

Final Report

Santa Clara Station Pedestrian Crossing Study

Prepared for

Santa Clara Valley Transportation Authority

Prepared by



June 8, 2007

Final Report

SANTA CLARA STATION PEDESTRIAN CROSSING STUDY

PURPOSE OF REPORT

The Santa Clara Valley Transportation Authority (VTA) has requested an analysis of the pros and cons of a potential temporary pedestrian grade crossing of Union Pacific Railroad (UP) tracks at the Santa Clara Caltrain Station. The station is located south of Benton Road. Access to the two Caltrain tracks adjacent to the station is from the west (geographic south). The UP tracks run parallel to and to the east of the Caltrain tracks. The Santa Clara Station is one of three stations in Santa Clara County where pedestrian access to trains is only from one side of the station¹.

Caltrain is designing a major capital project at the station jointly funded by Altamont Commuter Express (ACE) and the Caltrain Joint Powers Board (JPB) that will improve train operations. This project will include a pedestrian tunnel under the Caltrain tracks to a planned “island” center passenger platform. The area of the new platform appears in Figure 1. As planned and funded, the Caltrain tunnel will not extend all the way to the eastside of the UP tracks. Rather, the tunnel will serve as access for the island platform from the Santa Clara station platform only. Construction of the tunnel is scheduled for completion within two years.

A potential temporary crossing of the UP tracks would provide interim access to the planned center island platform, to be located between the Caltrain and UP tracks, from the east side of the UP tracks. The temporary crossing would exist only until such time as a permanent pedestrian undercrossing of the UP tracks might be constructed.

Because the Caltrain tunnel project is in progress, this report focuses on a possible temporary pedestrian at-grade crossing of three UP tracks from the island platform to the neighborhood east of the tracks. The UP tracks include a western most main track, a controlled siding middle track, and an eastern most lead track running to yard tracks south of Brokaw Road.

Following the Issues Statement, this report discusses the Santa Clara Station setting, the current and projected freight and passenger traffic at the station, train speeds through the station, and track and platform improvements planned at the station. It then identifies other pedestrian crossings in California, and summarizes recent train-pedestrian accidents at the Old Town Station in San Diego. It cites the stated concerns for both the UP and California Public Utilities Commission (CPUC) representatives with regard to a temporary pedestrian crossing of UP tracks at the Santa Clara Station. It then presents a listing of the pros and cons of such a crossing, and an order-of-magnitude conceptual cost estimate for constructing the crossing. It also discusses the attempt by the City of San Jose to install a temporary pedestrian at-grade crossing of UP tracks near Blossom Hill Road. The study concludes with an assessment of the likely challenges, particularly from UP, in seeking CPUC approval for the temporary grade crossing. A summary of the CPUC crossing application process and timeline appears in the Appendix.

During the course of this study, Wilbur Smith Associates personnel met with or spoke with representatives of the Cities of Sunnyvale, Palo Alto, San Jose, Hayward, and Dixon; of Caltrain, UP, and Metrolink commuter rail in Los Angeles; and of the CPUC. All conversations occurred in February and March of 2007.

¹ The other stations are at Blossom Hill and Capitol. College Park also has such limited access, but it is a minor station with only two train stops per day.

Figure 1 below shows the area that the future island passenger platform will occupy. In the photograph, the area for the platform is the cleared area west (left) of the UP freight tracks on the right. The existing Santa Clara Station, the station platforms, and Caltrain tracks are further to the left.

Figure 1: Location of Planned Island Platform West (left) of UP Freight Track



ISSUES STATEMENT

The Santa Clara Station is just south of Benton Street, which at one time was joined with Brokaw Road to the east. The street crossing of what today are Caltrain and UP tracks was closed about 50 years ago, but the right-of-way was never vacated by the City of Santa Clara, according to VTA.

Although passengers board and alight Caltrain at this station, there is no existing legal pedestrian crossing of the UP tracks. A temporary pedestrian crossing of the UP tracks to and from the planned island platform, together with the planned tunnel between the island platform and the station, would provide access between the employment area on the east side of the UP tracks and both the Caltrain Station and downtown Santa Clara on the west side.

The closest crossing for bicycles and pedestrians to the north is the De La Cruz Boulevard overcrossing 0.3 miles away. The closest legal pedestrian/bicycle crossing to the south is at Hedding Street 1.2 miles away. After alighting from Caltrain, a passenger walking to employment sites on or near Brokaw Road on the east side of the UP tracks would proceed a distance of up to 3,500 feet using Railroad Avenue, El Camino Real, De La Cruz Boulevard (via the overcrossing) and Coleman Avenue. The De La Cruz overcrossing has high motor vehicle traffic volumes, and there is no sidewalk on the south side, which is the side of the street pedestrians coming from or going to the Caltrain station would use. The north side of the De La Cruz overcrossing has a substandard width sidewalk of 2.5 feet. To cross back to the south side, pedestrians have to negotiate the freeway-style ramps that connect De La Cruz to Coleman.

Thus, at present, it appears that employees of the area east of the tracks have no convenient means of accessing the Caltrain system or VTA buses at the Santa Clara Station. To document the existing situation, VTA conducted a study which found that up to 35 pedestrians and bicyclists are crossing the tracks daily at

the station, and about 40 are crossing at De La Cruz². The study also surveyed employees who work on the east side of the station and found significant latent demand for a crossing of the tracks, both from the people who are currently using De La Cruz and from people who are currently driving to work. Indeed, illegal pedestrian crossings of both Caltrain and UP tracks occur today in the vicinity.

VTA feels a temporary pedestrian crossing will encourage safe pedestrian movement and reduce vehicular traffic. The concept considered here would be to build a crossing of the UP tracks between the midpoint of the planned island platform and the east side of the UP tracks. A pathway then could connect the temporary crossing to Brokaw Road. A schematic of this alternative appears as Figure 2 on the following page. The crossing in the location specified in the graphic would allow for a linear flow of pedestrians and bicyclists from Brokaw Road, across the UP tracks to the island platform, and under the Caltrain tracks to a point near the historic station structure. The temporary crossing would be eliminated once a grade separation – an overcrossing or an undercrossing – were put in place.

A permanent pedestrian crossing could be constructed in two ways. One way would be to extend the planned Caltrain tunnel between the Santa Clara Station and the island platform to the east side of the UP tracks. A pathway then could connect the crossing to Brokaw Road. The tunnel is being engineered with a “break out” wall to facilitate future expansion. VTA is working to secure the funds for the full tunnel extension. The earliest this tunnel extension could be built is December 2009. In the event that funding is secured, any need for a potential crossing of UP tracks will become moot. Still, even with funding secured and a firm date of tunnel completion at the end of 2009, the issue of pedestrians crossing UP tracks at the Santa Clara Station will be unresolved for more than 30 months. A solution would be a temporary pedestrian crossing during these 30 months. However that crossing would have to be located away from the station, so as to be usable during the tunnel/center platform construction. It would not be in the right location after the platform tunnel opens and the platform is in use.

The other way could occur with the planned BART extension to Santa Clara. The BART extension would provide a pedestrian overcrossing of the UP tracks for access between the BART and Caltrain systems. The overcrossing also could be designed to provide neighborhood access across the all rail lines. This second solution would be dependent on the potential BART extension which may not occur until the 2015-2020 timeframe.

Either approach would provide a permanent pedestrian crossing from Brokaw Road on the east to the Santa Clara Station and nearby Benton Road on the west.

STATION SETTING

The Santa Clara Caltrain Station is located on the former Southern Pacific Transportation Company (SP) rail route between San Francisco and San Jose. This line was acquired in the early 1990s by the Peninsula Corridor Joint Powers Board (PCJPB), a public agency formed by the transit agencies of San Francisco, San Mateo, and Santa Clara Counties. One of these transit agencies is VTA. The PCJPB operates the Caltrain commute service between San Francisco, San Jose, and Gilroy.

² Santa Clara Caltrain Station Pedestrian Crossing Demand and Feasibility, April 2007

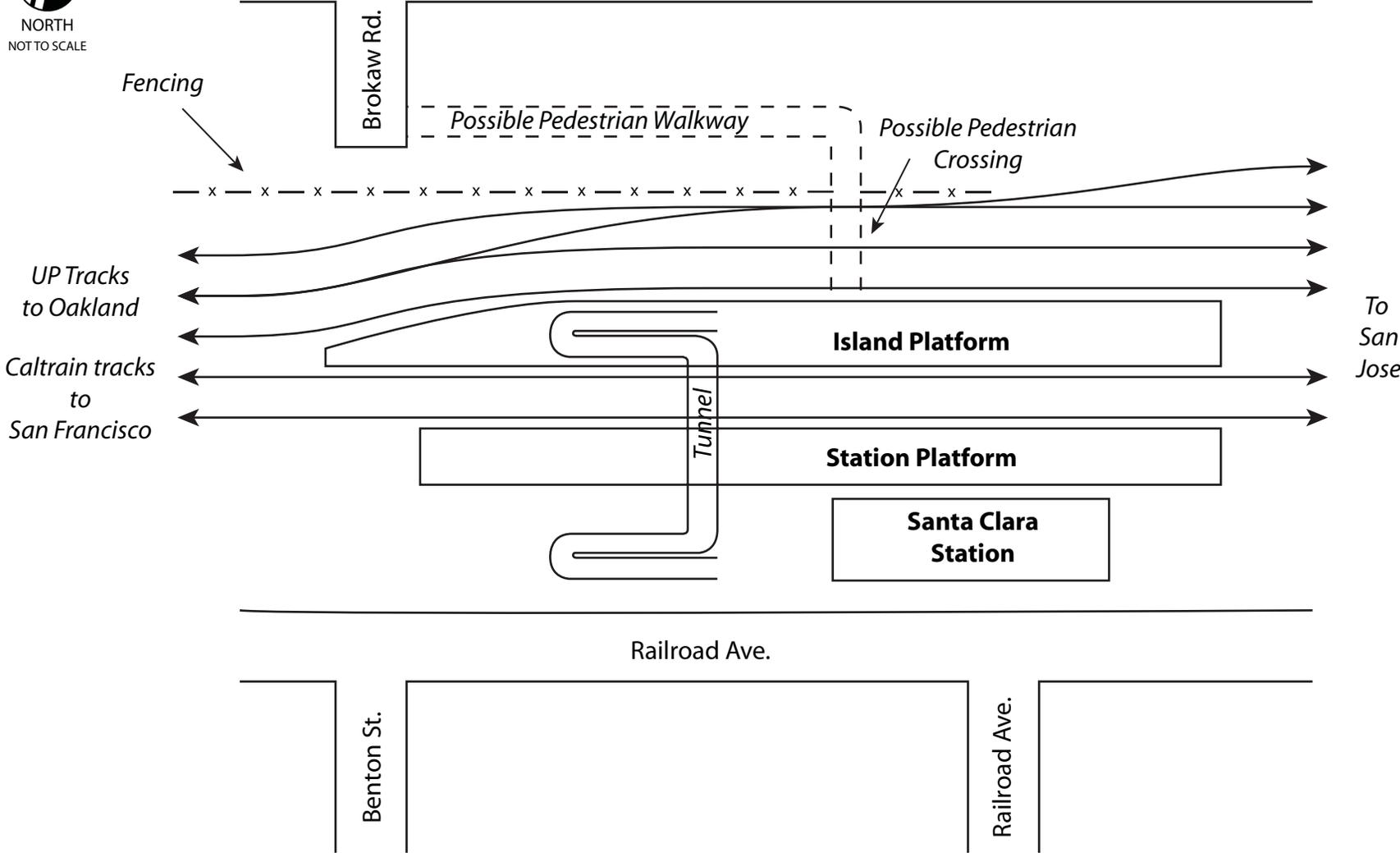


Figure 2
POSSIBLE PEDESTRIAN CROSSING OF UP TRACKS AT SANTA CLARA STATION
100965/STUDY AREA - 03/14/07

The rail trackage extends in the northwest to southeast direction adjoining the historic downtown area of Santa Clara and the adjacent campus of Santa Clara University. For descriptive purposes, subsequent references will consider the rail line as a north-south geographic feature.

The historic SP station building still provides the nucleus of the station. Downtown Santa Clara and the university campus are situated to the west of the station, and are bordered by residential communities to the north, west, and south. Immediately south of the station and adjacent to the railroad there are new office and residential uses built on former industrial sites. The two tracks nearest the station belong to the PCJPB.

Union Pacific, the successor to SP, maintains the more eastern tracks. These include a through main track closest to the station, a controlled siding, and an eastern most yard lead. Further to the south there are remnants of a once-larger freight yard. Most of the yard tracks have been removed, and the site of the former freight yard is designated as a terminal station and storage yard location for the planned BART extension from Fremont to San Jose/Santa Clara. The balance of the area east of the trackage is developed for office and industrial uses, with the runways of San Jose International Airport further to the east.

Just to the north of the station, the rail line splits at a point known (in railroad terms) as CP Coast. The more westerly route, owned by Caltrain, runs north to San Francisco, while the easterly route diverges north to Fremont and Oakland. The easterly route is owned by UP, and a separate UP track extends south along the east edge of the right of way through San Jose.

CURRENT AND PROJECTED RAIL TRAFFIC

The Santa Clara Station is located on a busy rail corridor that currently sees about 144 train movements on weekdays, with somewhat fewer trains on weekends and holidays. Four different rail operators use the route through the station. Maximum train speeds of passenger and freight trains are cited in the following section.

Caltrain operates 96 weekday round trips between 04:30 AM and 10:35 PM through Santa Clara. Seventy-four of these make a passenger stop at Santa Clara, while the remaining 22 trains (Baby Bullet express trains) do not stop. During the mid-day hours, Caltrain operates on half-hour headways in each direction, resulting in four trains per hour. Saturday, Sunday, and Holiday service is less frequent.

According to Caltrain's 2004-2023 Strategic Plan, Caltrain could operate as many as 138 weekday trains in 2023, assuming its highest service level.

Amtrak operates 16 trains per day through the Santa Clara Station. None currently stops at Santa Clara. Fourteen trains are Capitol Corridor trains that operate between San Jose and Sacramento, while two are Coast Starlight long distance trains operating between Seattle and Los Angeles. When track and platform improvements are completed, some or all of the Capitol Corridor trains will stop at Santa Clara. Amtrak trains operate on UP tracks today. In the near future, these trains will have the ability to use both UP and Caltrain tracks at Santa Clara, as crossovers between the Caltrain and UP tracks will exist north and south of the station.

An added long distance train is planned between Los Angeles and San Francisco on the Coast Line, with a target implementation date several years from now. Implementation of additional Capitol Corridor services are possible, but are dependent on agreement with UP.

Altamont Commuter Express operates eight trains each weekday (none on weekends) between Stockton and San Jose. These do not currently stop at the Santa Clara Station, but are planned to serve Santa Clara when the ongoing improvements there are completed. Like Amtrak trains, ACE trains will have the ability in the near future to use both Caltrain and UP tracks at Santa Clara.

ACE is exploring additional services, but it has no specific plans at this time for additional trains through Santa Clara.

Union Pacific operates about six freight trains on weekdays through the station area. These include approximately three daily through freight trains each way using the Coast Route from Portland or Roseville to Los Angeles; several regular local freight trains shuttling between Milpitas and the San Francisco Peninsula (UP retains freight trackage rights on the Peninsula Line, as a condition of SP's sale of the line to the PCJPB), to the cement plant at Permanente, and to the Watsonville area; and occasional extra trains. The remaining tracks in the adjacent freight yard are used to set out and pick up cars to be switched to industrial users in the San Jose/Santa Clara area.

UP freight service has been relatively constant through Santa Clara, since the primary freight line to Southern California is through the San Joaquin Valley. The Coast Line serves as a "relief valve" in the event of a service disruption on the San Joaquin line, but is not likely to see significantly increased freight operations on a regular basis.

Specific detail regarding UP movements on and off the north end of its freight tracks at Brokaw Road was not available at the time of this writing. As noted, these tracks are remnants of a much larger freight yard. UP downsized the facility to meet the current level of demand.

Assuming UP, Amtrak and ACE volumes were all concentrated on UP tracks at the Santa Clara Station, a total of 30 trains would use these tracks on weekdays. Saturday and Sunday volumes would be less.

TRAIN SPEEDS THROUGH SANTA CLARA

The maximum speed through Santa Clara on Caltrain track today is 60 miles per hour for passenger trains and 40 mph for freight trains. The maximum speed through Santa Clara on UP track today is 30 mph for passenger trains and 25 miles per hour for freight trains. With the completion of the ongoing and planned track improvement in the area, speeds for through passenger trains and freight trains could increase on both Caltrain and UP tracks.

TRACK AND PLATFORM IMPROVEMENTS

Major track changes are underway now at the Santa Clara Station. These are both to provide added capacity for train operations, and to permit Capitol Corridor and ACE to serve the station.

Eliminating Hold Outs. The station currently has its principal passenger platform on the station side, adjacent to the southbound Caltrain track. A narrow platform between the southbound and northbound Caltrain tracks provides access to northbound trains, and requires passengers to cross the southbound track at grade. When two trains approach the station at the same time, one must "hold out" to permit passengers to cross the southbound track. The narrow northbound platform does not provide room for passengers to stand between trains on each track. Caltrain is progressively eliminating the "hold out" platforms along the entire peninsula in favor of separate northbound and southbound platforms outside the running tracks. This platform configuration requires passenger undercrossings or overcrossings, including the ability to accommodate wheelchairs or physically disadvantaged passengers.

Capitol Corridor and ACE Access. Amtrak and ACE trains diverge just north of the station. The current track connections do not allow these trains to cross over onto the Caltrain tracks to use the existing station platforms, and these trains along with UP freight trains use the third (main) and fourth (siding) track to the

east that do not have any passenger platforms. The proposed center platform (shown in Figure 1) will serve both the northbound Caltrain track (that will be west of the platform) and the UP/Capitol Corridor/ACE track (east of the platform).

Improvements Underway. Trackage through the station area is being relocated and replaced with an entirely new physical layout, shown in Figure 2. Work is being done in stages, so as to keep current operations in place with minimal disruption. The ultimate plan will include two Caltrain express tracks with no platform access (that is, four Caltrain tracks through Santa Clara Station). This plan will require shifting the Santa Clara Station building and existing platform westward sufficiently to provide room for four Caltrain tracks between the station building and the island platform. The planned undercrossing or tunnel between the station and the island platform has been planned with this shift in mind. The western entrance for the tunnel will be set back from where the existing station-side platform is today.

COMPARABLE AT-GRADE CROSSINGS

Caltrain has numerous locations where pedestrians cross the tracks at grade level. Most of these are situated at roadway street crossings, and function as an extension of the sidewalks along the streets. There also are a limited number of grade crossings used exclusively by passengers to move from one platform to another to board trains, or by area residents to cross the tracks for other purposes. A few of these crossings were investigated for this study.

Palo Alto Caltrain Station

There is a temporary pedestrian at-grade crossing, constructed in 2006, at the Palo Alto Caltrain Station. This crossing is at the north end of the two side platforms. Warning devices include signage, pedestrian gates, bells, and flashing lights. Channeling fencing is located between the Caltrain tracks to the north and south to prevent pedestrians from crossing anywhere but at the designated crossing. A photograph of this crossing appears as Figure 3.

According to Al Fung of Caltrain, the temporary crossing was permitted by the CPUC, the state agency with authority to approve at-grade crossings, as an interim measure, to last until such time as the nearby ramp to the existing pedestrian tunnel can be modified to comply with ADA requirements. Those modifications are scheduled for completion in 2008, at which time the at-grade crossing will be eliminated.

(This space is intentionally left blank.)

Figure 3: Pedestrian Crossing at North End of Palo Alto Caltrain Station

Mountain View Caltrain Station

There are two permanent pedestrian at-grade crossings at the Mountain View Caltrain Station. One is at the south end of the two side platforms and permits crossing from one platform to another. The other is at the north ends of the platforms and provides access from the station parking lot on the west side, across Caltrain tracks, to the VTA light rail station on the east side of the station. Warning devices and fencing at both crossings are the same as Palo Alto, as seen in Figures 4 and 5.

Figure 4: Pedestrian Crossing at North End of Mountain View Caltrain Station

Figure 5: Pedestrian Crossing at South End of Mountain View Caltrain Station

Sunnyvale Caltrain Station

At its Sunnyvale Station, Caltrain constructed permanent pedestrian crossings at the north and south ends of the side platforms in the 2003-04 period. The crossing protection at each crossing is identical and includes signage, gates, bells, and flashing lights. There was also fencing between the tracks to discourage crossings mid-platform. The crossings were simply for train riders to move from one platform to the other.

At the north end, however, nearby residents were using the crossing as a *de facto* public pedestrian grade crossing, according to Jack Witthaus of the City of Sunnyvale. The CPUC's initial position was that it would not allow improved public access to the north platform crossing facilitating its use as a common pedestrian grade crossing (that is, more than just the platform-to-platform crossing). A photo of this crossing appears as Figure 6.

(This space is intentionally left blank.)

Figure 6: Pedestrian Crossing at North End of Sunnyvale Caltrain Station

In 2005, the CPUC staff along with City and neighborhood representatives met and discussed the situation. On the spot, the CPUC decided that the crossing was safe enough and that it would not invoke its jurisdiction. The CPUC documented this position in a letter to the City. The CPUC made its decision that the crossing was safe enough as a result of the protection in place. Thus, public access to the crossing is permitted.

Subsequently, a public process was conducted to consider the construction of a formal, accessible walkway (accessible to others than just Caltrain riders) linking the neighborhood with the crossing. The public process centered primarily on issues related to design of the access and its potential impact on the neighborhood to the north, not whether or not a public crossing was warranted.

Other Comparable Pedestrian Crossings

Dixon Station

A pedestrian crossing exists at the Dixon Station in Solano County on the UP Martinez Subdivision. The crossing is a long existing crossing connecting central Dixon on one side of the railroad with a residential area on the opposite side. Roadway crossings with pedestrian walks are located some distance away in both directions. The railroad at this location has two main tracks. Passenger train speed through the crossing is 79 mph, with 36 passenger trains per day. Freight speed is 60 mph or less, with 10-15 freights per day. There is no switching that occurs nearby, so all trains are moving at speed. The line sees Capitol Corridor, Amtrak and UP freight traffic. Warning devices include bells and flashing lights. A picture of the crossing appears as Figure 7.

Dixon has recently constructed a new intermodal facility on the opposite of the tracks from downtown. This facility ultimately will serve commuter trains along the rail line, but it currently is a bus transfer facility only. The long range plan is to replace the pedestrian crossing with a subway when train platforms are built, according to Janet Koster of the City of Dixon.

Figure 7: Pedestrian Crossing at Dixon Station

There have been two fatalities there in the last 16 years, per Ms. Koster. One was a person believed to be mentally incapacitated, and the other was believed to be alcohol related. Accident report records kept by the Federal Railroad Administration (FRA), the federal agency charged with safety oversight of the national railroad system, showed just one fatality: a 21-year-old man killed by a passing passenger train during nighttime hours in June, 2006.³

Other pedestrian crossings are several blocks to the northeast (at a street crossing), and several blocks to the southwest (again at a street crossing).

Metrolink Stations

Metrolink, which operates 512 route miles of commuter service in the Los Angeles basin, has only a few locations with pedestrian grade crossings at a station. Some of these are,

- At Rancho Cucamonga, a pedestrian crossing provides access across the main track to a secondary platform serving a passing siding. Only a few of the trains serving this station are required to use the siding, so the crossing is lightly used. It is protected only by flashing lights and bells. Freight service is limited to local switching activities.
- At Downtown Burbank, a pedestrian crossing at each end of the station provides access between the platforms situated outside the double track mainline. All Metrolink trains stop at this station, but Amtrak and UP freight service moves through without stopping. The crossings are protected only by flashing lights and bells.
- At Burbank Airport, a single pedestrian crossing at the west end of the station provides access between platforms outside the double track mainline. All Metrolink and Amtrak trains (except the Coast

³ The FRA maintains a database of accident reports of accidents at public and private grade crossings. The database can be accessed from the FRA's Web site.

Starlight) stop at this station, but UP freight service moves through without stopping. The crossing is protected only by flashing lights and bells.

Metrolink is moving towards grade separated platform access at its stations, and currently it is completing major elevator-overpass structures at the Santa Ana and Orange Stations on the busy route through Orange County. A similar overpass is envisioned at Rancho Cucamonga as service expands on that route. All of Metrolink's stations that have more than two tracks and have frequent freight service through the station, such as Riverside and Fullerton, have pedestrian overcrossings with both stairs and elevators.

Santa Clara Great America Station

A pedestrian crossing of the UP Coast Subdivision exists at the north end of the Santa Clara Great America Station used by ACE and Capitol Corridor trains. Tracks are used by Capitol Corridor, ACE, Amtrak's Coast Starlight, and UP freight trains. Warning devices include signage, bells and flashing lights. It is a crossing of tracks used by a comparatively high volume of freight and passenger trains, like the others. The allowable passenger train speed is 60 mph. A check of the FRA accident database showed no records of accidents at this crossing, shown in Figure 8.

Figure 8: Pedestrian Crossing at Santa Clara Great America Station



Tennyson High School in Hayward

There is a pedestrian crossing of the UP Niles Subdivision in Hayward adjacent to Tennyson High School. The UP track is used by the Capitol Corridor trains and UP freight trains. Warning devices include signage, bells and flashing lights. This crossing is unlike the other crossings discussed in this section, only in that it is not at a station. It is a crossing of tracks used by a comparatively high volume of freight and passenger trains, like the others. The allowable passenger train speed is 79 mph.

According to an FRA accident report record, a 14-year-old girl was killed by a passenger train at this crossing in February, 2005. The train set consisting of a locomotive and four cars had been traveling at 69 mph when it hit the girl. The accident occurred during the daytime. A photo of the crossing appears as Figure 9.

Figure 9: Pedestrian Crossing at Tennyson High School in Hayward

Old Town in San Diego

The pedestrian crossing at the Old Town Transit Center in San Diego is part of the Taylor Street four track crossing. Taylor Street crosses the two San Diego Trolley tracks and the two conventional rail tracks in the Old Town area. The Old Town Transit Center, serving both the San Diego Trolley light rail service and The Coaster commuter rail service, is located just south of Taylor Street. The trolley tracks are to the east of the conventional tracks. The Pacific Surfliner intercity passenger service, operated by Amtrak and Caltrans, and the Burlington Northern Santa Fe Railway freight service use the conventional rail tracks in addition to The Coaster. Most weekdays, 363 light rail trains, 22 Coaster trains, 22 Surfliner trains, and an about 4 BNSF freight trains cross Taylor Street. The allowable train speed through the crossing is 40 mph.

Three fatalities occurred between December 2005 and April 2006 at the Taylor Street crossing. In each case, a transit patron had exited the Old Town Transit Center and was crossing the conventional railroad tracks at Taylor Street in front of a closely approaching train. These fatalities occurred despite a full complement of activated crossing warning devices and approaching trains' audible warning horns.

Summary

There are multiple examples of pedestrian crossings of well used rail lines in California. Brief descriptions of some of them appear above. Warning devices for all of these include signage, flashing lights and bells, though all Caltrain station crossings have gates as well. Even with this protection, there have been at least six fatalities at three of the crossings. To be sure, trains kill pedestrians at locations where no crossing exists as well as at crossings, as pointed out in the discussion of the 2005 fatality near Blossom Hill Road which appears in a subsequent section of this report. Suicides, where people purposely cross or stand on track in front of an oncoming train, are also not an uncommon occurrence on rail lines.

Of the various examples above, two stand out for their relevance to a temporary crossing at the Santa Clara Station. The Palo Alto Station crossing is temporary. It will exist only so long as it take to make the existing undercrossing ADA compliant. The Sunnyvale Station north end crossing provides access for neighborhood residents to cross tracks. Both crossing see a high volume of passenger trains and more limited UP freight trains. The CPUC considers both crossings safe.

UNION PACIFIC CONCERNS

The concept of a temporary pedestrian crossing of UP tracks between the Santa Clara Station island platform and the east side of the tracks was presented for comment to Gary Riddle, UP Program Manager. Mr. Riddle confirmed on the telephone his concerns as follows.

- UP cannot consider a temporary pedestrian grade crossing at the station without knowing the time period the crossing will be in place.
- A temporary grade crossing there would expose UP to an unacceptable level of liability.
- Mitigation in terms of closures of street crossings nearby would be insufficient to mitigate such liability.
- UP's trains periodically stop on the controlled siding and yard lead track for long periods of time. Such train stoppages would render a pedestrian crossing there pointless.

The concerns cited above reflect an antipathy, logical for a railroad, toward a new crossing which potentially increases the railroad's risk of liability due to accidents at that crossing. A strategy which may attract the positive attention from UP executives would be to reduce UP's overall risk exposure in the area. Possible examples of how to accomplish this could include closing one or more street crossings in the area in return for gaining UP support for a temporary crossing at the Santa Clara Station. Another strategy may be to totally indemnify UP from liability arising from any accident at the temporary crossing.

Regarding Mr. Riddle's last point, it is reasonable to envision freight trains potentially stopping on the siding between the through main track adjacent to the Santa Clara Station island platform and the eastern most yard lead for protracted periods of time. Such an eventuality would occur with changes of train crews, or with switching operations to and from the southern storage tracks. Crew changes can leave trains on sidings for hours at a time, while switching operations would likely have a lesser duration. How often trains would stop on the siding is unknown, but trains stopped on sidings are a common occurrence in railroading.

If a crossing were to be established at the location identified in Figure 2, the ability of UP to hold trains on the siding (UP dispatches all trains on its track, including passenger trains), as well as to conduct switching operations on the eastern most yard lead, would be constrained. This is because trains cannot block crossings indefinitely⁴. For this reason, too, it appears clear that UP would not be supportive of a new pedestrian crossing at the Santa Clara Station.

CPUC CONCERNS

Section 1201 of the California Public Utilities Code specifies,

"No public road, highway or street shall be constructed across the track of any railroad corporation at grade...without first securing the permission of the (California Public Utilities) Commission."

Thus, Kevin Boles of the CPUC was contacted for his concerns about the temporary crossing of the UP tracks at the Santa Clara Station. Mr. Boles referred to CPUC General Order No. 75-D, Item 2, which specifies,

⁴ According CPUC General Order 135, generally speaking, a freight train cannot block a crossing for more than 10 minutes.

“As part of its mission to reduce hazards associated with at-grade crossings, and in support of the national goal of the Federal Railroad Administration (FRA), the Commission’s policy is to reduce the number of at-grade crossings on either freight or passenger railroad mainlines in California.”

Mr. Boles opined that the CPUC might look upon the closure of a crossing in the same general area of the conceptualized Santa Clara Station crossing of UP tracks as an appropriate mitigation for establishing that crossing.

As with the UP, a strategy that may attract the positive attention of the CPUC Commissioners would be the closure of crossings elsewhere in the area in return for CPUC support for a temporary crossing of UP tracks at the Santa Clara Station.

ORDER OF MAGNITUDE COST ESTIMATE

As represented in Figure 1, the temporary pedestrian grade crossing of UP tracks at the Santa Clara Station would cost an estimated \$307,000, including design, construction, and contingencies. The crossing would have the same features as crossings of Caltrain tracks at Palo Alto, Mountain View and Sunnyvale. Warning devices would include gates, bells and flashing lights, as well as channeling fencing, striping and signage. The detailed cost estimate appears in the Appendix to this report.

PEDESTRIAN CROSSING PROS AND CONS

A temporary pedestrian crossing of the UP tracks at the Santa Clara Station would have various pros and cons. These include,

The Pros

- The crossing with gates, bells, flashing lights, and channeling fencing would enhance the safety of pedestrians now crossing the tracks illegally.
- The crossing would be temporary, rather than permanent.
- Such a crossing physically can be built in this location.
- The crossing would be comparatively inexpensive to implement.
- The current volume of freight and passenger trains appears stable for the foreseeable future.
- The crossing would benefit rail passengers and neighborhood residents or employees.

The Cons

- The crossing would expose UP to liability which it does not have now.
- There is no firm definition of how temporary the crossing would be.
- The potential exists for protracted blockage of the crossing by UP trains sitting on the controlled siding or conducting switching operations on the yard lead. At such times, pedestrians could be tempted to climb over or under stopped trains at the crossing. Such pedestrian behavior can be observed routinely at public at-grade crossings of UP track in the Jack London Square area in Oakland.

THE BLOSSOM HILL ROAD CROSSING EXPERIENCE

In November, 2005, a small boy was killed in a tragic daytime accident on the UP mainline south of Blossom Hill Road in San Jose. Investigators at the time reported that the boy was hit by the Coast Starlight train while attempting to follow his babysitter across the UP track. The boy apparently got stuck crossing the track and was hit by the oncoming Amtrak train. The accident was widely reported by the press and on television. The location of the accident was not a legal crossing, but it was one frequently used by neighborhood residents.

In response to public concern aroused by the accident, the City of San Jose sought to build temporary crossing of the UP track just south of Blossom Hill Road, which eventually would be replaced by a permanent overcrossing, according to Rene Cordero, of the City of San Jose. The City began the process of filing an application for the crossing with the CPUC. At the same time, the City approached both the UP and the CPUC for their comment.

According to Mr. Cordero, the CPUC was supportive of the concept once it clearly understood that the crossing was to be temporary. UP eventually took the position that if a temporary crossing were to be built, its construction crews would have to build it. UP noted that the shortest timeline in which its crews could build the crossing would be two years.

As the City had hoped that it could build an overcrossing in the same amount of time, the City saw no point in pursuing the temporary crossing and instead decided to pursue the overcrossing. The City is doing so today.

CONCLUSION

It is interesting to note from Mr. Cordero's narration that neither the CPUC nor the UP overtly opposed a temporary crossing at Blossom Hill Road. This may have been a result of the public concern aroused by that accident, which may have pressured both the agency and UP to work with the City of San Jose. Importantly, however, that concern does not exist relative to a temporary pedestrian crossing of UP tracks at the Santa Clara Caltrain Station.

It does not appear that there are insurmountable safety concerns with regard to a temporary pedestrian crossing of UP tracks at the Santa Clara Station. This study cites several examples of pedestrian crossings, some of UP tracks with comparatively high train volumes. Nevertheless, it is highly likely that UP will protest any application for such a crossing, for the reasons stated above. Furthermore, CPUC may object as well, as such a crossing, absent mitigation such as a reciprocal crossing closure in the general area, would be at odds with the CPUC's General Order 75-D.

The above noted, VTA does have the right to file an application for such a crossing with the CPUC. Success would depend on how well VTA addresses UP's and the CPUC's concerns. It is unreasonable to expect that UP would accept greater exposure to liability than it has today. Along the same line, CPUC is not likely to accept opening one crossing without closing another.

Appendix

CROSSING APPLICATION PROCESS AND TIMELINE

Should VTA wish to pursue establishment of a pedestrian crossing of UP tracks at the Santa Clara Caltrain Station, it would need to follow the following procedure, as summarized by Kevin Boles of the CPUC.

1. Advance work: VTA should meet with the CPUC and UP to learn first hand their concerns about such a crossing.
2. Even if either the CPUC or UP (or both) sees the crossing as undesirable, VTA has the right to file a formal application for the crossing with the CPUC.
3. Once the application is filed with the CPUC, it goes onto a public calendar for 30 days, during which time the CPUC and/or the UP can file a protest for *safety concerns*.
4. If the application is not protested, CPUC will process the application for a vote by the Commissioners.
5. If protested, the proceeding will be transferred to the Administrative Law Division of the CPUC and a scoping memo will be issued. The memo outlines the issues in the case.
6. An Administrative Law Judge (ALJ) will then review the scoping memo and hold a Pre-Hearing Conference (PHC) to hear from all parties (VTA as well as CPUC and/or UP).
7. At the PHC, the ALJ will likely recommend mediation.
8. If there is no resolution at this point, the ALJ will have the parties submit opening briefs and subsequently prepared testimony by expert witnesses. The ALJ will then hold an evidentiary hearing in San Francisco, where expert witness will be cross examined on their testimony for and against the crossing. After another round of briefs, the ALJ will issue a ruling based on safety issues along with public necessity and need.
9. After the ALJ issues a ruling, the ruling must be approved by a vote of the Commissioners.

A timeline from the filing of an application to a vote by the Commission is generally 18 months.

The definitive specifications of this application process appear in CPUC's Rules of Practice and Procedures.

The aforementioned procedure notwithstanding, it is worth noting that the CPUC has the exclusive power "to determine and prescribe the manner, including the particular point of crossing, and the terms of installation, operation, maintenance, use and protection of each crossing of...a railroad by a street," per Public Utilities Code Section 1202. This is to say, CPUC could order the crossing established without a hearing. It only would do so, however, if it were to find that a crossing is in the interest of the state.