2018 Regional Monitoring Report

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Executive Summary

San Diego Forward: The Regional Plan (2015 Regional Plan), adopted by the SANDAG Board of Directors in 2015, is the long-term planning framework for the San Diego region. It builds upon and combines elements from the 2011 SANDAG 2050 Regional Transportation Plan/Sustainable Communities Strategy to provide a vision and infrastructure investment plan for the region. The 2015 Regional Plan serves as a blueprint for how our region will grow and how SANDAG will invest in transportation infrastructure that will provide more choices, strengthen the economy, promote a healthy environment, and support thriving communities. The 2015 Regional Plan also calls for ongoing monitoring to track progress toward meeting the goals outlined within it.

Appendix S of the 2015 Regional Plan set 23 specific performance-monitoring indicators with their associated data sources. This 2018 Regional Monitoring Report grouped the indicators into the 2015 Regional Plan's three goal categories of supporting a healthy environment and communities, creating a more vibrant economy, and incorporating innovative mobility and planning. The indicators from each category are meant to capture a snapshot of regional areas of importance to show how the region is doing.

Performance Monitoring Indicators and Data Sources

Indicator	Data Source
Healthy Environment & Communities	
Habitat conserved within designated preserve areas	2011 Annual Monitoring Report, Local Jurisdictions
Beach Widths	SANDAG Regional Beach Monitoring Report
Impaired Waterbodies	San Diego Regional Water Quality Control Board
Air quality	San Diego County Air Pollution Control District
Fatalities/Serious injuries per Vehicle Miles Traveled	California Highway Patrol, Statewide Integrated Traffic Records System (SWITRS)
Share of new housing units and jobs located in Smart Growth Opportunity Areas	SANDAG Current Estimates Program
Share of new housing units within County Water Authority water service boundary	SANDAG Current Estimates Program
Water consumption	San Diego County Water Authority Annual Reports
Diversity of water supply	San Diego County Water Authority Annual Reports
Diversity of energy supply and use	San Diego Gas & Electric Power Content Label
Electric and natural gas consumption by sector	California Energy Commission
Vibrant Economy	
Travel times to jobs	American Community Survey (ACS)
Real per capita income, compared with California and the United States	U.S. Bureau of Economic Analysis
Regional poverty rate, compared with California and the United States	ACS, to show 200% of the federal poverty rate for San Diego County, California
Percent of households with housing costs greater than 35 percent of income	ACS
Annual income needed to afford fair market rent	Out of Reach, National Low-Income Housing Coalition
Regional Crime Rate	SANDAG Criminal Justice Clearinghouse
Innovative Mobility & Planning	
Travel times and volumes **for all modes**	Caltrans Performance Measurement System (PeMS), SANDAG Passenger Counting Program, Regional Bike/Pedestrian Counter Network
Commute mode share	ACS
Annual transit boardings	Annual Boardings Data, MTS, NCTD, SANDAG
Border wait times	U.S. Customs and Border Protection
Border crossing volumes	Border Crossing/Entry Data, based on the U.S. Department of Homeland Security, Customs and Border Protection
Alternative fuel vehicle ownership	Clean Vehicle Rebate Program (ARB)

BOLD = New Indicator

The 2018 Regional Monitoring Report includes the most recent data available for each indicator, typically from either 2016 or 2017. The base year for each indicator is generally 2005, but some indicators use a different base year when data from 2005 was not available. For some indicators, there is a one-year delay or longer in reporting; in these cases, data from the most recent available year are included. Other monitoring reports, such as the SANDAG Annual State of the Commute, provide more detailed information on subject-specific areas.

Based on the data collected for the 2018 Regional Monitoring Report, the indicators illustrate those areas in which the region appears to be moving in the right direction and those in which improvement is needed.

Moving in the Right Direction

- Sensitive habitat acreage continued to be preserved, moving the region closer to its 2030 goal
- More housing units were located within Smart Growth Opportunity Areas, reversing a two-year decline
- New jobs in Smart Growth Opportunity areas remained steady
- More housing units were added within the County Water Authority Service Boundary, reversing a two-year decline.
- Water consumption saw a slight increase in 2017 but remains well below the peak year of 2007
- Thanks to increased desalination use, the water supply is more diverse and relying less on imported water
- Use of renewable energy continued to increase, while the use of coal ended in 2014
- Per capita peak demand for electricity has steadily decreased since its peak in 2014
- Electricity consumption has remained steady while natural gas consumption has decreased since 2013
- Real per capita income continued to increase since 2008
- The regional poverty rate continued to decrease
- The regional crime rate continued to decrease
- Border wait times decreased in 2017 while border crossing volumes increased
- Electric Vehicle ownership increased from 1,173 in 2011 to 20,284 in 2016

Areas for Improvement

- Several beach widths were not within the 2010 target size
- Vehicle fatalities and serious injuries have increased since 2010
- Travel times to jobs has been flat for over a decade
- The percent of households with housing costs greater than 35 percent of income has remained flat, but the annual income needed to afford fair market rent has steadily increased since 2005
- Regionwide, the share of commuters who drive alone has remained flat
- Transit ridership decreased in 2016 and 2017
- Air quality (smog) has not improved since 2013

Throughout the 2018 Regional Monitoring Report, indicator data are in certain cases related to growth in population, housing, or jobs, as shown in Table 1. Between 2005 and 2017, the region grew by 349,406 people and added 8/4,964 housing units. In the same time period, the region gained 139,472 jobs.

Table 1 – Population, Housing Units, and Job Growth in the San Diego Region, 2005–2017

	2005	2010	2017	Percent Change (2000–2017)
Population	2,966,783	3,095,313	3,316,192	12%
Housing Units	1,107,985	1,157,762	1,192,949	8%
Jobs	1,305,300	1,252,600	1,444,772	11%

Source: California Department of Finance population estimates, SANDAG Land Use Dwelling Units file, and U.S. Census Bureau Longitudinal Employer-Household Dynamics Origin-Destination Employment Statistics (LODES) controlled to Employment Development Department (EDD) data

Annual indicators were selected as part of the 2015 Regional Plan based upon key policy areas and data availability. The list of indicators is revised periodically as new plans are adopted to reflect indicators included in those plans. While several indicators from the 2012-2013 Biennial Performance Monitoring Report were removed, five new indicators were added to the 2018 Regional Monitoring Report: fatalities/serious injuries per vehicle miles traveled, travel time to jobs, border crossing volumes, and alternative fuel ownership. These indicators were added by the Board of Directors due to their meaningful relationship to the Regional Plan update.

Healthy Environment and Communities

To ensure a healthy environment, the region must protect its key open spaces and sensitive habitat areas, ensure that the air and water are clean, and restore the eroding beaches. Viable natural habitats, water quality, a well-managed shoreline, and air quality are critical components to the health and well-being of residents as well as the overall economic prosperity of the region.

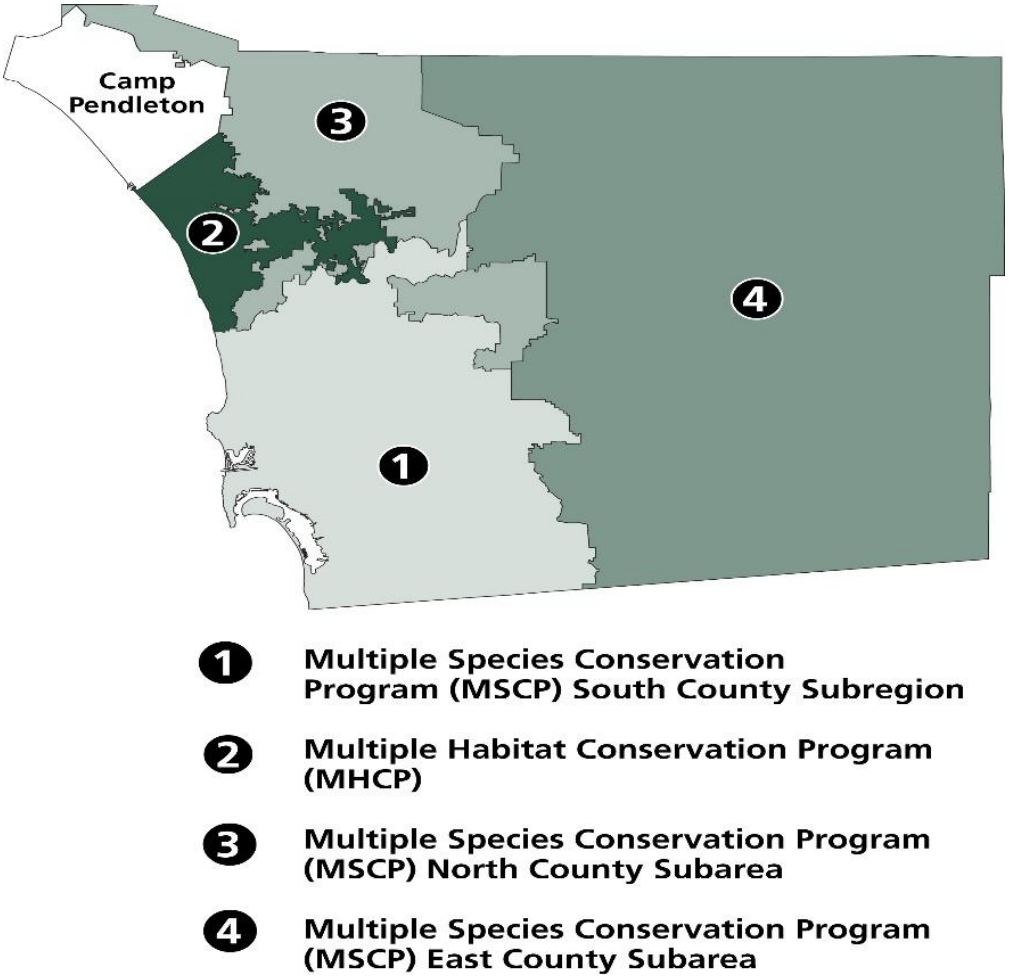
Habitat Conserved Within Designated Preserve Areas

The region is engaging in the development and implementation of the following four sub-regional habitat conservation plans:

1. Multiple Species Conservation Program Plan (MSCP) South, finalized in 1998
2. Multiple Habitat Conservation Program (MHCP), finalized in 2003
3. MSCP North, prepared in 2009 for future consideration by the County Board of Supervisors
4. East County Plan, delayed until further notice, draft released in 2008

Map 1, provided below, shows the location and boundaries of these plans.

Map 1 – San Diego Region Habitat Conservation Planning Areas

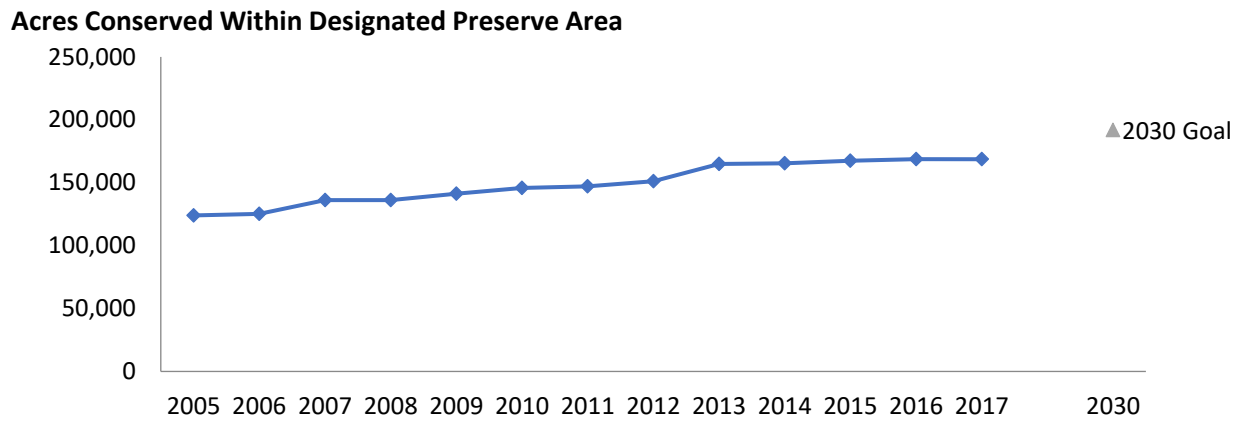


Six jurisdictions, including a portion of the unincorporated area of the county, have approved habitat conservation plans and signed implementing agreements (covering 20% of the region). Seven jurisdictions are working on approval of their implementing agreements (covering 73% of the region) and seven jurisdictions are not pursuing implementing agreements due to limited habitat in their jurisdictions (covering 1% of the region). The remaining area (covering 6% of the region) consists of military lands, which have their own integrated natural resource management plans.

As part of SANDAG participation in regional habitat conservation planning, a conserved lands database was developed in 2010 to track the conservation and management of land in San Diego County. In 2014, the database underwent a quality assurance and quality control process. It is available to the public at rdw.sandag.org/account/login. The database can be accessed by registering with the SanGIS SANDAG GIS Data Warehouse.

The database will be maintained and serve as the basis for Regional Plan monitoring for habitat conservation and will provide information to the public on the tracking of these regional planning efforts. Of the total land in jurisdictions that have approved conservation plans and signed implementing agreements, 88 percent of land has been conserved within the habitat preserve system, as shown in Figure 1. This conserved area includes lands preserved to date within the MSCP South and the MHCP.

Figure 1 – Multiple Species Conservation Program South County and Multiple Habitat Conservation Program Land Conservation by Year, 2005–2017, with 2030 Target



Source: SANDAG Conserved Land Database, 2018

Additional acreage has been obligated by the City and County of San Diego under approved discretionary development entitlements or conservation banks but has not yet been conserved through formal legal mechanisms (e.g., easement, dedication in fee title to jurisdictions). This acreage will be added to the conserved lands database when it is legally conserved.

The SANDAG Environmental Mitigation Program (EMP), funded through *TransNet*, aims to protect, preserve, and restore native habitats as offsets to disturbance caused by construction of regional and local transportation projects. Since 2008, SANDAG has acquired 39 habitat conservation properties totaling more than 8,600 acres of open space under the EMP, with much of the acquired land previously slated for development. These projects include Hidden Valley (953 acres acquired in 2012), Batiquitos Bluffs (50.5 acres acquired in 2015), Cielo Del Norte Grant (96 acres acquired in 2015), Lucky 5 Ranch (482 acres acquired in 2015), Clover Flat (763 acres acquired in 2016), and San Diego Mountain Ranch (982 acres acquired in 2016). The status of acquisition under the EMP can be viewed at https://www.keepsandiegomoving.com/EMP-Group/EMP-acquisitions.aspx .

Beach Widths

The San Diego shoreline consists of narrow beaches backed by steep cliffs and dense urban development. As a result of development, there have been deficits in the sand supply flowing to the region's beaches while there has been increasing demand for beach recreation. Targets for individual shoreline segments were set in the SANDAG Shoreline Preservation Strategy in 1993. These targets are listed in Table 2, and are designated as the estimated beach width needed to protect shorefront property from storms up to and including a 100-year storm event.

In 2001, SANDAG implemented a regional sand-restoration project that was the first of its kind in the western United States. The 2001 Regional Beach Sand Project (RBSP I) placed a total of 2.1 million cubic yards of clean, beach-quality sand on 12 sites from Oceanside to Imperial Beach. In the initial year following the 2001 RBSP, beach widths increased in all three littoral cells in the region: Oceanside, Mission Beach, and Silver Strand. A littoral cell is a geographical "compartment" that contains sand sources (such as rivers, streams, and eroding coastal bluffs), sediment transport paths, and sand sinks (such as coastal dunes and submarine canyons). As expected, these gains were followed by gradual shoreline retreat and shorezone volume losses through 2006, with an unusual increase in 2007 due to mild wave conditions, which was then followed by continued losses.

Between 2009 and 2010, shoreline retreat and shorezone volume losses occurred at most of the beaches in the Oceanside and Silver Strand littoral cells. These losses likely were due to the relatively severe wave conditions that prevailed during the 2009 to 2010 winter season. However, substantial shoreline advance and shorezone volume gains predominated in the Mission Beach littoral cell. These gains appear to be attributable to the 450,000 cubic yards of nourishment material placed at Mission Beach by the United States Army Corps of Engineers. These changes produced beach widths that exceeded the 2010 target widths by a large margin in the Mission Beach littoral cell.

Building upon the success of RBSP I, SANDAG completed a second RBSP (RBSP II) during the fall of 2012. RBSP II placed approximately 1.5 million cubic yards of sand on eight beaches in the Silver Strand and Oceanside littoral cells. Monitoring results indicate that there were initial beach width gains at the receiver sites where sand was placed, followed by losses. Net benefits in the Silver Strand littoral cell resulting from RBSP II thus far include beach width gains at adjacent beaches. While the 2017 average beach width for Imperial Beach falls below the established 2010 target, the 2017 beach widths for Silver Strand State Beach and Coronado Beach far exceed the 2010 targets (Table 2). 2017 fall averages for beach widths in the Oceanside littoral cell indicate a slight net loss of overall beach width in comparison to fall 2012 conditions (RBSP II). While Oceanside, Carlsbad, Encinitas, and Solana Beach experienced beach-width losses, beaches in Del Mar, San Diego, and La Jolla experienced overall beach width gains between fall 2012 and fall 2017. Fall 2017 averages for all beaches within this littoral cell are below the 2010 target (Table 2).

It is important to note that a number of beaches experienced significant losses in width between fall 2015 and fall 2016 due to El Niño conditions during the 2015–2016 winter. El Niño refers to the periodic warming in sea surface temperature across the equatorial Pacific that can lead to intensified storm events and ocean conditions along the San Diego coastline.[1] However, damages from the 2015–2016 El Niño were relatively mild, especially in comparison to other similar El Niño events, such as those that occurred in the winters of 1982–1983 and 1997–1998,[2] indicating that the region's beaches helped to buffer coastal cities from a number of storm-related impacts.

[1] oceanservice.noaa.gov/facts/ninonina.html

[2] documents.coastal.ca.gov/reports/2016/4/w7a-4-2016.pdf

Table 2 – Average Fall Beach Widths and Comparison to 2010 Target in Feet, 2005–2017

Fall Averages		2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2010 Target
Silver Strand Littoral Cell	Imperial Beach	114.5	168.5	151.0	152.5	162.5	117.5	100.0	229.0	174.0	136.5	178.0	153.0	122.5	238.0
	Silver Strand State Beach	438.5	486.0	453.5	458.5	462.0	427.0	425.0	429.0	431.0	412.5	447.5	404.5	425.0	210.0
	Coronado	737.0	790.0	784.0	767.0	766.0	736.0	692.0	736.0	756.0	696.0	713.0	761.0	727.0	232.0
Mission Beach Littoral Cell	Ocean Beach	225.0	273.0	248.0	242.0	266.0	227.0	236.0	237.0	213.0	218.0	265.0	241.0	210.0	220.0
	Pacific and Mission Beaches	240.8	255.0	226.5	244.5	244.5	294.3	254.5	230.0	229.5	254.5	286.5	218.5	220.5	200.0
Oceanside Littoral Cell	La Jolla	193.3	202.0	169.8	197.5	188.5	193.3	179.0	168.8	186.5	194.0	209.5	174.3	188.3	N/A
	San Diego	160.5	185.0	144.0	165.5	163.5	125.0	143.0	109.0	147.5	124.0	156.5	133.0	128.5	228.0
	Del Mar	119.0	158.0	106.0	125.5	118.5	102.5	135.0	102.5	118.5	115.5	152.0	116.5	110.0	232.0
	Solana Beach	130.0	157.0	116.0	155.0	157.0	163.0	136.0	212.0	196.0	167.0	209.0	197.0	181.0	232.0
	Encinitas	158.4	181.8	156.8	176.0	180.3	165.1	174.3	180.7	196.1	173.8	190.6	161.0	151.9	240.0
	Carlsbad	113.6	131.2	117.0	131.6	129.0	118.7	115.8	134.1	140.1	125.8	142.8	124.4	118.1	216.0
	Oceanside	226.0	251.0	204.0	194.5	209.8	188.3	190.5	242.8	221.3	223.5	230.8	179.5	192.3	232.0

Notes:

a. Based on average fall beach widths derived from 44 transects established in 2000, allowing for comparisons over time. This method was not utilized previously. Therefore, the information presented in prior reports does not match this table.

b. SANDAG implemented Regional Beach Sand Projects in 2001, which nourished 12 of the region's beaches, and again in 2012, which nourished 8 of the region's beaches.

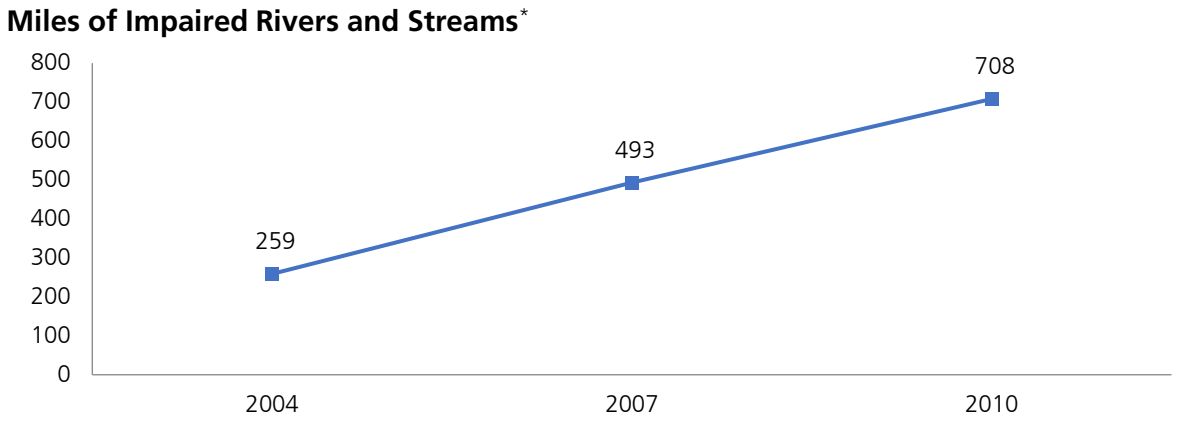
Source: SANDAG Regional Beach Monitoring Program, Annual Report 2017

Impaired Waterbodies

Figure 2 and Figure 3 display the miles of impaired rivers and streams and acres of impaired lakes, bays, and lagoons within the San Diego region. Impaired waterbodies are those that do not meet Clean Water Act standards. The figures below indicate that between 2004 and 2010, the number of impaired water bodies in the region increased. However, it is important to note that with each one of these reporting cycles, the volume of data that has been submitted for review has increased and, as such, a greater percentage of waterbodies were found to be impaired in subsequent review cycles. Thus, the extent to which the region's impaired waterbodies has increased between 2004 and 2010 cannot be conclusively determined.

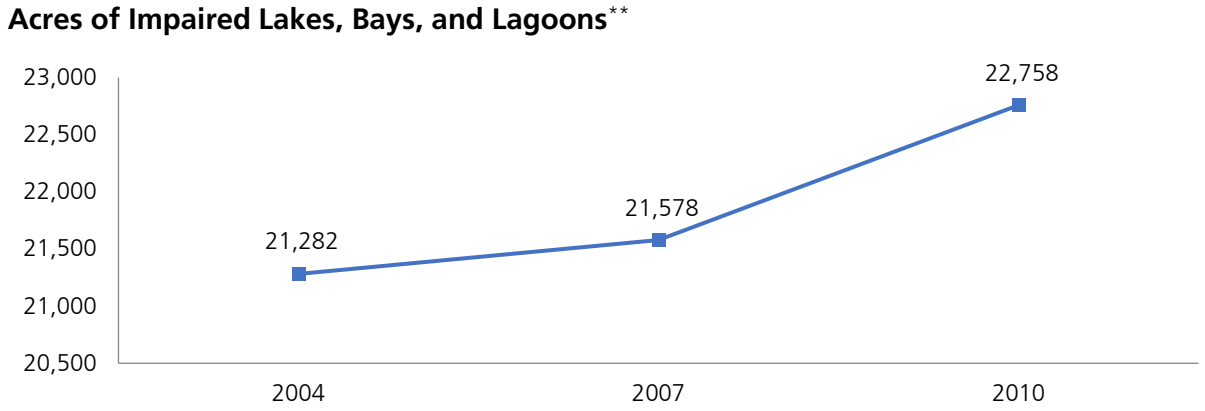
Data for this section was derived from the three most recent water quality reports for the San Diego region. 2004 data was published as part of the 2006 Revision of County Water Authority Section 303(D) List of Water Quality Limited Segments. 2007 data was published as part of the 2008 Integrated Report for the San Diego Region and into the 2010 and 2012 Integrated State Water Quality Control Board Reports. 2010 data was published as part of the 2014 Integrated Report for the San Diego Region and the 2014/2016 Integrated State Water Quality Control Board Report. Data from these reports represents the most recent available data on water quality in the region.

Figure 2 – Miles of Impaired Waterbodies – 2004, 2007, and 2010



* *Miles of rivers, streams, creeks, and other waterways that are considered impaired based on federal 303(d) criteria*

Figure 3 – Acres of Impaired Waterbodies – 2004, 2007, and 2010



** *Acres of lakes, bays, lagoons, and other bodies of water that are considered impaired based on federal 303(d) criteria*

Source: San Diego Regional Water Quality Control Board

Air Quality

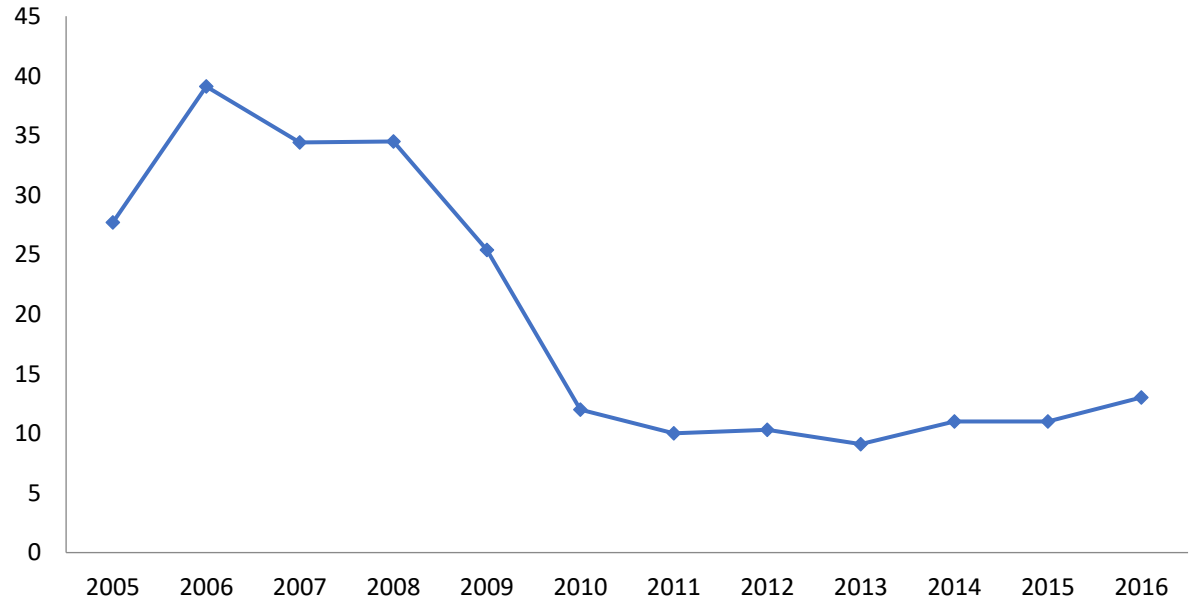
The Air Quality Index (AQI) data suggest that although air quality has gotten worse over the past three years, the numbers have improved drastically since 2006. As shown in Figure 4, air quality appeared to have been at its cleanest in 2013, with the lowest number of days during which air quality was considered unhealthy since 1999. The increases in the AQI index in 2006 and 2008 were likely due to a number of days during which the region experienced record-high temperatures.

The AQI can be used to report daily air quality. It tells us how clean or polluted the air is and what associated health effects might be of concern. The United States Environmental Protection Agency (EPA) calculates the AQI for five major pollutants regulated by the Clean Air Act: ground-level ozone, particle pollution (also known as particulate matter), carbon monoxide, sulfur dioxide, and nitrogen dioxide. For each of these pollutants, the EPA has established national air-quality standards to protect public health. In the San Diego region, ground-level ozone and particulate matter pollutant levels are responsible for the majority of days during which the region experiences an AQI over 100.

An AQI value of 100 generally corresponds to the national air quality standard for the pollutant, which is the level the EPA has set to protect public health. AQI values below 100 are generally thought of as satisfactory. When AQI values are above 100, air quality is considered to be unhealthy – first for certain sensitive groups of people, then, as AQI values rise, for everyone. Sensitive groups are defined as those "at greater risk than the general population from the toxic effects of a specific air pollutant," such as older adults, children, or those with heart or lung disease.

The AQI data presented in this report reflect EPA revised standards for $PM_{2.5}$ (fine particles). The EPA enacted a stricter standard for $PM_{2.5}$ in 2006 and ozone in 2008 and again in 2015. The data shown report on performance relative to the revised standard from 2005 to 2016. It also should be noted that the data exclude days during the 2007 wildfires when $PM_{2.5}$ and carbon monoxide exceeded their respective standards.

Figure 4 – Number of Days Air Quality Index more than 100 – 2005–2016



Source: San Diego Air Pollution Control District

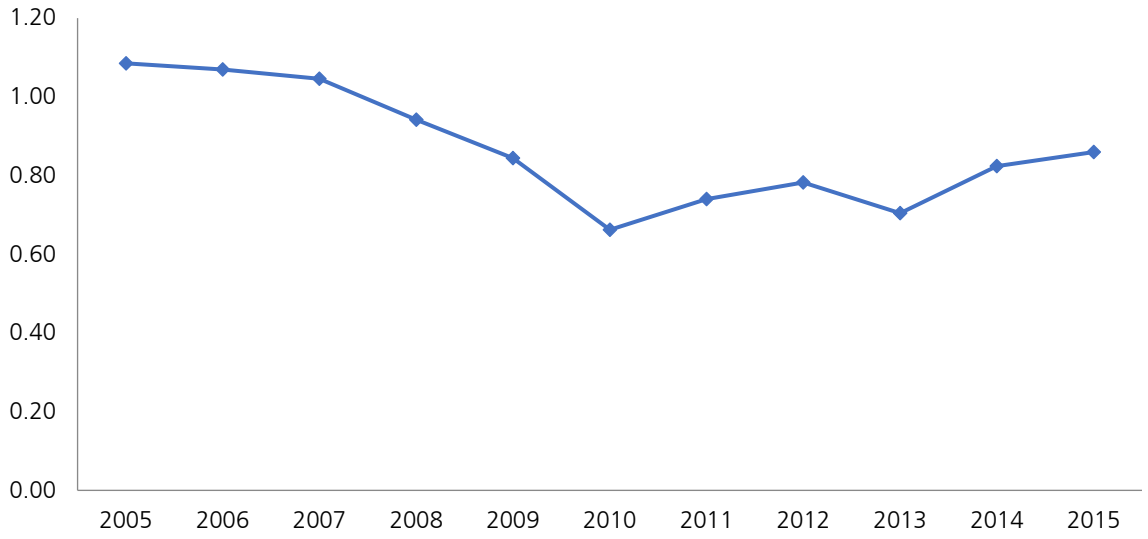
Fatalities per Vehicle Miles Traveled

The National Highway Traffic Safety Administration (NHTSA) data show that since 2005, both the number of fatalities as well as the rate of fatalities per 100 million Vehicle Miles Traveled (VMT) have decreased, hitting an all-time low in 2010.

The data, reported by the Fatality Analysis Reporting System (FARS), tells us how many fatalities are occurring on local roads. The data shown in Figure 5 report on fatality rate from 2005 to 2015.

Improvements in vehicle safety and a decrease in drunk driving may suggest why this decrease has occurred. It should also be noted that while total fatalities have decreased, total VMT has remained fairly steady over the ten-year span.

Figure 5 – Fatality Rate (Per 100,000 VMT), 2005–2015



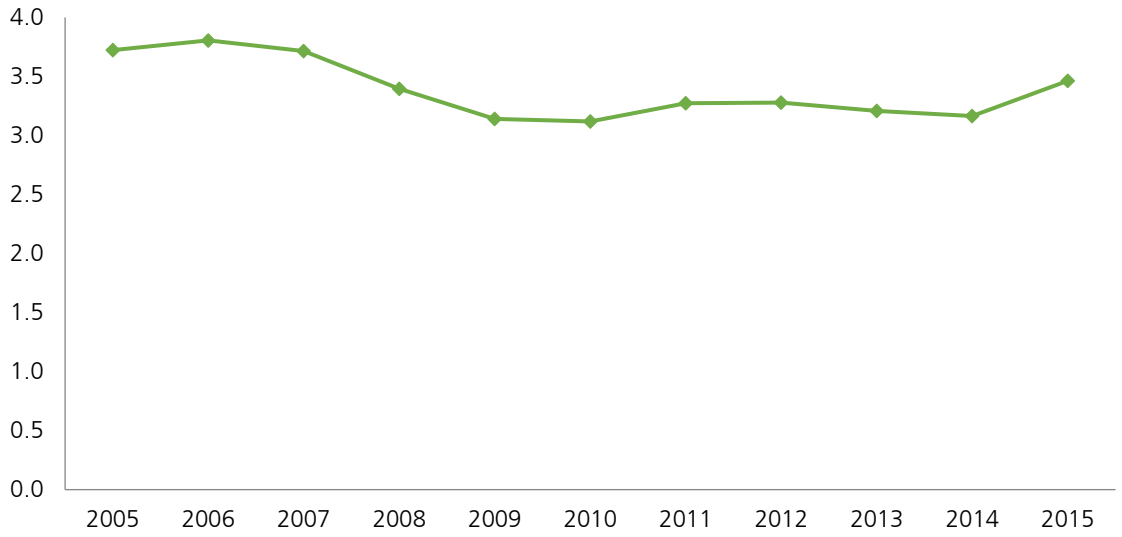
Source: National Highway Traffic Safety Administration (NHTSA), Fatality Analysis Reporting System (FARS)

Serious Injuries per Vehicle Miles Traveled

Similar to Vehicle Fatalities, it is the aim of Serious Injuries to measure the safety of our freeways and highways.

Between the years 2005 and 2015, there were a total of 10,447 serious injuries that resulted from an accident. The highest rate of serious injuries reported in a single year occurred in 2006, and the lowest occurred in 2009 (Figure 6). While the actual number of incidents varies widely in this period, the rate of incidents remained steady. Measured at a rate of serious car incidents per 100,000 VMT, this indicator ranges from 3.1 to 3.8 serious injuries per year.

Figure 6 – Rate of Serious Vehicle Injuries (Per 100,000 VMT), 2005–2015



Source: California Highway Patrol, Statewide Integrated Traffic Records System (SWITRS); Caltrans

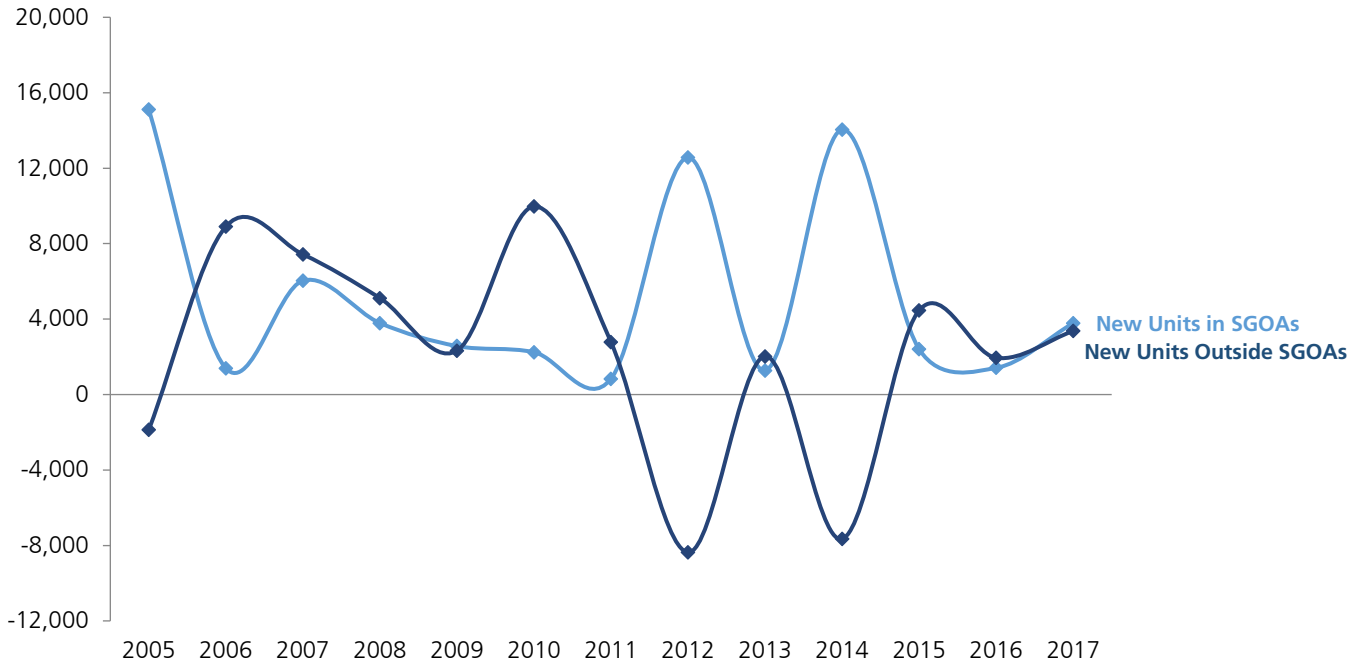
Land use and urban design decisions determine how well our communities serve us in our daily lives, including the quality of our travel choices and our personal safety. The Regional Plan encourages urban development with an appropriate mix of uses designed to create safe and healthy communities. In addition, the relationship between regional transportation plans and local land use plans and policies is crucial to ensuring that the region's transportation system efficiently connects our communities. The Urban Form and Transportation indicators track progress toward achieving these goals.

Share of New Housing Units and Jobs Located Within Smart Growth Opportunity Areas

In 2017, nearly one fourth of the region's total housing stock is in SGOAs; approximately 267,500 out of 1.19 million housing units. As shown in Figure 7, more than 84 percent of the region's new housing units were built in SGOAs during 2017.

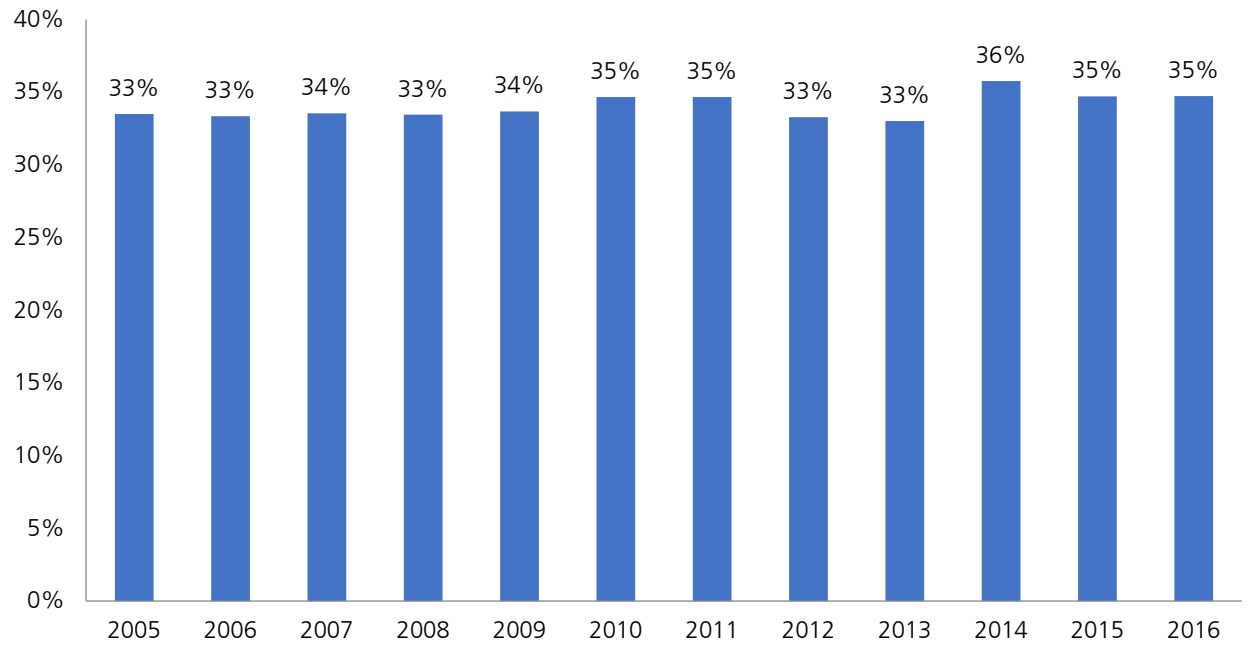
With respect to jobs, there were 497,093 jobs in SGOAs in 2016, which represents 35 percent of the total for the region (Figure 8). After a small decline in 2015, the region experienced a net gain of 12,681 jobs in SGOAs in 2016, which resulted in a 2.62 percent increase for total jobs in SGOAs. This increase is greater than the 2.56 percent increase for total jobs in the region, indicating faster job growth in SGOAs than in the region.

Figure 7 – Share of New Housing Units in Smart Growth Opportunity Areas, 2005–2017



Source: SANDAG Current Estimates Program

Figure 8 – Share of New Jobs in Smart Growth Areas

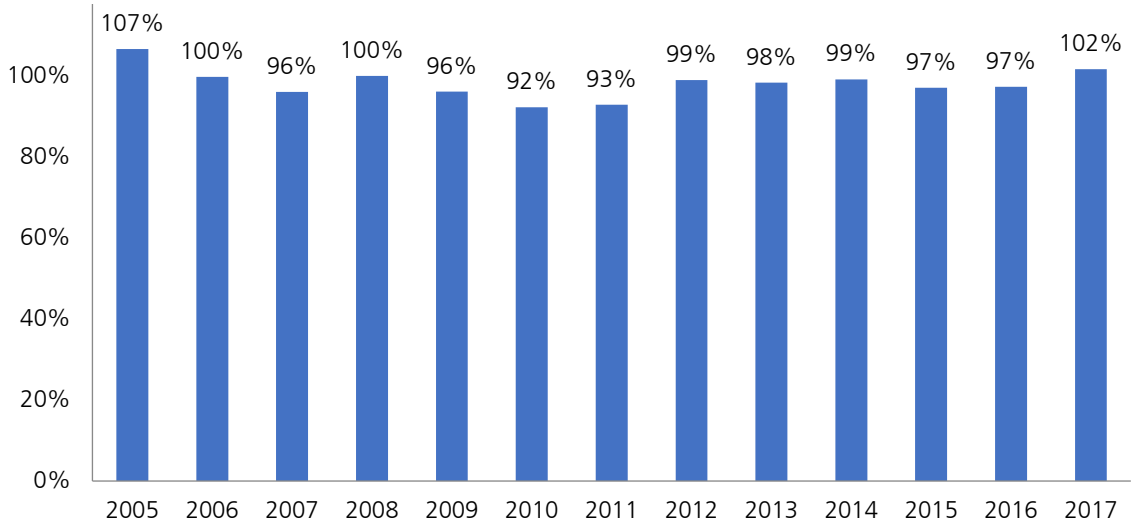


Source: SANDAG Current Estimates Program

Share of New Housing Units within County Water Authority Service Boundary

As shown in Figure 9, the change in the number of housing units in the Water Authority service boundary accounted for almost all of the change in housing units in the San Diego region between 2005 and 2017. The number of new housing units built in the Water Authority service boundary was 7,575, comprising nearly 102 percent of the total increase. These data signify progress toward the Regional Plan goal of focusing population and job growth away from rural areas and closer to existing and planned job centers and public facilities. The greater-than-100-percent figures shown in 2005 and 2017 represent new units plus rebuilt units following major wildfires.

Figure 9 – Share of Net Change in Housing Units in the County Water Authority Service Area, 2005–2017



Source: SANDAG Current Estimates Program

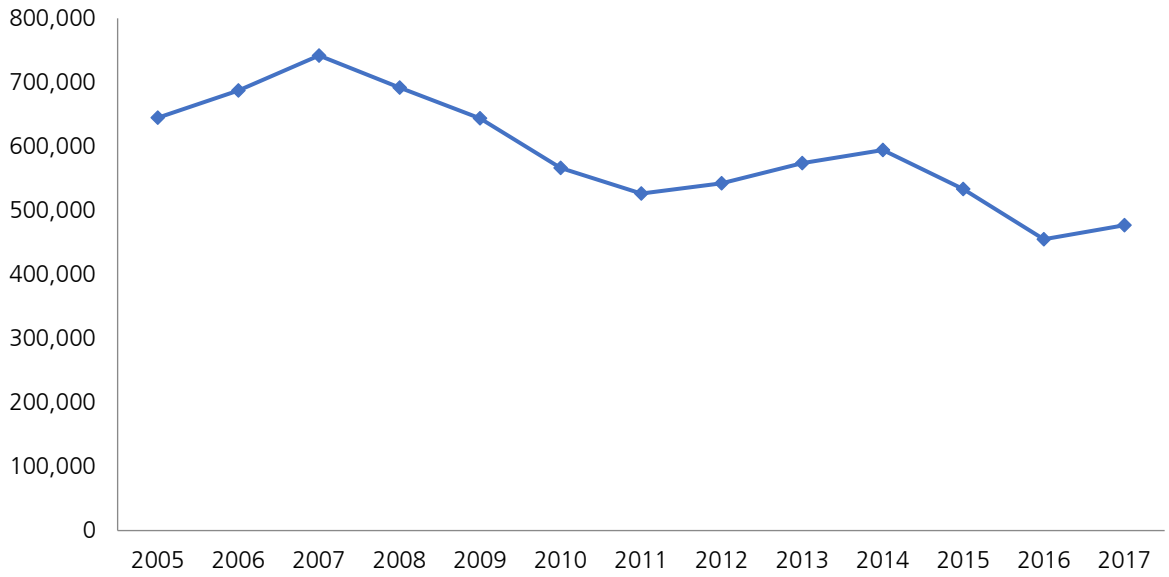
Water Consumption

As shown in Figure 10, water consumption has fluctuated over time. The decline from 2007 to 2011 reversed between 2012 and 2014 and decreased again from 2015 to 2016. According to Water Authority, the drop in consumption between 2007 and 2011 was related to the following:

- Water-use restrictions and ramped-up public outreach campaigns
- Supply cutbacks imposed by the Metropolitan Water District (MWD) due to drought conditions
- Lingering adverse economic impacts associated with the recession
- Above-average rainfall in 2011 (almost 13 inches from October through September at the Lindberg Field Station, compared to about 10 inches historically)

The reversal of this downward trend in 2012 and 2013 is partially due to MWD lifting previous supply restrictions in April 2011, below-average rainfall (7.9 inches in 2012 and 6.6 inches in 2013), and improving economic conditions.

Figure 10 – Acre Feet of Water Delivered, 2005–2017

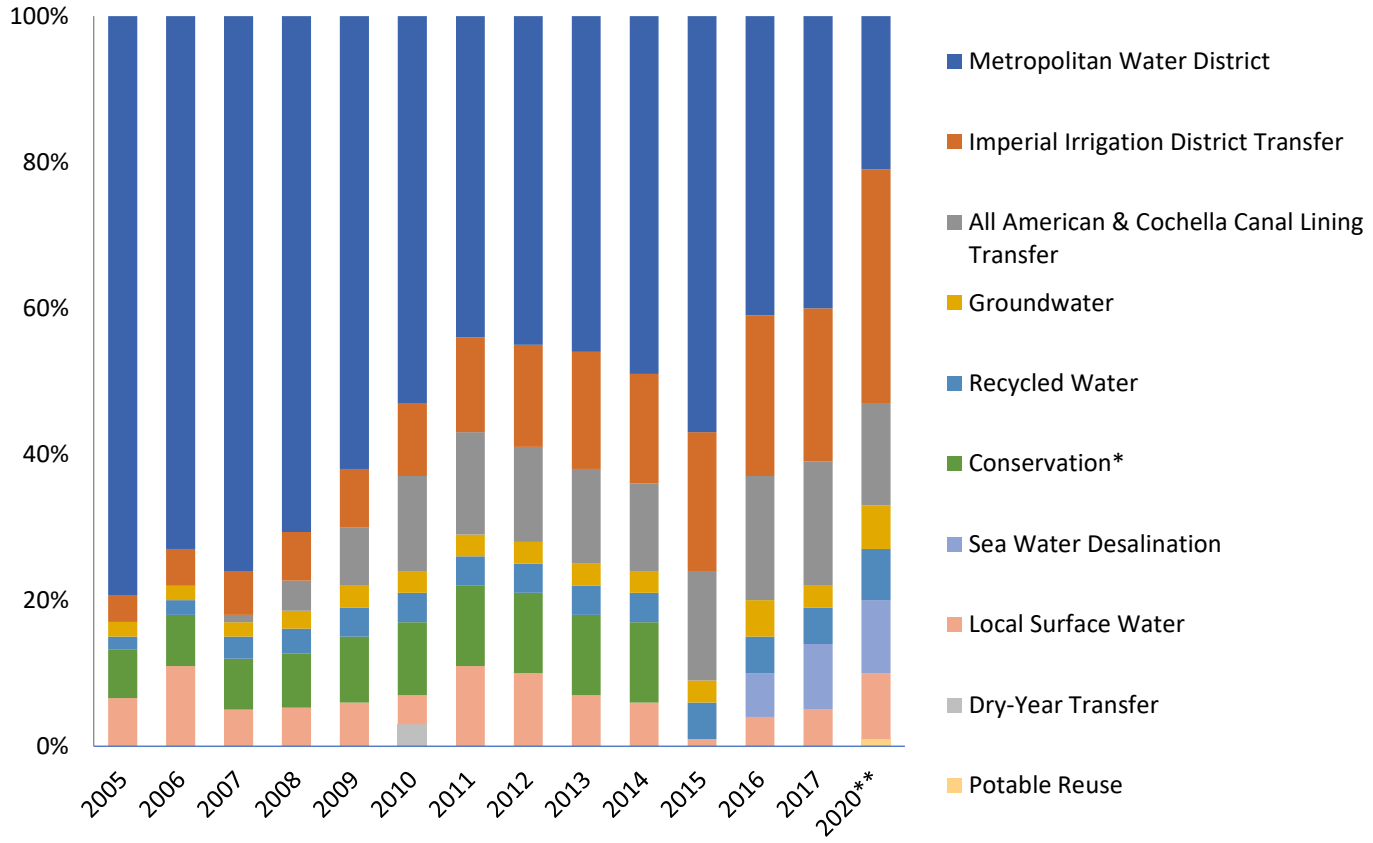


Source: San Diego County Water Authority Annual Reports

Diversity of Water Supply

Associated with the Water Authority's long-term strategy, the region's water supply became more diverse from 2005 through 2011, with reliance on MWD water supplies decreasing from 79 percent in 2005 to 44 percent in 2011 (Figure 11). These levels have remained relatively stable since that time, with MWD representing 40 percent in 2017. However, the Water Authority is on track to meet its water diversification strategy target by 2020, including the ramped-up transfer of water supplies from the Imperial Irrigation District and approval of a 30-year contract signed by the Water Authority in November 2012 to purchase desalinated seawater from the Claude "Bud" Lewis Carlsbad Desalination Plant, which opened in 2015.

Figure 11 – Water Supply Diversification by Source, 2005–2017 with 2020 Target



Source: Annual Report, San Diego County Water Authority (CWA)

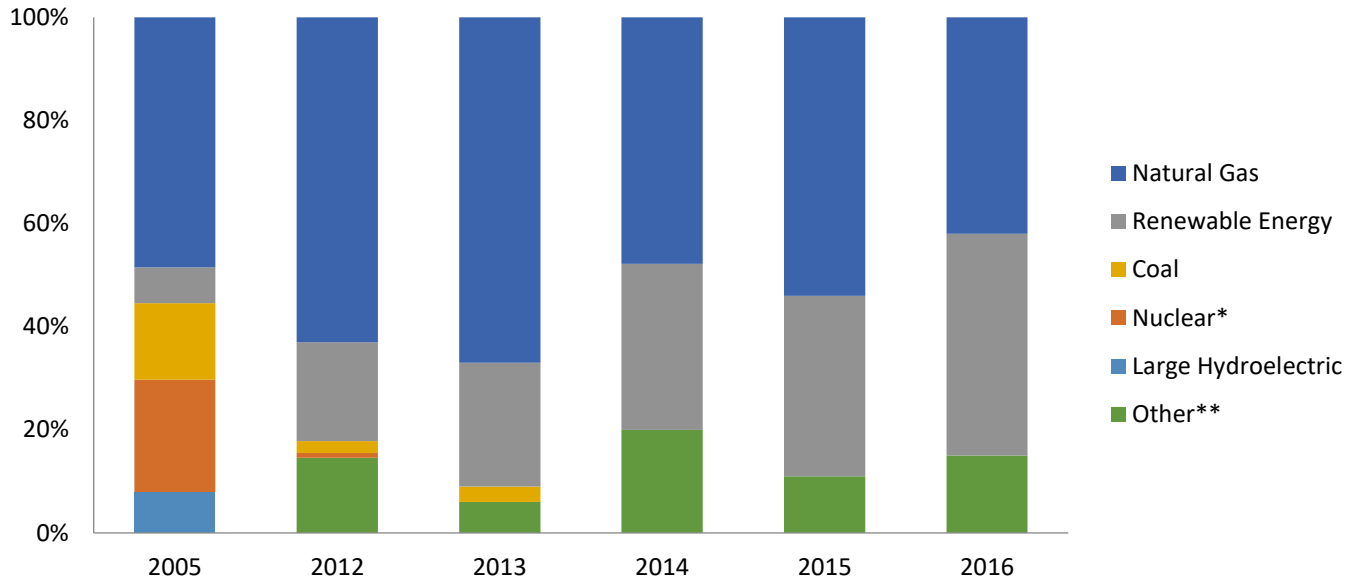
* *While water conservation remains a significant element of the region's overall water management strategy, the San Diego Water Authority changed its methodology in 2015 so that conservation is no longer shown as a water supply.*

** *Includes verifiable and additional planned local supply projects from the 2015 Urban Water Management Plan.*

Diversity of Energy Supply and Use

Energy supply describes the resources that make up the total electricity produced for the San Diego Gas & Electric (SDG&E) service area, of which 91 percent is attributed to San Diego County. The energy supply is a mix of both imported and in-region power. The region's use of coal has been reduced to 0 percent, since California no longer permits in-state coal plants and long-term out-of-state contracts have expired. Additionally, the region has experienced a substantial increase of renewable energy. In 2005, renewable energy contributed just 7 percent of the total energy supply, while in 2016, renewable energy was responsible for 43 percent of the total energy supply. Figure 12 shows the percentage breakdown of the diversity of energy supply for 2005 and 2012 through 2016.

Figure 12 – Energy Sources, 2005, 2012–2016



* *In January 2012, the San Onfore Nuclear Generation Station was shut down.*

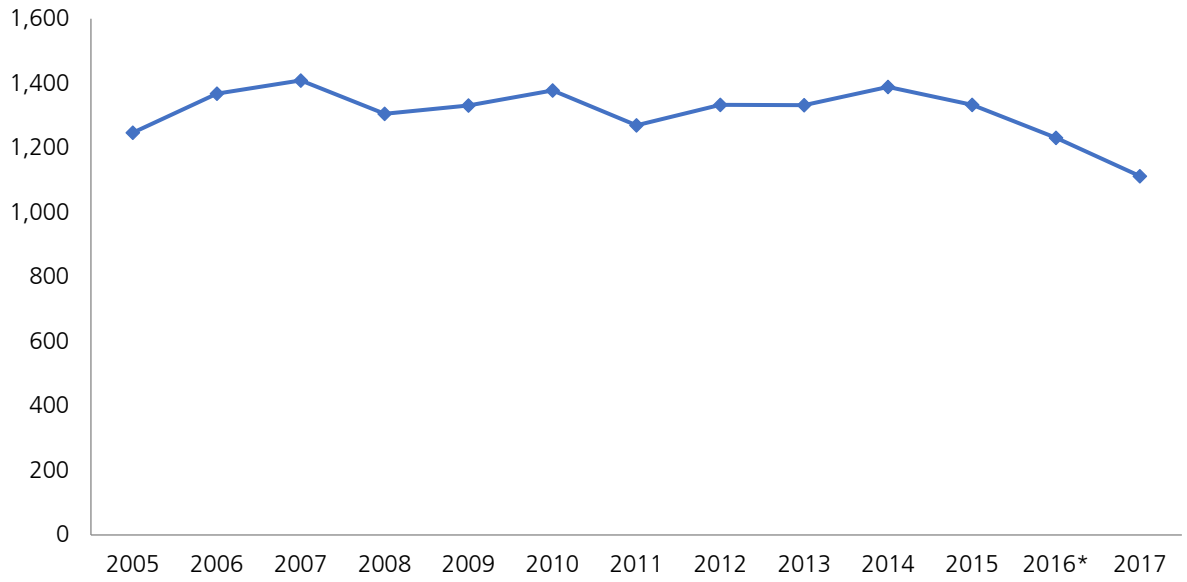
** *"Other" refers to power sold to SDG&E where energy source is unknown.*

Source: San Diego Gas & Electric Power Content Label

Energy Use

The region's annual per capita electricity peak demand has been relatively steady since 2005, as shown in Figure 13 below. The Regional Energy Strategy (RES) calls for cost-effective steps and incentives to utilize demand response and energy efficiency measures to reduce overall peak demand.

Figure 13 – Annual Watts Per Capita Electricity Peak Demand, 2005–2017



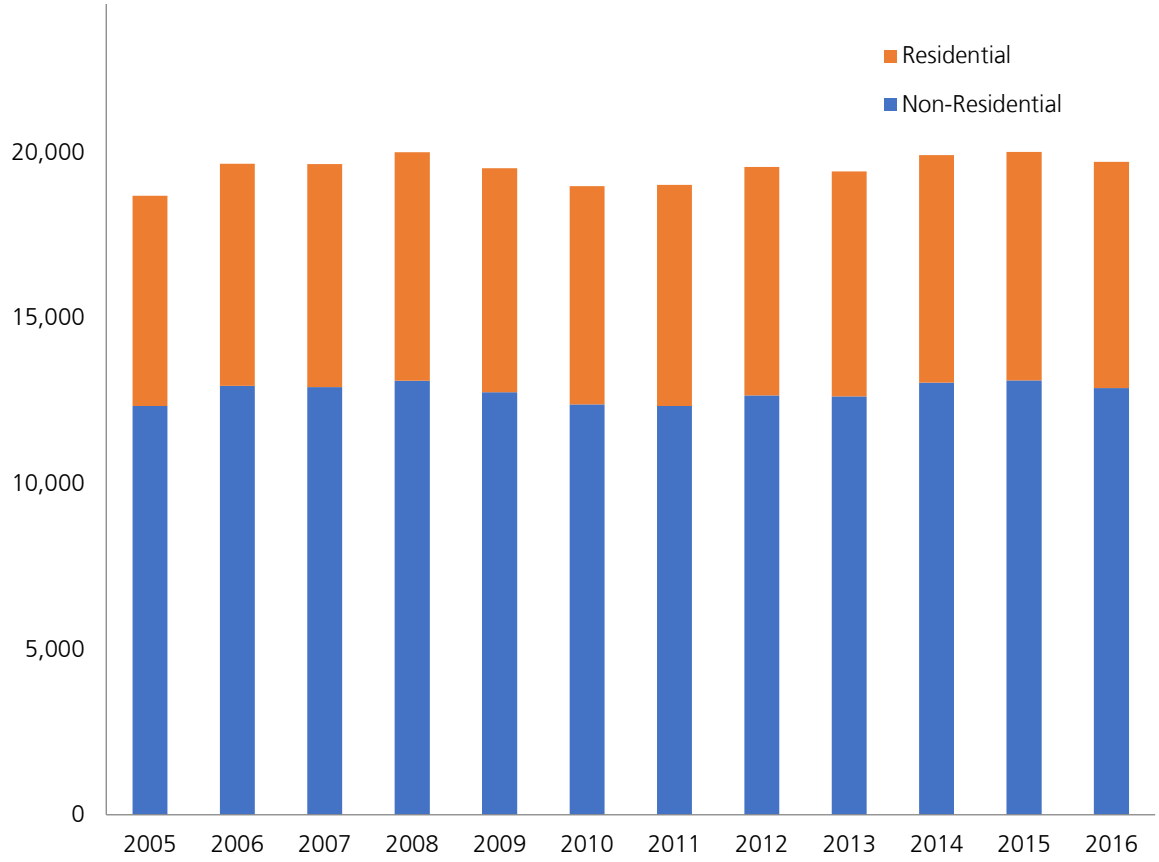
* *2016 weather normalized last historical year*

Source: California Energy Commission. California Energy Demand Updated Forecast, 2015-2025 - Mid Demand Case, 2015, SDG&E Planning Area, July 2015; SANDAG Current Estimates Program

Electric Consumption by Sector

Electricity and natural gas consumption by sector were added as performance measures in the 2009 update of the RES. This indicator assists SANDAG in tracking the RES goals of reaching energy efficiency and conservation targets, implementing cost-effective steps to reduce peak demand, and increasing the total amount of renewable and nonrenewable energy resources to diversify electricity supply. Residential and commercial sectors use the most electricity in the region. Figure 14 shows the total annual consumption of electricity by sector for years 2005 through 2016; this information is used to track the RES energy efficiency goal to reduce per capita electricity consumption in the residential and commercial sectors by 20 percent by 2030 in order to keep total electricity consumption flat between now and 2030.

Figure 14 – Electricity Consumption by Sector (Gigawatt Hours), 2005–2016

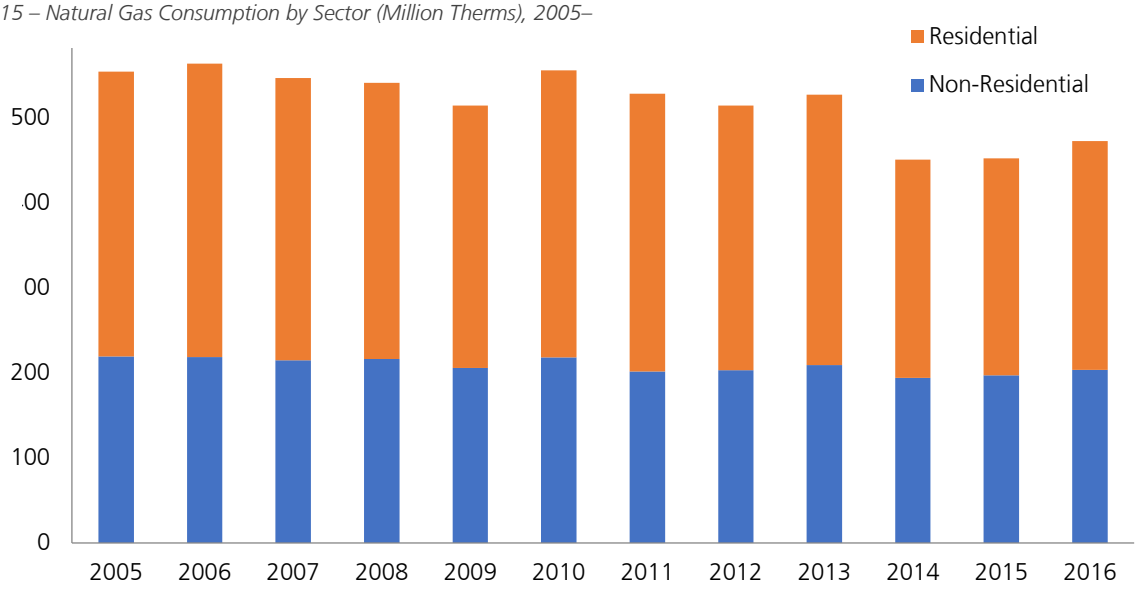


Source: California Energy Commission California Energy Demand Updated Forecast, 2015-2025 - Mid Demand Case, 2015, SDG&E Planning Area, July 2015; SANDAG Current Estimates Program

Natural Gas Consumption by Sector

Natural gas supplies more than half of the fuel to generate electricity for the San Diego region. Natural gas is the most environmentally benign fossil fuel; it is used for cooking, heating and cooling homes, and industrial applications. In 2016, the San Diego region consumed approximately 473 million therms of natural gas (this number does not include gas used for electricity production). Similar to electricity consumption, the majority of natural gas consumption is from the residential sector, as shown in Figure 15. The RES calls for decreased use of natural gas for end-uses like water heating, and more efficient use of natural gas in electricity generation.

Figure 15 – Natural Gas Consumption by Sector (Million Therms), 2005–2016



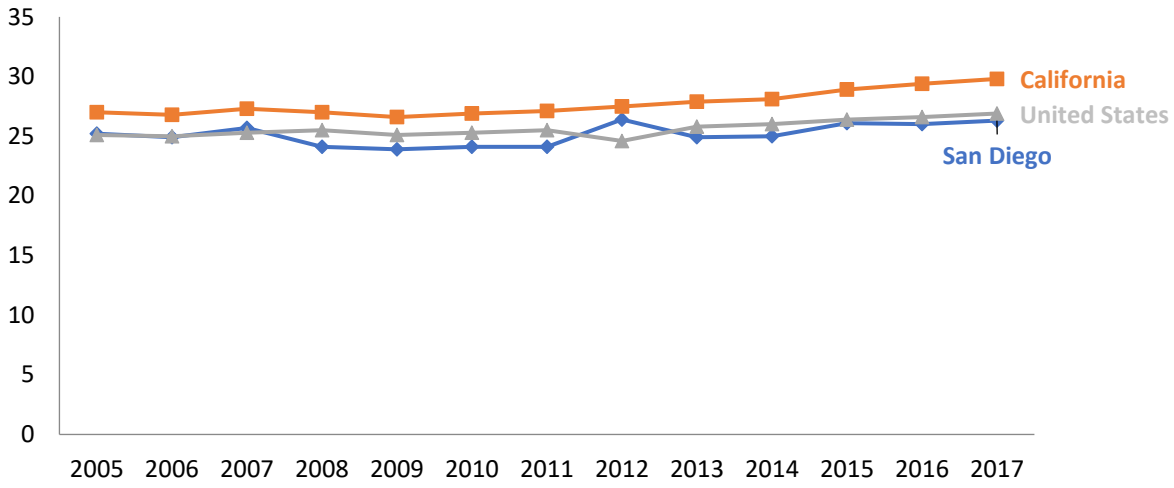
Source: California Energy Commission California Energy Demand Updated Forecast, 2015-2025 - Mid Demand Case, 2015, SDG&E Planning Area, July 2015; SANDAG Current Estimates Program

Vibrant Economy

Travel Time to Jobs

Two indicators in the last section discussed housing and job growth in Smart Growth Opportunity Areas. The aim in measuring these two indicators together is to ultimately decrease the average commute time for residents in the San Diego region. A decrease in commute time has the potential to lead to less congestion on the freeways, fewer car-related fatalities and serious injuries, and a decrease in greenhouse gas emissions. As shown in Figure 16, commute times have not changed much since 2005. In 2005, the average commute time was 25.2 minutes, while in 2017, the average commute time was 26.3 minutes. The San Diego Region continues to have a shorter commute time than the State of California and United States.

Figure 16 – Travel Time to Jobs (Minutes), 2005–2016

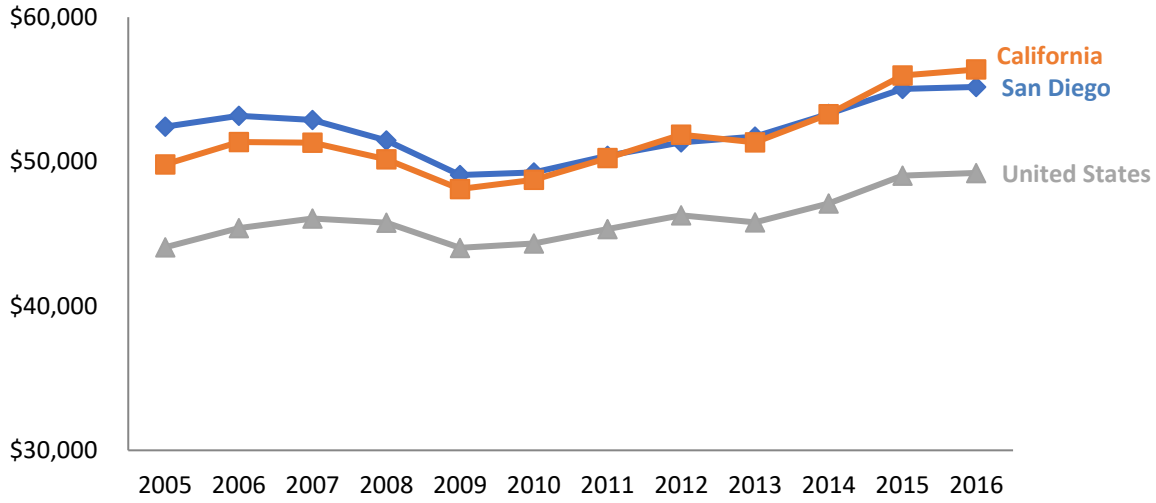


Source: American Community Survey, 1-Year Estimates. United States Census Bureau

Real Per Capital Income Compared to California and the United States

Real per capital income, or the income per person adjusted for inflation, is one indicator that measures the region's standard of living. As shown in Figure 17, San Diego's real per capita income has been relatively stable over time, showing that San Diego's residents generally are not more prosperous today than they were in 2005. In 2016, real per capital income was $55,168 in San Diego, consistently higher than the United States.

Figure 17 – Real Per Capita Income in San Diego, California, and the United States in Inflation-Adjusted 2016 Dollars, 2005–2016

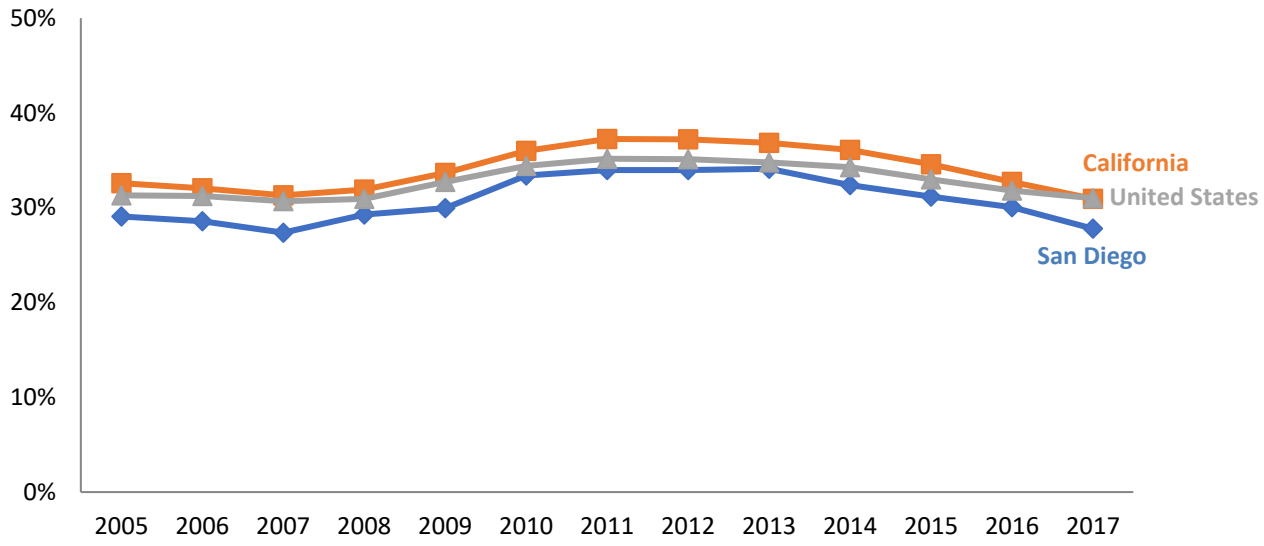


Source: U.S. Bureau of Economic Analysis

Regional Poverty Rate Compared to California and the United States

The San Diego region's poverty rate has historically been lower than the state and the nation, as shown in Figure 18. The regional poverty rate is defined residents living below as 200% of the national poverty threshold, which was $49,200 for a family of four. In 2017, San Diego's poverty rate was 27.8 percent, which was slightly lower than California and the United States. The region has not been below 30 percent since 2008.

Figure 18 – Percent of Residents Living in Poverty in San Diego, California, and the United States, 2005–2017

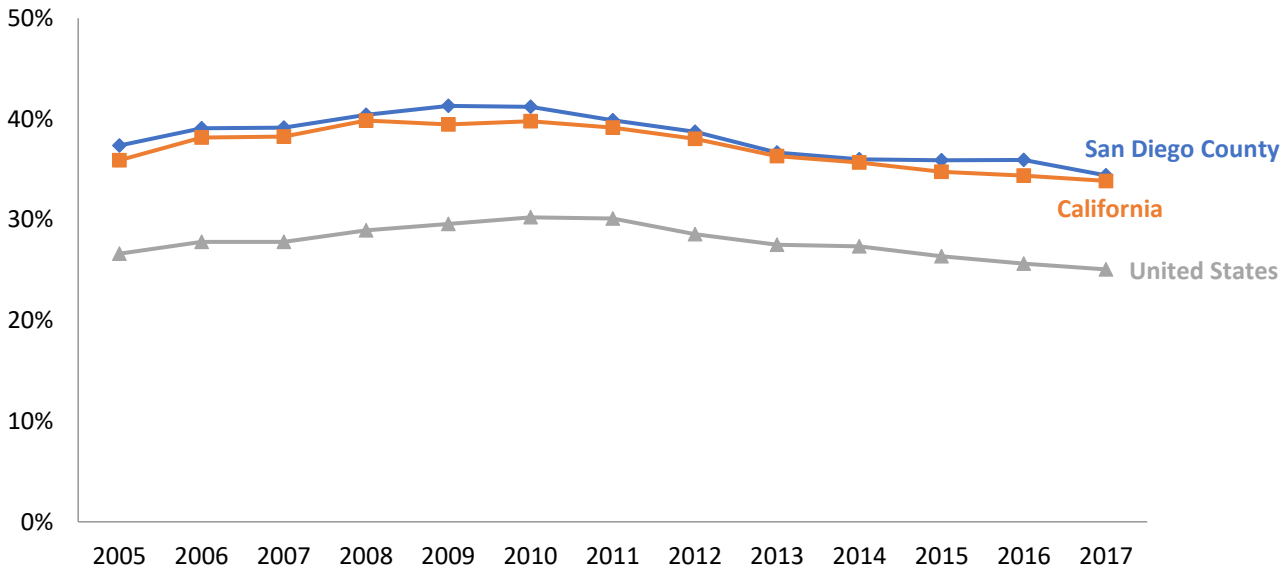


Source: American Community Survey, 1-Year Estimates. United States Census Bureau

Percent of Households with Housing Costs Greater Than 35 Percent of Income

As shown in Figure 19, the percentage of households paying more than 35 percent of their income toward housing costs has been relatively stable since 2005, ranging from 37 percent to 41 percent in 2009 and 2010. In 2017, 34 percent of households paid more than 35 percent of income on housing. While housing costs in the San Diego region are higher than nationwide, they are similar to California overall.

Figure 19 – Percent of Household Paying 35 Percent of Income or More for Housing, 2005–2017



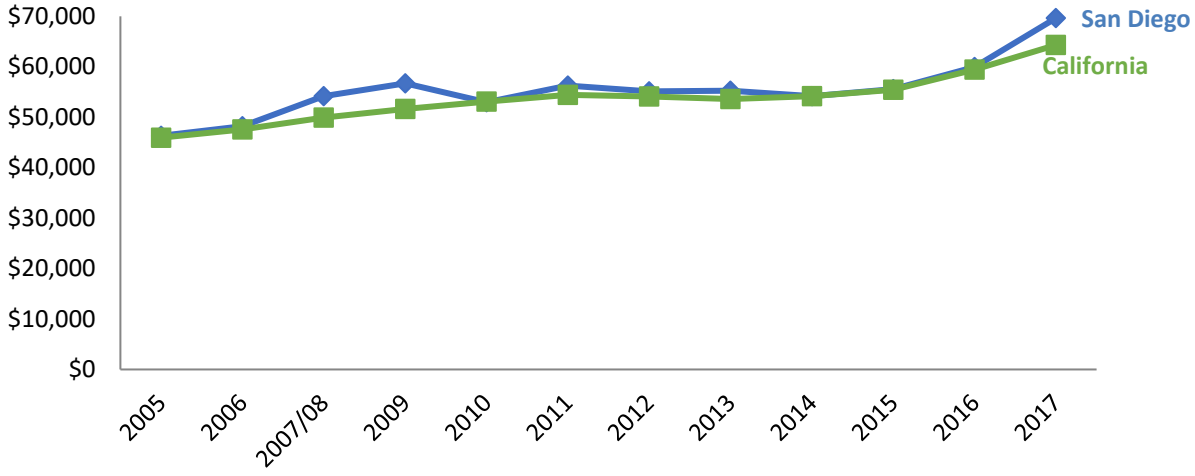
Source: American Community Survey, 1-Year Estimates. United States Census Bureau

Annual Income Needed to Afford Fair Market Rent

Another indicator of housing affordability in the region is the income a household must earn to afford the rent for an apartment at the Department of Housing and Urban Development's most recent Fair Market Rent of $1,741 for a two-bedroom unit (note: this is an increase from the 2016 Fair Market Rent, which was $1,499). As Figure 20 shows, in 2017, that amount was $69,640 annually or about $33 per hour, assuming that no more than 30 percent of income was spent on housing. However, the income needed in the San Diego Region is $5,329 more than for the state ($64,311); the upward trend in annual income needed since 2005 is fairly consistent for both the state and the region, with the region occasionally higher.

In 2017, the minimum wage in California was $11.50 per hour. Therefore, a household would need to include three minimum wage earners working forty hours per week to make a two-bedroom fair market rent affordable in the San Diego Region.

Figure 20 – Annual Income Needed to Afford Fair Market Rent, 2005–2017



Source: Out of Reach, National Low-Income Housing Coalition

Regional Crime Rate

As shown in Figure 21, the rate of violent crime in the region has generally declined from 2005 through 2017. There was a slight increase in violent crime from 2016 and 2017.Figure 22 shows property crime has steadily declined between 2005 and 2017. There was a slight increase in 2012, but overall, crime as a whole has been declining in the San Diego region.

Figure 21 – FBI Index Violent Crime Rates per 1,000 Residents, 2005–2017

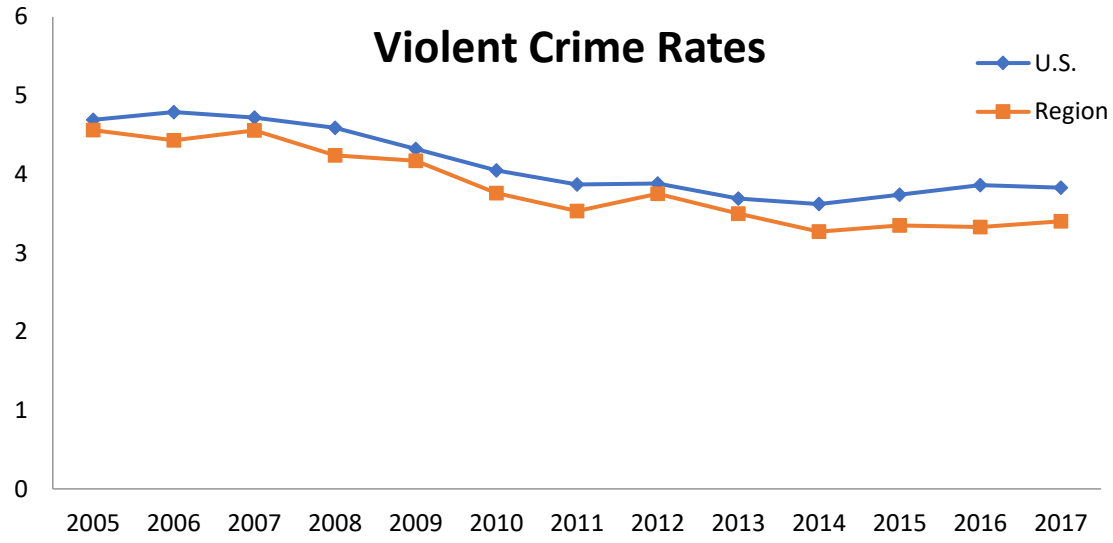
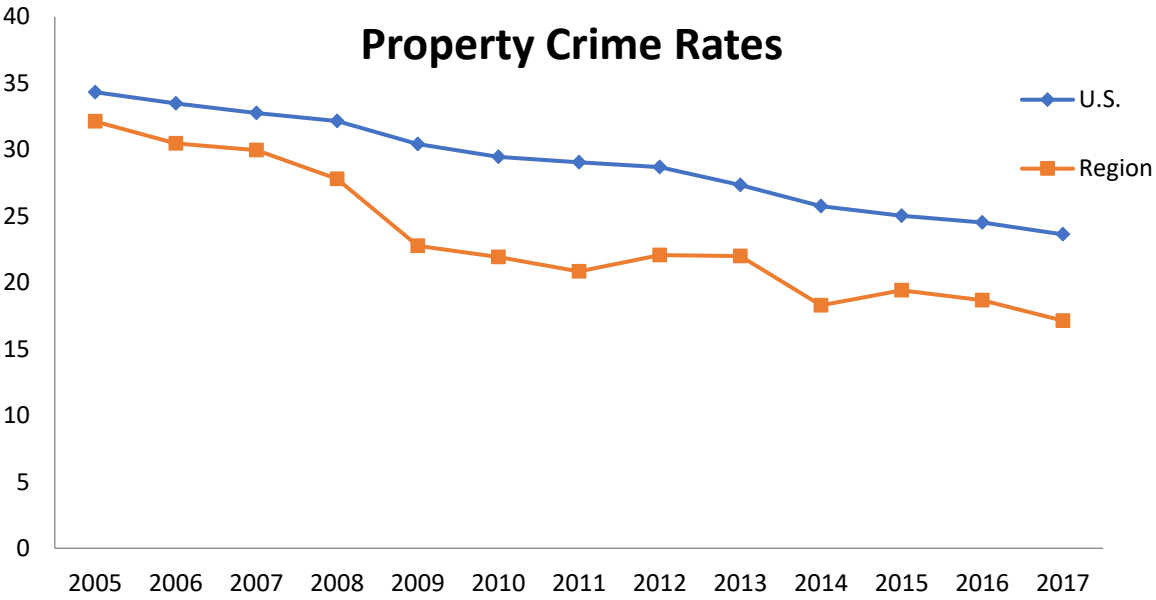


Figure 222 – FBI Index Property Crime Rates per 1,000 Residents, 2005–2017



Source: SANDAG Criminal Justice Clearinghouse

Innovative Mobility and Planning

Travel Times and Volumes for Key Transportation Corridors

The 2015 Regional Plan includes the goals of reducing traffic congestion on freeways and arterials and developing a network of fast, convenient, high-quality transit services that are competitive with drive-alone travel times during peak periods. Progress toward these goals can be measured by evaluating travel times and volumes for key auto corridors.

Travel-time and travel-volume data for freeways are provided by the Caltrans Performance Measurement System (PeMS), a web-based system used for reporting and monitoring the performance of the freeway system. Freeway detector stations collect volume and lane-occupancy information every 30 seconds.

It should be noted that the data presented in Map2 and Table 4 do not represent "door-to-door" commute times, but rather trip time once on the freeway. Travel times are representative only of a freeway trip; average travel times are computed from an aggregation of freeway loop detector data. Accordingly, travel time monitoring currently is limited to freeway segments and the availability of freeway loop detector stations; thus, all segments shown in Map2 and Table 4 are confined to each respective freeway.

Table 3 – Freeway Travel Times in Key Auto Corridors

	Corridor			Length (miles)	AM 2006	AM 2007	AM 2008	AM 2009	AM 2010	AM 2011	AM 2012	AM 2013	AM 2014	AM 2015	AM 2016	AM 2017	PM 2006	PM 2007	PM 2008	PM 2009	PM 2010	PM 2011	PM 2012	PM 2013	PM 2014	PM 2015	PM 2016	PM 2017
1	I-5	Oceanside to Downtown San Diego	SR 76 to Front Street	36.5	57	59	45	42	47	46	44	46	47	49	50	50	50	48	42	42	46	46	46	48	50	54	58	61
2	I-15	Escondido to Downtown San Diego	SR 78 to A Street via SR 163	29.3	48	42	36	34	36	38	33	35	35	38	39	41	39	35	33	35	38	36	32	33	34	38	41	42
3	SR 78	Escondido to Carlsbad	I-15 to I-5	16.5	18	17	17	17	17	17	17	18	17	19	19	19	26	28	25	26	27	28	29	27	29	29	27	26
4	SR 94	El Cajon to Downtown San Diego	El Cajon Boulevard to F Street via SR 125/SR 94	10.3	20	19	17	12	14	14	16	17	18	20	23	24	15	15	14	11	11	11	11	12	11	14	16	17
5	I-8	El Cajon to Downtown San Diego	El Cajon Boulevard to A Street via SR 163	13.3	21	20	17	15	16	18	19	21	22	24	25	26	16	16	15	15	14	14	15	16	15	16	18	18
6	SR 52	Santee to Kearny Mesa	SR 125 to I-805	11.8	18	16	14	12	13	14	15	16	16	16	16	18	20	19	18	16	15	19	21	23	20	29	23	22
7	I-805	Mid-City to Sorrento Valley	El Cajon Boulevard to Mira Mesa Boulevard	9.8	19	15	14	12	14	15	15	18	18	19	18	20	17	16	16	15	15	15	19	22	26	32	38	41
8	I-805	Chula Vista to Sorrento Valley	SR 905 to Mira Mesa Boulevard	24.8	40	36	32	28	33	33	35	39	42	43	45	49	45	38	32	31	33	31	37	40	43	49	56	60
9	I-805	Chula Vista to Downtown San Diego	SR 905 to F Street via SR 94	12.8	20	19	16	16	18	17	17	18	21	20	23	24	18	17	14	14	15	13	14	14	13	14	14	14
10	I-5	San Ysidro to Downtown San Diego	SR 905 to 6th Avenue	12.8	16	16	15	14	16	17	18	19	18	19	21	23	17	15	15	15	16	16	18	17	17	17	17	17
11	I-8	El Cajon to Sorrento Valley	El Cajon Boulevard to Mira Mesa Boulevard via I-805	17.3	32	28	24	20	23	26	27	31	31	34	35	37	25	25	24	23	22	23	27	31	33	40	46	49
12	SR 56	Poway to Carmel Valley	I-15 to I-5	9.1	14	16	16	14	14	15	17	20	19	18	18	18	13	16	11	10	12	13	13	14	14	14	14	15

Notes:

a. The a.m. peak period is based on a departure time of 8 a.m. and the p.m. peak period is based on a departure time of 5 p.m.

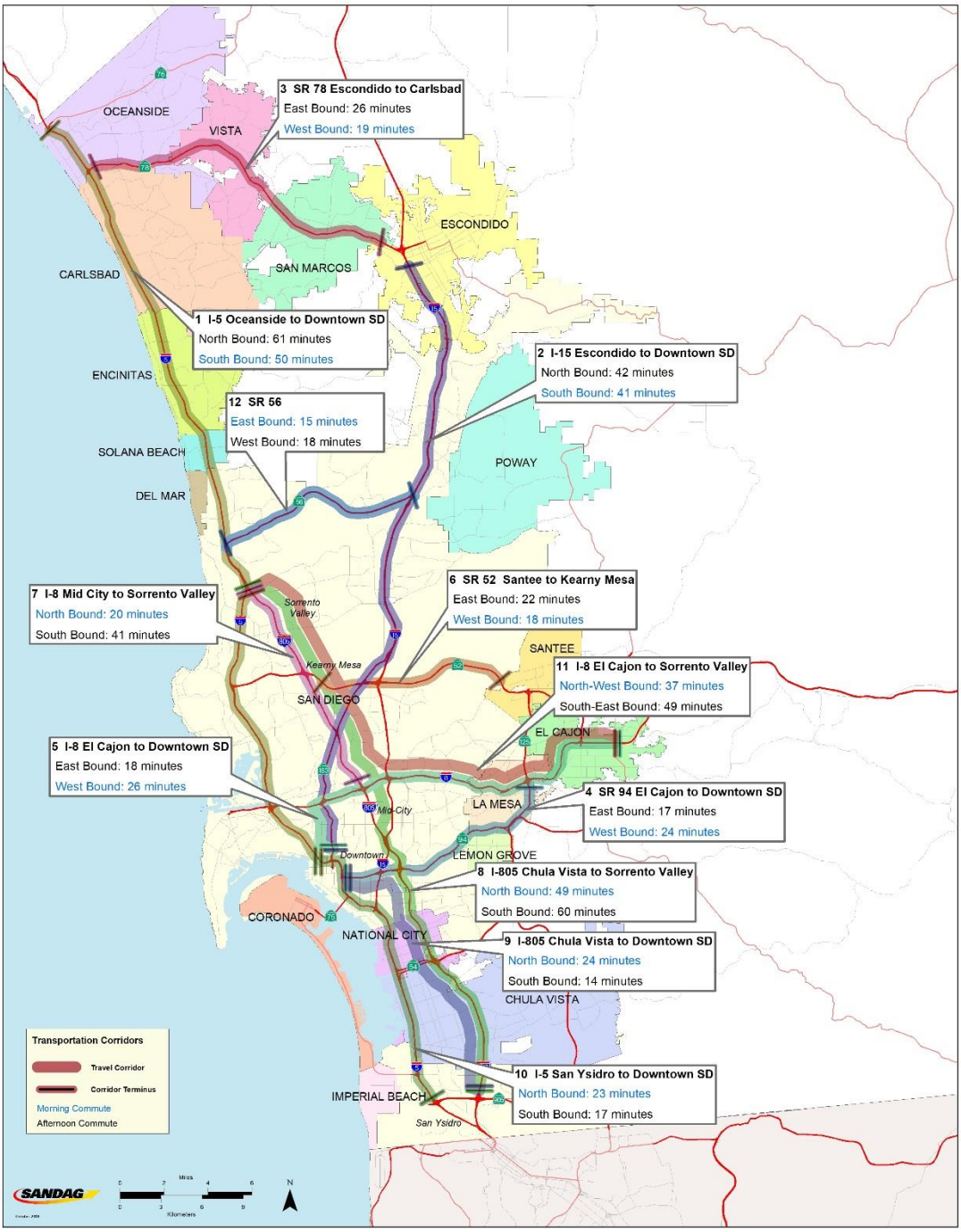
b. The a.m. direction is listed; the p.m. is the reverse direction of travel.

c. Corridor limits are listed for the a.m. direction and approximately the same for the p.m. direction.

d. Data are reported for commutes on Tuesdays, Wednesdays, and Thursdays.

Source: Freeway Performance Measurement System (PeMS), Caltrans

Map 2 – Key Auto Corridor Travel Times, San Diego County



As shown in Table 4, travel volumes have continued to rise since 2012. Observed increases in travel time and travel volume can potentially be attributed to a variety of factors, including the steady economic recovery and recent freeway construction efforts.

Table 4 – Freeway Traffic Volumes in Key Auto Corridors

			Monitoring Point at	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1	I-5	Oceanside to Downtown San Diego	Carmel Valley Road	183,700	178,000	176,500	183,900	182,800	184,300	186,300	186,000	192,300	189,000	191,400	193,700
2	I-15	Escondido to Downtown San Diego	Mercy Road	273,800	274,400	263,800	266,800	271,100	266,700	293,500	309,500	242,100	248,500	254,100	256,000
3	SR 78	Escondido to Carlsbad	Mar Vista Road	136,600	134,700	130,300	130,600	129,800	131,100	129,300	130,900	132,300	135,800	137,900	138,400
4	SR 94	El Cajon to Downtown San Diego	Euclid Avenue	159,200	158,000	156,000	157,300	156,900	155,500	155,200	157,100	160,400	166,000	171,300	173,400
5	I-8	El Cajon to Downtown San Diego	Waring Road	233,800	232,500	227,200	228,000	227,400	220,700	217,400	221,100	219,200	226,800	234,000	231,600
6	SR 52	Santee to Kearny Mesa	Santo Road	82,700	81,800	83,100	85,000	89,000	97,200	105,700	109,900	N/A	N/A	N/A	N/A
7	I-805	Mid-City to Sorrento Valley	Governor Drive	212,300	210,900	206,100	204,400	206,800	205,900	204,600	200,400	198,800	198,700	189,500	206,900
8	I-805	Chula Vista to Sorrento Valley	Governor Drive	212,300	210,900	206,100	204,400	206,800	205,900	204,600	200,400	198,800	198,700	189,500	206,900
9	I-805	Chula Vista to Downtown San Diego	N/O SR 54	190,700	187,400	180,900	181,600	181,400	180,300	174,900	183,800	184,500	189,100	195,300	196,900
10	I-5	San Ysidro to Downtown San Diego	24th Street	178,300	157,200	149,900	151,600	152,300	149,600	146,100	150,400	150,300	156,300	161,000	168,600
11	I-8	El Cajon to Sorrento Valley	Waring Road	233,800	232,500	227,200	228,000	227,400	220,700	217,400	221,100	219,200	226,800	234,000	231,600
12	SR 56	Poway to Carmel Valley	I-15 to I-5	N/A	83,700	81,300	80,600	79,400	78,000	76,700	75,500	77,400	79,300	79,800	80,800

Note: Historical data has been adjusted to reflect current data available.

Sources: Freeway Performance Measurement System (PeMS) Version 17.0, Caltrans

Transit volume information from FY 2005 through FY 2017 is based on SANDAG Passenger Counting Program data. Transit passenger volumes are measured at key locations (screenlines) selected within each corridor. For each corridor, transit passenger volumes are listed by screenline in Table 6. As with vehicle travel volumes, transit travel volumes continued to fluctuate. After reaching a peak in FY 2015, transit volumes have been decreasing due to a number of factors, including the economic recovery, lower gas prices, and the availability of new alternatives to public transit such as shared mobility (e.g., carshare, bikeshare, Transportation Network Company [e.g. Uber, Lyft], etc.)

Table 5 – Transit Passenger Volumes in Key Transit Corridors

	Corridor	Monitoring Point Location	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
I-5	**Oceanside to Downtown San Diego**		**5,183**	**5,276**	**5,184**	**6,267**	**5,112**	**4,901**	**5,365**	**5,188**	**5,405**	**5,631**	**5,211**	**5,108**	**5,021**
	COASTER	Del Mar	4,591	4,620	4,568	5,501	4,192	4,093	4,527	4,291	4,552	4,745	4,500	4,426	4,426
	Route 101	Camino del Mar and Del Mar Heights	592	656	616	766	920	808	838	897	853	886	711	682	595
I-15	**Escondido to Downtown San Diego – Poway**		**1,789**	**1,914**	**1,563**	**1,911**	**1,919**	**2,047**	**2,252**	**2,322**	**2,341**	**2,483**	**3,593**	**3,810**	**3,581**
	Route 20	Rancho Peñasquitos Boulevard/Calle De Las Rosas	871	857	589	809	770	888	1,040	1,092	1,118	1,228	654	612	496
	Route 235	Sabre Springs/Peñasquitos Transit Center	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1,978	2,265	2,181
	Route 237	Sabre Springs/Peñasquitos Transit Center	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	254	221	194
	Route 290	Sabre Springs/Peñasquitos Transit Center	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	707	712	710
	Route 810	Escondido Boulevard and Felicita Avenue	386	474	306	428	527	559	600	694	721	695	N/A	N/A	N/A
	Route 820	Poway Road and Pomerado Road	174	169	165	194	194	201	200	213	199	236	N/A	N/A	N/A
	Route 850	Carmel Mountain Road and Peñasquitos Drive	205	237	236	235	221	216	222	171	167	135	N/A	N/A	N/A
	Route 860	W Bernardo and Poblado Road	153	177	267	245	207	183	190	152	136	189	N/A	N/A	N/A
I-15	**Escondido to Downtown SD – Mira Mesa**		**2,147**	**2,250**	**1,741**	**1,997**	**2,236**	**2,436**	**2,660**	**2,805**	**2,816**	**2,981**	**4,207**	**4,741**	**4,489**
	Route 20	Miramar College Transit Center	1,118	1,071	662	812	973	1,110	1,261	1,372	1,378	1,499	642	569	479
	Route 110	Miramar College Transit Center	111	122	105	83	100	98	105	95	101	109	160	196	177
	Route 235	Miramar College Transit Center	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2,496	2,953	2,823
	Route 237	Miramar College Transit Center	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	414	506	480
	Route 280	Miramar College Transit Center	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	495	517	530
	Route 810	Escondido Boulevard and Felicita Avenue	386	474	306	428	527	559	600	694	721	695	N/A	N/A	N/A
	Route 820	Sabre Springs/Peñasquitos Transit Center	174	169	165	194	194	201	200	213	199	236	N/A	N/A	N/A
	Route 850	Carmel Mountain Road and Paseo Cardiel	205	237	236	235	221	216	222	171	167	135	N/A	N/A	N/A
	Route 860	Rancho Carmel Drive and Provencal Place	153	177	267	245	207	183	190	152	136	189	N/A	N/A	N/A
	Route 880	Mira Mesa Boulevard and Black Mountain Road	N/A	N/A	N/A	N/A	14	69	82	108	114	118	N/A	N/A	N/A
SR 78	**Escondido to Carlsbad – Vista**		**951**	**937**	**941**	**3,339**	**3,118**	**3,347**	**3,195**	**3,832**	**3,833**	**4,500**	**4,603**	**4,252**	**3,478**
	Route 320	Vista Transit Center	951	937	941	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SPRINTER	Vista Transit Center	N/A	N/A	N/A	3,339	3,118	3,347	3,195	3,832	3,833	4,500	4,603	4,252	3,478
SR 78	**Escondido to Carlsbad – San Marcos**		**862**	**882**	**879**	**3,063**	**3,012**	**3,087**	**3,109**	**3,772**	**3,778**	**4,135**	**4,345**	**4,581**	**3,679**
	Route 320	Palomar College	862	882	879	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	SPRINTER	Palomar College	N/A	N/A	N/A	3,063	3,012	3,087	3,109	3,772	3,778	4,135	4,345	4,581	3,679

	Corridor	Monitoring Point Location	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
SR 94	**El Cajon to Downtown San Diego**		**10,311**	**10,324**	**9,969**	**10,033**	**11,175**	**10,917**	**11,195**	**11,200**	**12,661**	**12,385**	**11,240**	**10,386**	**9,756**
	Orange Line	Euclid Avenue	10,311	10,324	9,969	10,033	11,175	10,917	11,195	11,200	12,661	12,385	11,240	10,386	9,756
I-8	**El Cajon to Downtown San Diego – Fashion Valley**		**1,224**	**9,564**	**10,681**	**11,223**	**11,804**	**10,957**	**10,255**	**10,229**	**14,098**	**14,112**	**12,697**	**11,592**	**11,089**
	Green Line	Fashion Valley	N/A	8,045	8,935	9,513	10,159	9,536	8,912	8,900	12,729	12,708	11,376	10,293	9,920
	Route 11	University Avenue and 3rd Avenue	1,224	1,382	1,391	1,372	1,463	1,421	1,343	1,329	1,369	1,404	1,321	1,299	1,168
	Route 14	Fashion Valley Transit Center	N/A	137	355	338	182	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
I-8	**El Cajon to Downtown San Diego – SDSU/Grantville**		**356**	**7,080**	**8,611**	**9,140**	**10,080**	**9,178**	**8,482**	**8,421**	**10,701**	**10,555**	**9,293**	**8,597**	**7,939**
	Green Line	SDSU	N/A	6,261	7,434	8,046	9,027	8,183	7,498	7,498	9,678	9,605	8,504	7,759	7,281
	Route 11	Campanile Drive and Montezuma Road	356	707	815	774	884	778	825	790	877	796	713	695	593
	Route 14	College Avenue/SDSU Transit Center	N/A	112	362	320	169	217	159	133	146	154	76	143	65
SR 52	**Santee to Kearny Mesa**		**24**	**33**	**23**	**20**	**21**	**40**	**23**	**40**	**39**	**36**	**32**	**30**	**27**
	Route 870	Clairemont Mesa Boulevard and Overland Avenue	24	33	23	20	21	40	23	40	39	36	32	30	27
I-805	**Mid-City to Sorrento Valley**		**1,217**	**1,328**	**2,533**	**2,758**	**2,804**	**2,153**	**2,912**	**2,930**	**3,154**	**3,332**	**3,066**	**3,312**	**2,836**
	Route 50	Genesee Avenue and Clairemont Mesa Boulevard	512	620	469	508	497	341	442	444	464	476	428	401	235
	Route 105	Clairemont Mesa Boulevard and Clairemont Drive	N/A	N/A	595	579	531	456	477	455	452	450	443	409	364
	Route 150	Gilman Drive and Via La Jolla	530	558	1,304	1,486	1,553	1,243	1,866	1,881	2,030	2,242	2,028	2,344	2,075
	Route 60	Clairemont Mesa Boulevard and Overland Avenue	175	150	165	185	223	113	127	150	208	164	167	158	162
I-5	**San Ysidro to Downtown San Diego – San Ysidro**		**24,819**	**24,821**	**24,941**	**26,622**	**28,210**	**25,601**	**25,073**	**25,088**	**20,582**	**22,421**	**24,909**	**23,838**	**24,329**
	Blue Line	Iris Avenue	21,037	20,961	21,310	21,915	23,408	21,309	22,471	22,471	17,938	19,846	22,774	21,848	22,056
	Route 929	Iris Avenue	1,434	1,521	1,486	2,456	2,145	2,084	1,535	1,550	1,439	1,533	1,688	1,000	1,391
	Route 932	Iris Avenue	2,348	2,339	2,145	2,251	2,657	2,208	1,067	1,067	1,205	1,042	447	990	882
I-5	**San Ysidro to Downtown San Diego – 12th and Imperial**		**22,759**	**21,943**	**22,851**	**24,190**	**25,018**	**22,856**	**24,006**	**24,233**	**16,846**	**17,535**	**20,608**	**20,185**	**19,659**
	Blue Line	12th and Imperial	21,773	20,907	21,561	22,829	23,717	21,585	22,989	22,989	15,518	16,167	19,142	18,691	18,457
	Route 929	12th and Imperial	986	1,036	1,290	1,361	1,301	1,271	1,017	1,244	1,328	1,368	1,466	1,494	1,201

Note: The transit screenline locations for individual routes may not represent the peak passenger load locations nor total ridership on that route.

Source: SANDAG Passenger Counting Program

Bike Volumes

A system to measure bike volumes was initially established in 2012 by the County of San Diego Health and Human Services Agency (HHSA) through grant funds from the Center for Disease Control and Prevention to purchase, site, and install a regional bicycle- and pedestrian-counting network in San Diego County. After this initial installation, ownership and maintenance responsibilities have been in a state of flux, with staff at San Diego State University (SDSU), the County HHSA, City of Oceanside, and SANDAG doing their part to maintain the equipment as resources allowed. In 2017, the SDSU Research Foundation donated 12 counters (10 bike and 2 pedestrian) located at ten sites in eight corridors to SANDAG. SANDAG is committed to maintaining the counters at these sites. The bike volumes presented here are based on the data collected since their initial installation.

Table 6 presents estimated bike volumes as annual daily bidirectional averages for the eight corridors. Estimates rather than counts are presented because there were periods of missing and anomalous data due to mechanical issues with the counting equipment. The estimates were derived based on trendlines for each site and correction factors developed through video validation studies. Changes in volumes over time are impacted by construction projects and facility degradation or improvements. For example, people on bikes may be avoiding the Coastal Rail Trail in Rose Canyon due to Mid-Coast Trolley construction along that route or may be avoiding University Avenue through Eastern Hillcrest due to the pipeline-replacement project that began in 2015. Conversely, facility improvements have resulted in increased volumes along the Fourth and Fifth Avenue Bikeways.

Table 6 – Bike Volumes (Annual Daily Bidirectional Average), 2012–2017

Regional Bikeway Corridor	2012	2013	2014	2015	2016	2017
Bayshore Bikeway, Chula Vista[1]	420	476	469	437	460	443
Inland Rail Trail, San Marcos[2]	175	174	179	145	130	160
North Park, San Diego[3]	169	138	165	225	149	162
Uptown: Fourth and Fifth Avenue Bikeways, San Diego[4]	150	152	142	205	188	176
North Park | Mid-City: Landis Bikeway, San Diego[5]	94	87	100	99	84	81
Coastal Rail Trail: Rose Canyon, San Diego[6]	425	475	461	301	264	281
Uptown: Eastern Hillcrest Bikeways, San Diego[7]	585	578	559	498	399	359
Coastal Rail Trail: Highway 101, Solana Beach[8]	1,171	945	1,039	1,037	851	822

[1] *South of Gordy Shields Bridge*

[2] *Includes bicycles on the Class I Inland Rail Trail path as well as Mission Road (at the Palomar College SPRINTER Station)*

[3] *30th Street north of Upas Street, parallel to the Pershing Bikeway*

[4] *Fourth Avenue (southbound) and Fifth Avenue (northbound) between Juniper and Ivy Streets*

[5] *Landis Street between Nile and Boundary Streets*

[6] *North of Santa Fe Avenue*

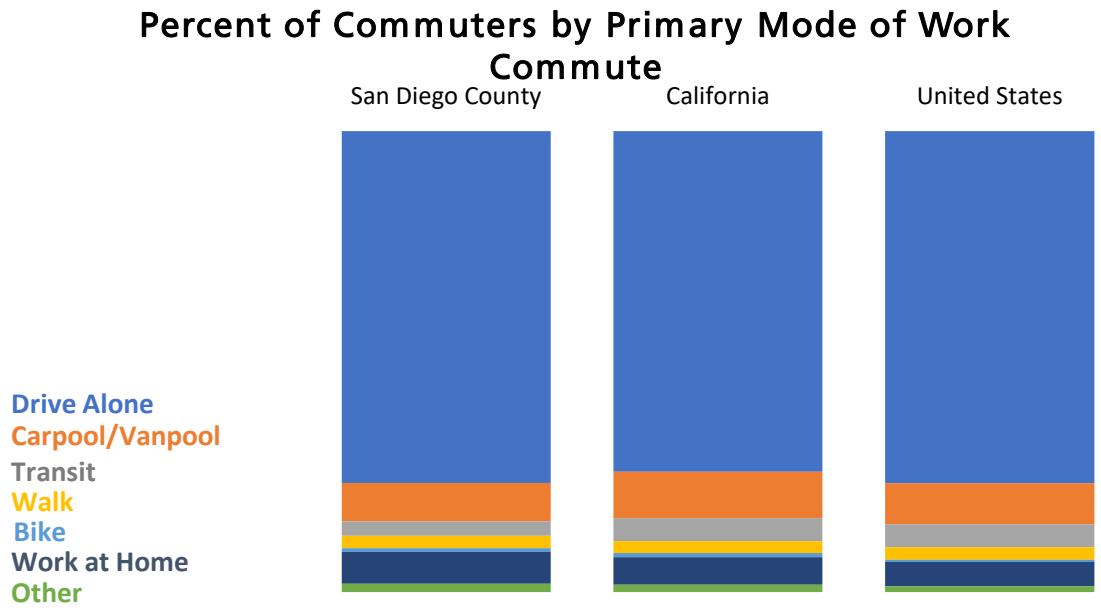
[7] *University Avenue east of Vermont Street*

[8] *Includes bicycles on the Class I Coastal Rail Trail path as well as Coast Highway 101 (south of Lomas Santa Fe Drive)*

Commute Mode Shares

The percent of commuters by primary mode of commute to work is provided below using American Community Survey (ACS) commute data. As presented in Figure 23 and Figure 24, the primary transportation mode for a work commute includes those that drive alone, with about three quarters of commuters driving to work alone, which is similar statewide and for the nation as a whole. Alternative primary commute modes also are popular, with about 8 percent of commuters carpooling or vanpooling, 7 percent working at their place of residence, 5 percent walking, biking, or taking alternative modes, and 3 percent taking transit, as shown in Figure 23 and Figure 25. Both drive-alone and alternative commute modes have remained stable since 2005 with no statistically significant changes.

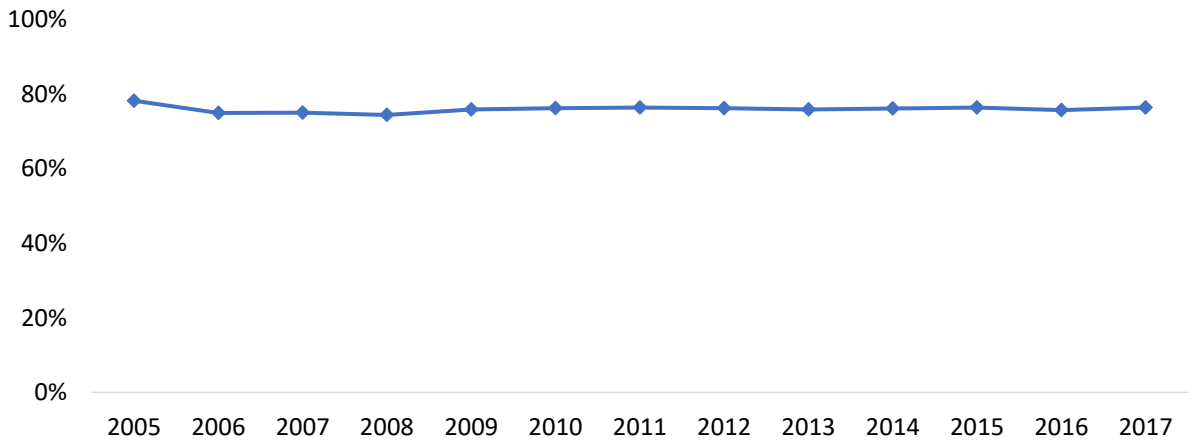
Figure 23 – Regional Commute Mode Shares, 2016



Note: Percentages may not total 100 due to rounding

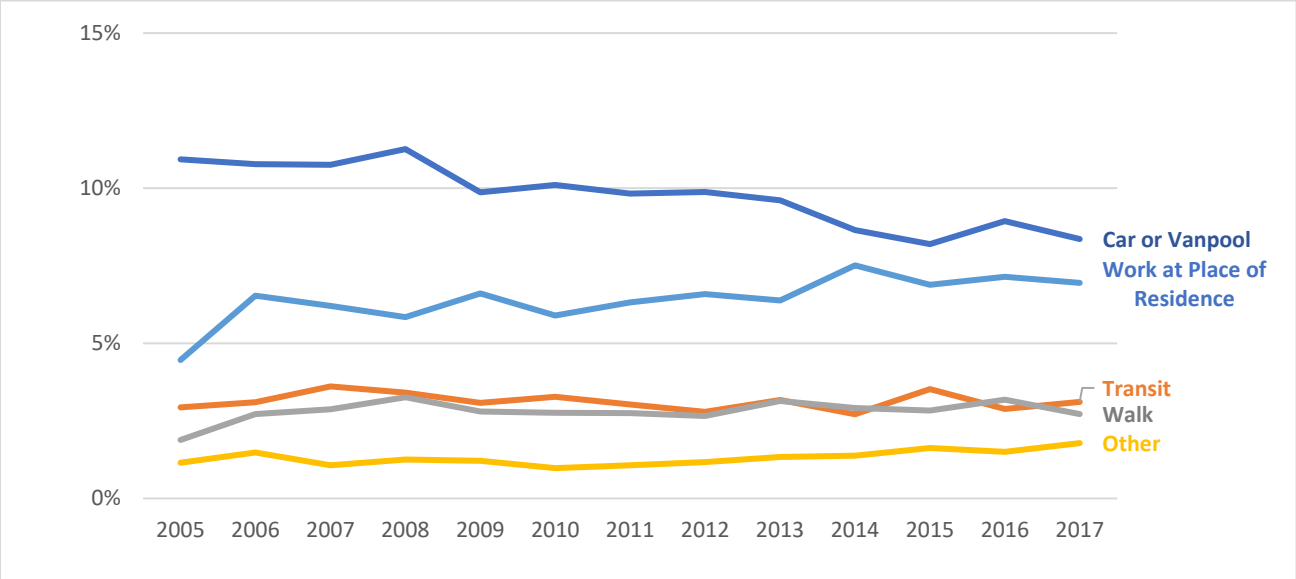
Source: American Community Survey, 1-Year Estimate. United States Census Bureau

Figure 244 – Drive-Alone Mode Shares, 2005–2017



Source: American Community Survey, 1-Year Estimate. United States Census Bureau

Figure 25 – Alternative Commute Mode Shares, 2005–2017

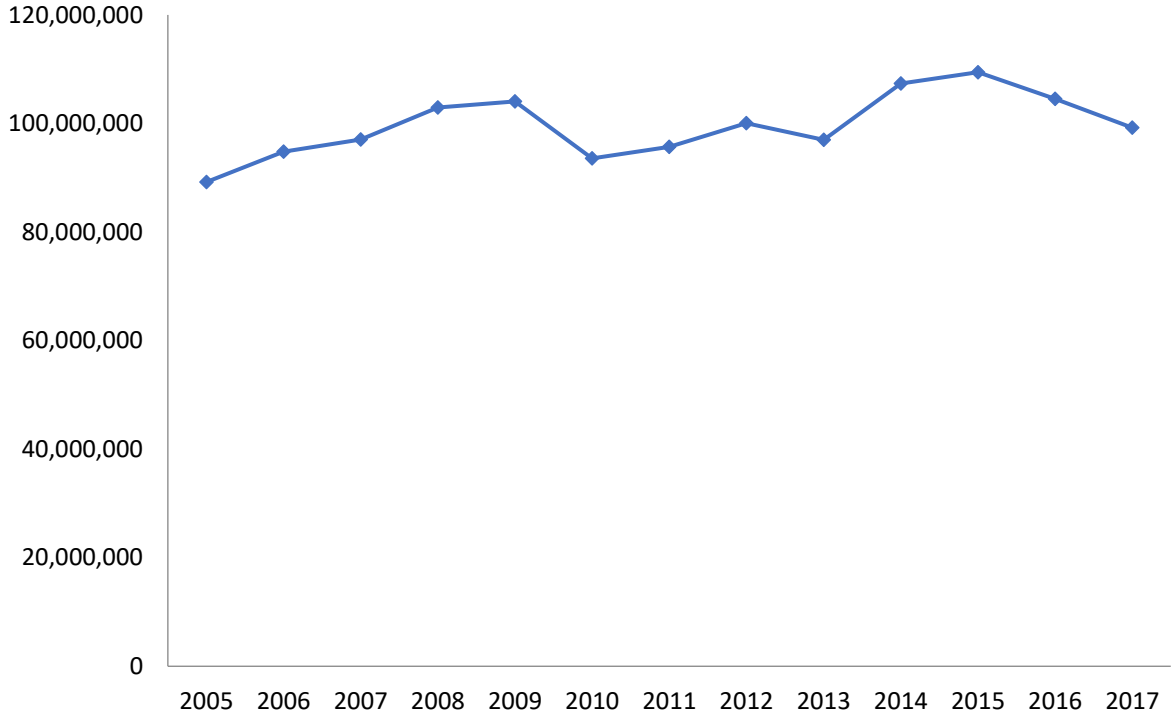


Source: American Community Survey, 1-Year Estimate. Unites States Census Bureau

Annual Transit Boardings

As shown in Figure , transit boardings in San Diego County increased between 2005 and 2009 and were followed by a 10 percent drop in boardings between 2009 and 2010. Transit ridership saw improvement from 2011 through 2015 and decreased again in 2016 and 2017. In a 12-year span, annual transit boardings have increased by more than 10 million – from 89.2 million in 2005 to 99.2 million in 2017.

Figure 26 – Annual Transit Boardings, 2005–2017



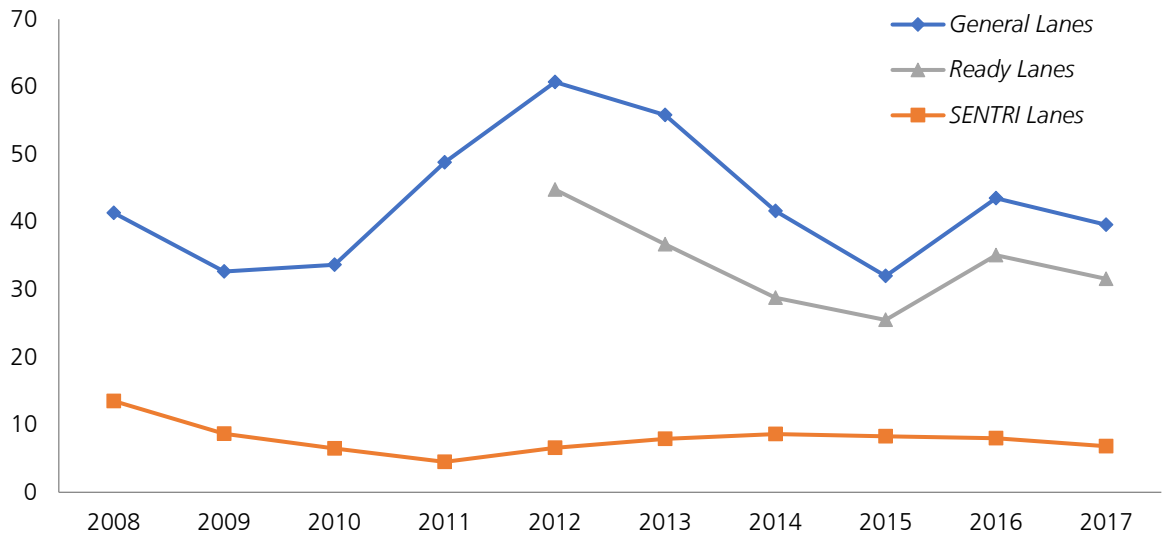
Source: Annual Boardings Data, Metropolitan Transit System and North County Transit District; SANDAG

Border Wait Times

Border wait times are reported by United States Customs and Border Protection (CBP). The wait times in this section present the annual average wait time for one crossborder trip taken by passenger vehicles or commercial vehicles and in specific lane types. The figures also indicate the relevant ports of entry for which the metrics apply, as not all ports of entry accommodate each crossing or lane type.

After declining from 2012 to 2015, Figure shows that average border wait times for northbound passenger vehicles in general lanes increased in 2016 but decreased in 2017. Figure also shows wait times for Ready Lanes, which were first implemented in October 2011. Since its first full year of implementation in 2012, wait times in Ready Lanes have followed a similar trend line as compared to general lanes. Wait times for Secure Electronic Network for Travelers Rapid Inspection (SENTRI) Lane crossers have been decreasing since 2014, back down to just above the 2012 average.

Figure 27– Average Passenger Vehicle Border Wait Times (Minutes) – Northbound into San Diego from Mexico, 2008–2017

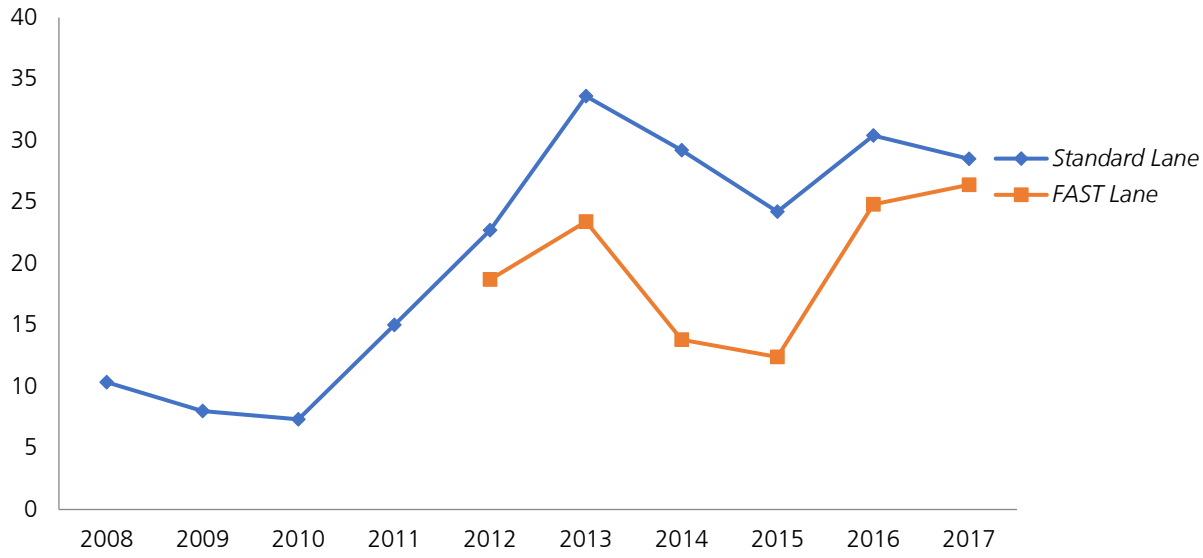


Note: General lane data includes San Ysidro, Otay Mesa, and Tecate border crossings. Ready Lane and SENTRI Lane data only apply to San Ysidro and Otay Mesa border crossings, as these lane types do not exist at Tecate.

Source: United States Customs and Border Protection, Border Wait Times: Southern Border Ports of Entry

Figure shows that after peaking in 2013, average border wait times for northbound commercial vehicles in standard lanes increased until 2013, fluctuated below 2013 levels from 2014 to. Since its first full year of implementation in 2012, wait times in Free and Secure Trade (FAST) Lanes have followed a similar trend line as compared to standard lanes, but increased to record a peak year in 2017.

Figure 25 – Average Commercial Vehicle Border Wait Times (Minutes) – Northbound into San Diego from Mexico, 2008–2017



Note: Standard Lane data includes Otay Mesa and Tecate commercial border crossings. FAST Lane data only applies to the commercial crossing at Otay Mesa, as Tecate does not have FAST Lane.

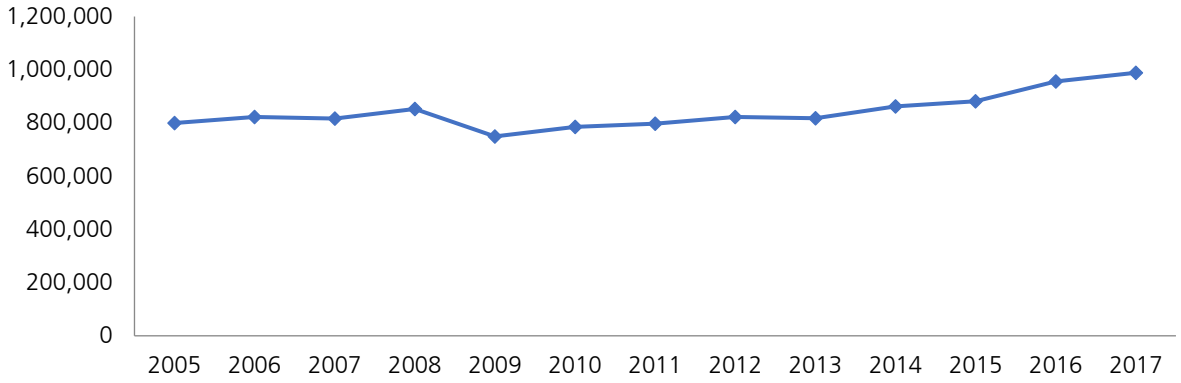
Source: United States Customs and Border Protection, Border Wait Times: Southern Border Ports of Entry

Border Crossing Volumes

Border crossing volumes are shown on an annual basis for northbound crossings into San Diego through the region's three main land ports of entry: San Ysidro, Otay Mesa, and Tecate. Figure and Figure present the data by specific crossing type while also indicating the relevant ports of entry for which the metrics apply, as not all ports of entry accommodate each crossing type.

Figure shows the annual volume of trucks through the two ports of entry in the region that process commercial vehicles: Otay Mesa and Tecate. After the decline in northbound truck crossings seen in 2009 (following the 2008 economic downturn), the region has seen a steady increase, recording a new peak year in 2017.

Figure 29– Annual Volume (Total Trucks) of Commercial Truck Crossings, 2005–2017

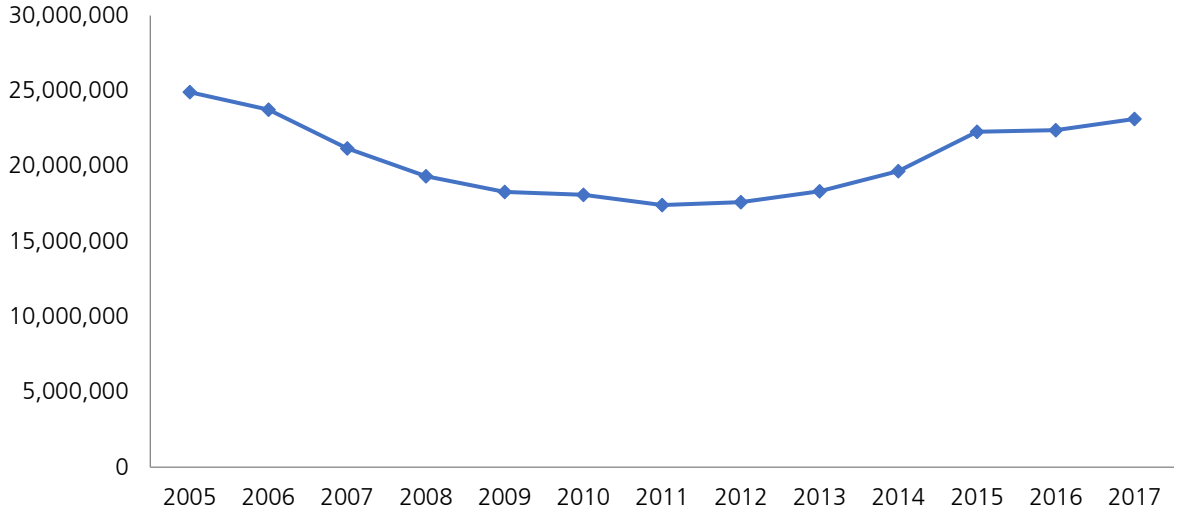


Note: Commercial truck crossing volume only applies to Otay Mesa and Tecate border crossings. San Ysidro does not process commercial vehicles.

Source: United States Department of Transportation, Bureau of Transportation Statistics

Figure shows that the annual volume of personal vehicle crossings has increased steadily since reaching a low in 2011. Personal vehicle crossing volume into San Diego reached its highest levels in 11 years in 2017. Overall, volumes for this category of crossing have not rebounded since their mid-2000s peak levels.

Figure 26 – Annual Volume of Personal Vehicle Crossings, 2005–2017

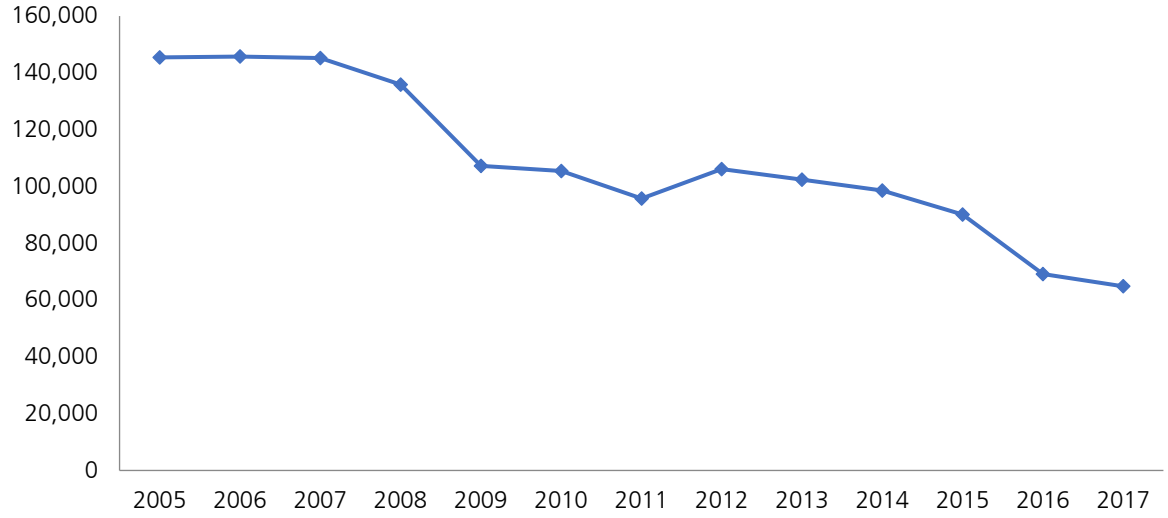


Note: Personal vehicle crossing volume applies to San Ysidro, Otay Mesa, and Tecate border crossings.

Source: United States Department of Transportation, Bureau of Transportation Statistics

Figure shows the annual volume of bus crossings. Bus crossing volume has declined substantially since mid- to late-2000s levels, and 2017 was the lowest recorded year for bus crossings in the region. Various market factors and fluctuations in the local tourism economy have played a part in the decline in the number of private bus companies that service the San Diego–Tijuana area.

Figure 27 – Annual Volume of Bus Crossings, 2005–2017

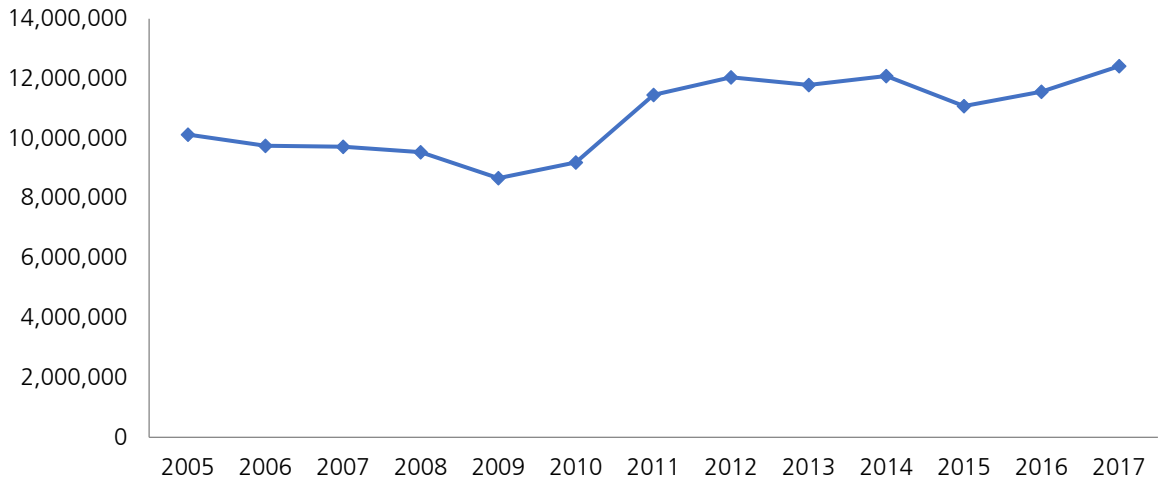


Note: Bus crossing volume applies to the San Ysidro, Otay Mesa, and Tecate border crossings.

Source: United States Department of Transportation, Bureau of Transportation Statistics

Figure shows that the annual volume of pedestrian crossings has increased to a new peak in 2017, due to two consecutive years of increase for this category. The largest year-over-year increase was between 2010 and 2011.

Figure 28 – Annual Volume of Pedestrian Crossings, 2005–2017

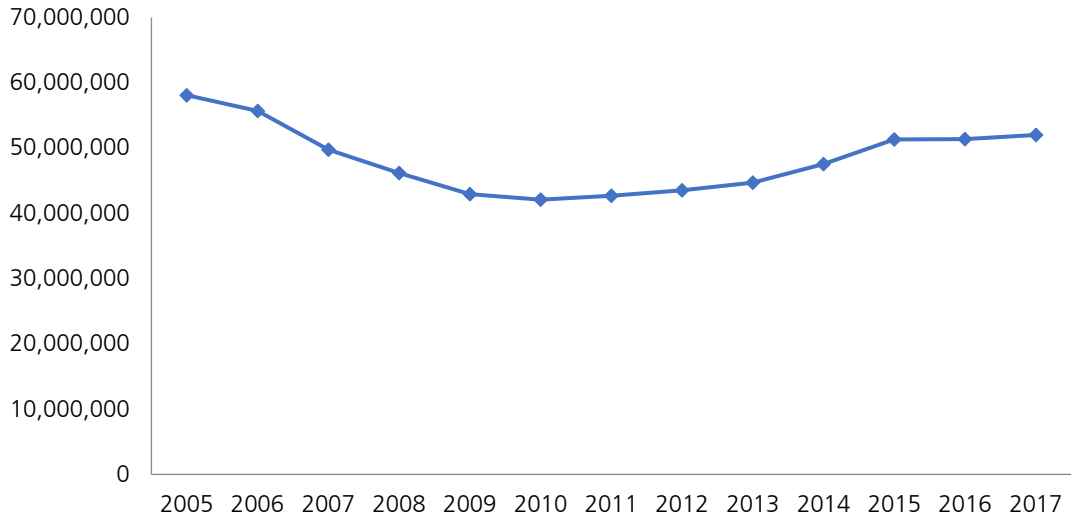


Note: Personal vehicle crossing volume applies to San Ysidro, Otay Mesa, and Tecate border crossings.

Source: United States Department of Transportation, Bureau of Transportation Statistics

Figure shows the annual volume of person crossings, which includes pedestrians, personal vehicle occupants, and bus passengers. Similar to the trend seen in personal vehicle crossings, total person crossings in 2017 reached their highest levels in more than a decade but are still about 10 percent lower than the 2005 levels.

Figure 33 – Annual Volume of Person Crossings, 2005–2017



Note: Personal vehicle crossing volume applies to San Ysidro, Otay Mesa, and Tecate border crossings.

Source: United States Department of Transportation, Bureau of Transportation Statistics

Cross Border Xpress

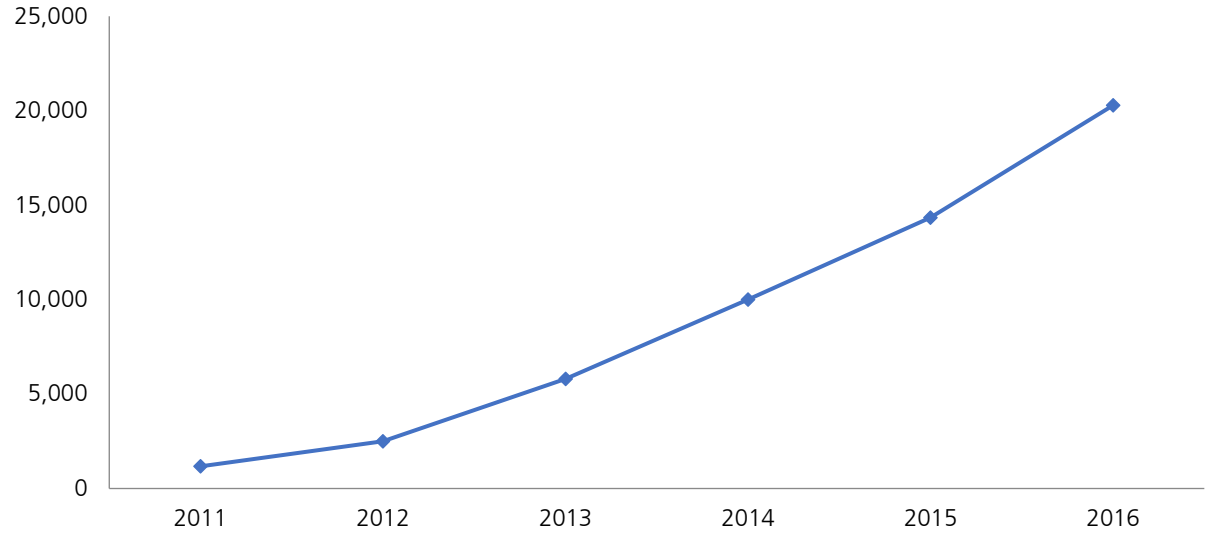
In addition to the three main land ports of entry, the San Diego region enjoys an additional hybrid crossing facility in the new Cross Border Xpress (CBX), which is a privately funded facility that opened in December 2015 and serves as an airport access terminal for users of the Tijuana International Airport (TIJ). Users pay a fee to cross the international border through a pedestrian bridge that includes U.S. CBP inspection checkpoints for direct access to and from TIJ and the United States.

The annual crossings at this facility are not yet reported through the same public database as the other ports of entry but were obtained from public reports made available by CBX staff. According to these reports, CBX processed approximately 1.4 million crossers (including both northbound and southbound) in 2016 and 1.9 million crossers in 2017.

Alternative Fuel Vehicle Ownership

Zero-emission vehicles refer to plug-in electric and fuel cell electric vehicles. Electric vehicles first emerged in the San Diego region passenger vehicle market in 2011. Since then, SANDAG has been tracking the growth of passenger electric vehicles in the San Diego region. As of December 2016, there were 20,284 new battery and plug-in hybrid electric vehicle registrations and no fuel cell electric vehicles in San Diego County.

Figure 29 – Zero-Emission Vehicle Ownership, 2011–2016



Source: Williams, Brett and Anderson, John (2016). "Clean Vehicle Rebate Project and EV Market Update" presentation to the SANDAG Energy Working Group meeting, 22 September 2017, San Diego.