



DEPARTMENT OF
FINANCE

ARNOLD SCHWARZENEGGER, GOVERNOR

915 L STREET ■ SACRAMENTO CA ■ 95814-3706 ■ WWW.DOF.CA.GOV

January 31, 2008

Mr. Will Kempton, Director
Department of Transportation
P.O. Box 942873
Sacramento, CA 94273-0001

Dear Mr. Kempton:

Final Report: Review of Caltrans' Intercity Rail Program—Phase I

Enclosed is the final report on our review of the Department of Transportation's (Caltrans) Intercity Rail Program—Phase I. The Department of Finance, Office of State Audits and Evaluations, performed this audit in accordance with an interagency agreement with Caltrans.

We appreciate Caltrans' assistance and cooperation with this review. If you have any questions, please contact Mary Kelly, Manager, or Kiran Rai, Supervisor, at (916) 322-2985.

Sincerely,

Original signed by:

David Botelho, Chief
Office of State Audits and Evaluations

Enclosure

cc: Mr. William D. Bronte, Chief, Division of Rail, Department of Transportation
Ms. Norma Ortega, Chief, Division of Budgets, Department of Transportation
Mr. Matt Paul, Manager, Division of Rail, Department of Transportation

REVIEW

California Department of Transportation
Intercity Rail Program
Phase I

Prepared By:
Office of State Audits and Evaluations
Department of Finance

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EXECUTIVE SUMMARY

The Department of Transportation's (Caltrans) Division of Rail is not exercising adequate oversight of the programmatic and fiscal facets of the Intercity Rail Program. The current level of oversight has resulted in operational inefficiencies, data inconsistencies, and an inability to ensure that the assets of the State of California are adequately protected. Enhanced oversight would improve operational efficiency and assist Caltrans in achieving its strategic goals of maximizing transportation system performance and accessibility, and efficiently delivering quality transportation services.

We conducted a review which encompassed an accurate measure of the daily average and peak ridership for each segment of Caltrans' intercity rail routes, actual existing rail equipment availability and ridership capacity, train schedules, and trainset configurations utilized to support ridership demand. Our analysis of ridership disclosed that neither Amtrak nor Caltrans employs a data collection and reporting method that provides an accurate measure of ridership for each segment of the intercity rail routes. Furthermore, the allocation methodology employed by Amtrak to account for the rides of multi-use ticket holders misstates ridership. These issues, combined with Caltrans' distribution of inaccurate ridership data, create a situation where interested parties cannot rely on ridership data in making policy and fiscal decisions regarding the Intercity Rail Program.

In our review of ridership, we analyzed the Rail 2 Rail agreement that Caltrans entered into with the Southern California Regional Rail Authority (SCRRA), and determined that this agreement does not adequately protect state assets. It ignores the financial and economic costs of providing service to the Metrolink riders and effectively subsidizes the SCRRA. This agreement may also result in operational inefficiencies by exacerbating passenger overloads, creating loss of ticket revenue, and suppressing Amtrak ridership growth.

In our analysis of existing rail equipment availability, frequency, and capacity, we noted conditions that may lead to operational inefficiency of the Intercity Rail Program. There is no requirement that Amtrak dedicate a specific level of equipment to the state-supported routes. Without such an agreement, any additional equipment may supplant existing equipment and not result in added capacity. We also surmised that rail equipment for the Capitol and San Joaquin Corridors is currently underutilized to support ridership demand. While the Pacific Surfliner Corridor operates at or above the 80 percent comfort threshold and the Capitol and San Joaquin Corridors operate well below it, there are no statewide oversight activities to evaluate the most efficient statewide equipment deployment. Further, since most equipment provided by Amtrak is from a pool, Caltrans cannot adequately identify and protect state assets. The pooling of equipment precludes Caltrans from accurately determining the status of in-service equipment on state-supported routes, or the proper level of equipment maintenance to fund with state dollars.

We recommend that Caltrans' management review the responsibilities and activities of the Division of Rail to ensure that program and fiscal oversight of the Intercity Rail Program is enhanced. We further recommend that current contracts and agreements be evaluated to ensure that terms reflect the best interests of the state and provide for operational efficiencies, both fiscally and programmatically, of the Intercity Rail Program.

BACKGROUND, SCOPE, AND METHODOLOGY

BACKGROUND

In 1970, the Rail Passenger Service Act created the National Railroad Passenger Corporation (Amtrak) to provide intercity passenger rail service. In most states, intercity passenger rail service is provided solely by Amtrak, with no assistance from state or local governments. The State of California is one of the few states that assists Amtrak in providing rail service. Through Caltrans, the State provides capital grants and support for station and track improvements, locomotives and coaches, Amtrak bus service connections, and operating assistance.

Caltrans' Division of Rail is responsible for managing and coordinating the intercity rail passenger service in partnership with Amtrak. This partnership oversees the operation of rail intercity passenger service with integrated motor coaches in three corridors: (1) Sacramento region with the San Francisco Bay Area (known as the *Capitol Corridor*); (2) Sacramento with the Central Valley (known as the *San Joaquin*); and (3) Coastal route from San Luis Obispo to San Diego (known as the *Pacific Surfliner*). These three services are commonly referred to as Amtrak California. More than 5 million people used California's state-supported trains in 2006.

The State provides operational funding to the Capitol Corridor Joint Powers Authority (CCJPA), which oversees the Capitol Corridor routes. The Capitol Corridor is the third busiest route in the Amtrak system. This corridor lies in a generally northeast-southwest direction in northern California linking San Jose and Auburn with stops in Oakland, Davis, Sacramento, Roseville, and Rocklin. Amtrak motor coaches connect the Capitol Corridor to Reno and Carson City, Nevada, Redding and Red Bluff, the Central Coast as far south as Santa Barbara, and the Northwest California Coast including Eureka.

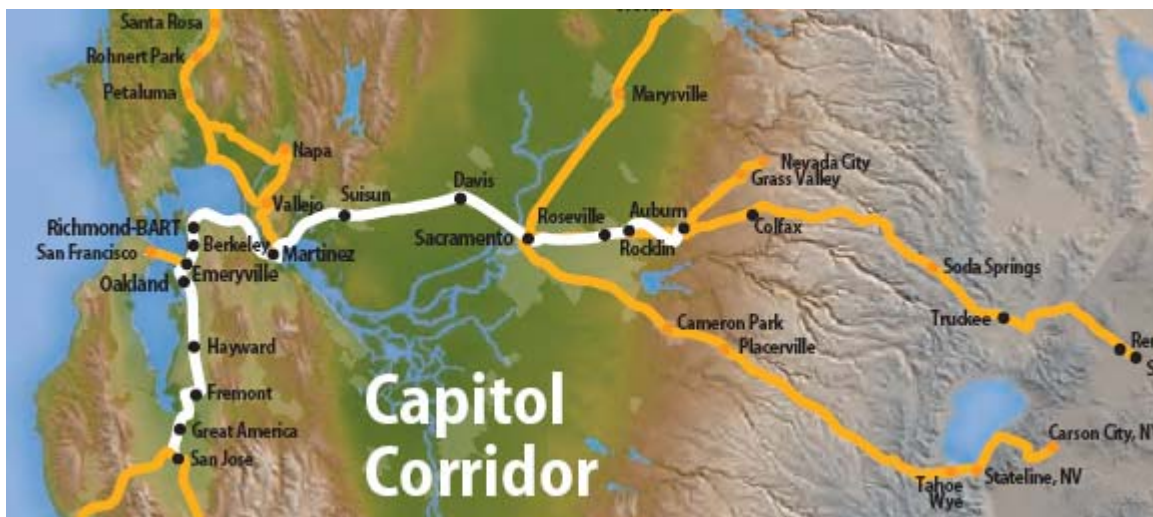


Figure 1

The Pacific Surfliner Corridor is the second most popular route in the country. The route lies in a generally northwest by southeast direction along the Pacific Coast of California, connecting the cities of San Diego, Los Angeles, Oxnard, Santa Barbara, and San Luis Obispo. The Pacific Surfliner Corridor connects to all Amtrak long distance trains through Los Angeles and Fullerton stations, and further supplements service provided by other independent rail systems.

The San Joaquin Corridor, the sixth busiest route in the Amtrak system, operates in a generally north-south direction in central California linking Bakersfield, Sacramento, and the Bay Area.



Figure 2

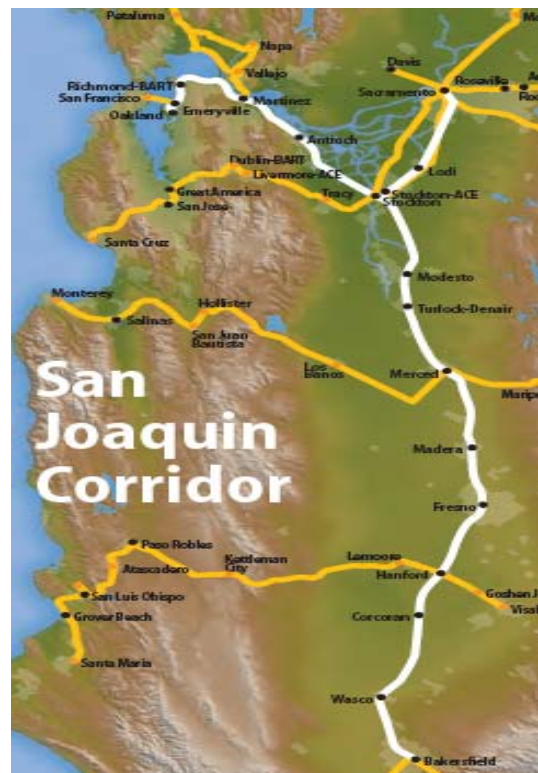


Figure 3

SCOPE

The Department of Finance, Office of State Audits and Evaluations (Finance), was directed to perform a review of the Caltrans' Intercity Rail Program. Phase I of the review, as required by Chapter 171, Statutes of 2007 (Senate Bill 77, Ducheny), includes an accurate measure of the daily average and peak ridership for each segment of Caltrans' intercity rail routes, actual existing rail equipment availability and ridership capacity, train schedules, and trainset configurations utilized to support ridership demand.

METHODOLOGY

Phase 1 of our review was initiated with a series of interviews of Caltrans and Amtrak representatives. We gained an understanding of the policies and procedures for determining ridership, and compiling ridership reports. Through inquiries and review of Amtrak train schedules, we gained an understanding of how train frequencies are determined. In addition, an understanding of the Metrolink Rail 2 Rail program and its impact on California rail operations was obtained.

We also conducted sample passenger ridership counts on the three California Corridors. Based on our understanding of ridership methodology and the results of our sample counts, we analyzed the validity of Amtrak ridership reports. We examined a roster of current rail equipment, trainset configurations, and information on maintenance and overhaul needs, and also queried Caltrans and Amtrak staff about rail equipment availability. Our review was facilitated by the review of the California State Rail Plan, the Normal Base Case Report, and the Base Case Limitations Report.

Chapter 171, Statutes of 2007, directs Finance to provide an accurate measure of the daily average and peak ridership for each segment of Caltrans' intercity rail routes. Finance interviewed representatives of Amtrak and Caltrans to obtain an understanding of operations and to assess the ridership data collected. Specifically, we made inquiries on ticket sales and collections; and Amtrak's method for monitoring, compiling, and reporting ridership counts. We conducted independent passenger ridership counts on a sample of trains from each corridor; and determined the validity of ridership data by reviewing ticket lift reports, conductor matrices, and annual ridership reports.

Further, an understanding of the Metrolink Rail 2 Rail program and its impact on California rail operations was gained through additional inquiries, review of the agreement for the Rail 2 Rail program, and the Normal Case Base report. The Normal Base Case Report provided by Caltrans provided information on current ridership patterns.

Tickets and Multi-Ride Passes

For travel throughout California, Amtrak offers one-way, roundtrip and multi-ride passes. Multi-ride passes include a monthly pass or a 10-ride pass. The 10-ride pass allows the holder 10 one-way trips between two specified stations within 45 days of purchase. The monthly pass allows the purchaser unlimited travel between any two stations or intermediate points for an entire calendar month. Children under the age of two and Amtrak employees ride free and are not ticketed.

Passenger Counts and Verification of Ridership

Train conductors collect tickets, also referred to as lift tickets, from single-ticketed passengers onboard the trains. These tickets identify the point of origin and destination for that passenger and become the basis for which ridership data is compiled.

Amtrak does not directly track the specific trains multi-ride pass holders utilize. Because individual tickets are not lifted for multi-ride passengers, Amtrak uses an allocation method to include these passengers in its ridership database. Ridership for multi-ride pass holders is allocated to specific weekday trains under the assumption that a monthly pass holder completes 22 roundtrips each month. The 10-ride pass is allocated to specific trains during the month of purchase, and assumes the utilization of all 10 rides during that month. Because all 10 rides are allocated within the month of purchase, a 10-ride pass purchased on the last day of a month would still result in an allocation of ten rides that month.

Amtrak reported that the allocation methodology is based on historical ridership data and onboard surveys of passengers. The allocation of ridership for multi-ride pass holders is combined with ticket lift data to compile reports of total passengers and high count of passengers by segment for each train ride. These reports are relied upon by Caltrans and other users of Amtrak data.

To determine whether the reports prepared by Amtrak are an accurate measure of daily average ridership, we conducted passenger counts of 44 trains on the three state-supported routes. While certain trains were selected based upon anticipated high passenger traffic, such as weekend train rides and holidays, trains that met no specific criteria were also included in order to obtain a representative sample of normal daily operations. To determine the segment in which the highest passenger count occurred, we performed passenger counts between each station stop. Children under two and Amtrak employees were not included in our counts to be consistent with Amtrak passenger ticketing and counting procedures.

Observations

A comparison of our independent counts to Amtrak's ridership reports identified several discrepancies, as shown in column K of Exhibit I. We determined that the variances occurred for the following reasons:

The time between each station stop may be insufficient to allow conductors to collect tickets from all passengers. For example, on the Capitol Corridor headed eastbound to Sacramento, there are four minutes from the time the train leaves Emeryville to the time it departs Berkeley. We observed instances where tickets were not collected from passengers due to lack of time. If tickets are not collected, the ridership for that passenger would not be included in the ridership counts, thereby understating ridership data.

Metrolink

Caltrans, Amtrak and the Southern California Regional Rail Authority (SCRRA) jointly entered into the Rail 2 Rail Program agreement in 2002. The Rail 2 Rail Program allows Metrolink monthly pass holders along the Orange and Ventura County corridors to travel on Pacific Surfliner trains, including weekend travel, at no additional charge. In our discussions with Amtrak personnel, we were informed that ridership has significantly increased since the implementation of this program. We note that commuters riding on the Pacific Surfliner Corridor can purchase the Metrolink monthly passes at up to 30 percent lower than similar Amtrak tickets.

The 2007-08 agreement stipulates that Amtrak be reimbursed \$2.20 for all Metrolink riders on the Pacific Surfliner Corridor, with the annual net reimbursement capped at \$1 million. Assuming that 2007-08 Metrolink ridership maintains the same level as 2006-07, the \$1 million cap would result in non-reimbursement of nearly \$250,000. Additionally, while the average price per ticket in 2006-07 was nearly \$20.00 for Amtrak ticket purchasers riding the Pacific Surfliner, the reimbursement for Metrolink passengers averaged only \$1.61 in the same year.

Caltrans states that there is no additional cost for handling the Metrolink passengers and acknowledges that any cost of lost revenue has not been researched or investigated. We contend that there are several costs associated with Metrolink riders, including the cost of lost ridership of Amtrak fare paying riders. The overloads caused by Metrolink passengers may motivate full fare paying intercity rail passengers to seek other transportation alternatives. Other, more obvious costs, are the expenses of additional engines and coaches, as well as their operation and maintenance.

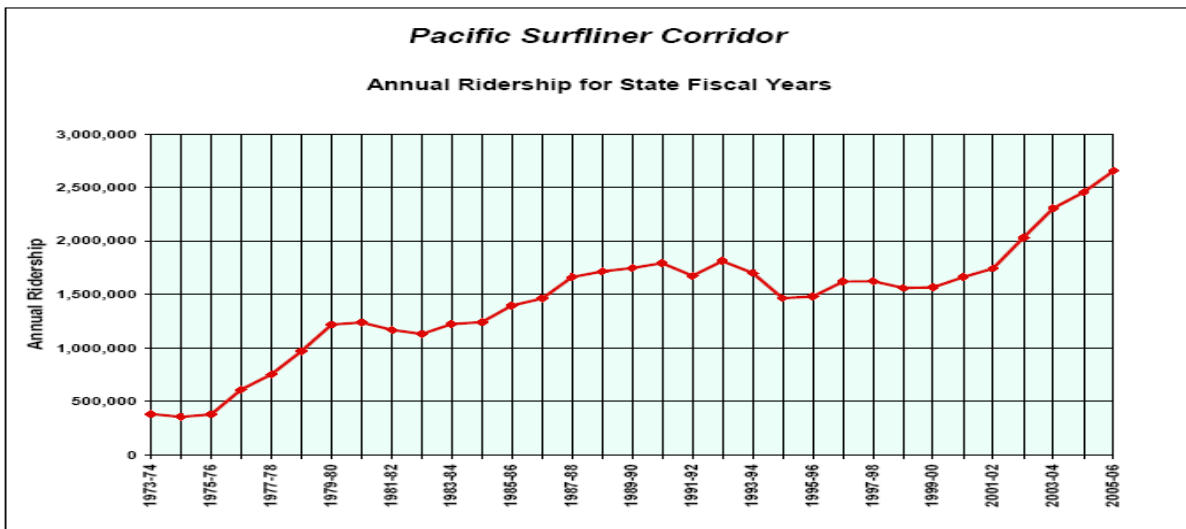


Figure 4

Figure 4 depicts the growth in the Pacific Surfliner Corridor ridership prior and after the inception of the Metrolink Rail 2 Rail program in 2002. As shown in Figure 4, Metrolink ridership resulted in a marked increase in the growth of the route compared to the static growth of the route prior to the implementation of the Rail 2 Rail agreement.

During our review, we identified that Metrolink passengers make up approximately 20 percent of the annual Pacific Surfliner Corridor ridership. In some cases, Metrolink riders may represent a majority of the passengers on board. For example, the Metrolink Monthly Ridership report for June 2007 shows that there were 48 instances where Metrolink passengers comprised more than 50 percent of the Pacific Surfliner Corridor trainset capacity. The October 10, 2007 report identified 387 Metrolink passengers on board Pacific Surfliner Corridor train 583; 94 percent of total train capacity.

Figure 5 depicts the impact of the growth of Metrolink ridership on the Pacific Surfliner Corridor since the inception of the Rail 2 Rail program in 2002.

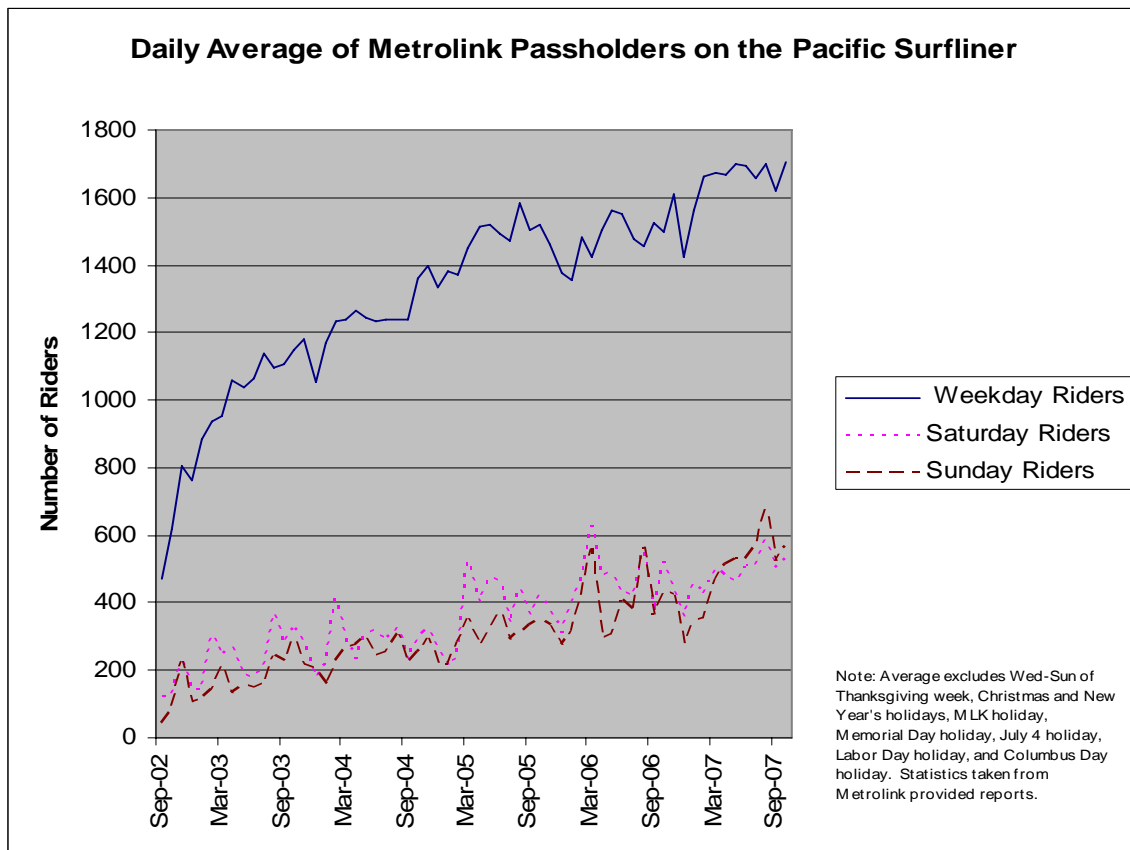


Figure 5

The average daily Metrolink monthly pass holders on the Pacific Surfliner Corridor have increased 263 percent since 2002. In 2006-07, there was an approximate increase of 49,000 Metrolink passengers (9.6 percent) over the previous year, compared to an increase of 144 Amtrak ticketed passengers (less than .01 percent) in the same period.

Observations

Our analysis disclosed that the growth of Metrolink riders has contributed to passenger overloads on the Pacific Surfliner, resulting in passengers standing for part of, or the duration of their trip (standees). While the Normal Base Case Report identifies standee issues on all three corridors, during our independent counts, we observed that instances of standees were isolated to the Pacific Surfliner Corridor.

Further, the Rail 2 Rail agreement with Metrolink does not protect the assets nor serve the best interest of the state and the Pacific Surfliner Corridor due to passenger overloads, the loss of ticket revenue, and the suppression of Amtrak ridership growth. The Rail 2 Rail agreement does not consider the financial costs of providing service to the Metrolink riders, along with the costs of additional infrastructure to maintain the 80 percent capacity threshold as maximum occupancy for future Pacific Surfliner Corridor ridership growth. Indirectly, Caltrans is providing a subsidy to the SCRRRA by not charging a market rate.

Ridership Data

Caltrans provided us with ridership data that we found to be incorrect. The "Train Ridership Exceeding 80 percent of Capacity" report prepared for selected peak days during the period

January through March 2006 (Exhibit II) was provided to support Caltrans' assertion that the selected trains exceeded capacity. However, upon review of this report, we determined that the capacity figures used by Caltrans did not reflect the actual available capacity of the trainsets. As a result of the inaccurate capacity figures, Caltrans overstated the frequency of passenger overloads in these reports.

Further, we determined that the Metrolink ridership was improperly allocated. Rather than allocate a Metrolink rider to the specific segment on which the passenger was on board the train, all Metrolink riders were included in the passenger counts for every segment available to Metrolink riders. For example, according to Exhibit II, column I, there were 16 Metrolink passengers for train 775. All 16 passengers are allocated to the entire train ride regardless of when they board or exit the train. The specific segment of ridership for Metrolink passengers is unrecorded. As a result of the improper allocation, Caltrans erroneously reported standees for the entire length of the route.

Observation

Caltrans responds to queries for information with inaccurate data. For example, the reports of ridership in excess of capacity overstate the ridership as a percentage of capacity by understating the available capacity on specific trains. Additionally, in computing ridership on the Pacific Surfliner Corridor, Caltrans incorrectly allocates Metrolink riders, resulting in an overstatement of ridership.

Conclusion

Neither Amtrak nor Caltrans employs a data collection and reporting method that provides an accurate measure of the daily average and peak ridership for each segment of Caltrans' intercity rail routes. Further, ridership data distributed by Caltrans contains inaccuracies.

Based on Amtrak's current ticket lift practice, it is at times difficult, if not impossible, for the conductors to obtain a ticket from each of the passengers. Further, the allocation methodology for multi-use riders may misstate ridership since an allocation for multi-ride passes does not necessarily equate to a passenger on a train.

The Rail 2 Rail agreement with Metrolink has resulted in passenger overloads, the loss of ticket revenue, and the suppression of Amtrak ridership growth. The Rail 2 Rail agreement does not consider the financial costs of providing service to the Metrolink riders, along with the costs of additional infrastructure to do so.

Additionally, ridership information distributed by Caltrans incorrectly allocates Metrolink riders. This allocation methodology results in a misstatement of Metrolink riders on a segment by segment basis. Further, Caltrans' data overstates the ridership as a percentage of capacity by understating the available capacity on specific trains. This results in Caltrans reporting that ridership exceeded capacity for the specific routes, when in fact it did not.

Finally, our analysis of ridership on the three state-supported routes supported Caltrans' claim that there is a standee problem on the Pacific Surfliner Corridor. However, our review did not disclose a standee problem on the Capitol or San Joaquin Corridors. Lastly, we note that the growth of Metrolink riders has contributed to the passenger overload and the standee situation on the Pacific Surfliner Corridor.

Chapter 171, Statutes of 2007, directs Finance to determine the accurate measure of the existing rail equipment for the three state-supported routes. We identified the availability of current rail equipment by obtaining current Amtrak rail equipment inventory and maintenance reports, reviewing the California State Rail Plan, conducting field visits to Amtrak maintenance yards, and conducting interviews with Amtrak staff. The Normal Base Case Report provided by Caltrans included a roster of current rail equipment, description of the assignment of rail equipment to individual routes and trains, statement of required maintenance and overhaul needs by equipment type, statement of spare equipment required, and description of current intercity rail fleet deployment. In addition, specific reports such as the "Status of all State-Owned Equipment by Car and Locomotives," "Chart of Equipment Turns," and "Assignment of cars and locomotives to trains" were reviewed for August 2007 through October 2007.

Provision of Rail Passenger Service

The Provision of Rail Passenger Service agreement of October 2006 requires Amtrak to deploy both state-owned and Amtrak-owned equipment, as well as provide rail passenger service to the three state-supported routes in California. It stipulates that state-owned equipment be deployed in a manner consistent with the provisions set forth in the agreement and as described in Figure 6. The agreement does not require that Amtrak dedicate a set number of coaches to the state-supported routes. The State, in return, agrees to reimburse Amtrak for a certain proportion of the operating loss.

Observation

The Provision of Rail Passenger Service agreement does not stipulate the level of equipment that Amtrak must dedicate to the state-supported routes. Caltrans verified that there is no formal agreement and stated that Amtrak is expected to exercise "reasonable efforts" to provide enough equipment to meet demand. This situation is most serious on the Pacific Surfliner Corridor. Without an agreement requiring that a minimum number of coaches be available on the Pacific Surfliner Corridor, there is no guarantee that the existing equipment will be able to accommodate ridership needs. Further, Caltrans reports that Amtrak's equipment pool is near full utilization.

Equipment Ownership

The equipment for the three state-supported corridors includes both Amtrak-owned and state-owned equipment. There are a total of 31 locomotives and 140 coaches on the three corridors. Of these, 17 locomotives and 88 coaches are state-owned and were acquired between 1992 and 2001. The acquisition cost was approximately \$300 million with an average cost of \$2.3 million per unit. With a useful life of approximately 50 years and the employment of the existing overhaul schedule, most of the State's locomotives and coaches should be able to remain in service for an additional 35-40 years.

There are eleven different floor plans of coaches, which vary by capacity, onboard food service, etc. For example, of the 88 state-owned passenger coaches, there are 7 different configurations:

- 40 coaches, seating capacity: 90
- 14 cab-coaches with a control cab for push/pull operations, seating capacity: 86
- 14 California food service (diner) coaches, non-revenue seating capacity: 45
- 8 cab-baggage coaches with a control cab and storage for luggage, seating capacity: 82
- 6 baggage coaches with storage for luggage, seating capacity: 84
- 4 café coaches with a snack bar on the bottom level, seating capacity: 72
- 2 business-class coaches, seating capacity: 77

All 17 of the state-owned locomotives are serving on the San Joaquin and Capitol Corridors along with 78 of the 88 state-owned coaches. The Pacific Surfliner Corridor consists of the remaining 10 state-owned coaches, 48 Amtrak-owned coaches, and 9 Amtrak-owned locomotives. See Figure 6 for a summary of coaches and locomotives employed in the Intercity Rail Program as of October 1, 2007.

Coaches										
Car type	Seating Capacity	Total Fleet			Pacific Surfliner Corridor			Capitol & San Joaquin Corridors		
		State Owned	Amtrak Owned	Total Fleet	State Owned	Amtrak Owned	Total Fleet	State Owned	Amtrak Owned	Total Fleet
		Equipment	Equipment	(by type)	Equipment	Equipment	(by type)	Equipment	Equipment	(by type)
Coach	90	40	15	55	3	15	18	37	0	37
Cab-coach	86	14	0	14	0	0	0	14	0	14
Cab-baggage coach	82	8	8	16	3	8	11	5	0	5
Baggage coach	84	6	0	6	0	0	0	6	0	6
Business-class coach	77	2	8	10	2	8	10	0	0	0
Café-coach	72	4	8	12	2	8	10	2	0	2
California Food Service (Diner)	45 N/R*	14	0	14	0	0	0	14	0	14
Supliner coach**	60/96	0	7	7	0	5	5	0	2	2
Superliner snack coach	60	0	2	2	0	0	0	0	2	2
Single-level coach (Horizon)**	72	0	3	3	0	3	3	0	0	0
Single-level café-coach (Horizon)**	14	0	1	1	0	1	1	0	0	0
Totals		88	52	140	10	48	58	78	4	82

Locomotives										
Locomotive type	Total Fleet			Pacific Surfliner Corridor			Capitol & San Joaquin Corridors			
	State Owned	Amtrak Owned	Total Fleet	State Owned	Amtrak Owned	Total Fleet	State Owned	Amtrak Owned	Total Fleet	
	Equipment	Equipment	(by type)	Equipment	Equipment	(by type)	Equipment	Equipment	(by type)	
F59PHI (Electro Motive Diesel)***	15	9	24	0	9	9	15	0	15	
P32-B (General Electric)	2	0	2	0	0	0	2	0	2	
P42 (General Electric)***	0	5	5	0	0	0	0	5	5	
Totals	17	14	31	0	9	9	17	5	22	

* Non-revenue seating
 ** Based on a set rotation schedule for the Pacific Surfliner Corridor dated 10/4/07
 *** Based on a set rotation schedule for Northern CA dated 9/20/07

Figure 6

All equipment owned by Amtrak and Caltrans for use on the state-supported routes is mechanically compatible with the exception of a special set of single-level Horizon coaches. On the Pacific Surfliner Corridor, the coaches and locomotives are typically assembled into nine five- or six-coach trainsets, depending on peak ridership demand. On this corridor, 48 to 49 coaches are in service, with the remaining in maintenance or available as spares. On the San Joaquin and Capitol Corridors, there are 15 shared trainsets, with eight sets assigned to the Capitol Corridor, six to the San Joaquin Corridor, and one shared set. Equipment serving the San Joaquin Corridor is assembled into four-coach trainsets, while equipment on the Capitol Corridor is assembled into either four- or five-coach trainsets. Of the 82 coaches available for

these two corridors, 65 are in service on a daily basis and the remaining are undergoing maintenance or repair or are available as spares. See Exhibit III for an example of the trainset configuration for all three routes.

Due to routine maintenance, overhauls, and repairs, Caltrans approximates that 16 percent of the current rail stock is out of service at any one time.

Observation

All locomotives provided by Amtrak, in addition to the coaches provided on the Pacific Surfliner Corridor, are utilized from a pool of equipment. As a result, equipment in service may vary from period to period making it difficult to determine the status of all equipment in service on state-supported routes. This also creates difficulty in determining the equipment Caltrans is obligated to help maintain under its contract with Amtrak.

Conclusion

Figure 6 provides an accurate measure of the existing rail equipment for the three state-supported routes. The Pacific Surfliner Corridor relies wholly on Amtrak owned locomotives, with the majority (83 percent) of its coaches also being Amtrak owned.

The lack of an agreement regarding the level of equipment that Amtrak must dedicate to the state-supported routes is especially troublesome on the Pacific Surfliner Corridor, since the majority of the equipment is owned by Amtrak. Without an agreement that would require a minimum level of equipment, there is no guarantee that existing equipment will be sufficient to accommodate ridership needs. Further, the purchase of additional equipment may not increase the available equipment inventory. Without an agreement with Amtrak, additional equipment could supplant Amtrak owned equipment and not provide additional resources.

Chapter 171, Statutes of 2007, directs Finance to review the frequency and capacity available on the three state-supported corridors to support ridership demand. Finance interviewed Caltrans and Amtrak staff to gain an understanding of trainset frequencies and capacities. We reviewed current and previous schedules for the Capitol, San Joaquin, and Pacific Surfliner Corridors. In addition, we reviewed trainset rotations to determine the specific rail equipment used for each train, and performed capacity calculations to validate capacity reported on sample trains.

Frequency

Frequency is the number of times a trainset operates each day. Impacting the frequency are factors such as the availability of rail equipment, spans of single track, schedules of other train operators, and the length of a train route. According to Caltrans, the tracks on all three state-supported corridors are heavily utilized by other passenger and freight rail operators. This makes it difficult for Caltrans and Amtrak to add frequency and make schedule changes. Currently, the Capitol Corridor includes 16 weekday and 11 weekend/holiday round trips from Sacramento to San Jose. Ten of these weekday trains terminate in the Oakland area. Only one weekday train begins and ends in Auburn. The weekend trains for the Capitol Corridor follow a similar pattern. The San Joaquin Corridor operates six round trips from Oakland or Sacramento to Bakersfield each day. The schedule for these trains does not change from weekdays to weekends. The Pacific Surfliner Corridor includes 12 weekday and 13 weekend round trips from San Diego to Los Angeles. Five round trips extend north to Santa Barbara, with two continuing northwards to San Luis Obispo.

Observation

Several factors restrict the ability of Caltrans and Amtrak to add frequency to state-supported routes. The lack of schedule availability and sufficient sidings to allow trains to pass each other without interruption and delays would need to be addressed prior to achieving any frequency improvements based on additional equipment. These factors include insufficient equipment, the length of certain routes, schedule restrictions, and inadequate track availability. Our review disclosed that the addition of equipment alone will not address the frequency issue.

Capacity

Capacity is the number of seats available for passengers on a train. A train's capacity is based on the number and type of coaches that make up a trainset. Amtrak uses historical ridership data and available equipment to configure trainsets to accommodate the peak number of passengers anticipated for each train ride.

According to Caltrans, Amtrak attempts to configure its trains so that they are no more than 80 percent full during peak load segments. Amtrak does not include the non-revenue seats in its dining and café coaches as part of the trainset capacity. Caltrans has stated that when the 80 percent threshold is exceeded, passenger satisfaction with the level of service declines

significantly. See Exhibit III for a listing of trainset configurations and corresponding capacities for a particular day.

For Capitol Corridor trains, capacity varies due to the number of coaches, the different types of coaches, and the number of trips the trainset will take in the day. Trainsets on the Capitol Corridor usually include four or five coaches, but the total capacity will vary depending on what types of coaches are included in the trainset. Additionally, these trainsets make between two and five one-way trips in one day. The typical daily capacity for weekdays is 9,590 passengers.

The capacity is relatively constant on the San Joaquin Corridor. All trains running on that corridor have four coaches, the same types of coaches, and make only one or two one-way trips per day. The typical daily capacity for weekdays is 3,132 passengers.

The Pacific Surfliner Corridor trainsets generally have five coaches in the same type of configuration. A sixth Superliner Coach is sometimes added to increase seating capacity. These trains usually make two or three one-way trips per day. The typical daily capacity for weekdays is 9,842 passengers.

Currently, Amtrak maintains the above trainset configurations with very few changes. Coaches are exchanged on a regular basis for preventive maintenance, repairs, etc. According to Amtrak, changing trainset configurations is an involved and time consuming process. As a result, trainsets are usually not altered during the day.

According to Amtrak and Caltrans staff, while a locomotive is designed to pull ten coaches, it is able to pull seven efficiently. A locomotive pulling more than seven coaches would result in poor on-time performance, high fuel costs, and unnecessary wear to the locomotive.

Observation

Based on our review, we determined that the trainset configuration generally consists of one locomotive and four to five coaches, and in some cases six coaches. We did not observe train configurations over six coaches. To increase capacity and still remain below the seven coach efficiency limit, additional coaches could be added to trainsets.

Verification of Capacity

To determine whether current trainset capacities met ridership demand, we compared actual passenger levels during peak segments to the total number of seats available on selected trains (Exhibit I). We determined the maximum peak load for each train and where it occurred. We also calculated the total number of seats available on each train, and excluded non-revenue seats in dining and café coaches. We divided the number of passengers in the maximum peak segment by the number of seats available to determine the peak utilization rate for each train.

Observation

During their busiest segments, the Capitol and San Joaquin Corridors operated at approximately 35-37 percent capacity. We observed that on several San Joaquin Corridor trains, conductors closed off entire coaches to passenger seating due to the limited number of passengers onboard. Conversely, we noted that 4 of the 11 Pacific Surfliner Corridor trains sampled operated at over 80 percent of seating capacity. On three of these trains, Amtrak added a sixth coach to the trainsets to accommodate extra passengers. However, the

80 percent threshold was still exceeded. As a result, we found that over 36 percent of the Pacific Surfliner Corridor trains did not have sufficient seats to accommodate their passengers, resulting in standees.

Conclusion

Our review of the frequency and capacity available on the three state-supported routes disclosed that rail equipment for the Capitol and San Joaquin Corridors is currently underutilized to support ridership demand. While the Pacific Surfliner Corridor is normally operating at over the 80 percent comfort threshold, the Capitol and San Joaquin Corridors are operating well below it. In addition, although there are difficulties in increasing train frequencies, trainset capacities can be increased on the Pacific Surfliner Corridor by adding one or two coaches. This would alleviate the number of standees experienced on this Corridor.

Exhibit I

Ridership Comparisons for All 3 State-Funded Routes: Independent OSAE Counts vs. Amtrak Ticket Lift Data

Capitol Corridor

#	Date	Train #	Departed	Departure Time	Arrived	Arrival Time	OSAE High Count	OSAE High Count Segment	Amtrak Ticket Lift High Count	(J - H) Difference	(K / H) Percent Difference	Trainset Seating Capacity	(H / M) Peak Utilization
[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[M]	[N]
1	Tuesday, July 24, 2007	527	Sacramento	7:00 AM	San Jose	10:10 AM	105	MTZ-RIC	105	0	0%	338	31%
2	Wednesday, July 25, 2007	524	San Jose	6:40 AM	Sacramento	9:45 AM	91	SUI-DAV	89	-2	-2%	338	27%
3	Wednesday, August 15, 2007	535	Sacramento	10:10 AM	San Jose	1:15 PM	74	SUI-MTZ	83	9	12%	338	22%
4	Thursday, August 16, 2007	528	San Jose	9:05 AM	Sacramento	12:15 PM	114	SUI-DAV	126	12	11%	338	34%
5	Monday, August 20, 2007	543	Sacramento	3:35 PM	Oakland	5:26 PM	108	SUI-MTZ	150	42	39%	342	32%
6	Tuesday, August 21, 2007	536	Martinez	4:19 PM	Sacramento	5:22 AM	149	MTZ-SUI	227	78	52%	338	44%
7	Wednesday, August 22, 2007	529	Auburn	6:35 AM	Oakland	9:38 AM	162	ROS-SAC	233	71	44%	338	48%
8	Wednesday, August 22, 2007	530	Oakland	12:15 PM	Sacramento	2:13 PM	57	MTZ-SUI	82	25	44%	356	16%
9	Wednesday, August 22, 2007	533	Sacramento	9:20 AM	Oakland	11:18 AM	42	DAV-SUI	44	2	5%	356	12%
10	Thursday, August 23, 2007	536	Oakland	3:30 PM	Auburn	6:30 PM	164	SAC-ROS	249	85	52%	338	49%
11	Friday, August 31, 2007	530	Oakland	12:15 PM	Sacramento	2:13 PM	75	MTZ-SUI	89	14	19%	338	22%
12	Friday, August 31, 2007	533	Sacramento	9:20 AM	Oakland	11:18 AM	38	SUI-MTZ	41	3	8%	338	11%
13	Friday, August 31, 2007	543	Sacramento	3:35 PM	San Jose	6:45 PM	177	DAV-SUI	202	25	14%	338	52%
14	Saturday, September 01, 2007	729	Sacramento	9:10 AM	Oakland Coliseum	11:15 AM	189	SUI-MTZ	147	-42	-22%	262	72%
15	Saturday, September 01, 2007	736	San Jose	2:20 PM	Sacramento	5:23 PM	103	MTZ-SUI	81	-22	-21%	352	29%
16	Saturday, September 01, 2007	741	Sacramento	2:15 PM	Oakland Coliseum	4:17 PM	146	DAV-SUI	122	-24	-16%	338	43%
17	Sunday, September 02, 2007	733	Sacramento	10:40 AM	Oakland Coliseum	12:42 PM	113	MTZ-RIC	107	-6	-5%	338	33%
18	Sunday, September 02, 2007	736	Oakland Coliseum	3:14 PM	Sacramento	5:23 PM	108	MTZ-SUI	93	-15	-14%	338	32%
19	Sunday, September 02, 2007	741	Sacramento	2:15 PM	Oakland Coliseum	4:17 PM	128	SUI-MTZ	100	-28	-22%	338	38%
20	Sunday, September 02, 2007	742	Oakland Coliseum	5:19 PM	Sacramento	7:22 PM	138	MTZ-SUI	118	-20	-14%	356	39%
21	Monday, September 03, 2007	736	Oakland Coliseum	3:14 PM	Sacramento	5:23 PM	150	SUI-DAV	121	-29	-19%	338	44%
22	Monday, September 03, 2007	742	Oakland Coliseum	5:19 PM	Sacramento	7:22 PM	176	MTZ-SUI	166	-10	-6%	356	49%
Average Capitol Corridor Peak Utilization Rate													35%

San Joaquin Corridor (both SAC & OAK)

#	Date	Train #	Departed	Departure		Arrival Time	OSAE High Count	OSAE High Count Segment	Amtrak Ticket Lift High Count	(J - H) Difference	(K/H) Percent Difference	Trainset Seating Capacity	(H/M) Peak Utilization
				Time	Arrived								
[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[M]	[N]
1	Tuesday, July 24, 2007	714	Stockton	11:52 AM	Bakersfield	4:11 PM	112	HNF-COC	108	-4	-4%	266	42%
2	Tuesday, August 21, 2007	702	Sacramento	6:35 AM	Corcoran	10:39 AM	95	HNF-COC	103	8	8%	262	36%
3	Tuesday, August 21, 2007	712	Oakland	7:30 AM	Bakersfield	1:46 PM	121	TRK-MCD	117	-4	-3%	264	46%
4	Tuesday, August 21, 2007	713	Corcoran	11:18 AM	Martinez	3:28 PM	128	MCD-TRK	128	0	0%	262	49%
5	Wednesday, August 22, 2007	713	Bakersfield	10:15 AM	Martinez	3:28 PM	145	MCD-TRK	133	-12	-8%	264	55%
6	Tuesday, September 18, 2007	704	Sacramento	4:25 PM	Bakersfield	9:38 PM	44	STK-MOD	43	-1	-2%	260	17%
7	Wednesday, September 19, 2007	711	Bakersfield	4:55 AM	Richmond	10:25 AM	87	MOD-STK	111	24	28%	260	33%
8	Friday, September 21, 2007	714	Martinez	10:58 AM	Bakersfield	4:11 PM	77	TRK-MCD	73	-4	-5%	266	29%
9	Saturday, September 22, 2007	715	Bakersfield	1:20 PM	Martinez	6:25 PM	116	FNO-MDR	108	-8	-7%	266	44%
10	Tuesday, September 25, 2007	702	Sacramento	6:35 AM	Bakersfield	11:58 AM	87	COC-WAC	85	-2	-2%	262	33%
11	Wednesday, September 26, 2007	701	Bakersfield	7:15 AM	Sacramento	12:30 PM	51	MOD-STK	51	0	0%	262	19%
Average San Joaquin Corridor Peak Utilization Rate													37%

Pacific Surfliner Corridor

#	Date	Train #	Departed	Departure		Arrival Time	OSAE High Count	OSAE High Count Segment	Amtrak Ticket Lift High Count	(J - H) Difference	(K/H) Percent Difference	Trainset Seating Capacity	(H/M) Peak Utilization
				Time	Arrived								
[A]	[B]	[C]	[D]	[E]	[F]	[G]	[H]	[I]	[J]	[K]	[L]	[M]	[N]
1	Wednesday, August 08, 2007	784	Burbank	4:25 PM	San Diego	7:50 PM	443	LAX-FUL	329	-114	-26%	411	108%
2	Thursday, August 09, 2007	763	San Diego	6:10 AM	Burbank	9:28 AM	313	FUL-LAX	302	-11	-4%	411	76%
3	Wednesday, August 15, 2007	775	San Diego	12:00 PM	San Luis Obispo	8:30 PM	255	FUL-LAX	282	27	11%	411	62%
4	Thursday, August 16, 2007	774	San Luis Obispo	6:45 AM	Anaheim	1:06 PM	257	LAX-FUL	304	47	18%	411	63%
5	Monday, September 03, 2007	775	San Diego	12:00 PM	Burbank	3:19 PM	470	FUL-LAX	493	23	5%	491	96%
6	Saturday, September 22, 2007	784	Oxnard	2:57 PM	San Diego	7:50 PM	154	ANA-SNA	154	0	0%	411	37%
7	Thursday, October 18, 2007	775	San Diego	12:00 PM	Oxnard	4:37 PM	173	FUL-LAX	183	10	6%	385	45%
8	Friday, October 19, 2007	784	Oxnard	2:57 PM	San Diego	7:50 PM	571	LAX-FUL	445	-126	-22%	475	120%
9	Saturday, October 20, 2007	565	San Diego	7:05 AM	Los Angeles	9:50 AM	134	FUL-LAX	130	-4	-3%	385	35%
10	Saturday, October 20, 2007	572	Los Angeles	11:10 AM	San Diego	1:55 PM	186	SNJ-OSD	188	2	1%	475	39%
11	Sunday, October 21, 2007	785	San Diego	4:00 PM	Burbank	7:25 PM	581	SNA-ANA	534	-47	-8%	487	119%
Average Pacific Surfliner Corridor Peak Utilization Rate													74%
AVERAGE PEAK UTILIZATION RATE FOR ALL 3 ROUTES													48%

Exhibit II

Pacific Surfliner Corridor															
Train Ridership Exceeding 80% of Capacity on Selected Peak Days January thru March 2006															
Column #	A	B	C	D	E	F	G	H	I	J	K	L	M		
Day of Week Holiday	Date	Train	Departure Station	Total Amtrak Riders	Caltrans reported Capacity	Actual Capacity	% of Reported Capacity (D/E)	% of Actual Capacity (D/F)	Metrolink R2R	Coaster R2R	Reported Total Riders (D+I+J)	Reported Combined % of Capacity (K/E)	Actual Combined % of Capacity (K/F)		
Monday <i>New Years Wknd</i>	1/2/06	775	OSD	346	411	475	84%	73%	16		362	88%	76%		
			SNC	346	411	475	84%	73%	16		362	88%	76%		
			IRV	360	411	475	88%	76%	16		376	91%	79%		
			SNA	369	411	475	90%	78%	16		385	94%	81%		
			ANA	390	411	475	95%	82%	16		406	99%	85%		
			FUL	386	411	475	94%	81%	16		402	98%	85%		
Friday	1/6/06	589	OSD	305	411	411	74%	74%	59		364	89%	89%		
			IRV	290	411	411	71%	71%	107		397	97%	97%		
		784	FUL	291	411	475	71%	61%	193		484	118%	102%		
			ANA	297	411	475	72%	63%	193		490	119%	103%		
			SNA	310	411	475	75%	65%	193		503	122%	106%		
			IRV	321	411	475	78%	68%	193		514	125%	108%		
		785	SNC	304	411	475	74%	64%	193		497	121%	105%		
			SNP	304	411	475	74%	64%	193		497	121%	105%		
			OSD	302	411	475	73%	64%	72		374	91%	79%		
			SNP	303	411	475	74%	64%	72		375	91%	79%		
			SNC	297	411	475	72%	63%	72		369	90%	78%		
			IRV	289	411	475	70%	61%	72		361	88%	76%		
		Sunday	1/8/06	769	ANA	292	411	411	71%	71%	46		338	82%	82%
					FUL	289	411	411	70%	70%	46		335	82%	82%
775	OSD			321	411	475	78%	68%	18		339	82%	71%		
	SNP			321	411	475	78%	68%	18		339	82%	71%		
	SNC			318	411	475	77%	67%	18		336	82%	71%		
	IRV			337	411	475	82%	71%	18		355	86%	75%		
	SNA			350	411	475	85%	74%	18		368	90%	77%		
	ANA			359	411	475	87%	76%	18		377	92%	79%		
	FUL			368	411	475	90%	77%	18		386	94%	81%		
	LAX			348	411	475	85%	73%	18		366	89%	77%		
	GDL			349	411	475	85%	73%	18		367	89%	77%		
	BUR			352	411	475	86%	74%	18		370	90%	78%		
	VNC			343	411	475	83%	72%	18		361	88%	76%		
	CWT			332	411	475	81%	70%	18		350	85%	74%		
SIM	318	411	475	77%	67%	18		336	82%	71%					
MPK	318	411	475	77%	67%	18		336	82%	71%					
CML	311	411	475	76%	65%	18		329	80%	69%					
Friday <i>MLKing Wknd</i>	1/13/06	579	SNC	315	411	411	77%	77%	28		343	83%	83%		
			IRV	322	411	411	78%	78%	28		350	85%	85%		
			SNA	315	411	411	77%	77%	28		343	83%	83%		
		582	IRV	337	411	411	82%	82%	170		507	123%	123%		
			SNC	349	411	411	85%	85%	170		519	126%	126%		
		589	OSD	350	411	411	85%	85%	30		380	92%	92%		
			SNC	329	411	411	80%	80%	30		359	87%	87%		
		784	VNC	320	411	475	78%	67%	91		411	100%	87%		
			BUR	335	411	475	82%	71%	91		426	104%	90%		
			GDL	344	411	475	84%	72%	91		435	106%	92%		
			LAX	449	411	475	109%	95%	91		540	131%	114%		
			FUL	440	411	475	107%	93%	91		531	129%	112%		
			ANA	443	411	475	108%	93%	91		534	130%	112%		
			SNA	442	411	475	108%	93%	91		533	130%	112%		
IRV	446		411	475	109%	94%	91		537	131%	113%				
SNC	439		411	475	107%	92%	91		530	129%	112%				
SNP	439		411	475	107%	92%	91		530	129%	112%				
OSD	395	411	475	96%	83%		0	395	96%	83%					
Friday <i>MLKing Wknd</i>	1/13/06	785	SOL	355	411	475	86%	75%		43	398	97%	84%		
			OSD	436	411	475	106%	92%	91		527	128%	111%		
			SNP	436	411	475	106%	92%	91		527	128%	111%		
			SNC	431	411	475	105%	91%	91		522	127%	110%		
			IRV	437	411	475	106%	92%	91		528	128%	111%		
			SNA	437	411	475	106%	92%	91		528	128%	111%		
			ANA	400	411	475	97%	84%	91		491	119%	103%		
			FUL	366	411	475	89%	77%	91		457	111%	96%		
Monday <i>MLKing Birthday</i>	1/16/06	774	IRV	310	411	411	75%	75%	22		332	81%	81%		
			SNC	309	411	411	75%	75%	22		331	81%	81%		
		775	SNC	315	411	475	77%	66%	47		362	88%	76%		
			IRV	316	411	475	77%	67%	47		363	88%	76%		
			SNA	319	411	475	78%	67%	47		366	89%	77%		
			ANA	322	411	475	78%	68%	47		369	90%	78%		
			FUL	320	411	475	78%	67%	47		367	89%	77%		
			OSD	320	411	475	78%	67%	47		367	89%	77%		
		784	LAX	354	411	475	86%	75%	81		435	106%	92%		
			FUL	375	411	475	91%	79%	81		456	111%	96%		
			ANA	389	411	475	95%	82%	81		470	114%	99%		
			SNA	411	411	475	100%	87%	81		492	120%	104%		
			IRV	427	411	475	104%	90%	81		508	124%	107%		
			SNC	430	411	475	105%	91%	81		511	124%	108%		
SNP	430		411	475	105%	91%	81		511	124%	108%				
OSD	347		411	475	84%	73%		6	353	86%	74%				

Exhibit III

Trainset Configurations and Daily Capacity Calculation

*Note: Data is based on set rotations obtained for Thursday, October 4, 2007

- █ = Trainset also runs as a San Joaquin
- █ = Trainset is made up of single-level Horizon cars and only runs these two train numbers
- * N/R = Non-revenue seating

		Capitol Corridor		
	Train #	Car #	Capacity	
Trainset #1	522	34981	62	
	533	8001	90	
	534	6362	72	
	547	6963	82	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	306	4	1224	
Trainset #2	524	6463	90	
	535	8006	90	
	538	6361	72	
	549	8307	86	
	548			
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	338	5	1690	
Trainset #3	523	8026	90	
	528	8019	90	
	541	8804	45 N/R*	
	540	6464	90	
	551	8301	86	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	356	5	1780	
Trainset #4	518	8032	90	
	527	8015	90	
	532	35003	62	
	545	8313	86	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	328	4	1312	
Trainset #5	530	8021	90	
	543	8010	90	
	546	8814	45 N/R*	
		8014	90	
		6962	82	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	352	3	1056	
Trainset #6	525	8031	90	
	526	6462	90	
	537	35010	62	
	544	6964	82	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	324	4	1296	
Trainset #7	529	8012	90	
	536	8017	90	
		8810	45 N/R*	
		8030	90	
		8308	86	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	356	2	712	

		San Joaquin		
	Train #	Car #	Capacity	
Trainset #1	712	8205	84	
	717	8007	90	
		8805	45 N/R*	
		8304	86	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	260	2	520	
Trainset #2	714	8202	84	
	703	8013	90	
		8806	45 N/R*	
		8303	86	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	260	2	520	
Trainset #3	702	8204	84	
	715	8016	90	
		8813	45 N/R*	
		8309	86	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	260	2	520	
Trainset #4	713	8206	84	
		8018	90	
		8802	45 N/R*	
		8305	86	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	260	1	260	
Trainset #5	701	8201	84	
	704	8009	90	
		8809	45 N/R*	
		8306	86	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	260	2	520	
Trainset #6	711	8008	90	
	718	8023	90	
		8803	45 N/R*	
		8311	86	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	266	2	532	
Trainset #8	716	8203	84	
		8801	45 N/R*	
		8003	90	
		8310	86	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	260	1	260	

		Pacific Surfliner		
	Train #	Car #	Capacity	
Trainset #1	567	6807	77	
	578	6304	72	
	589	6407	90	
		6403	90	
		6901	82	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	411	3	1233	
Trainset #2	564	6805	77	
	573	6301	72	
	582	6411	90	
		31018	60	
		6951	82	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	381	3	1143	
Trainset #3	566	6800	77	
	775	6305	72	
		6452	90	
		6404	90	
		31021	60	
		6903	82	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	471	2	942	
Trainset #4	774	6804	77	
	785	6352	72	
		6402	90	
		34059	60	
		6953	82	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	381	2	762	
Trainset #5	562	6801	77	
	769	6351	72	
	792	6409	90	
		6410	90	
		34105	60	
		6905	82	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	471	3	1413	
Trainset #6	763	6851	77	
	784	6302	72	
	595	6400	90	
		31046	60	
		6453	90	
		6907	82	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	471	3	1413	
Trainset #7	568	6852	77	
	579	6307	72	
	596	6414	90	
		6413	90	
		6904	82	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	411	3	1233	
Trainset #8	565	6806	77	
	572	6303	72	
	583	6412	90	
		6406	90	
		6906	82	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	411	3	1233	
Trainset #9	799	54552	72	
	798	54516	72	
		54500	72	
		58107	19	
		90208	0	
	Trainset Capacity	# of one-way trips	Daily set Capacity	
Total	235	2	470	

Total				
Total Daily Capacity	9,590	3,132	9,842	
Total Monthly Capacity (based on 30-day month)	287,700	93,960	295,260	
Total Annual Capacity	3,500,350	1,143,180	3,592,330	

Although a detailed response is enclosed, the OSAE's Draft Report contains several major issues the Department believes warrant an expanded discussion. The first is the "Rail-2-Rail" Agreement (Agreement) between the Department and the Southern California Regional Rail Authority. There appears to be an underlying lack of understanding of both the Agreement and its benefits. Two taxpayer-supported entities have partnered to improve the effectiveness of the transportation system in Southern California. By each agency accepting the fare media of the other, it increased the capacity of both rail services at little or no additional cost to either agency. Not only have both agencies benefited from the partnership, so too have the citizens of Southern California who have had their transportation options expanded. The State's taxpayers also benefit, because tax-funded assets are used more cost effectively. If one accepts the concept of "performance based management" in the allocation of transportation resources, activities such as "Rail-2-Rail" stand as a stellar example of truly outcome-oriented solutions.

The second major issue the Department believes should be highlighted is the "sampling" methodology used in the review. The samples were designed for two purposes—to validate the accuracy of the Amtrak "ticket lift" information and to verify peak ridership. The Department identified both the days and the trains where the OSAE could expect heavy passenger loads. While the review asserted that "...certain trains were selected based upon anticipated high passenger traffic...trains that met no specific criteria were also included in order to obtain a **representative sample** of trains in operation."

The Department appreciates the effort to develop an appropriate sample. It, however, questions how representative the sample is when only one of the 11 trains sampled on the San Joaquin Corridor was identified by the Department as a train where a heavy passenger load could be expected.

On the Capitol Corridor, half of the 22 samples were taken over the Labor Day weekend. This was the weekend the Department closed the Bay Bridge (Bridge) to allow for construction work on the new span. In excess of \$1 million was spent by various agencies to convince the traveling public NOT to go to the San Francisco Bay Area. Efforts were also undertaken by Amtrak and the Capitol Corridor to advise potential riders of the Bridge closure and the fact that there would be no connecting bus service to San Francisco. Although the Department believes its public relations efforts reduced intercity rail travel to the Bay Area, it cannot prove it. The Department, however, feels this potential sampling anomaly should have been identified in the report.

Although the OSAE's Draft Report contends that neither the Department nor Amtrak have an accurate measure of daily ridership, the Department believes the OSAE's findings, in fact, validate Amtrak's data collection. The Amtrak data includes an allocation of multiride tickets to specific trains. Amtrak's daily "count" was within seven percent of the onboard counts performed by the OSAE. This was well within the tolerances necessary to manage the service. As multiride tickets are purchased in advance, there are no fiscal impacts associated with the variation.

The Department notes that the OSAE's Draft Report raises a legitimate concern that the State's acquisition of additional equipment could result in Amtrak diverting a part of their existing fleet to other locations. This could result in no net change to the available equipment inventory.

Under the current operating agreement, the Department has no contractual protection that would prevent Amtrak from supplanting its equipment with additional State-provided equipment. The Department will initiate discussions to secure a "maintenance of effort" agreement from Amtrak to ensure that the addition of more State-owned equipment to the Pacific Surfliner pool will not result in the diversion of Amtrak-supplied equipment from the service.

The Department's Program is recognized as a national leader. Both Congress and the Administration have cited the Department as a model for State-supported intercity rail programs. To maintain California's leadership position and to meet the ridership demands that will surely come as the result of increased fuel costs and efforts to reduce greenhouse gas emissions, additional equipment will be required.

The OSAE's Draft Report correctly notes there is still some room for ridership growth, particularly in the northern fleet. However, given the length of time from the allocation of funds to the receipt of the equipment, even modest gains in ridership will result in the exhaustion of that room for growth. The Department strongly encourages the Department of Finance to authorize the release of the funds proposed by the Administration and adopted by the voters in Proposition 1B for the acquisition of additional rolling stock.

If you have any questions or concerns please contact William D. Bronte, Chief, Division of Rail at (916) 654-6542.

Sincerely,

Original signed by:

WILL KEMPTON
Director

Enclosure

c: William D. Bronte, Chief, Division of Rail
Norma Ortega, Chief, Division of Budgets

**California Department of Transportation
Detailed Response to the Draft Report
“Review of Caltrans’ Intercity Rail Program--Phase I”
January 22, 2008**

RIDERSHIP

Conclusion

“Neither Amtrak nor the California Department of Transportation (Caltrans) employs a data collection and reporting method that provides an accurate measure of the daily average and peak ridership for each segment of Caltrans’ intercity rail routes. Further, ridership data distributed by Caltrans contains inaccuracies.”

Caltrans’ Response

Caltrans strongly disagrees with this conclusion. The Department of Finance (DOF) data validates Amtrak’s methodology for allocating “multiuse tickets” and the information provided by Caltrans in its “Normal Base Case” paper. The primary purpose of Amtrak’s passenger tracking system is to correctly account for and allocate ridership and ticket revenue at the California route level. The system was not designed to pinpoint the ridership on a single train on a specific day. That level of detail is not necessary for routine program management purposes. If specific counts for a specific segment on a specific train are required, they are made. The cost of collecting this data on a routine basis would exceed its value in most circumstances.

Additional Analysis Provided by Caltrans

Exhibit I of the Draft Report compares the DOF onboard counts with the Amtrak counts supplied by Caltrans. In some instances, the DOF figure is higher or lower. What is significant is not the difference; but the similarity of the figures, particularly given the fact that one is a direct onboard count taken by the auditors and the other involves allocation formulas for multiride fare media.

An analysis of the data on the three tables of Exhibit I clarifies the overall magnitude of the difference in ridership as observed by the audit team, and as reported by Amtrak and Caltrans.

Table A below shows that the ridership reported by Caltrans is in agreement with the DOF counts for the San Joaquin Corridor, within 6.4 percent on the Capitol Corridor, and underreports the ridership on the Surfliner Corridor by 5.4 percent. Errors of 5 to 6 percent are not statistically significant in this context.

TABLE A

	Capitol Corridor (22 trains)	San Joaquin Corridor (11 trains)	Surfliner Corridor (11 trains)
Total ridership as observed by OSAE (sum of column H)	2607	1063	3537
Total ridership as Reported by Amtrak (sum of column J)	2775	1060	3344
Total difference in ridership (sum of column K)	+168	-3	-193
Difference expressed as a percentage of ridership (sum of K/sum of H)	+6.4 percent	-0.28 percent	-5.4 percent
Difference averaged over number of trains surveyed (number of passengers per train)	+7.6 passengers per train	-0.27passengers per train	-17.5 passengers per train

Conclusion

“Based on Amtrak’s current ticket lift practice, it is at times difficult if not impossible, for the conductors to obtain a ticket from each of the passengers. Further, the allocation methodology for multiuse riders may misstate ridership since an allocation for multiride passes does not necessarily equate to a passenger on a train.”

Caltrans’ Response

The DOF implies the allocation of multiride passes contributes to an inaccurate ridership count. Generally, 10-ride tickets are used by regular, but not daily riders. A similar situation could be expected to occur the following month. Taken in the context of the 250,000 rides taken on these tickets in Fiscal Year 2006-07, these numbers will tend to average out when viewed on a month-to-month basis.

In the future, allocation of multiride passes will not be an issue. Caltrans has provided \$700,000 to fund a joint Caltrans, Capitol Corridor Joint Power Authority and Amtrak project to develop a handheld automated ticket validation device. This device will be able to read multiride tickets automatically and allocate them to the train they are used on. Testing will begin in Summer 2008 with full implementation expected on the Capitol Corridor and San Joaquin Corridor trains in Winter 2008.

Additional Analysis Provided by Caltrans

The DOF's sample and comparison of onboard counts and automated ticket lift data validates the accuracy of Amtrak's ticket lift reports and its methodology for allocating multiuse tickets. The DOF's sample counted the number of people onboard the train. The difference in the number of passengers counted on the train and Amtrak's ticket lift data, which included the allocation of multiuse tickets, is within six percent. This difference, particularly on the Capitol Corridor where the ticket lift was higher than the actual onboard count could have resulted from an unreported anomaly in sampling. Specifically, half of the 22 samples on the Corridor occurred during the Labor Day weekend. It should be noted this was a weekend when the Bay Bridge was closed and Caltrans and other transportation agencies encouraged people not to go to the San Francisco Bay Area. This would tend to over-report the number of tickets compared to people on board.

Conclusion

"The Rail-2-Rail agreement with Metrolink has resulted in passenger overloads, the loss of ticket revenue, and the suppression of Amtrak ridership growth. The Rail-2-Rail agreement does not consider the financial costs of providing service to the Metrolink riders, along with the costs of additional infrastructure to do so."

Caltrans' Response

Caltrans will agree the Rail-2-Rail has impacted ridership and, at times, has contributed to passenger overloads. Caltrans notes Rail-2-Rail is a case where two public agencies, providing related services in the same corridor, have coordinated their efforts for maximum effectiveness and taxpayer benefit. Begun in 2002, Rail-2-Rail has been a resounding success and has dramatically benefited both agencies.

Figure 4 of the Draft Report shows annual ridership on the Pacific Surfliner, and mentions static growth of the route before the implementation of the Rail-2-Rail agreement. However, this static growth of intercity ridership was due to the startup of Metrolink commuter service in the corridor. The Ventura County Line started on October 26, 1992, and the Orange County Line started on March 28, 1994. It is important to note with the introduction of commuter service, intercity rail has resumed its growth.

The Rail-2-Rail agreement gives both Amtrak and Metrolink riders more choices for train travel, thereby making both services more attractive as a travel option. All ridership projection models show that the more service offered, the higher the ridership, and, as a result, both Caltrans and Metrolink have seen growth due to Rail-2-Rail.

To moderate the effect of ridership on Intercity trains, the only Metrolink fare instrument accepted on Surfliners is the monthly pass; Metrolink one-way, round trip, and 10-trip tickets are not valid on intercity trains. But the reverse case is not restricted; all intercity rail ticket holders can ride Metrolink trains within the trip limits on their valid intercity fare media.

Additional Analysis Provided by Caltrans

Since the Southern California Regional Rail Authority (SCRRA) was created in 1991 to plan, design, construct and operate regional rail service in Southern California, the member agencies have invested in excess of \$100 million in Local, Regional Transportation Improvement Plan/Program and discretionary Federal funds in capital improvements. These investments have benefited both commuter and Pacific Surfliner services.

All of the agencies involved in Rail-2-Rail recognize that it is an evolving program, with adjustments to ticketing and operations made appropriately over time. As an example, Amtrak, Caltrans, and SCRRA have been working on a joint ticketing project. Later this month, Amtrak passengers will be able to buy tickets from all existing 120 Metrolink ticket vending machines as well as the 15 machines Amtrak and Caltrans purchased for stations outside Metrolink territory. Metrolink will operate and maintain the joint ticket machines and charge the State only a portion of the costs proportionate to the percentage of transactions.

Metrolink is unable to add any more trains between Los Angeles and Fullerton due to current SCRRA agreements with BNSF Railway Company. The Rail-2-Rail agreement allows SCRRA to offer more service than could otherwise be provided. This will be essential when the Interstate 5 reconstruction project between downtown Los Angeles and the Orange County line begins later this year.

Inaccuracies Identified by Caltrans

The Draft Report states that the 2007-08 Agreement stipulates Amtrak be reimbursed at \$2.20 for Metrolink riders. SCRRA pays \$3 for seven trains south of Los Angeles including three of the most crowded trains.

It is also estimated that the 2007-08 nonreimbursement will be \$250,000 over the \$1 million cap. Through December 2007, half the fiscal year, the net payment to Amtrak is \$528,100 suggesting the year-end total will be \$56,200 over the cap.

The Draft Report notes that the reimbursement to the Department for Metrolink passengers averaged \$1.61. While Amtrak carries Metrolink monthly pass holders and is reimbursed between \$2.20 and \$3.00, Metrolink also carries Amtrak ticket holders at \$2.20 per rider, which is paid to SCRRA. The cap is based on the net amount paid to Amtrak. If the amount is calculated for payment for Metrolink riders, it was \$2.07 in 2006-07 and is projected to be \$2.40 in FY 2007-08. Also, the Draft Report states that the average price per ticket on the Pacific Surfliner is nearly \$20, suggesting that there is an \$18 per passenger loss for passengers carried by Amtrak under the Rail-2-Rail Agreement. The average trip length for Metrolink passengers is significantly less than for Amtrak passengers. Since fares vary with distance traveled, the corresponding fares at common stations would be lower than the Pacific Surfliner average, which reflects long average trip lengths and higher fares. On the Ventura County Line, the average trip length is 30.1 miles and on the Orange County Line the average is 36.6 miles. This compares with an average trip length of over 80 miles for an Amtrak passenger in the Surfliner corridor.

The Draft Report notes “the October 10, 2007, report identified 387 Metrolink passengers onboard Pacific Surfliner Corridor train 583; 94 percent of total train capacity.” On October 10, 2007, there were massive delays at Los Angeles Union Station caused by track switches which refused to function. Metrolink service was completely disrupted. Pacific Surfliner train 583, originating in San Diego, was able to move, though it was delayed in places as much as an hour and a half. Thanks to the cooperative service brought about through Rail-2-Rail, that train was able to pick up a large number of Metrolink passengers whose own trains were not running. This was not an example of failure of the Rail-2-Rail agreement, it is an example of the agreement’s success.

Conclusion

Additionally, ridership information distributed by Caltrans incorrectly allocates Metrolink riders. This allocation methodology results in a misstatement of Metrolink riders on a segment by segment basis. Further, Caltrans’ data overstates the ridership as a percentage of capacity by understating the available capacity on specific trains. This results in Caltrans reporting that ridership exceeded capacity for the specific routes, when in fact it did not.

Caltrans’ Response

The DOF correctly notes that no tickets are lifted by conductors, passengers are simply noted by the conductors and assigned to the entire length of the trip over which a valid Metrolink fare instrument would be honored. Neither Caltrans nor the DOF is able to assert that these passengers did or did not travel the entire segment.

Caltrans notes that under the current Rail-2-Rail Agreement, Metrolink reimburses Caltrans a flat rate for each Metrolink Rail-2-Rail passenger. We question whether the value of identifying the route segment the Metrolink rider uses is worth the additional costs of collecting this data.

In the Normal Base Case report, Caltrans was trying to illustrate the effect of peaking on limited train capacity. Rather than assigning actual consists assigned to specific trains on a day-to-day basis over extended periods, we used an average number. In the case of the Pacific Surfliners, the figure 411 was used for comparison purposes as the average number of seats for all trains. In reality, the actual capacity ranges from 235 to 471 seats.

Additional Analysis Provided by Caltrans

Exhibit II takes six days from the Pacific Surfliner peak ridership data presented by Caltrans in the Normal Base Case report. Table B below is the actual capacity of the trains shown in Exhibit II, taken from operating records. It compares the actual capacity with the figures presented by the DOF, provides the load, and calculates the percent of capacity for the maximum load segment.

Table B

Date	Train	Capacity in Normal Base Case	Capacity as stated by DOF	Actual Capacity	Maximum Load	Maximum % Capacity on Board
1/2/06	775	411	475	471	406	86%
1/6/06	589	411	411	411	364	88%
1/6/06	774	411	411	471	397	84%
1/6/06	784	411	475	411	514	125%
1/6/06	785	411	475	471	375	80%
1/8/06	769	411	411	411	338	82%
1/8/06	775	411	475	471	386	82%
1/13/06	579	411	411	411	350	85%
1/13/06	582	411	411	381	519	136%
1/13/06	589	411	411	411	380	92%
1/13/06	784	411	475	441	540	122%
1/13/06	785	411	475	411	528	128%
1/16/06	774	411	411	501	332	66%
1/16/06	775	411	475	441	369	83%
1/16/06	784	411	475	471	511	108%

While some actual capacities were higher than the typical figure of 411 used in the Normal Base Case report, and some actual capacities were lower, the overall picture of overcrowding on these trains presented in Caltrans' report is accurate.

Caltrans would like to add clarification to Exhibit II. Exhibit III correctly notes that Surfliner trains Nos. 774 and 785 operate using the same trainset. Southbound train No. 774 turns in San Diego into train No. 785. There are no facilities or time to switch equipment—the capacity of the train coming into San Diego is the same as the capacity of the train that turns and heads north (as noted in Figure 3-1 of Base Case Limitations Report). However, in Exhibit II, in the entry for January 6, 2006, the “Actual” capacity for train No. 774 is listed as 411 passengers, but also states that the capacity of train No. 785 is 475 passengers.

Conclusion

“Finally, our analysis of ridership on the three State-supported Routes supported Caltrans’ claim that there is a standee problem on the Pacific Surfliner Corridor. However, our review did not disclose a standee problem on the Capitol or San Joaquin Corridors. Lastly, we note that the growth of Metrolink riders has contributed to the passenger overload and the standee situation on the Pacific Surfliner Corridor.”

Caltrans’ Response

The Normal Base Case report documented the sampling of trains between January and March of 2006 that exceeded 80 percent of capacity. The DOF did not challenge Caltrans’ capacity figures. Further, The DOF’s physical counts of onboard ridership verified that Amtrak’s ticket lift data underreported ridership for the Capitol Corridor and was within 0.3 percent of San Joaquin’s physical counts. Therefore, the ridership identified by Caltrans in the Normal Base Case report should be accepted either as accurate or within 6 percent.

Caltrans feels the sample selected is not representative. The Normal Base Case report identifies Fridays and Sundays as the heaviest ridership days on the San Joaquin service. Of the 11 San Joaquin trains sampled by the DOF, only one was a Friday or a Sunday train. The DOF does not identify that half of the 22 trains audited on the Capitol Corridor were sampled over the Labor Day 2007 weekend when the Bay Bridge was closed, as mentioned previously.

Caltrans also questions why the Capitol Corridor had 22 trains sampled (11 trains during the Labor Day weekend) while the Pacific Surfliner had only 11 trains sampled when the ridership figures are similar. The trains sampled on the San Joaquin Corridor included no trains over the Labor Day weekend which would have been a high ridership period for this service. Also, the DOF sampled 11 trains on the San Joaquin Corridor which has significantly less ridership than the Pacific Surfliner Corridor.

EQUIPMENT

Conclusion

Figure 6 provides an accurate measure of the existing rail equipment for the three State-supported routes. The Pacific Surfliner Corridor relies wholly on Amtrak owned locomotives, with the majority (83 percent) of its coaches also being Amtrak owned.

The lack of an agreement regarding the level of equipment that Amtrak must dedicate to the State-supported routes is especially troublesome on the Pacific Surfliner Corridor, since the majority of the equipment is owned by Amtrak. Without an agreement that would require a minimum level of equipment, there is no guarantee that existing equipment will be sufficient to accommodate ridership needs. Further, the purchase of additional equipment may not increase the available equipment inventory. Without an agreement with Amtrak, additional equipment could supplant Amtrak owned equipment and not provide additional resources.

Caltrans' Response

The DOF raises a legitimate concern. Under the current operating agreement, diversion of equipment is not a problem because Amtrak is obligated to operate the Pacific Surfliner trains and provide the necessary equipment. Because Caltrans does not have any contractual protection that would prevent Amtrak from supplanting its equipment with additional State provided equipment, it could be a problem in the future. Based on the DOF's recommendation, Caltrans intends to secure a "maintenance of effort" agreement from Amtrak to ensure that the addition of more State-owned cars to the Pacific Surfliner pool based in Los Angeles will not result in diversion of Amtrak equipment from the Pacific Surfliner service.

FREQUENCY AND CAPACITY

Conclusion

Our review of the frequency and capacity available on the three State-supported routes disclosed that rail equipment for the Capitol and San Joaquin Corridors is currently underutilized to support ridership demand. While the Pacific Surfliner Corridor is normally operating at over the 80 percent comfort threshold, the Capitol and San Joaquin Corridors are operating well below it. In addition, although there are difficulties in increasing train frequencies, trainset capacities can be increased on the Pacific Surfliner Corridor by adding one or two coaches. This would alleviate the number of standees experienced on this Corridor.

Caltrans' Response

We strongly disagree with the Conclusion regarding peak loadings on San Joaquin and Capitol Corridor trains. Amtrak and Caltrans figures presented to the DOF in the Normal Base Case report clearly demonstrate loads higher than those noted in the Draft Report. Our data have clearly demonstrated that overcrowding occurs on trains in both of these corridors, including the presence of standees during peak periods. In addition, the DOF's figures in Exhibit I, even though based primarily on a small sample of nonpeak trains, show Capitol Corridor peak loadings in the 49 to 72 percent range, and San Joaquin Corridor peak loadings in the 44 to 55 percent range.

The Draft Report supports Caltrans' position that new equipment must be ordered and available for service before any additional frequencies can be implemented, in accordance with the California State Rail Plan. Caltrans agrees that many factors must be addressed in order to operate additional trains in a corridor; however, increased frequencies cannot be run without additional equipment. Until the capital improvements necessary to implement increased frequencies are completed, the most cost-effective method to add additional capacity is to add more cars to existing trainsets.

Additional Analysis Provided by Caltrans

There are two kinds of capacity: train capacity, which is what is described in the Draft Report, and line capacity, which is the product of the number of trains that can run in one direction in one hour and the average train capacity. For example, a 15-minute headway, with trains having an average capacity of 400 passengers, would produce a line capacity of 1600 passengers per peak hour per direction. This is why the development of capacity in key corridors depends both upon an equipment strategy to enhance the capacity of trains, and infrastructure investment to increase line capacity so more trains can be run.

The Draft Report states that the sample of 44 trains was undertaken "...To determine whether current trainset capacities met ridership demand..." The text states that the audit team "...compared actual passenger levels during peak segments to the total number of seats available on selected trains (Exhibit I)". Based on these observations, the DOF used their counts for purposes of determining peak load/capacity characteristics. These figures are not suitable for that purpose because the sample size, 44 trains or 1.1 percent of the service, is too small, and these figures are not a representative sample of peak trains. They are counts of passengers onboard during maximum load segments of off-peak trains, but with a couple of exceptions they are not maximum segment counts for peak trains.

Of the 22 trains sampled on the Capitol Corridor, 13 are on weekdays, and nine are on the long Labor Day weekend. Of the 13 weekday trains sampled, three could be considered peak trains. The nine weekend trains sampled are not relevant to the analysis, as they are anomalous – the Labor Day weekend of 2007 was the one during which the Bay Bridge was closed. The Emeryville-San Francisco feeder buses were cancelled that weekend due to the Bridge closure.

Additional Analysis Provided by Caltrans (Exhibits)

Exhibit I, which is based on the onboard counts conducted by the DOF on a sample of 44 trains, is said in the text to demonstrate inaccuracy in the reported Amtrak and Caltrans' figures, but, in fact, appears to confirm them. The sample is not focused on peak trains, which are the issue, and which were specifically identified in the statutory direction for the audit.

Exhibit II is a correction of a page from the Normal Base Case report Appendix A, outlining capacity and ridership relationships in the Pacific Surfliner Corridor. Caltrans was unable to replicate the figures calculated by the DOF.

We acknowledge the Department of Transportation's (Caltrans) response to our draft audit report and applaud its efforts to improve the oversight of the Intercity Rail Program. We note that Caltrans is considering a maintenance of effort agreement with Amtrak that would stipulate a level of equipment to be provided on the Pacific Surfliner Route. Further, Caltrans has funded a project to develop a ticket validation device that will increase the accuracy of ridership counts. In reviewing the response, we note instances where information we reviewed supported a contrary view or that data was not provided to us during fieldwork. Caltrans also provided comments on substantive issues we address here.

Ridership

Passenger Counts and Verification of Ridership: Caltrans disagrees with our observation that there is not an accurate measure of the daily average and peak ridership for each route segment. Our direct observations of actual passenger counts disclosed that Amtrak's ticket lift data is inaccurate. We noted differences as disparate as a 126-passenger understatement and a 85-passenger overstatement. While Caltrans's response contends that the differences average to an acceptable percentage of error, we contend that an averaging of inaccurate counts is not an effective measure on which to deploy rail equipment.

Metrolink: Caltrans indicates that Finance's assertions regarding Metrolink stem from a misunderstanding of the Rail to Rail Agreement and its benefits. While we agree that ridership and passenger overloads have increased, we reiterate that the disproportionate growth of Metrolink passengers to Amtrak ticketholders has resulted in the suppression of Amtrak ridership and ticket revenue. In 2006-07, Metrolink riders on Pacific Surfliner outnumbered Amtrak riders on Metrolink by a ratio of over 10 to 1. The agreement does not provide adequate reimbursement for the financial cost of additional rail equipment, fuel, maintenance, and other resources to provide service to the Metrolink pass holders.

Ridership Data: Caltrans disagrees that its ridership data contains inaccuracies. The Train Ridership Exceeding 80 percent of Capacity data was included in the Normal Base Case Report to support the assertion that these trains exceeded 80 percent capacity. We were informed that actual train capacities were unavailable and an average seating capacity of 411 was used for the report. During our review, we calculated actual trainset capacities and determined that the average capacity presented in this report was inaccurate. Caltrans's response includes actual capacity for these trainsets. This data shows that in over half of the selected trainsets, the actual capacity exceeded the reported average. The data used by Caltrans in its Normal Base Case Report resulted in a percentage of capacity figure that exceeded the actual amount in over half the trainsets. We contend that maximum load statistics cannot be relied upon due to the inaccuracy the ticket lift data and the lack of accurate data on Metrolink riders.

Frequency and Capacity

Caltrans disputes Finance's sampling methodology. Our scope included providing an accurate measure of the daily average and peak ridership for each segment of Caltrans' intercity rail routes. We did not limit our on-board reviews of ridership to those individual trains that experienced peak loads. Rather, we designed our sample to represent all trains. Caltrans makes several references to our ridership counts of the Capitol Corridor during the Labor Day weekend. However, since we observed higher than average passenger counts on those days, excluding those counts from our sample would reduce the Average Peak Utilization Rate from 35 percent to 30 percent in Exhibit I.