ALJ/EA/lq

ORIGINAL

Decision 93326 JUL 22 1981

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In the Matter of the Application of the CITY OF SAN DIEGO to construct a city bikeway across the right of way of the Atchison, Topeka and Santa Fe Railway Company in vicinity of Gilman Drive at Elvira Station in Rose Canyon.	Application 59943 (Filed September 17, 1980)

S. Patricia Rosenbaum, Deputy City Attorney, for City of San Diego, applicant.
Leland E. Butler, Attorney at Law, for The Atchison, Topeka and Santa Fe Railway Company, protestant.
Robert W. Stich, for the Commission staff.

O P I N I O N

The City of San Diego (San Diego) seeks authority to construct a grade crossing over the double track main line of The Atchison, Topeka and Santa Fe Railway Company (Santa Fe) in Rose Canyon, near the eastern end of Gilman Drive. San Diego has constructed an extensive system of public bikeways. It desires to construct a major bikeway section which would connect existing bikeways by crossing the railroad. The Rose Canyon area is one of San Diego's newly acquired open spaces and is dedicated to open space use only. The city's Park and Recreation Board endorsed the additional bikeway project as a good use of open space. That agency is supportive of bicycles as an alternative form of transportation and as an aid to preservation of clean air. Santa Fe strongly opposes the grade crossing for safety reasons.

Public hearing was held before Administrative Law Judge Norman Haley in San Diego on March 18, 1981, and the matter was submitted.

Presentation of San Diego

Evidence on behalf of San Diego was presented by the project manager for its engineering department, John C. Tsiknas (project manager). He is responsible for the design and construction of various public works facilities such as streets and highways, traffic signals, computerized traffic control systems, bikeways, and drainage facilities. At various existing railroad grade crossings he has been responsible for interconnecting traffic signals with drop gates and tying into preemption systems. The project manager presently is in the process of designing systems which will control the new lightweight rail operation along the entire surface route in downtown San Diego.

The proposed bikeway is the third one the engineering department has designed. It is known as the Rose Canyon Phase II Bikeway and would cost about $500,000. It would connect the existing Rose Canyon Phase I Bikeway and the Gilman Drive Bikeway (which now connect at the eastern end of Gilman Drive) with a Class 1 bikeway located on Genessee Avenue. With the new bikeway the eastern end of Gilman Drive would be a major connecting point leading north, south, and east. San Diego anticipates that when the Phase II connection is opened, it will carry 250 bicycles a day and that the number will grow to 700 per day. This, of course, would be the estimated volume of traffic over the proposed railroad grade crossing.

San Diego considered two alternative routes for the proposed bikeway and two ways of crossing the Santa Fe double main line tracks. The route decided on as the best alternative would cross the tracks at grade and follow the bottom of Rose Canyon to Genessee Avenue. That route is substantially level and generally would be along an abandoned Santa Fe roadbed through a wooded park-like setting. Assertedly, construction would be easy and there would be no drainage problems. At the east end at Genessee Avenue there is a traffic signal, so bicycles could cross with the signal.

The proposed grade crossing would be at the site of an existing Santa Fe work crew grade crossing near the eastern end of Gilman Drive. That crossing is now protected by steel cable or chain padlocked between posts. San Diego desires to upgrade that crossing to a public crossing with flashing lights, bells, and drop gates. The project manager estimated the cost to be about $75,000. San Diego did not estimate the annual cost of maintenance of protection equipment. The project manager stated that there is no suitable existing public railroad crossing close enough to be used to connect the existing bikeway system. He was of the opinion that from a safety standpoint a bicyclist can detect a train and maneuver better at a railroad crossing than a motorist can. He said San Diego Gas & Electric Company (SDG&E) trucks have been seen using the present Santa Fe work crew grade crossing.

San Diego considered the feasibility of a bikeway overcrossing of the Santa Fe tracks from high ground at the eastern end of Gilman Drive. At that point the ground is about 15 to 20 feet above the railroad. After crossing over the railroad the structure would have to turn to the north and include a ramp down substantially parallel to the tracks. The overhead consideration was rejected by San Diego primarily because it was calculated it would cost about $500,000 based upon an estimate of $100 per square foot for concrete and steel overhead pedestrian structures, other than prefabricated. San Diego's engineering department has had experience with the cost of building pedestrian crossings over roads and freeways.

Another alignment for the proposed Phase II Rose Canyon Bikeway, an unimproved maintenance road for SDG&E, was considered by San Diego and rejected because it involved too many problems. That route would have been along the west and north side of the railroad between Gilman Drive and Genessee Avenue. It would have to be located over a series of steep hills and partly along the base of a high steep cliff, requiring a major amount of construction, including a large retaining wall. The roadway surface would have to be built wide enough and strong enough to carry 25-ton vehicles which SDG&E uses to wash high voltage insulators. This route assertedly would add 50% to the cost of the Phase II Bikeway. Another assertedly bad feature of the rejected alternative alignment is that at the east end there is no feasible way to bring bicyclists up to grade going south. If the bikeway were extended under the bridge that carries Genessee Avenue over the railroad and then brought up to grade, bicyclists would have to cross high-speed motor vehicle traffic.

Presentation of Santa Fe

Evidence on behalf of Santa Fe was presented by two witnesses. The first was John L. Whitmeyer, public project engineer (Santa Fe engineer). About 95% of his work is associated with grade crossing matters, including improvements. It is part of his responsibility to obtain cost estimates for installation of grade and separated crossings of the railroad. He also investigates proposed locations for crossings to determine whether there is a better alternative than being proposed by a public agency.

The Santa Fe engineer said that from information about the site immediately available to signal engineers the cost for installing two standard No. 9 gate-type signals, including drop gates, flashing light signals, circuits, and predictors,[1/] would be about $127,000, based on a 12-month installation date. An alternative installation of two No. 10 pedestrian warning signals would be about $114,363. A No. 10 pedestrian warning signal consists of one flashing light on a standard. Preparation of the track, installation of crossing material, and installation of insulated joints in the track to accommodate the warning devices would be about $26,620. This would make the total cost of a grade crossing about $153,620 with No. 9 gate-type signals, or about $140,983 with No. 10 pedestrian warning signals. Annual maintenance of 50 crossing protection units at about $80 per unit would be $4,000 for No. 9 gate-type signals. Maintenance of No. 10 installation would be somewhat less because of a lesser number of protection units.

1/ The Santa Fe engineer explained that drop gates and flashing light signals normally commence to operate approximately 20 to 25 seconds before arrival of a train. He said a predictor will anticipate the arrival time of an approaching train by taking into account its speed and cause the gates and signals to operate accordingly.

The Santa Fe engineer also prepared an estimate of the cost of a grade-separated structure over the tracks at the eastern end of Gilman Drive for use by pedestrians and bicyclists. Consideration was given by Santa Fe's bridge engineer for a prefabricated overhead structure made of Corten steel, with one through truss span approximately 85 feet long and 8 feet wide, with a live load rating of 100 pounds per square foot. Corten steel is self-weathering and does not require paint. Assertedly, it would blend quite well into the natural environmental setting. There would be a steel tower approximately 30 feet high on the east side of the tracks, and a ramp approximately 300 to 400 feet long leading northerly, parallel to the railroad, to a point where it would meet the proposed bikeway path. This would provide a 5% maximum ramp grade. Santa Fe had a commercial estimate of approximately $160,000 for the prefabricated structure itself. In addition, there would be approximately 50 cubic yards of concrete. Approximately six weeks of labor would be required for installation. Equipment rental, transportation, and contingencies would bring the total to approximately $242,000 for this type of installation. This would include complete enclosure of the 85-foot-long span with some kind of mesh material to thwart persons from dropping things from the bridge structure onto the tracks and trains. The Santa Fe engineer explained that this particular route is subject to the possible installation of electric catenary (overhead wires for electric locomotives) and, therefore, the bridge would be required to be at a minimum of 25.5 feet above top of rail. Santa Fe now requires this minimum clearance for all new installations.

The Santa Fe engineer introduced and explained Exhibit 1 which is a Santa Fe statement of intent relative to improving crossing safety. Among other things, it is the intent of Santa Fe to construct grade separations in California but not to establish new crossings at grade.

Santa Fe's second witness was Stephen R. Griswold, trainmaster at Fullerton. He is the operating officer for Santa Fe's Fourth District which runs from Fullerton to San Diego. He is responsible for dispatch and control of train operations so that schedules are met with the greatest efficiency.

The trainmaster explained that the double track main line is part of a centralized traffic control system so that traffic can be run in either direction on either track.[2/] The dispatcher in San Bernardino determines which track is to be used for a train movement and in which direction. The dispatcher has a console with a geographic layout of the railroad between Fullerton and San Diego showing various sidings. He can dispatch trains and have them meet according to their various running times. In the particular territory involved there are 14 Amtrak trains and a minimum of six freight trains a day.

The trainmaster explained train operating procedures and results that can occur with trains meeting and passing on the double track in Rose Canyon in order to keep on-time passenger train performance. In Rose Canyon the railroad is on a relatively steep grade.[3/] Any freight train over 4,500 tons must be separated with one portion first being taken up to the top of the hill. A second

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2/ The double track is from approximately Mile Post 258 to Mile Post 253. The proposed grade crossing is at approximately Mile Post 257.

3/ The relatively steep grade is between Sorrento at Mile Post 249 and Miramar at Mile Post 253.

movement is required to bring up the second half. Because of railroad operating capabilities on the double track, freight trains may or may not have to stop when Amtrak trains pass in the vicinity of the proposed grade crossing.

The trainmaster said that if the proposed grade crossing is installed, it would not be his immediate intention to reduce train speed at that location. He indicated that this might be required, however, if as many as 700 bicyclists were found to be crossing during the period of daylight hours. He said that the railroad is constantly being pressured by Amtrak to maintain a high level of on-time train performance. It was his understanding that Amtrak desires to reduce the existing running time between Los Angeles and San Diego and probably would resist any reduction in speed in the area involved. At the location of the proposed crossing, present passenger train speed is 65 MPH and freight train speed is 55 MPH in both directions. A number of trains assertedly operate at those speeds.

The trainmaster had sight distances checked from the proposed grade crossing. These are distances within which a train crew would have to react if the grade crossing is occupied. Coming from Los Angeles the sight distances were 1,131 feet for good visibility; 1,560 feet for restricted visibility; 1,677 feet for poor visibility; and 1,950 feet for no visibility. Coming from San Diego the sight distances were 1,131, 1,248, 1,521, and 1,950 feet, respectively. To get the measurements a Santa Fe employee stood at the proposed grade crossing and sighted distances back until the figures were obtained.

The trainmaster estimated the stopping distances of a freight train and a passenger train coming downhill from Los Angeles. These distances were based on actual braking times. He said that based upon an average-sized freight train of 4,500 tons, 5,000 feet long, with four locomotive units, at 55 MPH, the stopping distance from the first visual contact the engineer or brakeman might have with a problem at the proposed crossing would be 3,200 feet. At 45 MPH, the figure would be approximately 2,200 feet. At 35 MPH, it would be 1,500 feet. Stopping distances for a five-car Amtrak train downhill would be approximately 2,000 feet at 65 MPH; 1,700 feet at 55 MPH; and 1,300 feet at 45 MPH. An Amtrak train coming uphill from San Diego operates at about 50 MPH on the average at the point in question and would require about 900 feet to stop. The trainmaster said that based on the above figures there are several instances where the stopping distances of freight and passenger trains would exceed the sight distances.

On March 21, 1981 the trainmaster tested the distance at which the sound of a locomotive approaching the proposed crossing from Los Angeles could be heard. The engineer whistled at the witness and other Santa Fe personnel standing on the track at the crossing site when the train was about 1,200 to 1,300 feet away. He said that prior to hearing the whistle he could not hear the train although he knew it was coming. The purpose of this testimony was to show that a train coming around the curve in the canyon is not easily heard until relatively close by.

The trainmaster expressed general concern about grade crossings over double tracks where a slow freight train may be noticed by a person desiring to cross, but where the same person may not notice a fast train coming in the opposite direction. He said that accidents resulting from these circumstances happen all too often. The witness also explained that some freight trains stop completely at the proposed crossing site waiting to meet and pass other trains. He said that based on his experience people become anxious to proceed and actually crawl through stopped trains. He pointed out that if a freight train stops at the location involved, it is likely that a fast Amtrak train soon will be passing on the other track because that usually is the purpose for stopping. The witness said that during the period of time that an Amtrak train is running in the territory, a freight train must take the siding.

Other Organizations

Two other organizations sent in responses to the application, although neither entered an appearance at the hearing. Amtrak and Citizens for Rail California are both opposed to the proposed grade crossing. These organizations feel that it would not be a safe crossing and would have a negative effect on the reliability of present and future high-speed rail transportation. They feel that an overcrossing is necessary for the safety of pedestrians and bicyclists.

Discussion

The record does not show that a grade crossing, as proposed, could adequately protect the public at the location involved. Santa Fe has suggested an overcrossing alternative which appears to be feasible from the facts presented. The additional cost does not appear to be excessive, particularly when the obvious advantages of avoiding accidents are considered. We must deny the application for a grade crossing. We will, however, entertain an application for a grade-separated crossing in the event San Diego desires to construct one.

Findings of Fact

1. San Diego seeks authority to construct a protected public grade crossing over Santa Fe's double-track main line in Rose Canyon near the eastern end of Gilman Drive.

2. The proposed grade crossing would be at the present site of a Santa Fe work crew grade crossing.

3. The proposed grade crossing would be for bicyclists and pedestrians.

4. The proposed grade crossing would be part of a bikeway-connecting link between major elements of San Diego's extensive bikeway system.

5. San Diego estimates that about 250 bicyclists per day would use the proposed crossing initially, and that this number eventually would increase to about 700.

6. The cost of a protected grade crossing with No. 9 gate-type signals at the location involved would be about $153,600. Annual cost of maintenance would be about $4,000. No. 10 pedestrian warning signals would cost somewhat less to install and maintain.

7. At least 20 trains a day pass the proposed crossing site.

8. The speeds of trains at the proposed crossing site vary from zero MPH to 65 MPH.

9. Fast passenger trains often pass other trains at the proposed crossing site. Some of these are freight trains that move slowly or come to a stop.

10. There is a major curve in the Santa Fe track uphill (northeast) of the proposed crossing site.

11. Some trains coming downhill around the curve at or near speed limits would not be able to stop for a problem at the proposed grade crossing site because train crews would not have sufficient sighting and stopping distances.

12. A grade crossing equipped with train-activated signal equipment, even if always in proper operating condition, would not adequately protect pedestrians and bicyclists crossing the Santa Fe double-track main line at the location involved.

13. For reasons of safety and to maintain train schedules, it is the intent of Santa Fe to construct grade separations in California, but not to establish new crossings at grade.

14. An overcrossing would completely separate railroad traffic from pedestrian and bicycle traffic.

15. An overcrossing, although initially more expensive to install than a grade crossing, would be necessary to properly protect pedestrians and bicyclists crossing the Santa Fe double-track main line at the location involved.

16. San Diego estimates that the cost of a concrete and steel overcrossing for bicyclists, other than prefabricated, with ramp to grade on the eastern side would cost about $500,000.

17. Santa Fe estimates that the cost of a prefabricated self-weathering steel overcrossing for bicyclists, with wire mesh caging and ramp to grade on the eastern side, would be about $242,000.

18. San Diego has a viable alternative in the form of an overcrossing which would protect pedestrians and bicyclists from any conflict with trains.

19. Public safety requires that crossings be at separated grades at railroad line main tracks whenever possible. Authorization for new grade crossings of main line tracks must be based upon a showing that public convenience and necessity require such crossing.

Conclusions of Law

1. The evidence does not establish that the public safety, convenience, and necessity now require the proposed grade crossing.

2. The application should be denied.

O R D E R

IT IS ORDERED that Application 59943 is denied.
This order becomes effective 30 days from today.
Dated JUL 22 1981, at San Francisco, California.

President

Commissioners