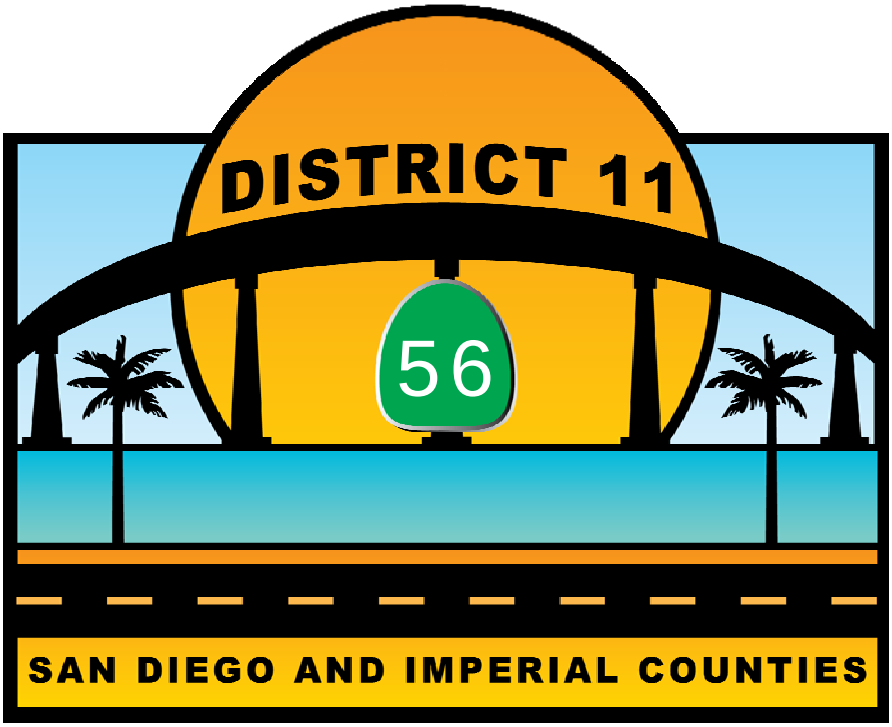


STATE ROUTE-56
TRANSPORTATION CONCEPT SUMMARY

This Transportation Concept Summary (TCS) for State Route 56 in District 11 serves as an analysis tool and conceptual long-range guide for future investment decisions in the transportation corridor.

DISCLAIMER

The information and data contained in this document are for planning purposes only and should not be relied upon for final design of any project. Any information in this TCS is subject to modification as conditions change and new information is obtained. Although planning information is dynamic and ever-changing, the District 11 Planning Division makes every effort to ensure the accuracy and timeliness of the information contained in the TCS. The information in the TCS does not constitute a standard, specification, or regulation, nor is it intended to address design policies and procedures. If you encounter information that you deem to be inaccurate or unreliable, please contact Kim.Sturmer@dot.ca.gov or at 619-688-6967.

CALIFORNIA DEPARTMENT OF TRANSPORTATION
PLANNING DIVISION
Planning Leads To Superior Solutions
Caltrans
DISTRICT 11

DRAFT

SR 56 Transportation Concept Summary May 2008

CORRIDOR PURPOSE

State Route 56 (SR-56) is a partially constructed State highway route in west-central San Diego County. The adopted route alignment extends easterly from its junction with Interstate 5 (I-5) just south of Carmel Valley Road (P.M. SD R32.9), to State Route 67 (SR-67) (P.M. SD 15.2), approximately eight miles southwest of the town of Ramona. It is the only major east/west route connecting I-5 and Interstate 15 (I-15) within the 22 mile area separating State Route 52 (SR-52) and State Route 78 (SR-78). SR-56 (originally Route 278), was added to the California Freeway and Expressway (F&E) System in 1959 and was adopted as a 17 mile long freeway by the California Highway Commission in 1965.

The primary purpose of SR-56 is to provide east/west mobility for primarily intraregional traffic. SR-56 from I-15 to SR-67 is an unconstructed, legislatively designated state highway with an adopted route location. Traffic currently traverses existing city streets owned and operated by the City of San Diego and the City of Poway. There are no plans for any state highway improvements within this portion of SR-56. However, future studies are needed to determine if this portion of SR-56 should be unadopted and removed from the State highway system.

CORRIDOR NEEDS

Portions of SR-56 currently experience significant levels of congestion. Increases in interregional and commuter traffic, as well as increases in traffic generated by proposed developments adjacent to the SR-56 corridor, are expected to increase congestion in the future. Transportation improvements will be needed.

CORRIDOR ANALYSIS

SR-56 provides a vital east/west connection between I-5 and I-15. SR-56 carries significant commute traffic, particularly between the residential developments of Del Mar, North City West, Rancho Penasquitos, Sabre Springs, Carmel Mountain Ranch, Poway, and the employment centers at Sorrento Valley, Sorrento Hills and Rancho Bernardo.

CORRIDOR TRAFFIC

SR-56 will be experiencing an increase in traffic in the future. In some segments, traffic is expected to double between 2007 and 2030. The following table shows existing and future traffic conditions for SR-56.

Existing and Future Average Weekday Traffic

LOCATION	2007 AWDT[1]	2007 LOS[2]	2030 AWDT[3]
I-5 to El Camino Real	58,400	B	144,800
El Camino Real to Carmel Creek Rd	82,200	C	143,600
Carmel Creek Rd to Carmel Country Rd	82,100	C	132,800
Carmel Country Rd to Carmel Valley Rd	69,300	C	130,200
Carmel Valley Rd to Camino Del Sur	69,300	C	111,300
Camino Del Sur to Black Mountain Rd	81,300	C	103,900
Black Mountain Rd to Rancho Penasquitos Blvd	79,500	C	91,300
Rancho Penasquitos Blvd to I-15	71,300	C	83,000

[1] 2007 AWDTs derived from Caltrans District 11 Traffic Census Branch AADT's.
[2] 2007 Level of Service (LOS) is based on sketch level planning analysis and is not to be used for design purposes.
[3] 2030 AWDTS are from the SANDAG Regional Transportation Model. Future modeling runs will be needed to determine 2030 LOS for future general purpose/Managed Lane improvements.

FREEWAY CORRIDOR PERFORMANCE MEASURES

The Freeway Performance Measurement Project (PeMS) is used to measure performance in the I-805 corridor. It is a joint effort by Caltrans, the University of California, Berkeley, and PATH, the Partnership for Advanced Technology on the Highways. The software that has been developed in conjunction with this project, the Performance Measurement System, PeMS, is a traffic data collection, processing and analysis tool to assist traffic engineers in assessing the performance of the freeway system. PeMS extracts information from real-time and historical data and presents this information in various forms to assist managers, traffic engineers, planners, freeway users, researchers, and traveler information service providers (value added resellers or VARs).

With PeMS, Caltrans managers can instantaneously obtain a uniform and comprehensive assessment of the performance of their freeways. Traffic engineers can base their operational decisions on knowledge of the current state of the freeway network. Planners can determine whether congestion bottlenecks can be alleviated by improving operations or by minor capital improvements. Traffic control equipment (ramp-metering and changeable message signs) can be optimally placed and evaluated. In short, PeMS can serve to guide and assess the deployment of intelligent transportation systems (ITS).

PeMS obtains 30-second loop detector data in real-time from each Caltrans District Transportation Management Center (TMC). The data are transferred through the

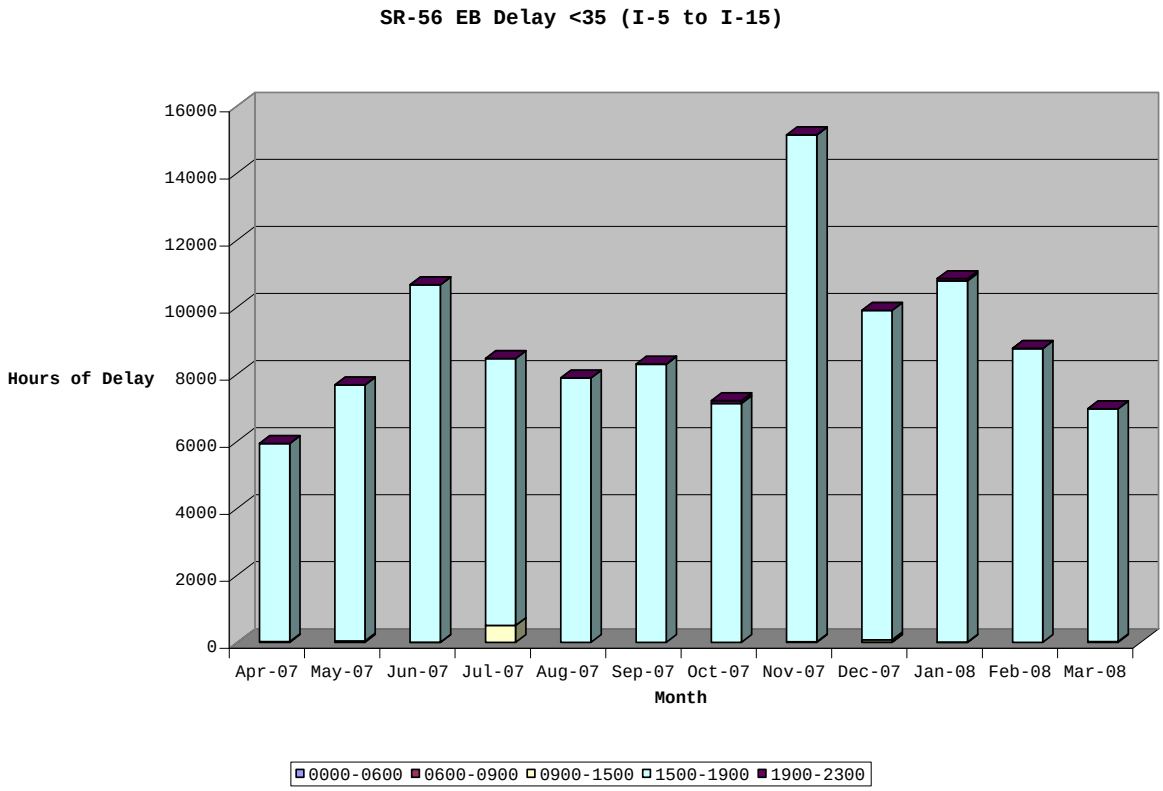
Caltrans wide area network (WAN) to which all districts are connected. Users can access PeMS over the Internet through a Web browser. The PeMS software architecture is modular and open. It uses commercial off-the-shelf products for communication and computation. The 30-second data received by PeMS consist of counts (number of vehicles crossing the loop), and occupancy (the average fraction of time a vehicle is present over the loop). The software processes the data in real-time and performs a number of steps, including the computation of performance measures.

Useful performance measures include delay, travel time, and speed. The following charts show these performance measures for the SR-56 corridor between I-5 and I-15.

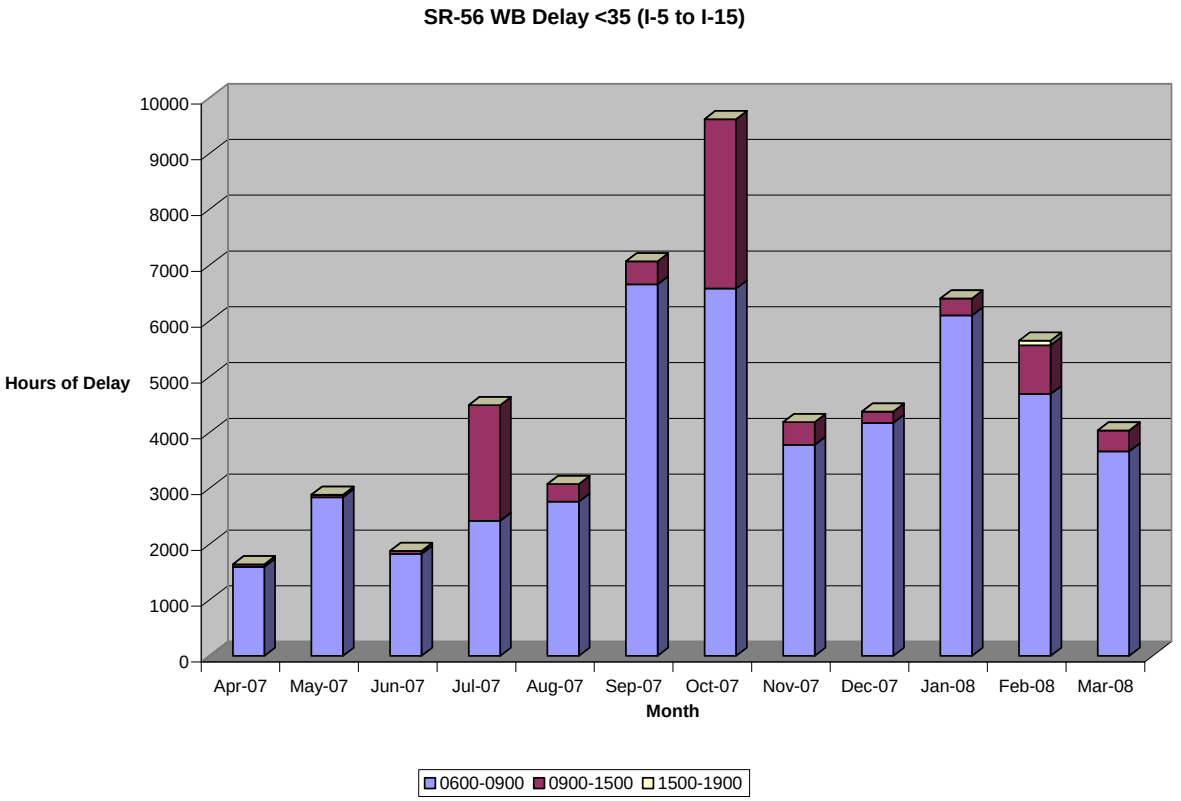
DELAY

Delay is defined as the additional time spent by all vehicles over and above the time it takes to traverse a specific distance at a threshold speed. PeMs analysis includes both 35 mph and 60 mph threshold speeds.

The chart below depicts the vehicle hours of delay using the 35 mph threshold for SR-56 in the eastbound direction between I-5 and I-15. The selected time frame is from April 2007 to March 2008. As is evident by the chart, most of the eastbound delay occurs during the afternoon peak period from 3 PM-7 PM.

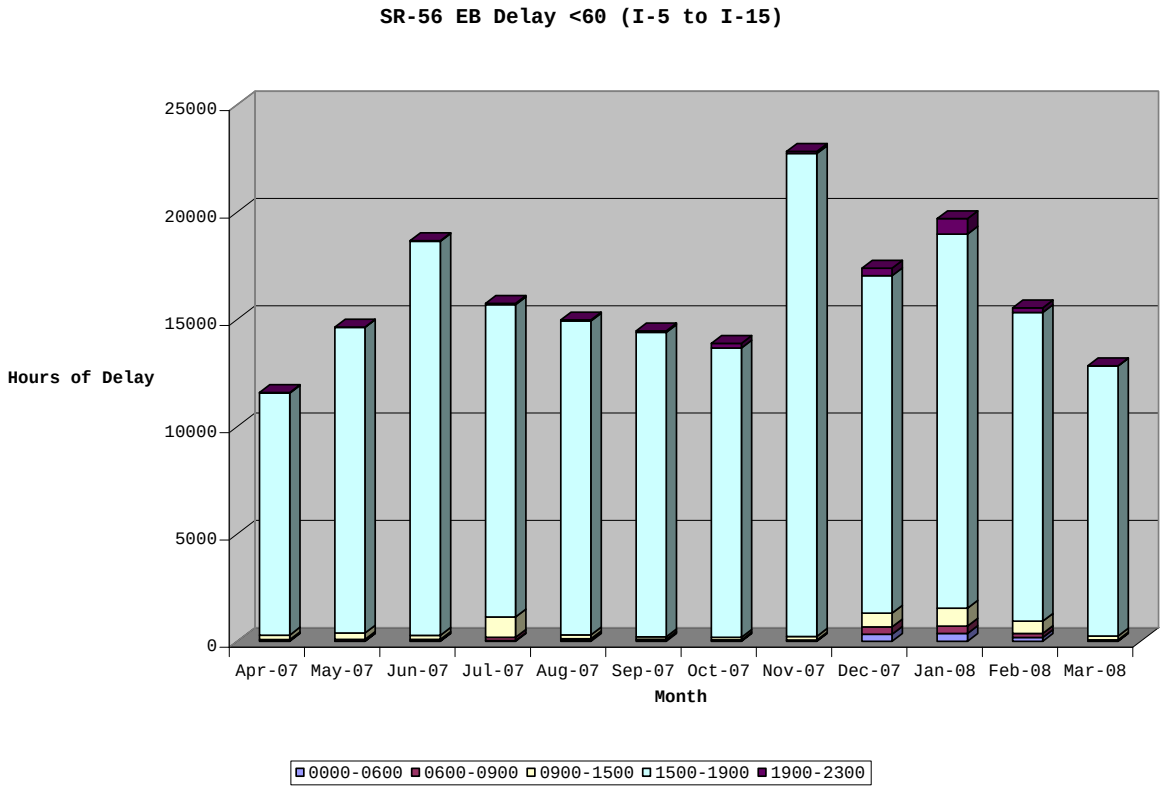


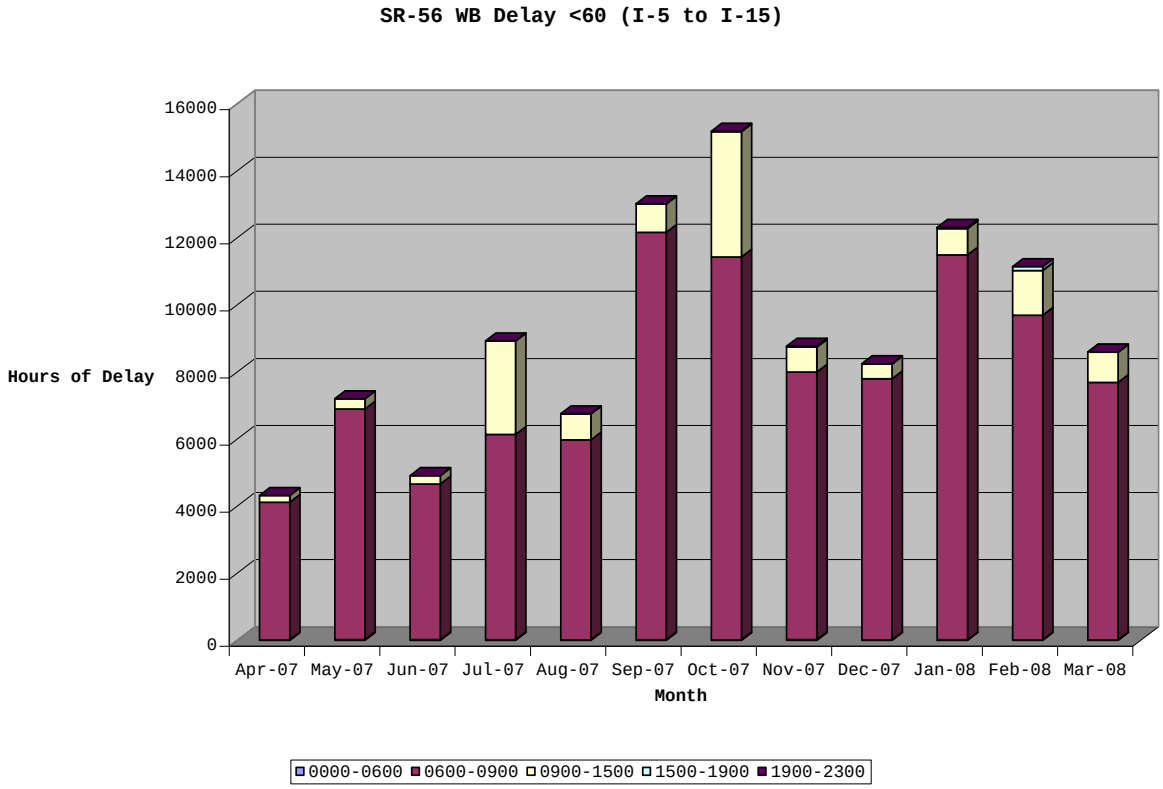
The chart below shows vehicle hours of delay using the 35 mph threshold for the westbound direction. As is evident by the chart, most of the westbound delay occurs during the morning peak period from 6 AM-9 AM.



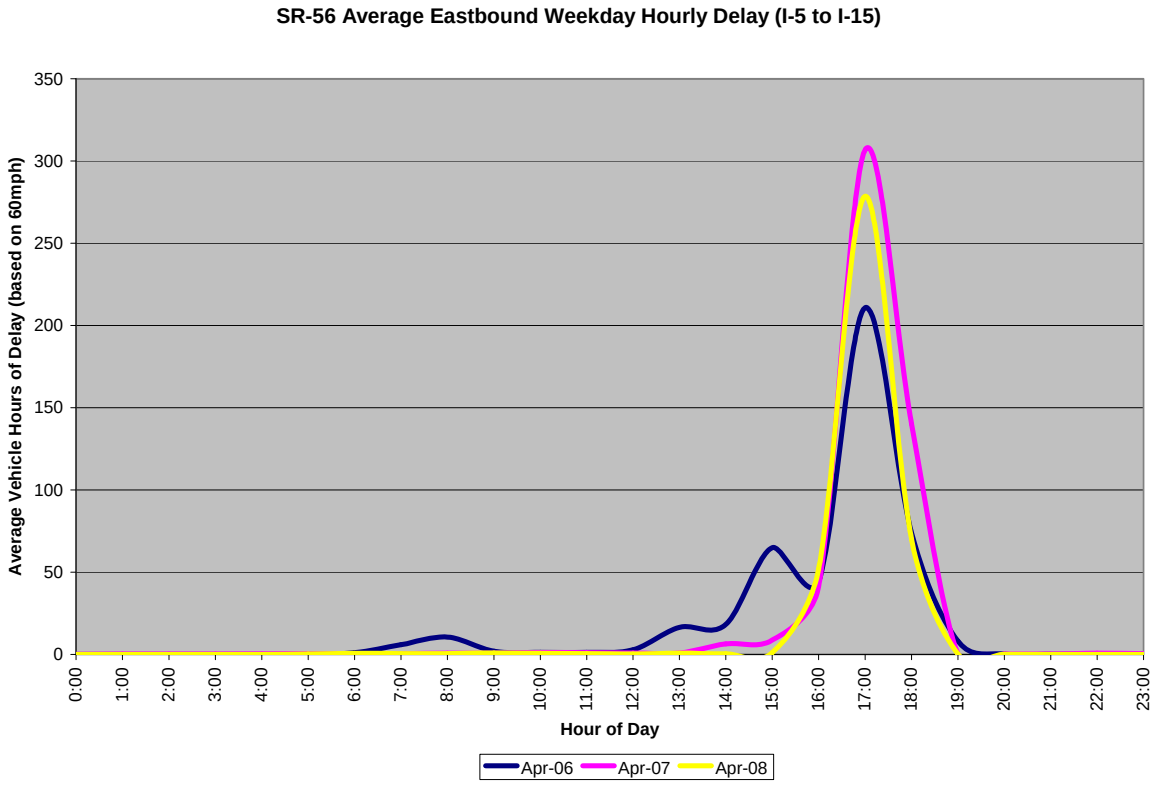
Note: No data available for 0000-0600 or 1900-2300

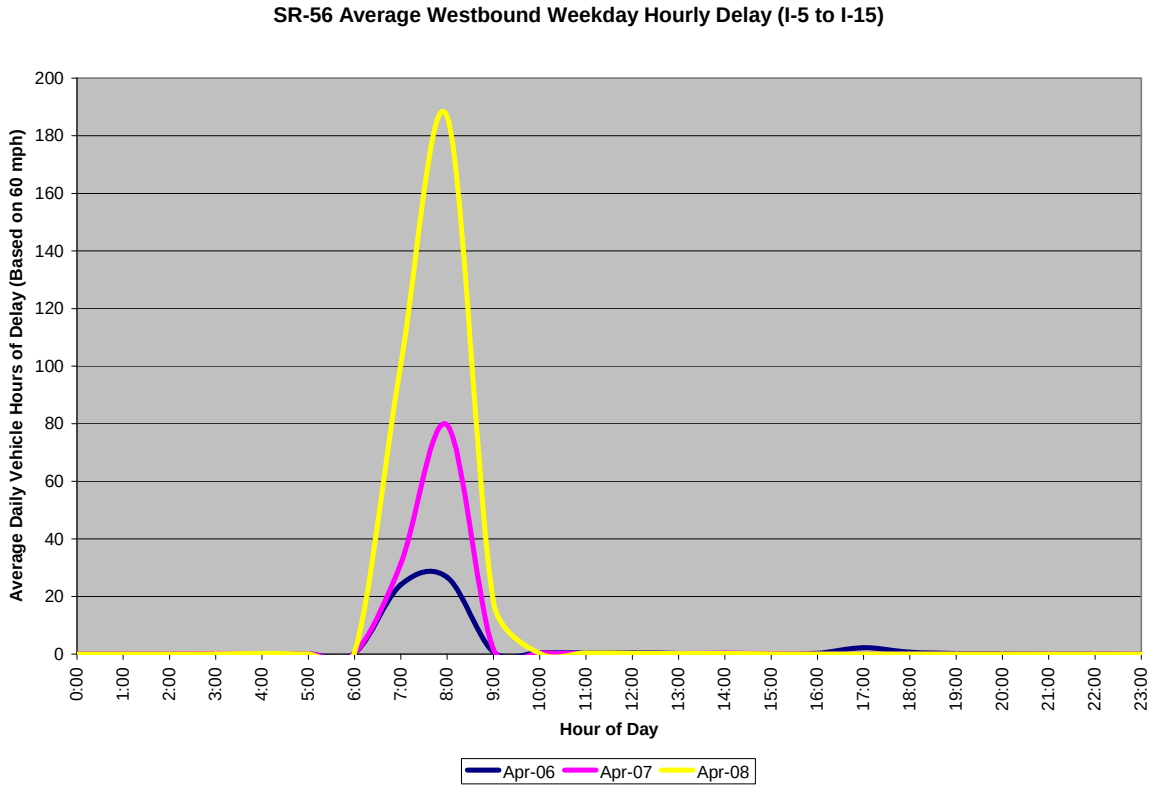
The two charts below depicts the vehicle hours of delay using the 60 mph threshold for SR-78 in the eastbound and westbound direction between I-5 and I-15. As expected, the vehicle hours of delay has increased because of the higher threshold speed, and consistent with the previous charts, most of eastbound delay occurs during the afternoon peak period from 3 PM-7 PM and most of the westbound delay occurs during the morning peak period from 6 AM-9AM.





Another way to understand the characteristics of congestion and related delays is to show average weekday hourly delay. The following two charts shows historical average weekday hourly delay in the eastbound and westbound directions on SR-56 between I-5 and I-15 for the representative month of April for calendar years 2006, 2007, and 2008.

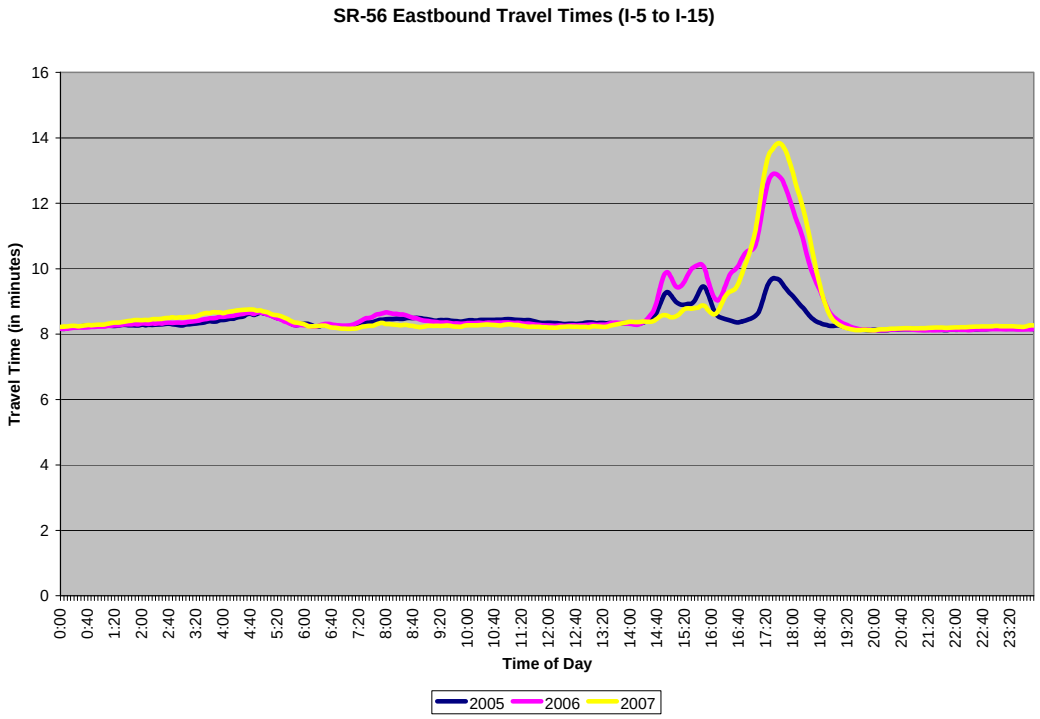


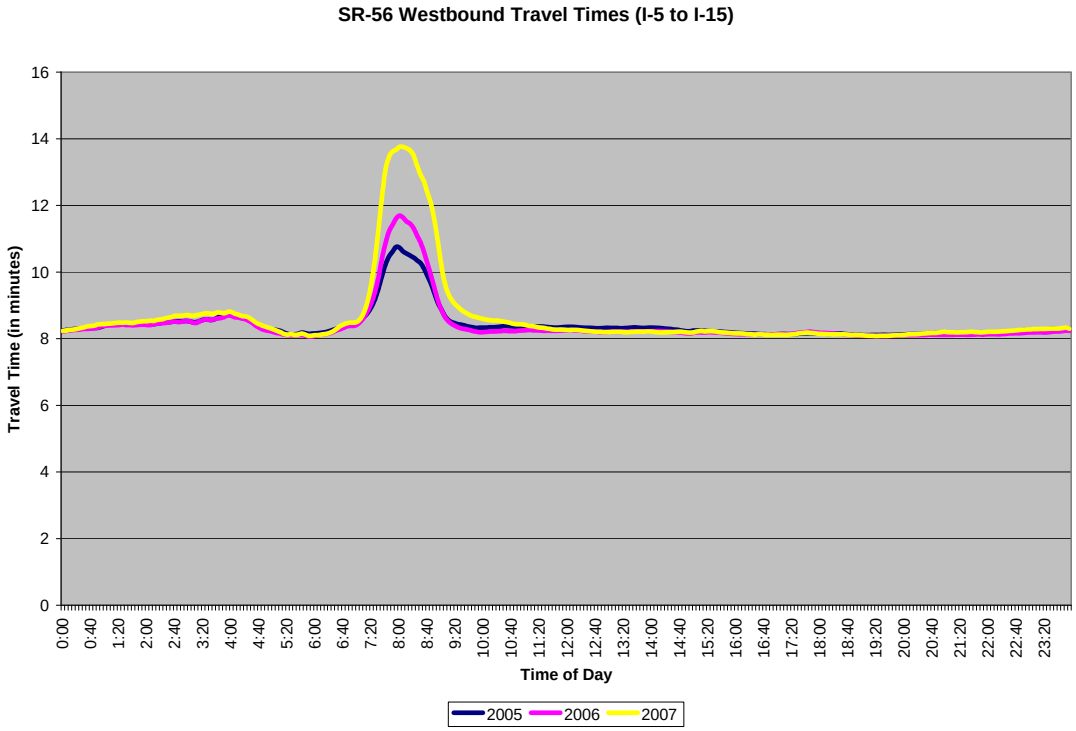


TRAVEL TIME

Travel time is another useful performance measure. PeMS defines travel time as the amount of time it takes for a vehicle to cross a freeway link. PeMS computes the travel

time by first calculating the speed for a particular link and then dividing the speed into the length of the link. This assumes that the speed of the vehicle is constant over the entire length of the link, which is almost always not true. The following charts shows historical average eastbound and westbound travel times between I-5 and I-15 for calendar years 2005, 2006, and 2007. As is evident from the chart, eastbound travel times during the afternoon peak period have increased in 2006 and 2007.

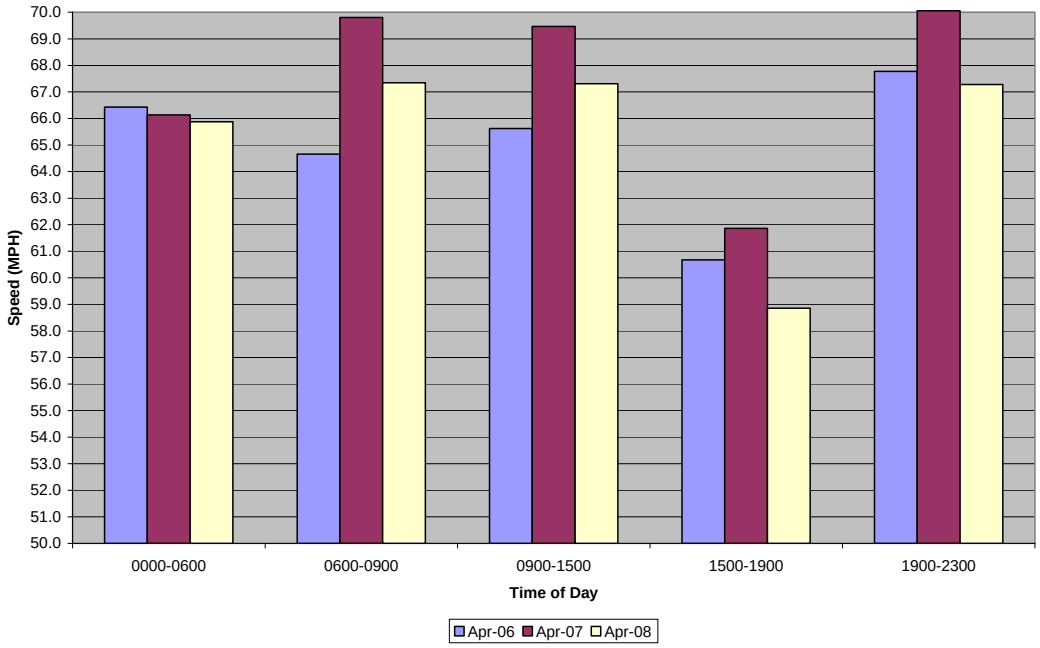




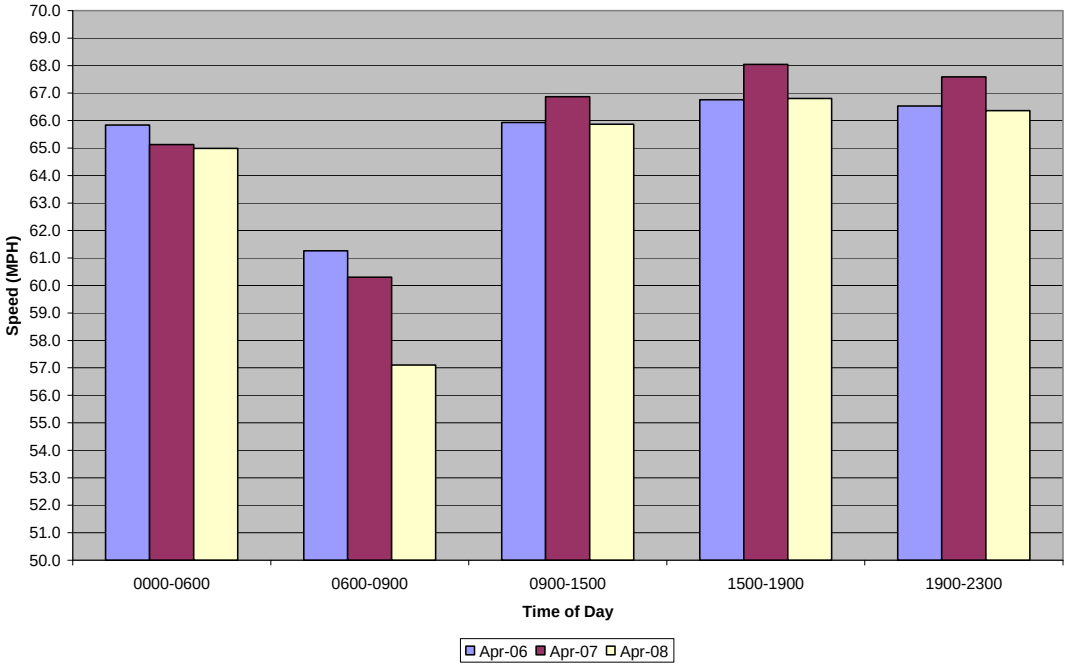
SPEED

In PeMs, speed is either measured directly using radar detectors or by using flow and occupancy data. For the aggregate speed that spans all of the loops, the speed is the flow-weighted mean across the lanes. The following charts shows historical eastbound and westbound average speeds between I-5 and I-15 for the representative month of April for calendar years 2006, 2007, and 2008. Average speeds during the eastbound PM peak period and the westbound AM peak period continued to decline in April 2008.

SR-56 Eastbound Average Speeds (I-5 to I-15)



SR-56 Westbound Average Speeds (I-5 to I-15)



RECOMMENDED CORRIDOR IMPROVEMENTS

There are many types of improvements planned for SR-56, both highway and transit-related. Improvements are from the 2006 State Transportation Improvement Program (STIP), the 2006 State Highway Operation and Protection Plan (SHOPP), the District 11 Project Information Reporting System (PIRS), and the District 11 2007 Ten-Year SHOPP Needs Plan, the most recent District 11 Status of Projects, and the District 11 Planning Division.

Freeway Corridor Improvements

The following table shows recommended major freeway improvements for SR-56.

POST MILE	LOCATION	IMPROVEMENT DESCRIPTION
0.0 – 9.2	I-5 to I-15	Add 2 Main Lanes and 2 HOV Lanes

HOV connectors should be provided at the following locations on SR-56:
-- I-5 North to East, South to East, West to South, and West to North
-- I-15 North to West, South to West, East to South, and East to North

Freeway to Freeway connectors should be provided from SR-56 west to I-5 north and from I-5 south to SR-56 east.

The following table shows 2006 SHOPP projects for SR-56.

POST MILE	LOCATION	IMPROVEMENT DESCRIPTION	SOURCE/ PHASE
0.0 – 9.2	I-5 to I-15	Install Ramp Meters	2006 SHOPP

The following table shows 2007 10–Year SHOPP Needs Plan Projects for SR-56.

POST MILE	LOCATION	IMPROVEMENT DESCRIPTION	CATEGORY/FISCAL YEAR
0.0-9.2	I-5 to I-15	Upgrade Road and Overhead signs (Materials and Exit #s)	Roadway Preservation 2016/2017
0.0 – 8.0	I-5 to Rancho Penasquitos	Install CCTV	Mobility 2011/2012
.33 – 2.35	Carmel Valley Rd OC to Carmel Country RD OC	Pavement Rehabilitation	Roadway Rehabilitation/ 2014/15

Transit Improvements

Currently, MTS Bus Route 850 operates on the east end of SR-56 from Rancho Penasquitos Blvd to I-15. This route offers peak hour service only from Rancho Penasquitos to Downtown San Diego with 30 minute headways. MTS also provides local bus service between Rancho Penasquitos and Poway utilizing Rancho Penasquitos Boulevard and Poway Road. Route 844 provides service every 30 minutes during peak periods and every 45 minutes during midday hours.

There are additional specialized transit services serving the SR-56 corridor. The western portion of SR-56 is in the North County Transit Development Board (NTDB) Americans with Disabilities Act (ADA) service area. Lifeline Community Services provides demand-responsive paratransit service within this area. The portion of SR-56 east of Black Mountain Road is in Zone II of San Diego County Transit's ADA Service area. Contract paratransit service is provided by WHEELS.

Commuter Rail service between Oceanside and downtown San Diego is provided by Coast Express Rail (Coaster). The nearest commuter rail connection to SR-56 is the Sorrento Valley Coaster Connection located adjacent to I-5 just south of SR-56.

Future transit service is based on the Regional Transit Vision (RTV) that has been developed in collaboration with SANDAG, the Metropolitan Transit Development Board (MTDB), the North County Transit District (NCTD), Caltrans, local jurisdictions, and a 50-member City Advisory Committee. The RTV provides a transit network that is fast, flexible, reliable, safe and convenient. The RTV emphasizes the integration of public transportation and local land uses by developing new higher speed routes, spacing transit stations further apart, and providing priority treatments on highways and arterials to attain higher speeds and make transit more competitive with automobile travel. Transit service types vary depending on variable travel needs in the region, but typically include Commuter Rail, Light Rail, Bus Rapid Transit (BRT), Local Bus, and Shuttle Bus services.

Other Transportation Improvements

Additional modal option improvements such as non-motorized, park and ride, transportation demand management, and transportation system management should also be developed for the SR-56 corridor. Currently a 10-mile exclusive Class I bikeway exists along SR-56. A Class I bikeway provides a completely separated right-of-way for exclusive use of bicycles and pedestrians with minimal cross flow. This bike path currently begins just east of I-15 and continues west to just east of I-5 at El Camino Real. This bike path should be extended under I-5 to connect to Sorrento Valley Road to complete an interregional bike network along the coast from Oregon through Southern California and Mexico. Additionally, this bike path should connect to future bike paths within the developing communities along the SR-56 corridor to allow for regional connectivity for bicycles.

Additional corridor mobility management strategies and Intelligent Transportation Systems (ITS) that can reduce daily vehicle hours of recurrent delay on SR-56 include continuing implementation of the Transportation Management System (TMS) and Traffic Operations Strategies (TOPS). TMS is the "wiring" needed to provide real-time corridor performance information, and TOPS includes a variety of near-term corridor improvements such as the provision of intelligent infrastructure and auxiliary lanes.

PROJECT INITIATION DOCUMENT INFORMATION - CORRIDOR AND SYSTEM COORDINATION

The Federal functional classification for SR-56 is "Urban Principal Arterial- Other Freeways or Expressways".

California Senate Bill 300, enacted in 1989, created an Interregional Road System. Subsequently, Section 164.3 of the California Streets and Highways Code directed Caltrans to develop and submit to the Legislature an Interregional Road System (IRRS) Plan by February 1, 1990. In accordance with this plan, the IRRS is a series of interregional state highway routes outside the urbanized areas that provides access to, and links between, the state's economic centers, major recreational areas, and urban and rural regions. SR-56 is not included as part of the IRRS.

The National Highway System (NHS) Designation Act of 1995 was enacted by Congress in November, 1995. The purpose of the NHS is to provide an integrated national highway system that serves both urban and rural America; to connect major population centers, international border crossings, ports, airports, public transportation facilities, and other major travel destinations; to meet national defense requirements; and to serve interstate and interregional travel. The new NHS includes the Interstate System routes. In Caltrans District 11, the NHS totals 789.0 km (490.3 miles). SR-56 is not included as part of the NHS.

SR-56 is not specifically designated as part of the national network for Surface Transportation Assistance Act (STAA) trucks, however, SR-56 is designated as CL-40, meaning trucks with a 40 foot Kingpin to Rear Axle Length (California Legals) are allowable.

To emphasize corridors that are most essential to the California economy in terms of national and international trade, a transportation network known as the Intermodal Corridors of Economic Significance (ICES) has been developed by Caltrans. To be included in the ICES system, a route should provide access between major freight intermodal facilities and serve freight traffic with the NAFTA countries of Canada and Mexico, as well as the Pacific Rim and other U.S. trade markets. The route should carry high interstate and international freight volumes and value important to the economy of California. SR-56 is not included in the ICES system.

The Caltrans District 11 designated International Border Trade Corridor (IBTC) system consists of transportation corridors which link ports of entry and international border regions to the existing transportation system. These corridors will be the principle conduits for movement of people and goods as the overall demand for transportation increases in and out of California and the United States. SR-56 is not included in the IBTC system.

SR-56 is not included in on the statewide list of Life Line Routes utilized for earthquake emergency response.

SR-56 is not designated as part of the California State Scenic Highway System, however, Caltrans has implemented above-standard landscaping and roadway features from I-5 to Carmel Country Road and Black Mountain Road to I-15 to ensure that the portion of SR-56 from I-5 to I-15 be considered eligible for nomination.

SANDAG's 2030 Regional Transportation Plan (November 2007) includes the following corridor improvements for SR-56 under the Revenue Constrained Plan, the Reasonably Expected Revenue scenario, and the Unconstrained Needs Network:

LOCATION	REVENUE CONSTRAINED	REASONABLY EXPECTED	UN-CONSTRAINED
I-5 to I-15	6F	6F	6F + 2HOV
SR-56/I-5 Freeway Connectors (West to North and South to East)	Yes	Yes	Yes
SR-56/I-5 HOV/BRT Connectors (South to East, West to North, North to East, and West to South)	No	No	Yes
SR-56/I-15 HOV/BRT Connectors (East to North and South to West)	No	No	Yes

F = Freeway Lanes
HOV = High Occupancy Vehicle Lanes

DEVELOPMENT REVIEW

Caltrans District 11 Development Review staff in the Planning Division review federal, state, and local planning or proposed development activity that has the potential to impact state transportation facilities or other resources under Caltrans' jurisdiction, and to recommend conditions of project approval that eliminate those impacts or reduce them to a level of insignificance. Typically, this involves the review of development proposals in which Caltrans is either a responsible (permitting) or commenting (reviewing) agency, but has no discretionary approval power over the project other than permit authority. Development Review staff work cooperatively with local lead agencies and developers in determining the type and level of mitigation needed to offset project impacts. They are also responsible for identifying other functional areas within District 11 that are affected by the proposal, and coordinating the circulation of appropriate documents with other functional areas for review and comment.

Based on the Caltrans Traffic Impact Study (TIS) guidelines, a 1,000 Average Daily Traffic (ADT) threshold size triggers the need for developers to prepare a traffic study for their project. The following information generally includes projects for which an Environmental Document, a Specific Plan or a Master Plan has been or will be prepared.
There are approximately 15 potential major development projects within and adjacent to the SR-56 corridor between I-5 and I-15 that will each generate more than the 1,000 ADT threshold. Total cumulative projected ADT from these developments is expected to be approximately 106,300. There may be an additional number of smaller development projects that may have additional cumulative impacts on traffic in the corridor. Because of uncertainties associated with future demographic, socioeconomic, and political climates, the scale of development may be subject to change. The development application and approval process is also subject to change. Changes in land use prompting rapid housing and commercial development growth will need to be monitored closely by all impacted jurisdictions and agencies. Appropriate traffic studies for proposed developments will need to be conducted and reviewed carefully by Caltrans staff. Land development and local capital improvement projects should also be coordinated with Caltrans projects. Further information regarding specific development projects in the SR-56 corridor can be obtained from the Caltrans District 11 Development Review Branch.

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The following table shows projects currently within the development review process.

ROUTE	POST MILE	PROJECT NAME	DESCRIPTION	ADT
5	31.80	Sorrento Pointe	3 Commercial Office Bldgs. + Associated Parking	2400
5	34.13	Neurocrine Biosciences	Corporate Headquarters	2475
56	0.56	Del Mar Usd Elementary School #8	Construction Of A New Elementary School In Del Mar	4400
56	0.82	Seabreeze Carmel View (Valley Neighborhood 8a)	Commercial Office Space	6250
56	1.81	Carmel Valley Neighborhood 10, Unit 8 So.		
56	2.80	Pacific Highlands Ranch Elementary School	New K-6 Elem. School For 750 Students, 40 Faculty / Staff	1200
56	3.00	Pacific Highland Ranch, Units 23-28	Revised Plans, Etc.	
56	3.35	High School At Pacific Highlands Ranch	2,400 Students, 5 Two Story Buildings	8760
56	4.52	Pacific Highlands Ranch Subarea 3, Units 17-22a		7774
56	6.10	Penasquitos West	Residential	1248
56	6.10	Camino Del Sur Site Development Project	Development Of A Four Lane Road For A Residential Development	50000
56	6.12	Torrey Highlands Village Center	Commercial, Residential, Affordable Housing	13157
56	6.12	Torrey Ranch	80 Du's, 5.3 Acre Park, Elem School	1669
56	6.30	Rhodes Crossing	Mixed Use Development	6894
56	7.23	Torrey Santa Fe / Kilroy	3 Commercial Office Bldgs. + Associated Parking	