

# CHAPTER 2 2030 RTP VISION

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The 2030 San Diego Regional Transportation Plan: Pathways for the Future (RTP or the “Plan”) is 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 Regional Comprehensive Plan sets forth a vision for transportation in the San Diego region in the year 2030:

*We have many convenient transportation choices. Fast, frequent, and reliable public transit services interconnect our communities, and our major transit centers are integrated with housing, retail shops, food courts, shade-covered benches, and well-maintained restrooms. More of our residents who have cars opt to leave them at home and families need fewer cars per household. Overall, it’s easier and more convenient to get around by walking, biking, and using transit. As a result, many children walk or bike to school, as we used to do when we were younger.*

*Many of our existing regional freeways, highways, and major roadways have been expanded and include an extensive managed lane network for transit and carpools. These systems are linked to the international airport, ensuring effective access to world markets. Roads, rails, and vehicles are better managed with technology, which increases public safety. In-road sensors and cameras help detect traffic incidents and slowing. Automated systems notify traffic-response teams in real-time and electronically adjust ramp meters and traffic signals to moderate traffic flow.*

*Despite continued population and employment growth, the average commute time is less than 30 minutes, and traffic congestion in key corridors has improved. By better linking transportation and land use decisions in the past, more people now live close to their jobs and leave their cars at home. As a result, more people have additional leisure time and less travel-related stress.*

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*The vision is to have many convenient transportation choices. Many of our existing regional freeways, highways, and major roadways have been expanded and include an extensive managed lane network for transit and carpools.*

At the core of the 2030 RTP are seven policy goals:

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

These goals were first established for MOBILITY 2030 in 2003. The SANDAG Board of Directors reaffirmed these goals during the development of the 2030 RTP (The Plan). While all goals are considered interrelated and important, Livability, Mobility and Efficiency were considered the Plan's most important goals. Identified in Table 2.1 are policy objectives that will help the region achieve the Plan's goals.

## **MEASURING THE PLAN'S SUCCESS**

Evaluating the travel conditions in our major corridors is a key indicator to the mobility benefits of planned transit and/or highway improvements. Variables such as travel time and mode share measure the success of specific modal improvements in each corridor. Network scenarios also were evaluated on how well they improved regionwide measures of performance. These regionwide performance measures correspond to the Plan's seven policy goals: Livability, Mobility, Efficiency, Accessibility, Reliability, Sustainability, and Equity. Regionwide performance measures often do not show much variation between alternatives and may not give a true indication of the benefit of a corridor or sub-regional transportation improvement. Changes to regionwide measures are normally small, given that land use patterns and the transportation network are basically established, and that three out of four residents already live here.

**Table 2.1—Policy Objectives**

GOAL	POLICY OBJECTIVES
LIVABILITY	<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>
MOBILITY	<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>– Priorities for regional transportation funding goes to TransNet Early Action Program commitments and high-ranking projects and corridors.</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>
EFFICIENCY	<p><i>What Gets Measured Gets Managed</i>– Measure the performance of the regional transportation system on a <i>regular</i> 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</p>
ACCESSIBILITY	<p><i>Boost Transit Ridership</i>– Increase 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>
RELIABILITY	<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> <p><i>Better Manage Congestion</i>– Better respond to traffic congestion through greater emphasis on the Congestion Management Program</p>
SUSTAINABILITY	<p><i>Discourage Sprawl</i>– Focus roadway and transit improvements in urban/suburban areas, away from the region's rural areas</p> <p><i>Protect the Environment</i>– Improve air quality, reduce green house gas emissions, and limit impacts to sensitive habitats</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>
EQUITY	<p><i>Play Fair</i>– Provide equitable levels of transportation services for low-income, minority, and elderly and disabled persons</p>

The performance measures for the 2030 RTP land use plan and transportation network allow us to benchmark our progress toward meeting the Plan's policy goals and objectives. The 2030 RTP uses the Reasonably Expected Revenue Scenario and is compared to current conditions (year 2006) 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 a construct to compare against the Plan's projects and services. It 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.

The 2030 RTP is based on the adopted General Plans of the region's cities and the County. But to improve the land use – transportation planning connection, the SANDAG Board accepted a Smart Growth Concept Map for planning purposes in the 2030 RTP. The Smart Growth Concept Map indicates where future growth and infill development could maximize the use of existing and planned transit infrastructure, preserving open space and natural resources. The potential effectiveness of such a land use plan, is compared to the same performance measures and discussed in detail in Chapter 6, Systems Development.

### **Corridor Travel Times**

Table 2.2 compares peak-period door-to-door travel times in seven corridors by carpool, transit (both walk access and auto access), auto, and an overall weighted average. In addition to the current year 2006 conditions and the 2030 No Build and Reasonably Expected Revenue Scenarios, several interim years are included to illustrate that corridor benefits often occur before 2030 as major projects are implemented. An example is in the Escondido to Downtown San Diego corridor, where 2015 travel times drop dramatically for transit and carpools as the Managed Lanes project is completed in that timeframe.

In most corridors, the Reasonably Expected Revenue Scenario 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 30 minutes in 2030 via the I-805 Managed Lanes, an improvement over the 51-minute trip in 2006 (without the lanes and assuming no incidents). Transit riders benefit even more, going from 130 minutes today to 62 minutes in 2030. Adding regional transit service on I-15 would also significantly reduce the average transit travel time for other commuters between Mid-City and Sorrento Valley (from 89 minutes in 2006 to 40 minutes in 2030 with walk access).

**Table 2.2—Peak-Period Average Travel Times by Corridor<sup>1</sup> (in minutes)**

	Current (2006)	Reasonably Expected				No Build (2030)
		2010	2015	2020	2030	
<b>1. Oceanside-Downtown San Diego</b>						
▪ Carpool	68	70	50	53	49	81
▪ Transit (walk access)	105	99	99	94	86	102
▪ Transit (park and ride access)	93	90	91	86	78	91
▪ Auto	75	75	64	72	74	100
▪ <b>Corridor Weighted Average</b>	<b>89</b>	<b>88</b>	<b>83</b>	<b>83</b>	<b>77</b>	<b>96</b>
<b>2. Escondido-Downtown San Diego</b>						
▪ Carpool	65	58	50	53	55	60
▪ Transit (walk access)	90	86	62	62	62	88
▪ Transit (park and ride access)	89	82	53	53	54	84
▪ Auto	66	61	67	73	77	81
▪ <b>Corridor Weighted Average</b>	<b>72</b>	<b>67</b>	<b>62</b>	<b>64</b>	<b>66</b>	<b>80</b>
<b>3. El Cajon-Downtown San Diego</b>						
▪ Carpool	39	36	36	31	31	46
▪ Transit (walk access)	76	75	75	77	67	76
▪ Transit (park and ride access)	59	59	59	55	48	59
▪ Auto	39	36	37	37	42	47
▪ <b>Corridor Weighted Average</b>	<b>56</b>	<b>53</b>	<b>53</b>	<b>51</b>	<b>48</b>	<b>58</b>
<b>4. Mid City San Diego-Sorrento Valley</b>						
▪ Carpool	34	36	37	23	24	50
▪ Transit (walk access)	89	94	42	35	40	105
▪ Transit (park and ride access)	83	84	41	38	43	100
▪ Auto	36	37	38	38	43	57
▪ <b>Corridor Weighted Average</b>	<b>40</b>	<b>41</b>	<b>40</b>	<b>33</b>	<b>36</b>	<b>61</b>
<b>5. Chula Vista-Sorrento Valley</b>						
▪ Carpool	51	52	51	29	30	85
▪ Transit (walk access)	130	118	68	57	62	118
▪ Transit (park and ride access)	113	98	55	44	49	103
▪ Auto	51	53	54	56	64	90
▪ <b>Corridor Weighted Average</b>	<b>52</b>	<b>54</b>	<b>55</b>	<b>49</b>	<b>54</b>	<b>90</b>
<b>6. San Ysidro-Downtown San Diego</b>						
▪ Carpool	37	41	35	39	29	64
▪ Transit (walk access)	43	42	43	43	44	44
▪ Transit (park and ride access)	45	39	37	39	38	43
▪ Auto	37	41	49	55	57	69
▪ <b>Corridor Weighted Average</b>	<b>42</b>	<b>41</b>	<b>42</b>	<b>43</b>	<b>42</b>	<b>47</b>
<b>7. El Cajon-Sorrento Valley</b>						
▪ Carpool	55	71	55	40	43	92
▪ Transit (walk access)	124	114	87	99	87	115
▪ Transit (park and ride access)	110	99	71	78	65	99
▪ Auto	55	71	71	74	81	97
▪ <b>Corridor Weighted Average</b>	<b>58</b>	<b>73</b>	<b>68</b>	<b>65</b>	<b>69</b>	<b>98</b>

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

SOURCE: SANDAG

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 Lane/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.

### **Regional Performance**

In comparing regional performance measures in Table 2.3, the Plan loses some ground over current conditions in average travel times and travel speeds in the region (measures of Mobility). The exception is commuters using the extensive Managed Lane/HOV system, with increased travel speeds. These changes are minor, given the additional one million more people and almost a half-million more jobs in the region by 2030.

Congestion levels are expressed as Levels of Service, where Levels of Service A through D indicate free-flow conditions and growing traffic volumes, while Levels of Service E and F indicate unstable flow and eventually stop-and-go traffic. Congestion levels in the Plan keep pace with current figures, but produce dramatic decreases in freeway congestion (a measure of Reliability) when compared to the No Build scenario. Congestion in the peak period would improve from 54 percent congested to only 30 percent. This improvement to Reliability would be of great benefit to facilities on the identified freight network (such as I-805) as daily hours of delay drop by 56 percent between No Build and the Plan. Figure 2.1 shows level of service in 2030 with the Plan's improvements. Overall, daily vehicle delay per capita follows a similar pattern.

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.

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

Under measures of Livability, work trip mode splits improve in the Plan as more commuters take advantage of the carpool lanes and the enhanced transit system. The drive-alone percentage drops to 77.8 percent, carpools jump to 13.2 percent, and transit to 7.3 percent. The 7.3 percent transit work trip mode share is a substantial increase over the 6.4 percent under current conditions and 5.8 percent under the No Build scenario. These results correlate with the higher percentages of trips near transit stops in the Plan.

**Table 2.3—Comparison of Regional Performance Measures**

Goals and Performance Measures	Current (2006)	Reasonably Expected (2030)	No Build (2030)
<b>■ MOBILITY</b>			
Average work trip travel time (in minutes)	27	30	34
Average daily travel time (in minutes)	17	18	21
Average work trip travel speed by mode (in m.p.h.)			
■ Auto	27	23	20
■ Carpool	28	31	23
■ Transit	10	12	10
<b>■ ACCESSIBILITY</b>			
Work/school trips within 30 minutes in peak periods	61%	56%	53%
Non-work trips within 15 minutes	66%	63%	62%
<b>■ RELIABILITY</b>			
Annual weekday projected number of accidents/ fatalities per capita	0.01	0.01	0.01
Congested peak-period travel conditions	32%	30%	54%
Congested daily travel conditions	19%	19%	36%
Daily vehicle delay per capita (minutes)	5.09	5.80	13.07
Daily hours of delay on the regional freight network (hours per 1000 VMT)	5.22	5.68	12.77
<b>■ EFFICIENCY</b>			
Out-of-pocket user costs	\$2.27	\$2.29	\$2.35
Total 25-year public and private travel costs	N/A	\$2.56	\$2.40
<b>■ LIVABILITY</b>			
Percent of peak-period trips within 1/4 mile of a transit stop	66%	65%	62%
Percent of daily trips within 1/4 mile of a transit stop	68%	67%	64%
Work trip mode split (peak periods)			
■ Drive Alone	81.1%	77.8%	81.3%
■ Carpool	10.8%	13.2%	11.2%
■ Transit	6.4%	7.3%	5.8%
■ Bike/Walk	1.7%	1.7%	1.7%
Average trip distance (miles)	6.44	6.76	6.75
<b>■ SUSTAINABILITY</b>			
Smog forming pollutants (tons per year) per capita	0.020	0.005	0.005
Total on-road fuel consumption (all day) per capita (gallons)	1.46	1.50	1.53
Systemwide VMT (all day) per capita	27.65	28.54	29.16
Transit Passenger Miles (all day) per capita	0.59	0.72	0.56
Gross acres of constrained lands consumed for transit and highway infrastructure (2000 to 2030)	50	155	110

**Table 2.3—Comparison of Regional Performance Measures (cont'd)**

<b>Goals and Performance Measures</b>	<b>Current (2006)</b>	<b>Reasonably Expected (2030)</b>	<b>No Build (2030)</b>
<b>▪ EQUITY</b>			
Average travel time per person trip (in minutes)			
▪ Low income population	N/A	19	22
▪ Non low income population	N/A	18	20
▪ Minority population	N/A	18	21
▪ Non minority population	N/A	18	21
Work/school trips within 30 minutes			
▪ Low income population	N/A	59%	54%
▪ Non low income population	N/A	56%	53%
▪ Minority population	N/A	58%	54%
▪ Non minority population	N/A	55%	52%
Non-work trips within 15 minutes			
▪ Low income population	N/A	62%	60%
▪ Non low income population	N/A	64%	62%
▪ Minority population	N/A	69%	68%
▪ Non minority population	N/A	60%	59%
Homes within 1/2 mile of a transit stop			
▪ Low income population	N/A	93%	93%
▪ Non low income population	N/A	64%	59%
▪ Minority population	N/A	80%	76%
▪ Non minority population	N/A	61%	57%

SOURCE: SANDAG





**Figure 2.1**  
**2030**  
**REASONABLY EXPECTED**  
**REVENUE NETWORK**  
**LEVEL OF SERVICE**  
 (With Average Daily Traffic Volumes - In Thousands)  
**November 2007**

- █ **A to D**  
Free Flow
- █ **E**  
Intermittent Congestion
- █ **F (0-2 Hours)**  
Congested Flow
- █ **F (2-4 Hours)**  
Pronounced Congestion
- █ **F (> 4 Hours)**  
Sustained Congestion

MILES  
 0 3 6  
 0 4.83 9.6  
 KILOMETERS

**SANDAG**

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Under Sustainability, the Plan's results are mixed. The significant expansion of regional transit services will result in a 22 percent increase in daily transit passenger miles per capita over current conditions and 29 percent over the No Build scenario. The Plan's roadway improvements, including the planned Managed Lanes/HOV system and completion of the freeway network, will result in a 3 percent increase in daily vehicle miles of travel (VMT) per capita compared to current conditions.

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

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. However, low-income and minority populations are much better served by transit.

## **PERFORMANCE MONITORING**

The success of the 2030 RTP 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.

*Ongoing monitoring can help assess the impacts of planned improvements to ensure that the region's investment strategy is supporting regional policies.*

Significant amounts of data are already collected by transportation providers, including the California Department of Transportation (Caltrans), NCTD, MTS, 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**

In cooperation with UC Berkeley, Caltrans has developed a Performance Measurement System (PeMS) program that uses the urban freeway data. This program provides current, ongoing data on freeway volumes and speeds and can be displayed graphically and exported to other monitoring applications. Since the development of MOBILITY 2030, SANDAG has worked with Caltrans and UC Berkeley to extend the capabilities of PeMS. Efforts have included the addition of historical San Diego data and the development of a ramp metering interface. The interface provides the ability to analyze, monitor, and report ramp metering volumes.

Planned improvements to PeMS recently initiated by SANDAG in coordination with Caltrans, NCTD, MTS, and local agencies, include the development and integration of transit and arterial modules. These features will allow PeMS to perform as a multi-modal performance measurement and evaluation tool for the San Diego region. These improvements will supplement the SANDAG Performance Monitoring Program by providing the ability of gathering, tracking, and analyzing real-time transit and arterial data.

### **A PLAN FOR BETTER MOBILITY**

The 2030 RTP 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.

#### **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. The SANDAG Fiscal Year (FY) 2008 Overall Work Program includes a statewide survey of transit passengers regarding their use of the transit system and satisfaction with the service provided.

Figure 2.2—Four Components of the 2030 RTP

