

## CHAPTER 2 MOBILITY 2030 VISION

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MOBILITY 2030 is San Diego's Regional Transportation Plan – the blueprint to address the mobility challenges created by our region's growth. This long-range Plan contains an integrated set of public policies, strategies, and investments to maintain, manage, and improve the transportation system in the San Diego region through the year 2030. The Plan's vision for transportation supports the region's comprehensive strategy to promote smarter, more sustainable growth.

### WHAT'S THE VISION FOR TRANSPORTATION?

*The MOBILITY 2030 vision is to develop a flexible transportation system that focuses on moving people and goods – not just vehicles. The vision is to provide more convenient, fast, and safe travel choices for public transit, ridesharing, walking, biking, private vehicles, and freight. It commits the region to preserve its existing transportation resources and manage the regional transportation system efficiently.*

At the core of MOBILITY 2030 are seven policy goals:

- **Mobility** – Improve the mobility of people and freight
- **Accessibility** – Improve accessibility to major employment and other regional activity centers
- **Reliability** – Improve the reliability and safety of the transportation system
- **Efficiency** – Maximize the efficiency of the existing and future transportation system
- **Livability** – Promote livable communities
- **Sustainability** – Minimize effects on the environment
- **Equity** – Ensure an equitable distribution of the benefits among various demographic and user groups

While all goals are considered interrelated and important, Mobility is considered the Plan's highest goal. Identified in Table 2.1 are policy objectives that will help the region achieve the Plan's goals.

### MEASURING THE PLAN'S SUCCESS

MOBILITY 2030 was developed by examining how different land use and transportation network scenarios meet regional measures of performance. These performance measures correspond to the Plan's seven policy goals: Mobility, Accessibility, Reliability, Efficiency, Livability, Sustainability, and Equity.

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**TABLE 2.1—POLICY OBJECTIVES**

<b>GOAL</b>	<b>POLICY OBJECTIVES</b>
<b>Mobility</b>	<p><i>No One Size Fits All</i> – Tailor transportation modal improvements to reflect supporting land uses in major travel corridors</p> <p><i>The Most Bang for the Buck</i> – Make the Regionally Significant Transportation Network the highest priority for regional transportation funding</p> <p><i>Move People and Goods, Not Just Vehicles</i> – Minimize drive alone travel by making it fast, convenient, and safe to carpool, vanpool, ride transit, walk, and bike, and improve goods movement</p> <p><i>Better Manage Congestion</i> – Better respond to traffic congestion through greater emphasis on the Congestion Management Program</p>
<b>Accessibility</b>	<p><i>Boost Transit Ridership</i> – Achieve a double-digit transit mode share during peak periods, with competitive transit travel times to major job centers</p> <p><i>Let’s Walk and Bike</i> – Encourage walkability and better bicycle access within our local communities</p>
<b>Reliability</b>	<p><i>Inform Travelers</i> – Apply new technologies and management strategies to make travel services more reliable, convenient, and safe, and to reduce non-recurrent congestion</p>
<b>Efficiency</b>	<p><i>What Gets Measured Gets Managed</i> – Measure the performance of the regional transportation system on a regular basis and manage its efficiency</p> <p><i>Relieve the Pressure</i> – Develop cost-effective, voluntary incentive programs for major employers, schools, and residential areas with a goal of reducing peak period travel demand by at least five percent by 2030</p>
<b>Livability</b>	<p><i>Put Transit Where It Works</i> – Focus transit improvements in areas with compatible land uses that support an efficient transit system</p> <p><i>Smart Growth Carrots</i> – Use regional transportation funding as an incentive for smarter land uses</p>
<b>Sustainability</b>	<p><i>Discourage Sprawl</i> – Focus roadway and transit improvements in urban/suburban areas, away from the region’s rural areas</p> <p><i>Think Before You Build</i> – Evaluate all reasonable non-capital transportation improvement strategies before pursuing major expansions to roadway or fixed guideway capacity</p>
<b>Equity</b>	<p><i>Play Fair</i> – Provide equitable levels of transportation services for low-income, minority, and elderly and disabled persons</p>

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The performance measures for the MOBILITY 2030 land use plan and transportation network establish the performance against which we will benchmark our progress toward meeting the Plan's policy goals and objectives. Table 2.2 compares MOBILITY 2030 with current conditions (year 2000) and with our projected population and employment growth in 2030 if there were no additional expansion of the regional transportation system ("no build").

The "no build" scenario is not meant to depict the real world – investments in the transportation system would be made over time to serve the region's growing population and employment. Instead, the analysis helps isolate the effect of future growth in population and employment on the transportation system's performance as well as the effect of the Plan's improvements.

MOBILITY 2030 maintains or improves average travel times and travel speeds in the region (measures of Mobility) compared to the 2030 growth trend. Average work trip travel times are one minute longer than current conditions, even with one million more people and a half-million more jobs in 2030. Commuters using the extensive Managed/HOV lane system will benefit from the highest average speeds.

*MOBILITY 2030 maintains or improves average travel times and travel speeds in the region, and produces dramatic decreases in roadway congestion.*

Compared to the "no build" scenario, MOBILITY 2030 produces dramatic decreases in roadway congestion (a measure of Reliability), slightly lower than even current conditions. Figure 2.1 shows level of service in 2030 with the Plan's improvements. While the Plan performs well in measures of Accessibility compared to the "no build" case, as the region grows, there would be smaller percentages of work/school trips accessible within 30 minutes and non-work trips accessible within 15 minutes compared to current conditions. Under measures of Livability, the transit work trip mode share is 10 percent, compared to five percent under current conditions and four percent under "no build." Other Livability measures under the Plan are slightly better or about the same as current conditions and better than the 2030 trend.

*The significant expansion of regional transit services under MOBILITY 2030 will result in a dramatic increase in transit ridership.*

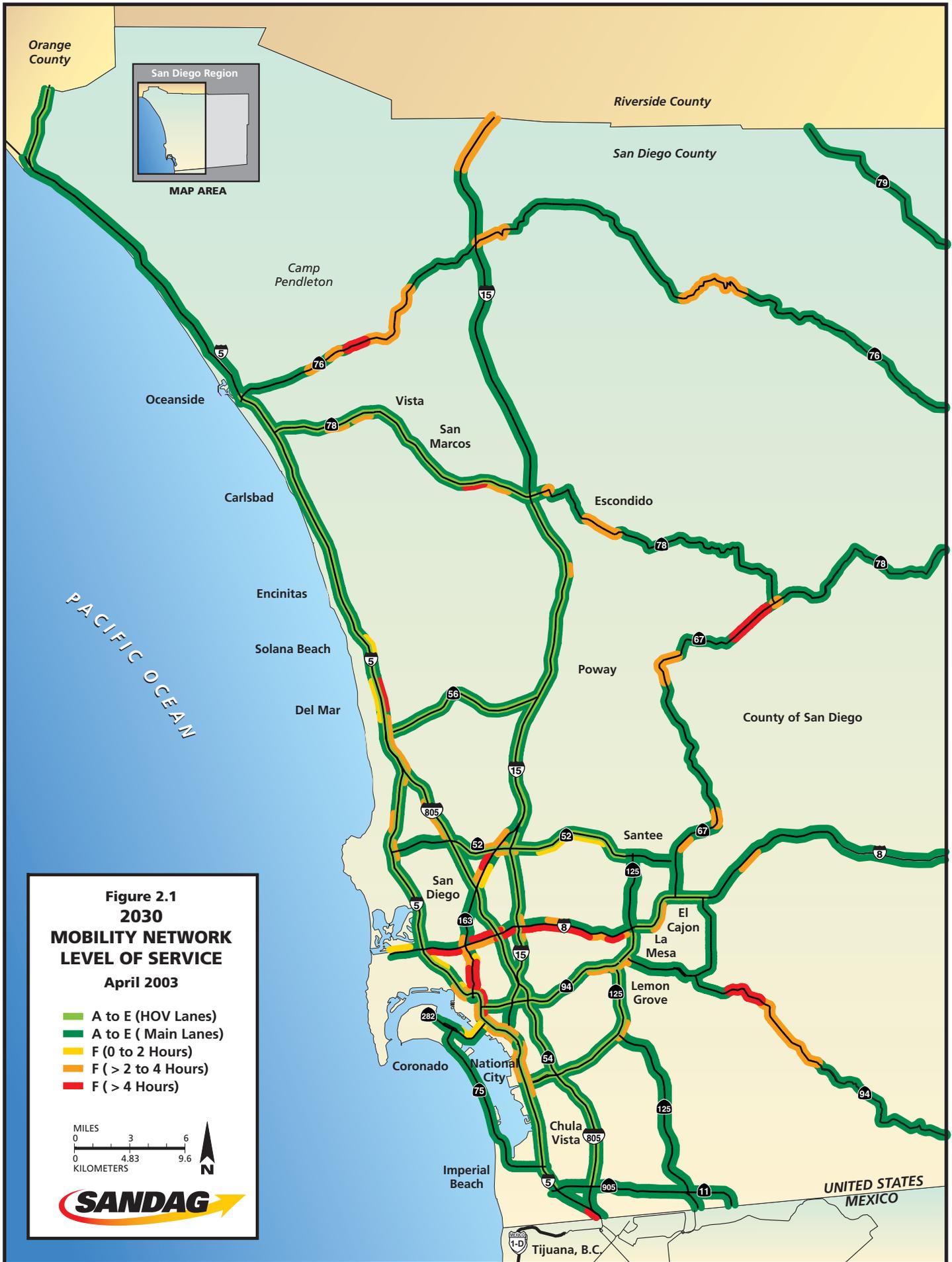
Under Sustainability, the Plan's results are mixed. The significant expansion of regional transit services will result in a dramatic increase in transit ridership; daily transit passenger miles (5.2 million) are more than double the miles under the "no build" scenario and are tripled compared to current conditions. Yet, the Plan's roadway improvements, including the planned Managed/HOV system and completion of the freeway network, will result in a 50 percent increase in daily vehicle miles of travel (VMT) compared to current conditions (112.2 million compared to 74.7 million). In part, this increase in VMT is a result of the region's growth in population and employment. Compared to the 2030 growth trend, VMT under MOBILITY 2030 is only two percent higher. Fuel consumption follows the same trends as VMT.

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**TABLE 2.2—COMPARISON OF PERFORMANCE MEASURES**

<b>MOBILITY</b>	<b>CURRENT (2000)</b>	<b>“NO BUILD” (2030)</b>	<b>MOBILITY 2030</b>
➤ Average work trip travel time	24 min.	28 min.	25 min.
➤ Average daily travel time	15 min.	16 min.	15 min.
➤ Average work trip travel speed by mode			
○ Auto	29 mph	22 mph	28 mph
○ Carpool	31 mph	23 mph	34 mph
○ Transit	10 mph	10 mph	14 mph
<b>ACCESSIBILITY</b>			
➤ Work/school trips within 30 minutes	71%	60%	67%
➤ Non-work trips within 15 minutes	69%	65%	66%
<b>RELIABILITY</b>			
➤ Daily accidents/fatalities	88	129	130
➤ Congested peak period travel conditions	29%	45%	25%
➤ Congested daily travel conditions	20%	38%	17%
<b>EFFICIENCY</b>			
➤ Out of pocket user costs	\$1.70/trip	\$1.62/trip	\$1.75/trip
➤ Total 30-year public and private travel costs	\$1.80/trip	\$1.66/trip	\$1.88/trip
<b>LIVABILITY</b>			
➤ Homes within 1/2 mile of a transit stop	63%	58%	63%
➤ Jobs within 1/4 mile of a transit stop	39%	36%	45%
➤ Work trip mode split			
○ Drive alone	78%	79%	74%
○ Carpool	12%	12%	12%
○ Transit	5%	4%	10%
○ Bike/Walk/Other	5%	5%	4%
<b>SUSTAINABILITY</b>			
➤ Smog forming pollutants	241 tons	44 tons	43 tons
➤ On-road fuel consumption (gallons)	3.9 million	5.8 million	5.9 million
➤ Daily vehicle miles traveled	74.7 million	109.7 million	112.2 million
➤ Daily transit passenger miles	1.7 million	2.0 million	5.2 million
➤ Constrained lands consumed for new transportation infrastructure	N/A	N/A	138 acres
<b>EQUITY</b>			
<i>Comparison of low income vs. non-low income and minority vs. non-minority:</i>			
➤ Average Travel Time (minutes)			
○ Low income vs. non-low income	N/A	16 vs. 16 minutes	16 vs. 15 minutes
○ Minority vs. non-minority	N/A	15 vs. 16 minutes	15 vs. 15 minutes
➤ Work/school trips within 30 minutes			
○ Low income vs. non-low income	N/A	64% vs. 59%	68% vs. 67%
○ Minority vs. non-minority	N/A	61% vs. 59%	69% vs. 66%
➤ Non-work trips within 15 minutes			
○ Low income vs. non-low income	N/A	61% vs. 66%	60% vs. 66%
○ Minority vs. non-minority	N/A	67% vs. 64%	67% vs. 65%

SOURCE: SANDAG



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Air quality emissions in 2030 are dramatically reduced compared to current conditions, reflecting improvements in fuels and emissions technologies over time. The differences in measures of Equity – comparisons of low income vs. non-low income and minority vs. non-minority average travel times and work and non-work trip duration – remain relatively unchanged.

*Air quality emissions in 2030 are dramatically reduced compared to current conditions, reflecting improvements in fuels and emissions technologies over time.*

## **PERFORMANCE MONITORING**

The success of MOBILITY 2030 will be measured through a performance monitoring system that tracks how well our transportation system is functioning and identifies opportunities for near-term improvements. This system of performance monitoring also is useful for refining the decision-making processes that are used to select individual transportation projects and investments. Ongoing monitoring can help assess the impacts of planned improvements to ensure that the region's investment strategy is supporting regional policies.

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Significant amounts of data are already collected by transportation providers, including the California Department of Transportation (Caltrans), the two transit districts, the cities and county, and other agencies. Caltrans and local jurisdictions collect traffic volume counts on roadways on a regular basis. Average daily traffic, vehicle occupancy and classification, and other traffic information are available via SANDAG's on-line Regional Information System. Transit ridership data, including individual route reports, on-time performance, and other information, also are available on-line through SANDAG.

The challenge of a regional performance monitoring system is to evaluate these diverse data and provide ongoing reporting of the transportation system's performance in an easy-to-understand format for decision-makers and the general public.

### **Automating our Systems**

The Systems Management investments described in more detail in Chapter 7 of MOBILITY 2030 will ultimately develop an automated system that tracks how well our multimodal transportation system is working. Currently, the region's freeway network has the most developed automated monitoring system.

A state-of-the-art freeway monitoring system called the Performance Measurement System (PeMS), developed jointly by the University of California, Berkeley and Caltrans, is being launched in the San Diego region. PeMS uses automated volume and speed data from detectors imbedded in the roadway pavement and accident data collected by the California Highway Patrol to enable better management of regional highways.

A near-term goal is to expand this reporting system beyond highways to major arterials and regional transit services. Advanced technologies such as the “regional arterial management system” and the “smart card” and “next vehicle” regional transit applications will help collect the data needed to expand PeMS. Performance monitoring will continue to rely on manually collected and reported data while the more automated systems are being developed.

### **Travel Time Monitoring**

Table 2.3 compares peak period average door-to-door travel times in seven corridors by carpool, transit (both walk access and auto access), and auto for year 2000 conditions, the “no build” scenario, and under MOBILITY 2030. In most corridors, MOBILITY 2030 improves carpool and transit travel times to the region’s major employment centers. From Chula Vista to Sorrento Valley, for example, traveling by carpool would take 33 minutes in 2030 via the I-805 Managed Lanes, an improvement over the 44-minute trip in 2000 (without the lanes and assuming no incidents). Expanding transit service on the I-15 Managed Lanes would significantly reduce the average transit travel time from Escondido to Kearny Mesa (from 117 minutes in 2000 to 51 minutes in 2030 with walk access, and from 132 minutes in 2000 to 48 minutes in 2030 with auto access).

It is important to note that the projected travel times do not take into account the effects of major incidents or other non-recurring congestion. The Plan’s Managed/HOV facilities will be operated at free-flow conditions – providing better travel time reliability for transit, carpools, vanpools, and other users of the lanes – and reducing the likelihood of incidents on these facilities.

*Regular travel time monitoring is important to track the effectiveness of the Plan’s investments in the regional roadway and transit networks. In 2002, SANDAG began implementing a monitoring program to track and compare auto and transit trip travel times within representative travel corridors in the region.*

Regular travel time monitoring is important to track the effectiveness of the Plan’s investments in the regional roadway and transit networks. In 2002, SANDAG began implementing a monitoring program to track and compare auto and transit trip travel times within representative travel corridors in the region. Program participants are being asked to monitor their door-to-door travel times, including transfers and wait times (if via transit) and ramp metering delays (if via auto).

An initial pilot study was completed in Spring 2002, and the regular monitoring program began in Fall 2002. Results from the Fall 2002 study showed that morning peak period travel to downtown San Diego averaged about 27 minutes from San Ysidro and El Cajon and about 62 minutes from Oceanside. Afternoon peak commutes tended to be longer. Transit trips, as expected, were longer than auto trips along these same corridors. Commuters sampled spent between 65 percent and 70 percent of their travel time on freeways. Global positioning systems (GPS) also were used to measure travel time, speed, and the spreading of the peak commute period along segments of four congested corridors (I-5, I-8, I-15, and I-805). Average speeds in the morning commute ranged from 16 mph on the I-15 corridor to 54 mph on the I-805 corridor.

**TABLE 2.3—PEAK PERIOD AVERAGE TRAVEL TIMES BY CORRIDOR<sup>1</sup> (IN MINUTES)**

	<b>CURRENT (2000)</b>	<b>“NO BUILD” (2030)</b>	<b>MOBILITY 2030</b>
<b>Oceanside to Downtown San Diego</b>			
➤ Carpool	66	97	49
➤ Transit (walk access)	91	91	81
➤ Transit (auto access)	72	73	66
➤ Auto	73	102	69
<b>Escondido to Kearny Mesa</b>			
➤ Carpool	34	66	30
➤ Transit (walk access)	117	165	51
➤ Transit (auto access)	132	162	48
➤ Auto	40	87	45
<b>Escondido to Carlsbad</b>			
➤ Carpool	24	38	26
➤ Transit (walk access)	75	93	50
➤ Transit (auto access)	72	90	44
➤ Auto	28	41	31
<b>El Cajon to Downtown San Diego</b>			
➤ Carpool	33	38	28
➤ Transit (walk access)	84	84	62
➤ Transit (auto access)	60	61	56
➤ Auto	35	40	36
<b>Mid-City San Diego to Sorrento Valley</b>			
➤ Carpool	29	43	24
➤ Transit (walk access)	89	100	39
➤ Transit (auto access)	67	76	38
➤ Auto	32	47	32
<b>Chula Vista to Sorrento Valley</b>			
➤ Carpool	44	66	33
➤ Transit (walk access)	103	106	66
➤ Transit (auto access)	88	89	55
➤ Auto	47	69	43
<b>San Ysidro to Downtown San Diego</b>			
➤ Carpool	30	39	28
➤ Transit (walk access)	46	46	46
➤ Transit (auto access)	44	44	44
➤ Auto	31	40	32

<sup>1</sup> Travel times are door-to-door.

SOURCE: SANDAG

**Customer Feedback**

In addition to changes in traffic and travel times, the Plan recognizes the importance of ongoing customer satisfaction surveys to identify needed improvements from a user’s perspective. User and non-user transit surveys and other transportation survey research will continue to be conducted. SANDAG’s FY 2003 Overall Work Program includes a resident public opinion survey on transit as well as completion of the regular onboard transit passenger survey.

Together the system information and user perspective will be reported in annual “State of the Commute” reports in upcoming years. The first “State of the Commute” report will be available in FY 2004.

*Land Use, Systems Development, Systems Management, and Demand Management each have a unique, yet interdependent, role in improving mobility and travel in the San Diego region through the year 2030.*

**A PLAN FOR BETTER MOBILITY**

MOBILITY 2030 is developed around four main components: Land Use, Systems Development, Systems Management, and Demand Management. Each component has a unique, yet interdependent, role in improving mobility and travel in the San Diego region through the year 2030. The relationship among the four components of mobility and the Plan itself is illustrated in Figure 2.2. Following chapters highlight the projects, programs, and strategies included in the Plan that address each component.

**FIGURE 2.2—FOUR COMPONENTS OF MOBILITY**

