



STATE ROUTE-52 TRANSPORTATION CONCEPT SUMMARY

This Transportation Concept Summary (TCS) for State Route 52 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

SR 52 Transportation Concept Summary September 2010

CORRIDOR PURPOSE

State Route 52 (SR-52) is a four to six lane east/west freeway for almost the entire route (PM SD 0.3-14.8). The portion from SR-125 to SR-67 (SD PM 14.8-17.8) is currently under construction and is scheduled to be open to traffic in the Spring of 2011. The western terminus is at the junction of Interstate 5 (I-5) (PM SD 0.3) and the current eastern terminus is at SR-125. The route continues east within the City of San Diego through the communities of Clairemont, University City, Kearny Mesa, Tierrasanta, and East Elliott and proceeds east through Mission Trails Regional Park into the City of Santee.

The primary purpose of SR-52 is to provide east/west mobility for the rapidly developing east county areas. SR-52 assists in providing some congestion relief to the already heavily traveled Interstate 8 (I-8). Sections of I-8 are presently carrying over 300,000 vehicles per day. SR-52 also serves as a major commuter route, by directly connecting east San Diego County communities with employment centers located in Kearny Mesa, Mira Mesa, La Jolla and Sorrento Valley. This purpose will be enhanced with the route's completion to SR-67. The secondary purpose of SR-52 is to provide for the efficient movement of interregional traffic.

Five freeways traverse SR-52 within District 11, San Diego County. These freeways are I-5, SR-125, I-805, SR-163, and I-15. SR-52 is a part of the "inner loop" system development strategy.

CORRIDOR NEEDS

Portions of SR-52 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-52 corridor, are expected to worsen congestion in the future. Transportation improvements such as additional general purpose lanes, High Occupancy Vehicle (HOV) lanes, and Managed Lanes (ML) will be needed and are expected to reduce congestion in the corridor.

CORRIDOR ANALYSIS

SR-52 provides a vital east/west connection between I-5 and SR-125. SR-52 carries significant commute traffic, particularly between the residential developments of eastern San Diego County and the employment centers at Kearny Mesa, Mira Mesa, La Jolla and Sorrento Valley.

Construction was completed in July 2007 on an extension of the existing SR-52 westbound number three lane from the summit of SR-52 to Santo Road. A larger follow-up project to further extend this westbound number three lane from Santo Road to I-15

DRAFT

and also to extend the eastbound number three lane from the summit of SR-52 to Mast Boulevard has also been proposed.

Additional proposed improvements in the SR-52 corridor include the addition of two HOV lanes between I-805 and I-15. From I-15 to SR-125, improvements include the addition of two general purpose lanes and two reversible managed lanes.

CORRIDOR TRAFFIC

SR-52 will be experiencing an increase in traffic in the future. In some segments, traffic is expected to double between 2009 and 2030. The following table shows existing and future traffic conditions for SR-52.

Existing and Future Average Weekday Traffic

LOCATION	2009 AWDT ¹	2009 LOS ²	2030 AWDT ³
I-5 to Regents Rd	88,000	E	130,800
Regents Rd to Genesee Ave	84,700	D	131,400
Genesee Ave to I-805	93,800	E	146,000
I-805 to Convoy St	105,600	C	191,500 ⁴
Convoy St to SR-163	113,400	D	202,700 ⁴
SR-163 to Kearny Villa Rd	89,600	E	176,800 ⁴
Kearny Villa Rd to I-15	89,600	E	149,600 ⁴
I-15 to Santo Rd	88,400	D	194,200 ⁴
Santo Rd to Mast Blvd	82,800	C	176,500 ⁴
Mast Blvd to SR-125	68,600	D	172,000 ⁴

¹ 2009 Average Weekday Traffic (AWDT's) derived from Caltrans District 11 Traffic Census Branch AADT's.

² 2009 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 2007 RTP Regional Transportation Model (Reasonably Expected scenario), November 2007. Future modeling runs will be needed to determine 2030 LOS for proposed general purpose/HOV/Managed Lane improvements.

⁴ Includes proposed HOV lane volumes.

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).

DRAFT

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-52 corridor.

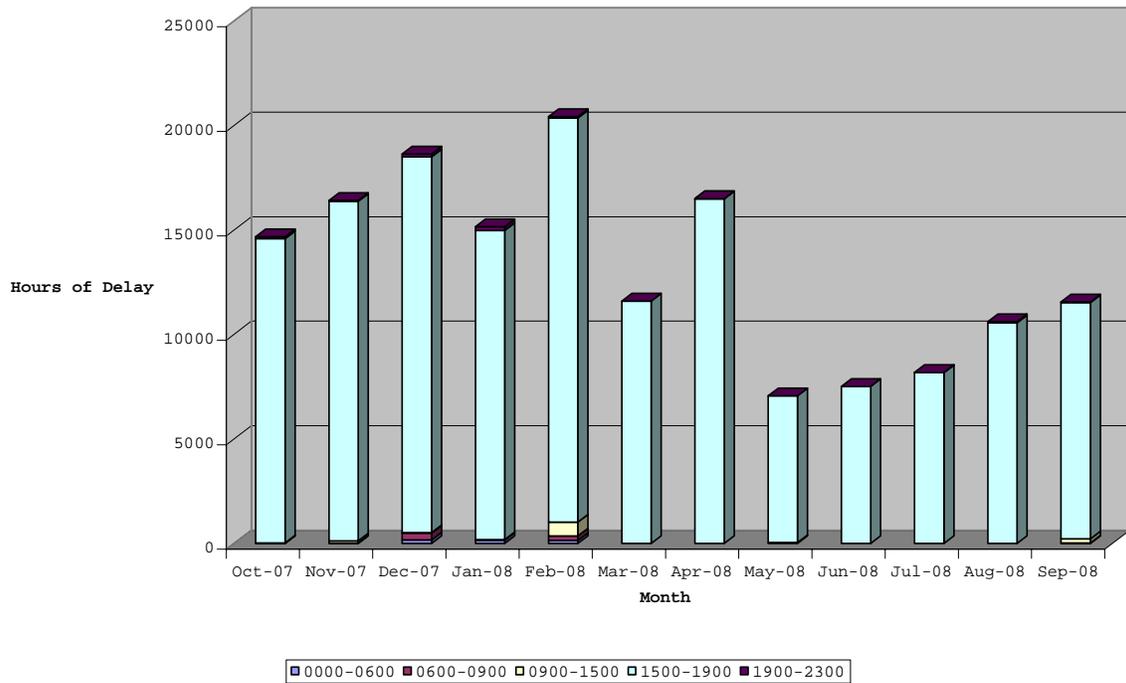
DELAY

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-52 in the eastbound direction between I-5 and SR-125. The selected time frame is from October 1, 2007 to September 30, 2008. As is evident by the chart, the majority of the delay occurs during the afternoon peak period from 3 PM-7 PM. The noticeable decrease in hours of delay beginning in March 2008 is partially attributable to the average increase in gas prices above \$3.00/gallon that occurred after February 2008. The eastbound portion of SR-52 from Santo Road to the Oak Canyon Bridge is the second most congested freeway segment in San Diego in 2008 based on average daily vehicle hours of delay.

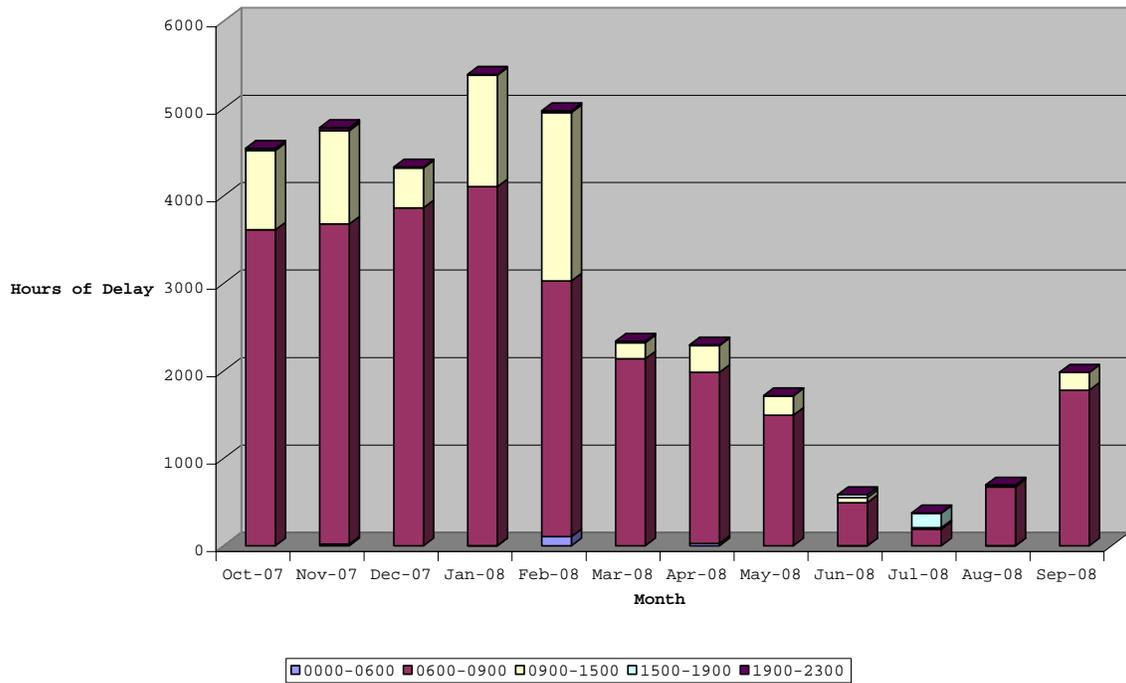
DRAFT

SR-52 EB Delay <35 (I-5 to SR-125)



The chart below shows vehicle hours of delay using the 35 mph threshold for the westbound direction.

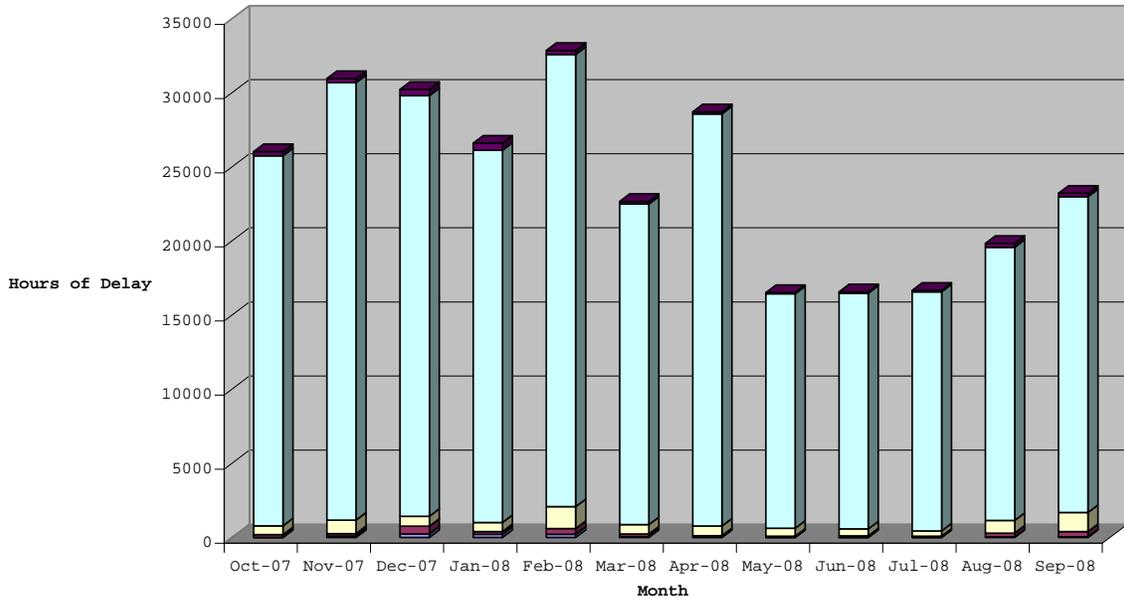
SR-52 WB Delay <35 (I-5 to SR-125)



DRAFT

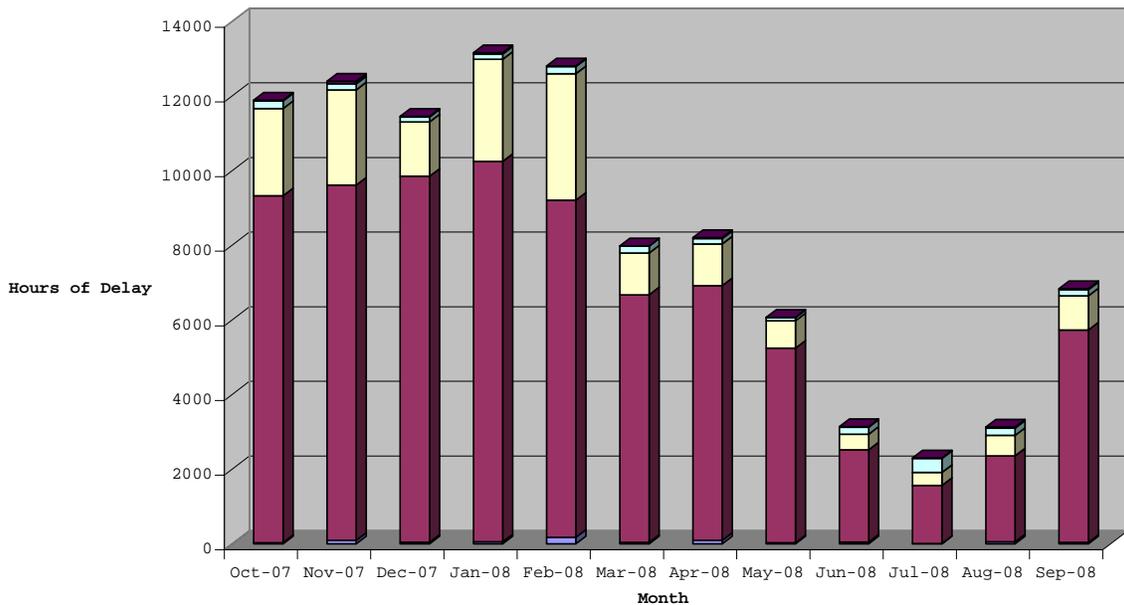
The two charts below depicts the vehicle hours of delay using the 60 mph threshold for SR-52 in the eastbound and westbound direction between I-5 and SR-125. As expected, the vehicle hours of delay is higher than the previous charts because of the higher threshold speed.

SR-52 EB Delay <60 (I-5 to SR-125)



0000-0600
 0600-0900
 0900-1500
 1500-1900
 1900-2300

SR-52 WB Delay <60 (I-5 to SR-125)

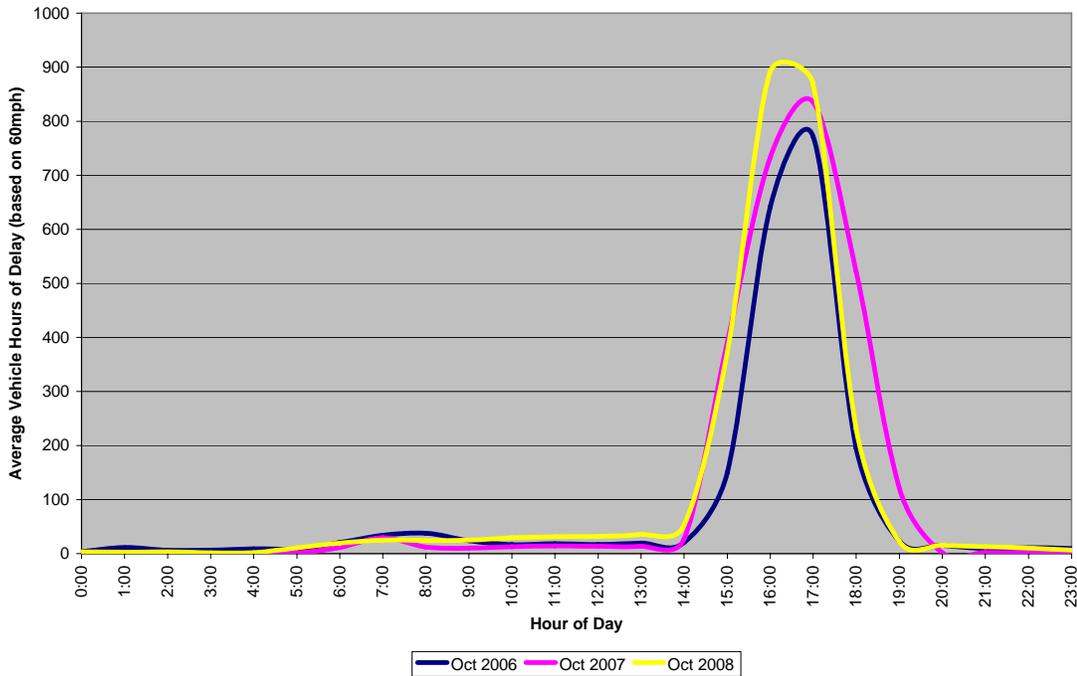


0000-0600
 0600-0900
 0900-1500
 1500-1900
 1900-2300

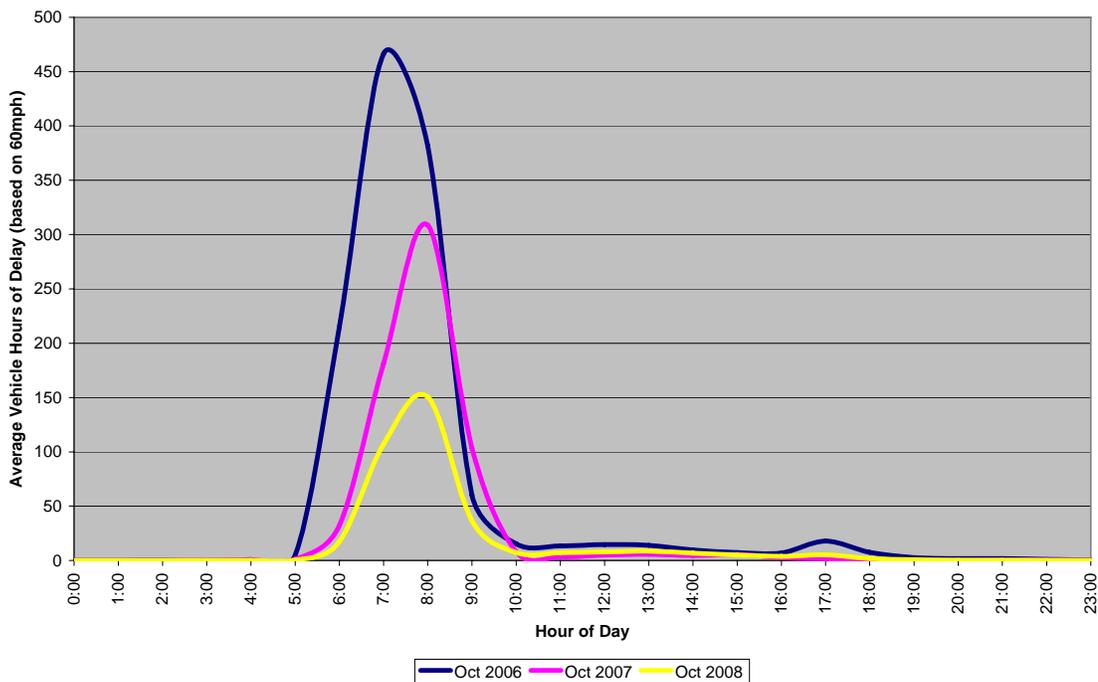
DRAFT

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-52 between I-5 and SR-125 for the representative month of October for calendar years 2006, 2007, and 2008.

SR-52 Average Eastbound Weekday Hourly Delay (I-5 to SR-125)



SR-52 Average Westbound Weekday Hourly Delay (I-5 to SR-125)



DRAFT

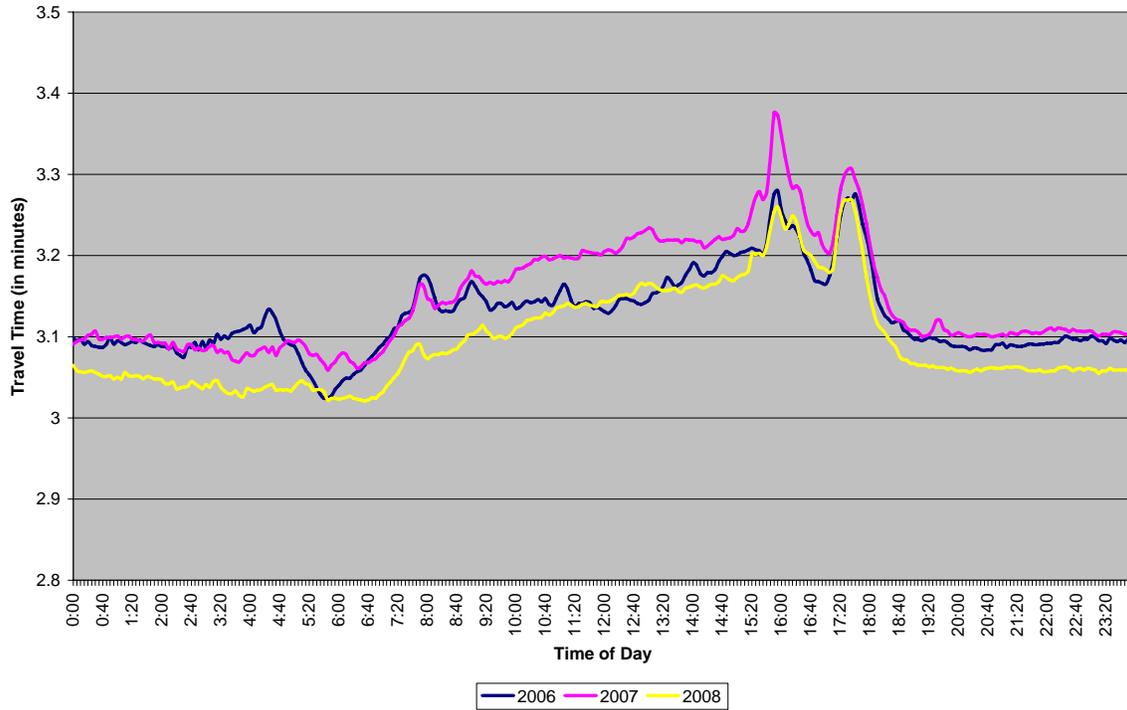
Shorter specific segments of SR-78 between I-5 and I-15 experience even longer delays than shown in the previous charts. For example, based on February and March 2007 PeMS analyses, SR-78 eastbound between Ranch Santa Fe Road and Barham Drive has an average daily vehicle hours of delay of 1,525 hours during the afternoon peak period. This segment is number three of the PM peak top ten most congested segments in San Diego County.

TRAVEL TIME

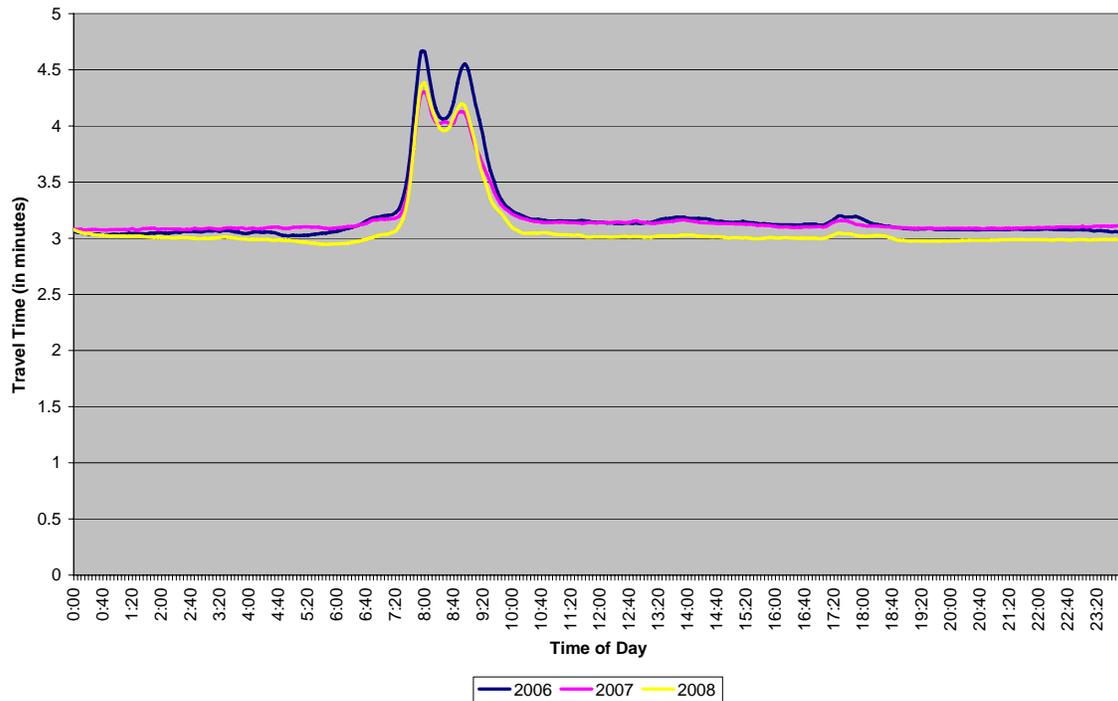
Travel time is another useful performance measure. PeMS defines travel time as the amount of time it takes for a vehicle to cross a freeway link. PeMS computes the travel time by first calculating the speed for a particular link and then dividing the speed into the length of the link. This assumes that 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 for the three main "segments" of SR-52 for calendar years 2006, 2007, and 2008. The three segments shown are: 1) SR-52 "West" (I-5 to I-805) 2) SR-52 "Middle" (I-805 to I-15) and 3) SR-52 "East" (I-15 to SR-125).

SR-52 "West"

SR-52 Eastbound Travel Times (I-5 to I-805)

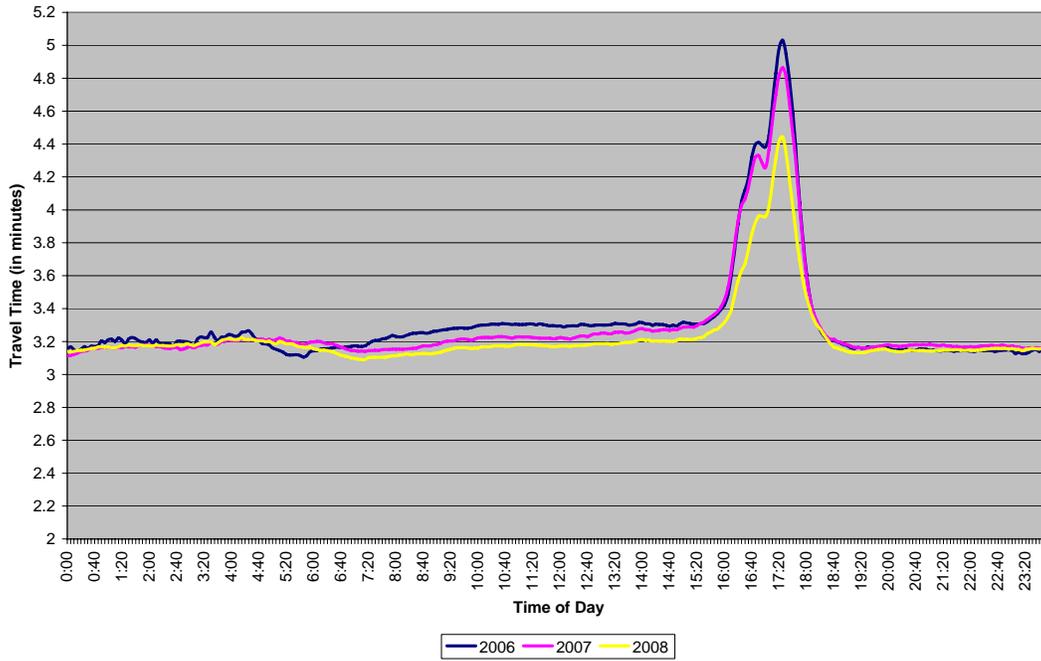


SR-52 Westbound Travel Times (I-5 to I-805)

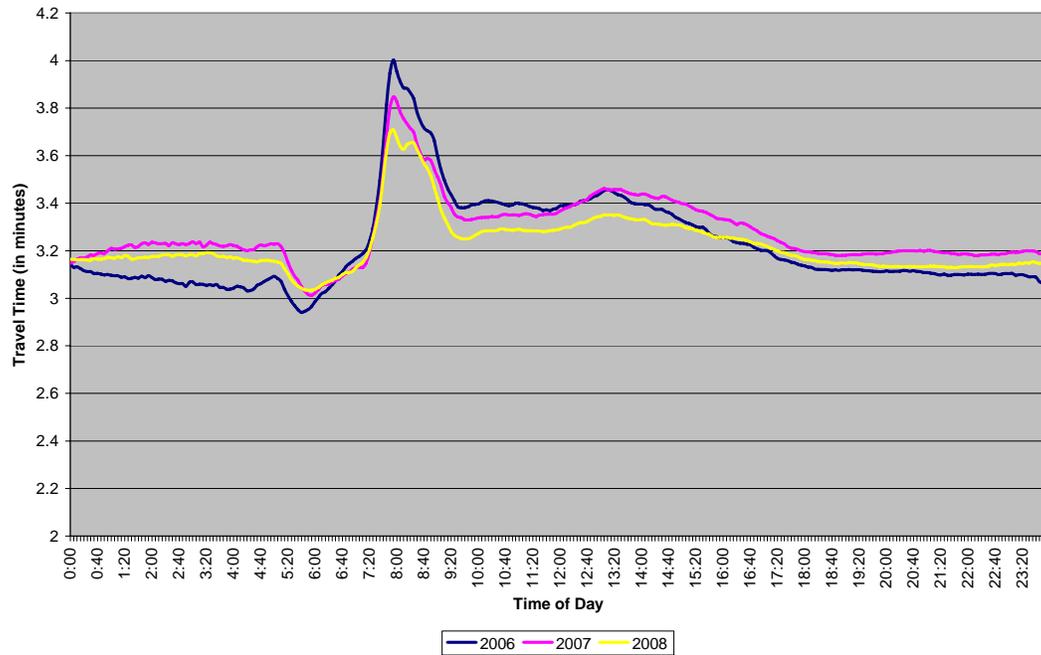


SR-52 "Middle"

SR-52 Eastbound Travel Times (I-805 to I-15)

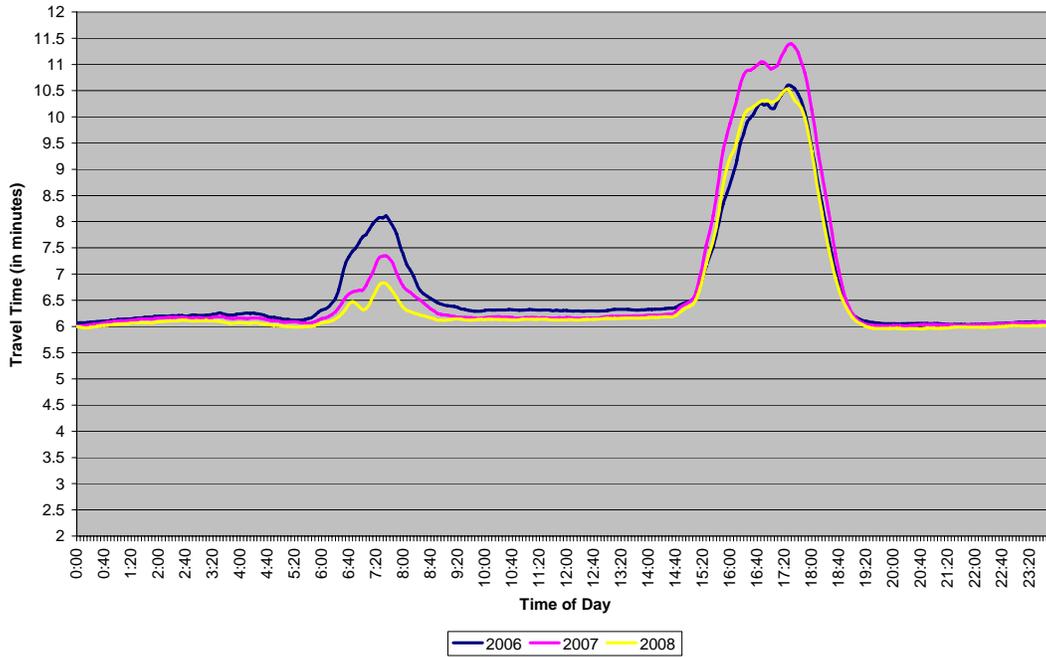


SR-52 Westbound Travel Times (I-805 to I-15)

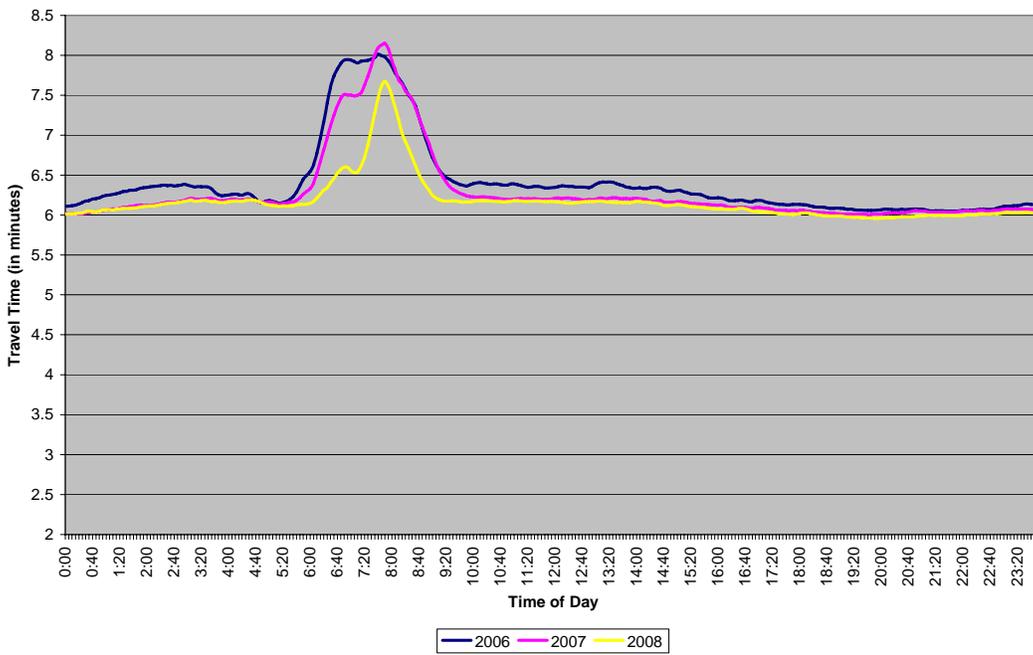


SR-52 "East"

SR-52 Eastbound Travel Times (I-15 to SR-125)



SR-52 Westbound Travel Times (I-15 to SR-125)

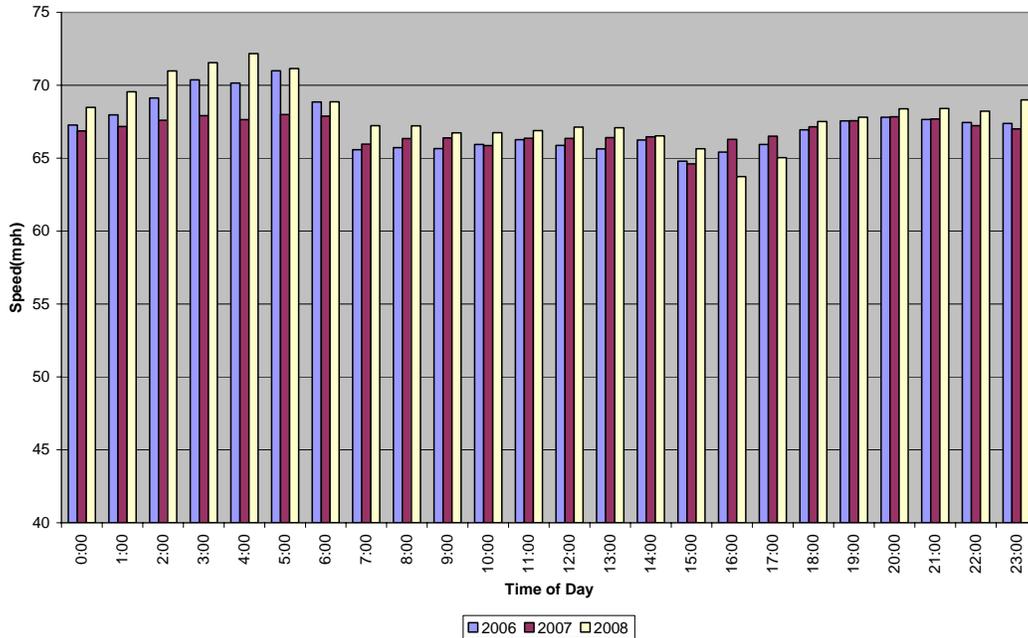


SPEED

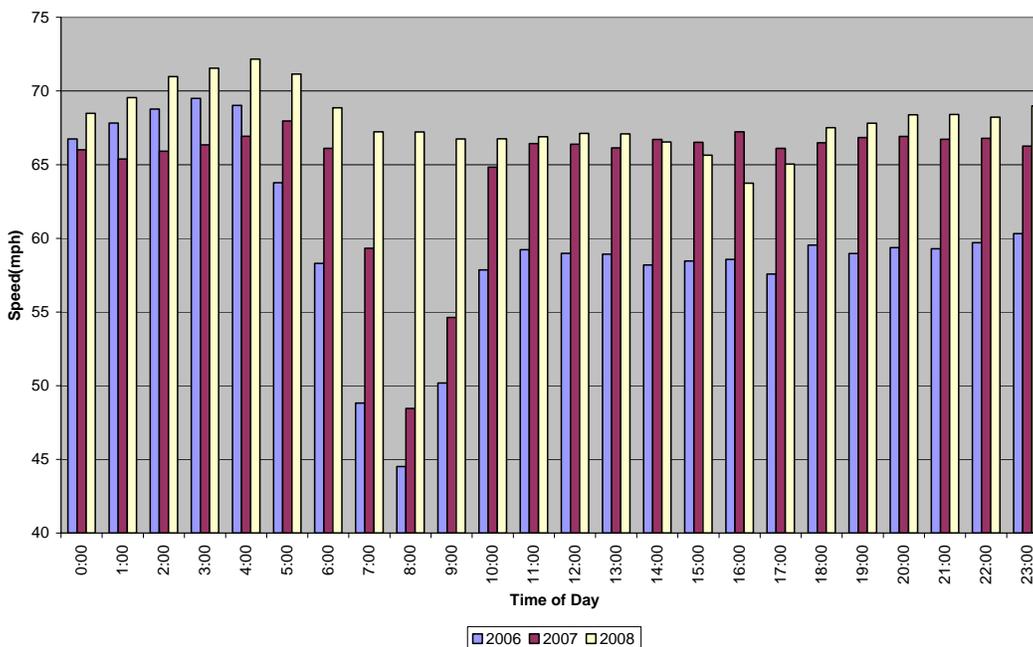
In PeMS, speed is either measured directly using radar detectors or by using flow and occupancy data. For the aggregate speed that spans all of the loops, the speed is the flow-weighted mean across the lanes. The following charts shows historical eastbound and westbound average speeds for the three previously mentioned main “segments” of SR-52 for the representative month of October for or calendar years 2006, 2007, and 2008. These average speeds are generally derived from sensors located in the middle of the particular segment.

SR-52 “West”

SR-52 Eastbound Average Speeds (I-5 to I-805)

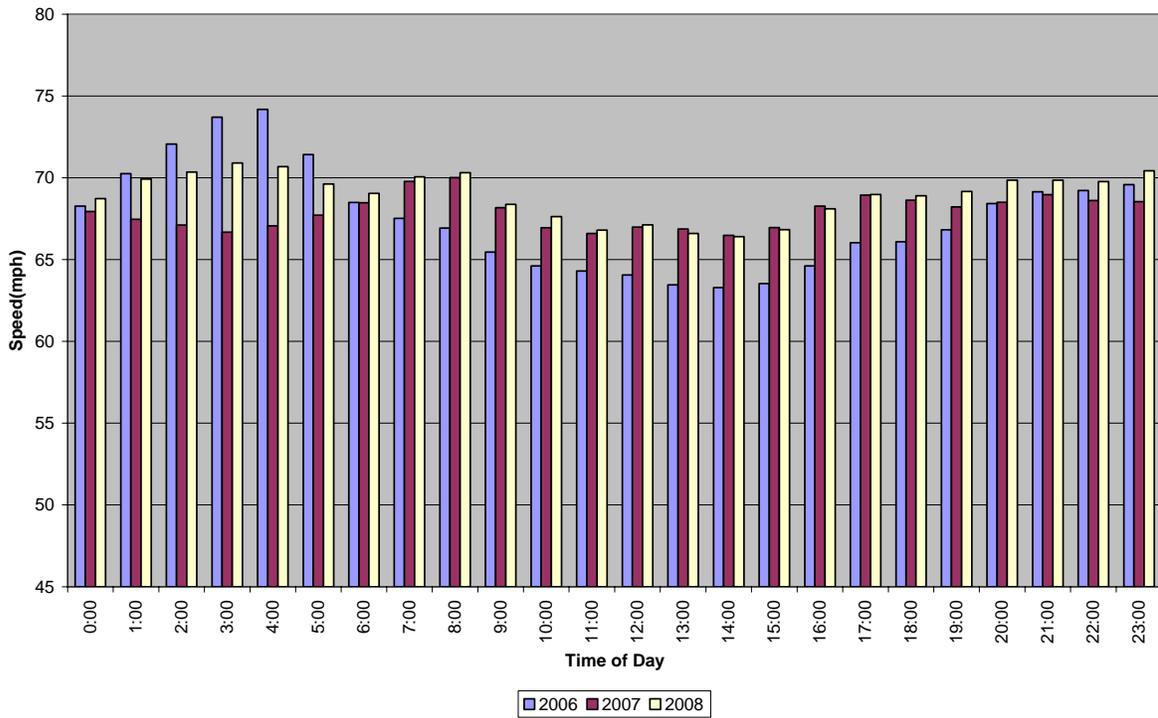


SR-52 Westbound Average Speeds (I-5 to I-805)

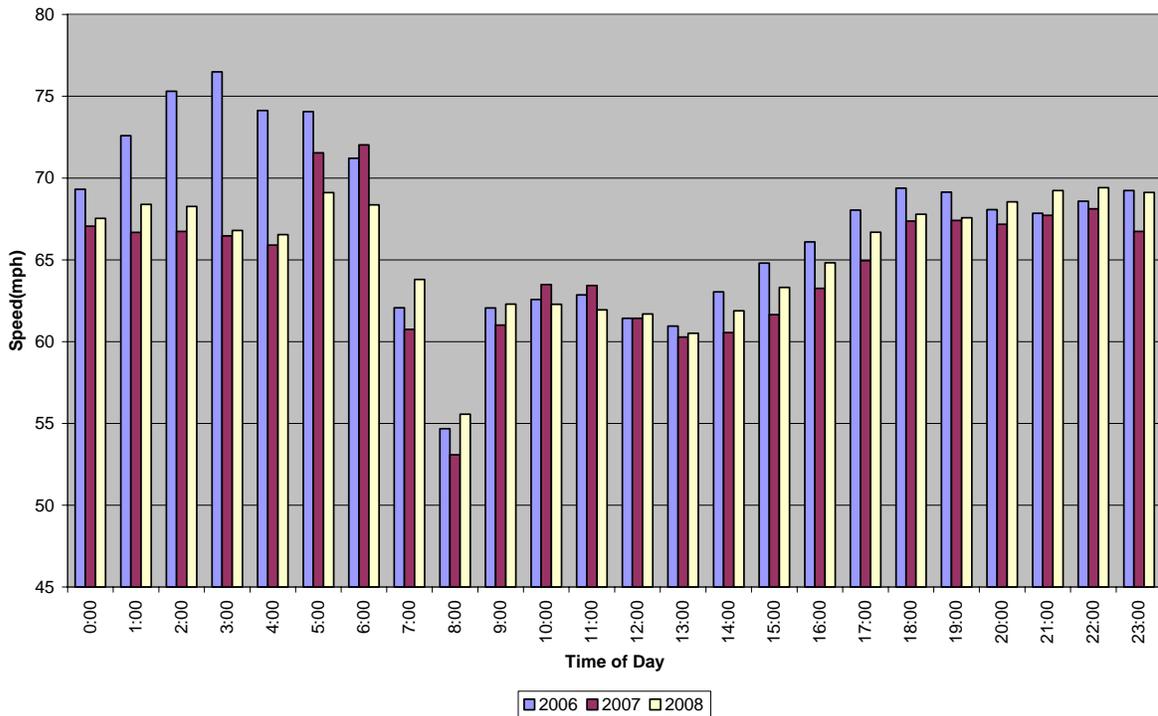


SR-52 "Middle"

SR-52 Eastbound Average Speeds (I-805 to I-15)

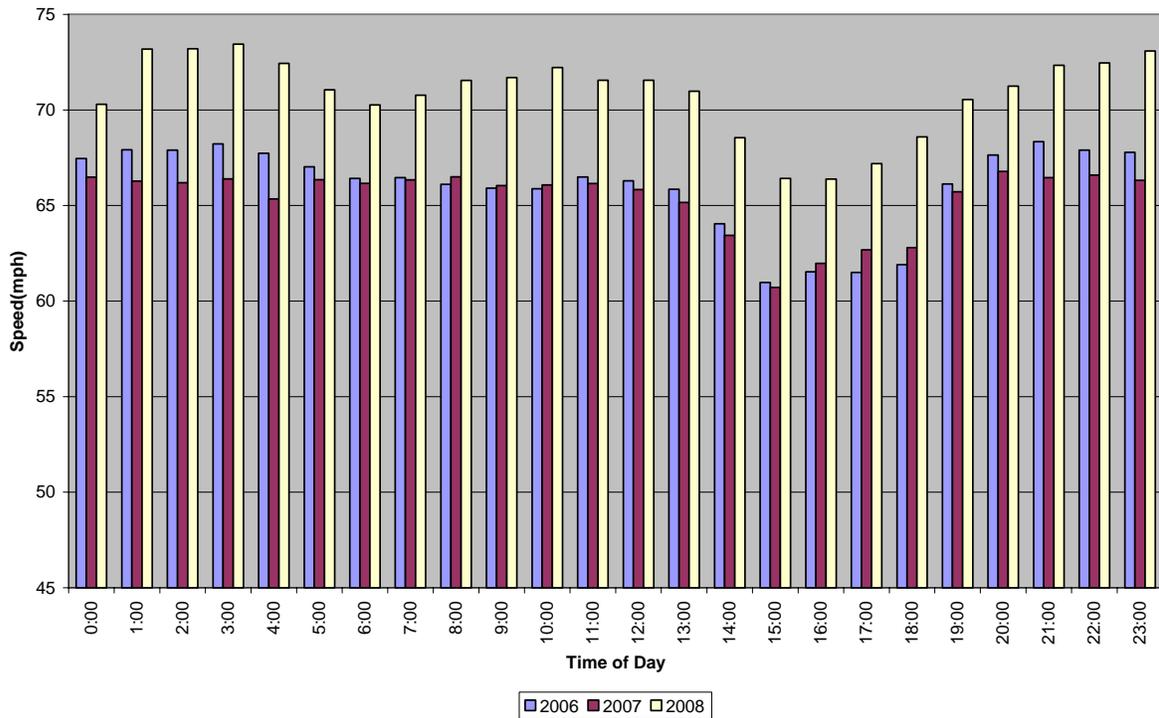


SR-52 Westbound Average Speeds (I-805 to I-15)

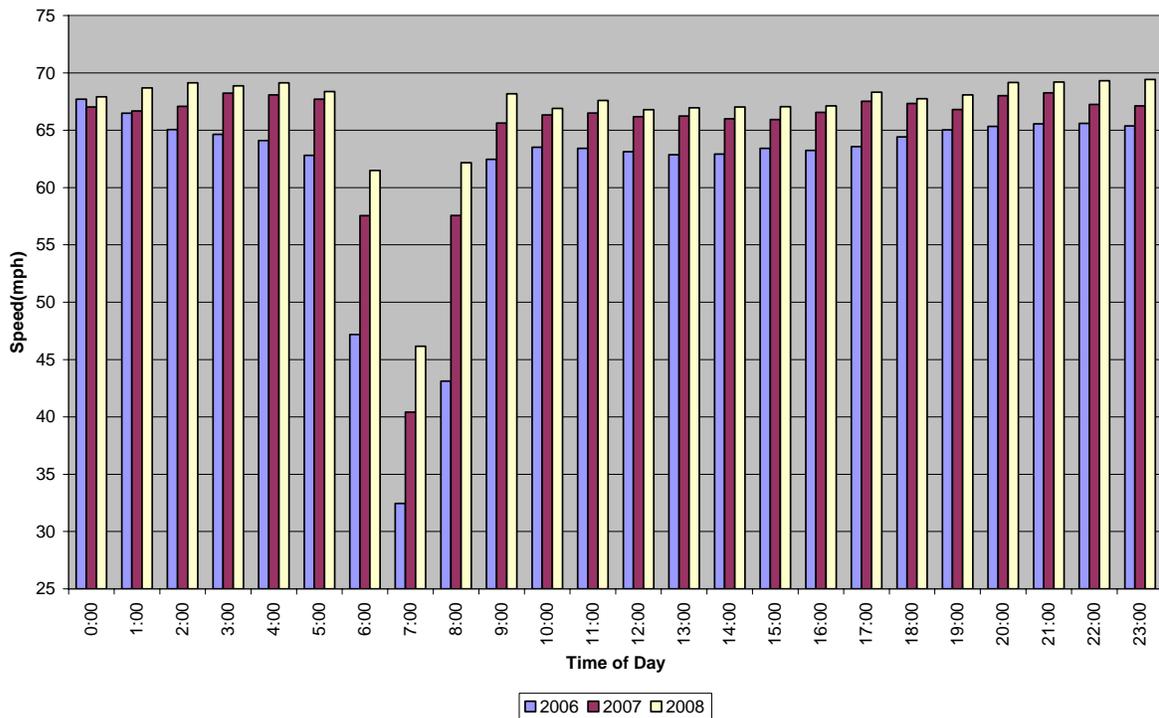


SR-52 "East"

SR-52 Eastbound Average Speeds (I-15 to SR-125)



SR-52 Westbound Average Speeds (I-15 to SR-125)



PROJECT INITIATION DOCUMENT INFORMATION - CORRIDOR AND SYSTEM COORDINATION

SR-52 is known as both the "Soledad Freeway" and the "San Clemente Canyon Freeway". SR-52 was established as part of the California Freeway and Expressway System in 1959 (former Route 279). The portion of SR-52 from I-5 to I-805 was adopted in 1962 and opened to traffic in 1970. The portion from I-805 to I-15 was adopted in July 1972 and opened to traffic in 1988. In July 1989, the California Transportation Commission (CTC) adopted the plan for the then unconstructed segments of SR-52 from I-15 to SR-67. I-15 to Mast Boulevard opened for traffic in December 1993, and Mast Boulevard to SR-125 opened in November 1998. As previously mentioned, the portion of SR-52 from SR-125 to SR-67 will be completed in Spring of 2011.

In 1959, SR-52 was established as part of the California Freeway and Expressway System. The Federal functional classification of SR-52 is Other Principal Arterial – Freeway or Expressway. The Federal Highway Administration (FHWA) has designated the segments between I-5 and I-805 as part of the national network for Surface Transportation Assistance Act (STAA) for trucks and segments from I-805 to SR-125 as terminal access routes to the national network.

In 1968 the entire route was added to the California State Scenic Highway System and is eligible to be designated as an official State Scenic Highway upon completion of the route to SR-67. SR-52 is not a part of the following systems: National Highway System (NHS), LifeLine Routes for Earthquake Emergency Response, Intermodal Corridors of Economic Significance (ICES), Interregional Road System (IRRS), Blue Star Memorial Highways, High Emphasis Interregional Routes, International Border Trade Corridors, or the Strategic Highway Corridor Network.

The following table shows the relationship between the proposed SR-52 transportation improvements and the SANDAG Final 2007 RTP funding scenarios. Currently, the new 2050 RTP is under development, and the concepts proposed below may change in this new RTP.

LOCATION	REVENUE CONSTRAINED	REASONABLY EXPECTED	UNCONSTRAINED
I-5 to I-805	4F	6F	6F+2HOV
I-805 to I-15	6F+2HOV	6F+2HOV	8F+2HOV
I-15 to SR-125	6F+2ML(R)	6F+2ML(R)	6F+3ML/MB
SR-125 to SR-67	4F	4F	6F

(R) = Reversible
 ML =Manage Lanes
 MB = Moveable Barrier
 F = Freeway
 HOV = High Occupancy Vehicle Lane

RECOMMENDED CORRIDOR IMPROVEMENTS

The following tables show recommended freeway improvements for SR-52.

POST MILE	LOCATION	IMPROVEMENT DESCRIPTION
0.0 – 3.9	I-5 to I-805	Add 2 Main Lanes
3.9 – 7.3	I-805 to I-15	Add 2 HOV Lanes
7.3 – 14.7	SR 163 to SR 125	Add 2 Main Lanes and 2 Reversible Managed Lanes

HOV connectors should be provided at the following locations on SR-52:

-- I-805 West to North &, South to East

Additional freeway corridor improvements and additional HOV connectors are included in the SANDAG Final 2007 RTP Unconstrained funding scenario.

The following table shows 2008 State Transportation Improvement Program (STIP), 2008 State Highway Operations and Protection Plan (SHOPP) and Project Information Reporting System (PIRS) projects for SR-52.

POST MILE	LOCATION	IMPROVEMENT DESCRIPTION	SOURCE/ PHASE
5.5	Convoy St	Planting and Irrigation Upgrade	PIRS/PA&ED
8.7	Santo Road	Widen by 12 feet –Add southbound left turn lane and northbound right turn lane	PIRS/PA&ED
13.3 -14.9	Mast Blvd to 0.2 mile west of SR-52/125 Separation	Construct 12 foot median eastbound and westbound PCC lane and widen San Diego River Bridge	PIRS/PA&ED
15.5 -17.3	Forester Creek Bridge to Magnolia Ave undercrossing	Mitigation Planting –Phase I	PIRS/PSE
16.4 -17.7	Cuyamaca Street to SR 67	Replace Planting	PIRS/PA&ED

PSE = Plans, Specifications and Estimates

PA &ED = Project Approval and Environmental Document

DRAFT

The following table shows 2007 and 2009 10–Year SHOPP Needs Plan Projects for SR-52.

POST MILE	LOCATION	IMPROVEMENT DESCRIPTION	CATEGORY/FISCAL YEAR
0.0 – 8.7	I-5 to Santo Rd	Install fiber optics, CCTV, Detection stations (loops)	Mobility/ 2010-11 to 2017-18
1.2 – 2.7	Regents Rd to Genesee Ave	Construct Eastbound Auxiliary Lane	Mobility/2014-15
1.2 -2.7	Regents Rd to Genesee	Install Westbound and Eastbound Ramp Meters	Mobility/2010-11
1.2 – 3.4	Regents Rd to I-805	Construct Westbound Auxiliary Lane	Mobility/2011-12
1.2 – 8.7	Regents Rd to Santo Rd	Construct Curb Ramps	Emergency & Mandated 2015-16
8.7 – 14.0	Santo Road to Mission Gorge Rd	Install EB and WB ramp meters in 5 locations	Mobility/ 2010-11 to 2017-18

The most recent District 11 Developer Sponsored project list includes a project to widen the eastbound SR-52 to Kearny Villa road to provide an additional right turn lane. This list also includes a project to widen and improve the eastbound and westbound SR-52/Mast Boulevard ramps.

Transit Improvements

Currently, Metropolitan Transit System (MTS) Bus Route 870 operates on the east end of SR-52 between Kearny Mesa and Santee. This route is a Premium Express route providing two transit trips in the AM and two transit trips in the PM. MTS Bus Route 960 operates on the western portion of SR-52 from I-805 to Kearny Villa Road. This route offers peak hour service only every 30 minutes from the Euclid Trolley station to the Kearny Mesa Transit Center and the UTC Towne Center. MTS also provides local bus service around the western portion of the corridor along parallel and perpendicular arterials.

In December 2005, SANDAG, in partnership with MTS, Caltrans, and the California Highway Patrol, implemented a demonstration pilot project to evaluate the effectiveness of using the freeway shoulder for transit lanes. The location of the pilot project is on SR-52 and I-805 between Kearny Mesa and University City using MTS Express Route 960. The pilot was completed successfully, and there were no safety or operational issues. Caltrans District 11 recommends continuing the transit lane pilot project while evaluating its performance characteristics and potentially expanding the transit lane concept to other locations. In addition, further studies are needed to determine if additional transit lanes warrant legislation to modify California Vehicle Code 21755, which would allow combined usage of the shoulders as transit lanes.

There are additional specialized transit services serving the SR-52 corridor. MTS provides demand-responsive paratransit service within this area.

DRAFT

Commuter Rail service between Oceanside and downtown San Diego is provided by Coast Express Rail (Coaster). The nearest commuter rail connection to SR-52 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 Plan component of the final November 2007 Regional Transportation Plan (RTP). This long-range transit vision was first developed in 2001 when SANDAG, MTS and the North County Transit District (NCTD) adopted the Regional Transit Vision, setting in place the framework for transit improvements in the MOBILITY 2030 RTP in 2003, and now in the 2007 RTP. The Regional Transit Plan provides a transit network that is fast, flexible, reliable, safe and convenient. It 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.

As part of the development of the 2050 Regional Transportation Plan (RTP), SANDAG is preparing an "Urban Area Transit Strategy" which will serve as the basis of the regional transit network to be included in the 2050 RTP. Through the planning process, SANDAG staff is developing and testing three transit network alternatives with a focus on the urban areas of the San Diego region. Ultimately, one of the networks (or a combination or variation) will be incorporated into the 2050 RTP and its Sustainable Communities Strategy (SCS). The overarching goal is to create a world-class transit system for the San Diego region in 2050 that significantly increases the use of transit, walking, and biking in the urbanized areas of the region, makes transit time competitive with the car, maximizes the use of transit during peak periods, and reduces greenhouse gas emissions and vehicle miles traveled in the region. The transit alternatives under study are grouped into these three themes:

- "Transit Propensity" (expanding transit in the most urbanized areas);
- "Commuter Point-to-Point" (emphasizing quick access to work); and
- "Many Centers" (connecting local smart growth areas and activity centers).

Additional transit information will be provided in the next update of this TCS which will occur sometime after the completion of the SANDAG 2050 RTP.

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-52 corridor. Currently bikes are accommodated on the outside westbound shoulder of SR-52 from Santo Road to Mast Boulevard on a two-way Class I bike path which is separated from the freeway lanes by k-rail. An out-of-direction 17-mile trip would result for bicyclists if they were not allowed to ride in the freeway right-of-way.

DRAFT

The original SR-52 freeway construction project included a separate Class I bike path to be built adjacent to the freeway. Due to various conditions, the bikeway project was abandoned and bicyclists were provided access to the outside shoulder in each direction. There is a project to add an additional vehicle lane in each direction without widening existing bridges. The outside shoulder that was being used by bicyclists on the Spring Canyon and Oak Canyon bridges has been modified to add another vehicle lane, yielding a non-standard shoulder which has been deemed unsafe for bicycle usage. The current bike path, adjacent to the main lanes and separated by k-rail has an inherent set of issues, most notably a rapid build-up of debris and a lack of maintenance funds to properly remove the debris. Future corridor improvements should address this issue. Future System Planning should include the study of a separate Class I bike path that would be relocated farther from travel lanes and would include separate bikeway bridges. Caltrans has no plans to construct a Class I Bike Path from I-5 to I-15.

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 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 two major development projects within and adjacent to the SR-52 corridor between I-5 and SR-125 that will each generate more than the 1,000 ADT threshold. Total cumulative projected ADT from these developments is expected to be approximately 21,000. 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-52 corridor can be obtained from the Caltrans District 11 Development Review Branch.

DRAFT

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

POST MILE	PROJECT NAME	DESCRIPTION	ADT
13.3	Sycamore Landfill Master Plan	Landfill	6,000
14.8	Fanita Ranch	Residential	15,000