need is estimated to range from $30 billion to $94 billion.

Marine cargo (freight) handled by San Diego Unified Port District (Port) is expected to increase 50% by 2030. It is anticipated that this increase can be accommodated through improvements in capital facilities and operations as described in the Port’s strategic plan.

According to the Port, metric tonnage requirements for the San Diego region are projected to grow between three to five percent annually over the next five years.

10 Detailed source information for each of the charts in Figure 10 is available in the IRIS Technical Appendices.
CHAPTER 7

CHART 3. WATER

→ The capital and operating costs to meet the region’s water supply needs through 2050 is approximately $31.6 billion.

→ The overall growth in demand for imported water from MWD is less than the growth in population; which is accomplished primarily through implementation of demand and system management techniques and development of local supplies.

→ Approximately 40 percent of the region’s water supply will come from sources we have historically not relied upon; the Imperial Irrigation District transfer water, conserved water from canal lining projects, and Seawater Desalination.

CHART 4. WASTEWATER

→ The future increase in the flow of wastewater treated at the Point Loma Facility is less than population growth.

→ The region will add approximately 16% to total treatment capacity between 2000 and 2020, from 364 million gallons a day (MGD) to 422 MGD. Tertiary treatment will increase 123% from 44 to 98 MGD in 2020. This estimate does not include any tertiary treatment at the Point Loma facility.

CHART 5. SOLID WASTE

→ Solid waste generated in the region is projected to increase nearly four times faster than population. Recycling will reduce the waste stream disposed of in the region. However, disposal will also continue to significantly outpace population growth.

→ A combination of recycling, new landfill capacity, and access to disposal sites outside the region will likely be used to meet demand; however, the costs of increasing collection and disposal capacity are not available.
→ Peak electric energy demand (in megawatts (MW)) is projected to increase 110% through 2030.

→ A combination of local generation, imported power, and conservation will be needed to meet the rising energy demand.

→ Current plans advocate a different emphasis on local and imported power and on the extent of power generated from alternative sources; yet no information is available on the cost of selecting one energy source over another.

→ Enrollment in K-12 schools is projected to increase 11% by 2030, substantially slower than the projected increase in population.

→ Enrollment in higher education (community colleges, CSU, and UC) is projected to increase faster than population.

→ A substantial increase in new local active parks will be needed to serve the projected increase in population.

→ Availability of new parkland will need to be considered in conjunction with planning for smart growth. Accommodating more of our population through urban infill and redevelopment will require more urban parks.

→ The cost of sand replenishment at the region’s beaches is $7.5 million per year for 20 years, then $2 million per year thereafter.

→ The region’s goal is to preserve and manage approximately 400,000 acres of natural habitat. The local jurisdictions’ share of costs to implement these programs is $1.3 billion.
GOALS, POLICY OBJECTIVES, AND ACTIONS

Goals

1. Regularly assess the ability of our infrastructure to handle change and maintain our quality of life.

2. Align our infrastructure plans and investments with our RCP goals and objectives.

3. Address infrastructure needs in the region in a comprehensive manner, not piecemeal.

4. Create a planning framework that coordinates and links long term visionary goals with short term capital expenditures across service providers.

5. Provide adequate infrastructure improvements prior to or concurrent with the population growth occurring in smart growth opportunity areas.

6. The San Diego region should accept more responsibility for addressing our regional and subregional infrastructure needs, rather than relying on the State and Federal government.

Policy Objectives

1. Provide an integrated infrastructure planning and programming framework to strengthen the relationship between local and regional plans and policies.

2. Directly link transportation and other infrastructure capital improvement programming to land use decisions that support the urban form and design goals envisioned in the RCP.

3. Develop incentive based methods for prioritizing transportation and other infrastructure improvements to encourage changes that support the smart growth goals and objectives of the RCP.

4. Consolidate independent districts if service delivery can be made more efficient and effective. Efforts should be coordinated with San Diego LAFCO.

Actions - General

Planning and Design

1. Local jurisdictions, acting individually and collectively through SANDAG, should use funding for transportation projects to provide incentives for changes in land use to achieve the urban form and design goals of the RCP. This action provides a link to other infrastructure providers.

2. Infrastructure providers should develop and implement strategic plans to bridge annual expenditures of a capital improvement program to long-term goals of a facilities master plan.
3. Local jurisdictions and infrastructure providers should formally establish procedures and mechanisms, such as memorandums of understanding (MOUs) or compacts, to coordinate planning and investment in regional infrastructure facilities to support the RCP.

Programs and Project Implementation

1. Local jurisdictions, acting through SANDAG, should incorporate smart growth / land use criteria into a competitive and incentive-based program for evaluating and prioritizing expenditures under the Regional Transportation Improvement Program (RTIP). This action provides a link to other infrastructure providers. This program will influence general plans, and provide a link to other non-transportation infrastructure providers.

Funding

1. Local jurisdictions and regional and local infrastructure providers should adopt the following process in the financing of infrastructure investment and operation:

   First, make efficient use of existing funding by prioritizing expenditures according to smart growth objectives and synchronizing, or coordinating, expenditures in different infrastructure services.

   Second, undertake demand management, system management, and changes in policies to ensure that effective incentives are in place to make efficient use of the existing infrastructure systems and services to achieve smart growth.

   Third, seek new funding only when the first two steps have been completed and essential goals remain unmet.

2. In cases where there is no significant funding, local jurisdictions or infrastructure providers should first secure a regular funding source, even if small, then apply the process of prioritization, synchronization, and policy change as described above.

3. Local jurisdictions and service providers should seek funding for infrastructure investment and operation primarily from user fees and other charges to the beneficiaries of those services.

4. The region should make a concerted effort to treat all infrastructure providers equally by supporting legislation that reduces the voter requirement for bond approval to 55 percent. This approval level would be consistent with the level currently required for education bond measures (Proposition 39).
Actions - Specific

Transportation

1. Local jurisdictions, acting through SANDAG, should secure funding for the implementation of MOBILITY 2030 (the Regional Transportation Program), including extension of the TransNet program and increase in the State and Federal gas tax at a rate consistent with historical trends.

2. Local jurisdictions, acting through SANDAG, should research the benefits and costs of cooperatively adopting a regional traffic impact fee program to mitigate the effects of new development on the regional transportation system.

3. San Diego County Regional Airport Authority should improve access through air travel to domestic and international markets, which is adequate for the region's economy and residents. To this end, SDCRAA should work with local, as well as other governments in southern California to ensure access to the international airport.

4. SANDAG should cooperate with the U.S. Department of Homeland Security and General Services Administration to secure funds to accommodate the forecast increase in border crossings by people and goods. In the event that these funds are inadequate, other funding sources, including user fees, should be considered.

Water

1. San Diego County Water Authority (SDCWA) should promote establishment of a statewide water market to facilitate efficient distribution and use of water resources.

2. SDCWA should place immediate priority on effectively implementing the water transfer agreement with the Imperial Irrigation District (IID).

3. Since reliability of water supply is essential for the proper functioning of the local economy, SDCWA should promote and develop seawater desalination as a significant, future source of water for the region, as envisioned in the Regional Water Facilities Master Plan.

4. To further improve water supply and reliability, the region should maximize water recycling and reclamation efforts, linking recycling opportunities to new and existing development and reviewing the possible use of incentives.

Wastewater

1. City of San Diego should develop and adopt a contingency plan to upgrade the Point Loma Wastewater Treatment Plant to meet secondary and tertiary treatment standards, in the event that the city is unable to renew the current waiver from the requirements of the Clean Water Act.
Storm Water

1. State, regional, and local agencies should cooperatively develop a comprehensive and detailed master plan for storm water management in the region and an associated implementation plan, similar to regional programs for habitat conservation and shoreline sand replenishment.

2. State, regional, and local agencies should identify a funding mechanism that would make feasible an on-going program of strategic planning, prioritization, and implementation of storm water facility improvements.

Solid Waste

1. County of San Diego in cooperation with other local jurisdictions should develop a strategic plan to bridge near-term facility improvement programming and long-term goals of the Countywide Integrated Waste Management Plan and to establish and implement specific goals for waste diversion, export, and in-county disposal.

2. Local jurisdictions should collect solid waste collection fees and dedicate a portion of the revenues to implement the goals of the strategic plan described above.

Energy

1. SDREO and SDG&E, with participation by SANDAG, should cooperatively refine and implement the Regional Energy Strategy to serve as a single, long-range energy master plan for the San Diego region.

Education

1. K-12 school districts should evaluate opportunities for and implement the expansion, renovation, and/or reconstruction of existing schools in urbanized areas, including, if appropriate, development of multistory structures, to support the smart growth and urban form goals of the RCP.

2. K-12 school districts should make effective use of the provisions of Proposition 39 to obtain 55% voter approval of bond financing to expand, renovate, or reconstruct schools in urbanized areas.

3. K-12 school districts should work with local jurisdictions to maximize the joint use of school playgrounds and athletic fields to serve the local residents' need for active parks.

4. The community colleges of the San Diego Imperial Counties Communities College Association should work to achieve parity with other regions in the allocation of state funds by the California Community Colleges.

5. In order to meet the region's increasing need for post-secondary education, community colleges should secure additional funding for operation through increased tuition and fees and for capital investment through 55% voter approval of bond financing.
Parks and Open Space

1. Local jurisdictions, acting through SANDAG, should consider the feasibility of leveraging a portion of transportation funding (RTP and TransNet) required for the biological mitigation of transportation projects to maximize benefits for the region’s habitat conservation programs. To this end, the local jurisdictions should:

   - Establish a regional habitat mitigation bank consisting of priority habitat acquisition lands identified by the region’s habitat conservation programs (MSCP and MHCP) and use its credits to mitigate the biological impacts of transportation projects.
   - Consolidate the mitigation budgets of separate transportation projects to fund the establishment and management of the regional mitigation bank.
   - Allocate a portion of the consolidated mitigation budget for the long-term management and monitoring of other preserve lands that currently do not have funding for those purposes.
   - Establish an entity, such as a conservancy, which will conduct the management and monitoring and obtain additional funds for habitat acquisition, management, and monitoring.
   - Work with other regional infrastructure providers, such as for water, wastewater, or energy, to consolidate mitigation banking needs, thus improving the efficiency and effectiveness of mitigation actions to further the goals of the regional conservation plans.

2. Local jurisdictions should consider the availability of local, active parks and the possibility of obtaining additional park resources, such as through joint-use of school playgrounds and athletic facilities, in identifying and prioritizing smart growth opportunity areas.

3. Local jurisdictions should take advantage of the strategic plan they prepared, acting through SANDAG’s Shoreline Preservation Committee, to finance shoreline sand replenishment. One possible funding source might include dedicating a portion of the transient occupancy tax collected throughout the region.

CONCLUSION

As our region continues to grow and change, we must regularly assess the ability of our infrastructure to keep pace and maintain our quality of life. The IRIS provides a forward-looking investment and financing strategy that will help the San Diego region meet its collective infrastructure needs. The IRIS emphasizes collaboration, relying on incentives and competition to achieve our urban form and design goals. One of the goals of the RCP is to create an urban form that channels much of the region’s future growth into existing urban (incorporated) communities where infrastructure facilities and services are already in place. Channeling growth in these areas will help preserve and protect the lifestyle and sensitive environment of our rural (unincorporated) areas. The IRIS provides a strategy for accomplishing this goal by helping to enable sustainable, smart growth development.