

**ORIGINAL**Decision No. 71563

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Investigation into the status, safety, maintenance, use and protection or closing of various crossings at grade of the lines of The Atchison, Topeka and Santa Fe Railway Company, the Union Pacific Railroad Company, the Southern Pacific Company and the Pacific Electric Railway Company in the County of Orange, California, with various streets, roads and highways in said county.

Case No. 8102  
(Filed January 12, 1965)

Neal W. McCrory, for The Atchison, Topeka & Santa Fe Railway Company; Byron J. Lawler, for Union Pacific Railroad Company; John H. Gordon, for Southern Pacific Company; George D. Moe, Melvin R. Dykman and Joseph Easley, by George D. Moe, for the State of California, Department of Public Works, Division of Highways; Hugh L. Berry, for City of Fullerton; Alan R. Watts, for City of Anaheim; Jack Y. Kubota, for City of San Juan Capistrano; Murray I. Storm, for County of Orange; Philip W. Peter, for City of San Clemente; Bruce A. Packard, for City of Placentia; Ronald E. Wolford, for City of Santa Ana; and Arnt G. Quist and J. C. Harper, by J. C. Harper, for City of Orange; respondents.

G. R. Mitchell, for the Brotherhood of Locomotive Engineers, interested party. Robert C. Marks and W. F. Hibbard, for the Commission staff.

O P I N I O N

Public hearings on the above-entitled matter were held before Examiner Rogers on February 3, 4, 8 and 9, 1966, in Santa Ana, and June 8, 9 and 10, 1966, in Los Angeles. On the

latter date, the parties were given permission to file concurrent briefs within thirty days after the delivery of the last volume of the transcript. At the termination of said period the matter was submitted. Briefs were filed by The Atchison, Topeka and Santa Fe Railway Company, the Southern Pacific Company, the Union Pacific Railroad Company, and the City of Anaheim. The City of Santa Ana filed a letter, dated June 8, 1966, in which it stated it has no objection to the program recommended by the staff. The matter is ready for decision.

On February 23, 1966, the Union Pacific Railroad Company filed a petition for a proposed report. To grant the petition would serve no useful purpose; it will be denied.

The County of Orange and the Cities of Santa Ana, Placentia and San Clemente<sup>1/</sup> stipulated that the staff's recommendations are proper insofar as crossings within their jurisdictions are concerned.

The City of Anaheim argued that under Section 1202 of the Public Utilities Code the Commission is not empowered to apportion costs of installation of automatic protective devices to a public agency with respect to grade crossings. This contention has been decided adversely to the City's position (Decision No. 69868, dated October 26, 1965, in Case No. 8049, certiorari denied April 22, 1966, County of Monterey vs. the Public Utilities Commission). The Commission has consistently held that it has the

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<sup>1/</sup> The staff engineer considered only one crossing in San Clemente (Santa Fe Crossing No. 2-203.4, Senda de la Playa) and made no recommendation relative thereto.

power to apportion costs of grade crossings (Western Pacific Railway Co., 62 CPUC 215).

The case is an investigation by the Commission on its own motion into the status, safety, maintenance, use and protection at eighty-eight crossings at grade over the tracks of The Atchison, Topeka and Santa Fe Railway Company (Santa Fe), the Union Pacific Railroad Company (Union Pacific) and the Southern Pacific Company (Southern Pacific) in Orange County. Included are 74 Santa Fe crossings, nine Union Pacific crossings, and five Southern Pacific crossings.

Exhibit No. 1 herein is an exhibit prepared by a Commission engineer relative to the said 88 crossings. He stated that individual inspections were made of the crossings during the year prior to the hearings; that office meetings and on-the-ground inspections were made at each crossing with representatives of the political bodies having jurisdiction over the crossings, and the railroads involved; that the Commission's files and records were reviewed and locomotive speed tapes observed.

The engineer considered existing conditions or street widths or known proposed street improvements only. The engineer considered the present and estimated future vehicle traffic, the train traffic, the visibility, the number of tracks, the grades of approach, the train speeds, the economics, and the accident history at each crossing although he gave little weight to this latter item. In making his recommendations for scheduling the installation of improved protection, he scheduled some on the basis of need and others on the convenience of the railroad

involved. The engineer stated that each crossing was considered individually and on the basis of all factors, no one being more important than the other.

The crossings involved are principally those on the lines of the Santa Fe between Buena Park and Esperanza (San Bernardino or 2B Line), between Fullerton and San Clemente (San Diego or 2 Line), and between Orange and Atwood (2N Line). Nine crossings on the Union Pacific's Anaheim Branch (3Y Line), and five on the Southern Pacific Company's Santa Ana Branch (3K Line), and Orange Line (6NA Line) are included where these lines closely parallel the tracks of the Santa Fe in the Cities of Fullerton, Anaheim, Orange and Santa Ana.

The Santa Fe crossings considered included one in Buena Park, six in Fullerton, 15 in Anaheim, 12 in Orange, 18 in Orange County, eight in Santa Ana, four in San Juan Capistrano, one in San Clemente, four in Placentia, one in Santa Ana and Orange County, and four State Highway crossings. The engineer made recommendations for upgrading the protection at 51 of the Santa Fe crossings, including four in Fullerton, of which two have been upgraded as recommended by the engineer; nine in Anaheim, 11 in Orange, 15 in Orange County, five in Santa Ana, three in San Juan Capistrano, two in Placentia, and two State Highway crossings.

The engineer also recommended that five of nine Union Pacific crossings investigated (two in Fullerton and three in Anaheim) should have improved crossing protection, and that all Southern Pacific crossings herein considered (two in Santa Ana and three in Orange) should have improved crossing protection.

The crossings as to which no recommendations were made by the engineer included State Highway crossings now separated, or which are scheduled to be separated in the near future and crossings at which he considered the protection to be adequate under conditions prevailing at the time he made his investigation. He recommended the closing of one crossing, namely, Mission Street in San Juan Capistrano (Santa Fe Crossing No. 2-197.1), for the reasons that at the time of the hearing, there were only 36 houses in the area between Mission Street and Verdugo Street, which is approximately 900 feet south of Mission Street; that approximately 140 vehicles per day used the crossing; and that the crossing had a 12 percent grade of approach. The Santa Fe agreed that the crossing of Mission Street should be closed. The City opposed the closing on the ground that it would be in the best interest of the City that the closing be deferred until it had a chance to make a comprehensive study of the need for the crossing. The engineer also pointed out that four of the crossings, i.e., E. North Street (Crossings Nos. 2-167.2 and 3Y-19.5), Crown Valley Parkway (Crossing No. 2-193.0), and Kraemer Avenue (Crossing No. 2B-42.7) are to be closed pursuant to prior decisions of this Commission, and that the City of Orange plans to close Fletcher Street (Crossing No. 2N-3.0) coincident with the opening of a new crossing in 1969. In addition, the Santa Fe crossings at State College Boulevard (Crossing No. 2B-44.0) and Acacia Avenue (Crossing No. 2B-44.5) have been protected as the engineer recommended.

During the hearings and subsequent to submission the Santa Fe installed signals at 11 crossings involved in this proceeding. The railroad has made the reports required by General Order No. 75-B and the staff has confirmed the installations by personal inspections.

Accordingly, we will take notice of this work and make no further order respecting these crossings, which are listed below:

<u>Crossing No.</u>	<u>Street Name and Governmental Agency</u>	<u>New Protection</u>	<u>Date Reported Installed</u>
2-168.3	South Street, Anaheim	2 #8 FL	2/16/66
2-170.3	State College Boulevard, State	Gates	1/ 7/66
2-170.5	Katella Avenue, Anaheim	"	3/25/66
2-171.5	North Main Street, Orange	"	5/ 4/66
2-180.5	Culver Road, County	"	5/ 5/66
2B-40.4	Richfield Road, County	"	2/15/66
2B-41.8	Orangethorpe Avenue, Anaheim	"	12/28/65
2B-43.1	Melrose Street, Placentia	"	7/18/66
2N-3.85	W. Glassell Street, Orange	"	4/ 4/66
2N-3.9	Taft Street, Orange	"	4/ 4/66
2N-0.4	Jefferson Street, County	2 #8 FL	3/28/66

The approximate number of train movements, both passenger and freight, operated on each line daily is as follows:

	<u>Santa Fe</u>			<u>Southern Pacific</u>		<u>Union Pacific</u>
	<u>2 Line</u>	<u>2B Line</u>	<u>2N Line</u>	<u>BK Line</u>	<u>6NA Line</u>	<u>3Y Line</u>
Passenger	6***	3	0	0	0	0
<u>Freight Through</u>	4	22	8	0	0	0
Local	<u>6</u>	<u>4</u>	<u>0</u>	<u>8**</u>	<u>2</u>	<u>2*</u>
	16	29	8	8	2	2

In addition to the above, there are switching operations which are performed at a number of locations by local freights or switchers.

\*At the end of the Union Pacific's 3Y Line, the number of freight trains operated is approximately three round trips per week.

\*\*Includes three regular and one seasonal round trips operated daily by Southern Pacific.

\*\*\*There are an average of eight additional passenger train movements daily during horse racing season at Del Mar between July and September.

The maximum timetable speeds are as follows:

Santa Fe

San Bernardino - Fullerton (2B Line):

Passenger	30 - 90 miles per hour
Freight	30 - 60 miles per hour

Santa Ana - Fullerton (2 Line):

Passenger	30 - 90 miles per hour
Freight	30 - 60 miles per hour

Olive Branch (2N Line):

Passenger	40 miles per hour
Freight	40 miles per hour

Southern Pacific

Santa Ana Branch (BK Line):

Mile Post 516.39 to  
Mile Post 517.40      15 miles per hour\*

Trains stop and flag at E. 4th Street in  
Santa Ana (Crossing No. BK-517.0).

Orange Line (6NA Line):

30 miles per hour\*

Union Pacific

Anaheim Branch (3Y Line):

15 miles per hour\*

Lincoln Avenue (Crossing No. 3Y-20.1):

8 miles per hour\*

\*Speeds shown are for freight trains.

On the basis of existing conditions, the engineer made the following recommendations concerning protection and date of installation thereof:

RECOMMENDED CROSSING PROTECTION  
THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY

<u>Crossing Number</u>	<u>Street Name</u>	<u>Governmental Agency</u>	<u>Protection</u>	<u>Date of Installation (on or before June 30 of year indicated)</u>
2-164.7	Highland Avenue	Fullerton	Automatic Gates, Flashing Lights for Spur Crossing	1968
2-165.1	Lemon Street	"	Automatic Gates	1968
2-167.4	E. Sycamore St.	Anaheim	" "	1968
2-168.0	Santa Ana Street	"	" "	1968
2-168.3	South Street	"	" "	1968
2-168.7	Vermont Avenue	"	" "	1968
2-169.7	Cerritos Avenue	"	" "	1968
2-170.3	State College Blvd.	State	" "	1967
2-170.5	Katella Avenue	Anaheim	" "	1967
2-171.5	North Main Street	Orange	" "	1967
2-171.8	Batavia Street	"	" "	1968
2-172.3	Walnut Avenue	"	" Gate*	1968
2-172.5	Palm Avenue	"	" Gates	1968
2-172.7	Chapman Avenue	State	" "	1968
2-172.8	Almond Avenue	Orange	" "	1968
2-172.9	Palmyra Avenue	"	" "	1969
2-173.3	La Veta Avenue	"	" "	1969
2-173.6	Fairhaven Avenue	Orange County	" "	1969
2-174.2	Santa Clara Avenue	Santa Ana	" "	1969
2-174.9	Washington Avenue	" "	" "	1969
2-175.2	Fruit Street	" "	" "	1969
2-175.8	Chestnut Street	" "	" "	1969
2-176.6	Lyon Street	Orange County	" "	1969
2-176.7	McFadden Street	Santa Ana- Orange County	" "	1969
2-176.8	Ritchey Street	Santa Ana	" "	1969
2-179.9	Harvard Avenue	Orange County	" "	1969
2-180.5	Culver Road	" "	" "	1967
2-182.0	Jeffrey Road	" "	" "	1969
2-182.9	Sand Canyon Ave.	" "	" "	1970
2-196.2	Oso Road	S. Juan Capistrano	2 #8 Flash. Lights	1970
2-197.3	Verdugo Street	" " "	Automatic Gates	1970
2-197.4	Del Obispo St.	" " "	" "	1970
2-201.0	Beach Road	Orange County	" "	1970
2B-35.4	Esperanza Road	" "	2 #8 Flashing Lights	1967
2B-39.5	Trinidad Street	" "	" " " "	1967
2B-39.9	Taylor Street	" "	Automatic Gates	1967
2B-40.4	Richfield Road	" "	" "	1967
2B-40.7	Van Buren Street	" "	" "	1967
2B-41.8	Orangethorpe Ave.	Anaheim	" "	1967
2B-43.1	Melrose Street	Placentia	" "	1967
2B-43.6	Placentia Avenue	"	" "	1967
2N-0.4	Jefferson Street	Orange County	" "	1970
2N-0.6	Mira Loma Avenue	Anaheim	" "	1970
2N-1.1	La Palma Avenue	"	" "	1970
2N-2.5	Lincoln Avenue	Orange County	" "	1967
2N-3.85	W. Glassell Street	City of Orange	" "	1967
2N-3.9	Taft Street	" " "	" "	1967
2N-4.4	Katella Avenue	" " "	" Gate*	1970
2N-4.9	Collins Avenue	" " "	" Gate*	1970

\*Crossing to be protected by similar devices to be installed at adjacent Southern Pacific crossing.



RECOMMENDED CROSSING PROTECTION  
UNION PACIFIC RAILROAD COMPANY

<u>Crossing Number</u>	<u>Street Name</u>	<u>Governmental Agency</u>	<u>Protection</u>	<u>Date of Installation (on or before June 30 of year indicated)</u>
3Y-17.1	Highland Avenue	Fullerton	2 #8 Flash. Lights	1968
3Y-17.6	Lemon Street	"	" " " "	1968
3Y-19.75	E. Sycamore Street	Anaheim	" " " "	1967
3Y-20.1	Lincoln Avenue	"	" " " "	1968
3Y-20.2	Broadway	"	" " " "	1968

RECOMMENDED CROSSING PROTECTION  
SOUTHERN PACIFIC COMPANY

<u>Crossing Number</u>	<u>Street Name</u>	<u>Governmental Agency</u>	<u>Protection</u>	<u>Date of Installation (on or before June 30 of year indicated)</u>
BK-517.0	East 4th Street	Santa Ana	Automatic Gates	1968
BK-517.4	Chestnut Street	" "	" "	1969
6NA-3.79	Walnut Avenue	City of Orange	" Gate*	1968
6NA-4.29	Collins Avenue	" " "	" " *	1970
6NA-4.76	Katella Avenue	" " "	" " *	1970

\*Crossing to be protected by similar devices to be installed at adjacent Santa Fe crossing.

The engineer also recommended that:

1. The cost of installing such protective devices be allocated 50 percent to the railroad involved and 50 percent to the public agency involved. Where more than one public agency is involved at a crossing, the latter 50 percent be divided equally between the affected public agencies.

2. Maintenance cost of automatic protection be divided between the railroads and public agencies involved, pursuant to Section 1202.2 of the Public Utilities Code.

3. Mission Street (Crossing No. 2-197.1) in the City of San Juan Capistrano be closed and barricaded to vehicular traffic

and present crossing protection removed by The Atchison, Topeka and Santa Fe Railway Company at its expense and be reclassified as a pedestrian crossing with protection by appropriate fixed signs.

There was no objection from any party concerning the division of costs of installation and maintenance of crossing protection, as proposed by the engineer. Any objection from any party, except the City of San Juan Capistrano, concerned need for improvements and scheduling of improvements.

#### State Highway Crossings

There are five State Highway grade crossings involved in this matter. Two of these on Harbor Boulevard (Santa Fe Crossing No. 2-154.9 and Union Pacific Crossing No. 3Y-17.3) are in close proximity to each other and are to be crossed at one separated grade structure in the near future. The Division of Highways is negotiating with the City of Fullerton for an agreement as to the sharing of the costs of this project. At State College Boulevard (Santa Fe Crossing No. 2-170.3), gates are to be installed and a median strip constructed in the near future. A contract for this work has been signed. Chapman Avenue on which Santa Fe Crossing No. 2-172.7 is located is to be replaced by the Garden Grove Freeway within two years and on completion of this freeway, the highway and crossing will be relinquished to the City of Orange. The engineer recommended Standard No. 8 flashing lights supplemented with crossing gates at the crossing, and the Division of Highways agreed with this recommendation. The grade crossing of

Imperial Highway (Santa Fe Crossing No. 2B-38.4) is to have separated grades and now has No. 8 flashing light signals with gates. None of the parties had any disagreement with the schedules or proposals of the engineer or Division of Highways relative to the said State Highway crossings.

Southern Pacific

Five of the crossings are over the tracks of the Southern Pacific.<sup>2/</sup> These crossings, together with the engineer's recommendations relative thereto, are as follows:

RECOMMENDED CROSSING PROTECTION  
SOUTHERN PACIFIC COMPANY

<u>Crossing Number</u>	<u>Street Name</u>	<u>Governmental Agency</u>	<u>Protection</u>		<u>Date of Installation (on or before June 30 of year indicated)</u>
			<u>Present</u>	<u>Proposed</u>	
BK-517.0	E. 4th Street	Santa Ana	2 #1 signs	Automatic Gates	1968
BK-517.4	Chestnut St.	" "	#3 wigwag	"	1969
6NA-3.79	Walnut Avenue	Orange	#1 sign	"	1968
6NA-4.29	Collins Ave.	Orange	2 #8 flashing lights	"	1970
6NA-4.76	Katella Ave.	"	2 #8 flashing lights	"	1970

The Southern Pacific advised the Commission that it has no objection to the recommendations of the engineer concerning the type of protection at each of the crossings and the time of installation thereof.

It pointed out that each of the listed crossings in the City of Orange (Walnut Avenue, Collins Avenue and Katella Avenue)

<sup>2/</sup> Three of the five crossings are over lines of the Pacific Electric Railway Company, which was merged with the Southern Pacific on August 13, 1965. All reference will be to Southern Pacific.

is adjacent to and in close proximity to a Santa Fe crossing of the same street and that at each of said Southern Pacific crossings, the No. 8 flashing light signal and the gate arm to be installed adjacent to the Southern Pacific track should be so installed by the Southern Pacific, and the corresponding No. 8 flashing light signal and gate arm adjacent to the corresponding Santa Fe crossing should be so installed by the Santa Fe that a train movement on either track would actuate both gates.

Neither the City of Orange nor the City of Santa Ana objected to the engineer's recommendations concerning the five crossings listed. The Santa Fe had no objections to the engineer's recommendations concerning these crossings with the exceptions of the joint crossings with the Santa Fe in Orange. It urged that the need for upgrading the protection at said crossings be reviewed on an annual basis.

#### Union Pacific

Nine of the crossings investigated by the engineer are over the tracks of the Union Pacific. The engineer made no recommendations concerning four of such crossings, to wit, Harbor Boulevard (Crossing No. 3Y-17.3), Orangethorpe Avenue (Crossing No. 3Y-18.5), La Palma Avenue (Crossing No. 3Y-19.4), and E. North Street (Crossing No. 3Y-19.5). The Orangethorpe Avenue and La Palma Avenue crossings are now protected by Standard No. 8 flashing light signals, the Harbor Boulevard crossing is scheduled to be separated, and the E. North Street crossing is scheduled to be closed. The

five remaining crossings are identified as follows, together with the engineer's recommendation relative thereto:

RECOMMENDED CROSSING PROTECTION  
UNION PACIFIC RAILROAD COMPANY

<u>Crossing Number</u>	<u>Street Name</u>	<u>Governmental Agency</u>	<u>Protection</u>		<u>Date of Installation (on or before June 30 of year indicated)</u>
			<u>Present</u>	<u>Proposed</u>	
3Y-17.1	Highland Ave.	Fullerton	#3 wigwag	2 #8 flashing lights	1968
3Y-17.6	Lemon Street	"	" "	" "	1968
3Y-19.75	E. Sycamore St.	Anaheim	" "	" "	1967
3Y-20.1	Lincoln Ave.	"	" "	" "	1968
3Y-20.2	Broadway	"	No. 1 sign	" "	1968

The Union Pacific took issue with the Commission engineer's recommendations relative to East Sycamore Street and Broadway.

As to the East Sycamore Street crossing the Union Pacific urges that the Commission should order the relocation of a power pole on the southwest corner of the crossing. In view of the fact that whoever owns the pole is not a party to this proceeding, such an order cannot be made. We suggest an agreement between the City of Anaheim, the Union Pacific, and the owner of the pole.

The Union Pacific recommends that the Broadway crossing be protected by Standard No. 1 crossbucks; that all trains be required to stop before they cross Broadway; and that each train be preceded by a flagman with flags or flares as the situation requires.

The engineer's report (Exhibit 1) shows that at Broadway, the average daily traffic is 8,300 vehicles. He estimated the traffic will increase to 12,900 in 1970. The engineer also stated that there are approximately three round-trip rail movements per week at this crossing, which has a single line of track. The average rail movement consists of a locomotive and five or six cars.

Three of the Union Pacific crossings are in the City of Anaheim. Two of the crossings, East Sycamore Street (Crossing No. 3Y-19.75) and Lincoln Avenue (Crossing No. 3Y-20.1), are protected by No. 3 wigwags. Broadway is protected by a No. 1 sign. The City recommended the same treatment at the Broadway crossing as the Union Pacific recommended and for the same reasons. Its witness disagreed with the engineer in his conclusion that No. 8 flashing light signals should be installed at East Sycamore Street and Lincoln Avenue. The City's witness testified that in his opinion the existing protection is adequate.

#### Santa Fe

##### Santa Fe and Engineer Agreed

The Santa Fe agreed with the engineer concerning the apportionment of costs of protection and maintenance of protection at 22 of the Santa Fe crossings. The Santa Fe witness urged that the need for upgrading the crossing protection should be reviewed on an annual basis, but stated that if the Commission insists on an inflexible schedule for the upgrading of protection rather than on an annual review of the need for upgrading protection, the engineer's schedule for upgrading the protection at said

22 crossings should be followed. The crossings referred to are as follows together with the recommended protection, the suggested date of installation, and the governmental agency involved:

RECOMMENDED CROSSING PROTECTION  
THE ATCHISON, TOPEKA AND SANTA FE RAILWAY COMPANY

<u>Crossing Number</u>	<u>Street Name</u>	<u>Governmental Agency</u>	<u>Protection</u>	<u>Date of Installation (on or before June 30 of year indicated)</u>
2-164.7	Highland Avenue	Fullerton	Automatic Gates, Flashing Lights for Spur Crossing	1968
2-165.1	Lemon Street	"	Automatic Gates	1968
2-170.3	State College Blvd.	State	" "	1967
2-170.5	Katella Avenue	Anaheim	" "	1967
2-172.7	Chapman Avenue	State	" "	1968
2-172.8	Almond Avenue	Orange	" "	1968
2-174.2	Santa Clara Avenue	Santa Ana	" "	1969
2-174.9	Washington Avenue	" "	" "	1969
2-175.2	Fruit Street	" "	" "	1969
2-176.7	McFadden Street	Orange County-S. Ana	" "	1969
2-179.9	Harvard Avenue	" "	" "	1969
2-180.5	Culver Road	" "	" "	1967
2-197.3	Verdugo Street	S. Juan Capistrano	" "	1970
2-201.0	Beach Road	Orange County	" "	1970
2B-40.4	Richfield Road	" "	" "	1967
2B-41.8	Orangethorpe Ave.	Anaheim	" "	1967
2B-43.6	Placentia Avenue	Placentia	" "	1967
2N-2.5	Lincoln Avenue	Orange County	" "	1967
2N-3.85	W. Glassell Street	City of Orange	" "	1967
2N-3.9	Taft Street	" " "	" "	1967
2N-4.4	Katella Avenue	" " "	" " *	1970
2N-4.9	Collins Avenue	" " "	" " *	1970

\*Crossing to be protected by similar devices to be installed at adjacent Southern Pacific crossing.

The Fullerton City Engineer stated that Highland Avenue (Crossing No. 2-164.7), at which there are five tracks, and Lemon Street (Crossing No. 2-165.1), at which there are four tracks, are

tentatively scheduled for separations of grades and that each is presently protected by a #3 wigwags. He requested that in view of the proposed separations, the crossings be protected by Standard No. 8 flashing lights only. He could give no date for the construction of the separation structure. The City Engineer stated, however, that if the Commission requires Standard No. 8 flashing light signals supplemented with automatic gates, predictors should be installed at the Highland Avenue crossing. He presented Exhibit No. 4 which shows that the wigwags were in operation for a period of two hours and 34 minutes on June 24, 1965, while trains only occupied the crossing for a total of 52 minutes. If the gates had been in place, the gates would have been down for the two hours 34 minutes. Exhibit No. 1 shows that since June, 1960, there have been two accidents with three injuries at Highland Avenue, and three accidents with one injury at Lemon Street.

Crossings the Santa Fe Claims  
Need No Additional Protection

The Santa Fe Chief Office Claim Agent (Agent) stated that in determining the need for upgrading the protection at a crossing, he considers the same factors as the engineer, except that he gives more weight to accident history at a crossing and less weight, if any, to predictions of future volumes of traffic at the crossing. He prepared a portion of Exhibit No. 10 herein, which shows 13 crossings which, in his opinion, do not and will not, in the foreseeable future, require increased protection. These crossings, statistics relative thereto, and the existing and recommended protection are as follows:



Crossing Number	Street Name	Governmental Agency	Protection	Date of Installation	No. Tracks	Accidents 7-1-60 to 6-30-65	Engineer's Recommendation	Daily Traffic Volume	No. Trains	Train Speed
2-169.7	Cerritos Avenue	Anaheim	2 Cant. FLS	8-21-62	1 Main Line	1 Property Damage Only	Gates, 1968	3,500	6 Pass. 1 Frt. 6 Switch	60-75 MPH
2-171.8	Batavia Street	Orange	2 #8 FLS	6-20-60	2 Main Line	0	Gates, 1968	7,058	6 Pass. 1 Frt.	79 MPH
2-176.6	Lyon Street	Orange Co.	2 Wigwags	11-11-43	2 Main Line	0	Gates, 1969	1,726	6 Pass. 8 Frt.	90 MPH
2-176.8	Ritchey Street	Santa Ana	2 Wigwags	11-11-43	2 Main Line	0	Gates, 1969	3,107	6 Pass. 8 Frt.	90 MPH
2-182.0	Jeffrey Road	Orange Co.	1 Wigwag	4-28-27	1 Main Line	0	Gates, 1969	1,368	6 Pass. 8 Frt.	90 MPH
2-196.2	Oso Road	San Juan Capistrano	2 1A's	-	2 Main Line	0	FLS, 1970	160	6 Pass. 8 Frt.	90 MPH
2B-35.4	Esperanza Road	Orange Co.	2 1A's	-	2 Main Line	1 Property Damage Only	FLS, 1967	125	3 Pass. 24 Frt.	65 MPH
2B-39.5	Trinidad Street	Orange Co.	2 1A's	-	2 Main Line	0	FLS, 1967	40	3 Pass. 24 Frt.	79 MPH
2B-39.9	Taylor Street	Orange Co.	2 #8 FLS	5-2-60	2 Main Line	1 Property Damage Only	Gates, 1967	675	3 Pass. 24 Frt.	79 MPH
2B-40.7	Van Buren St.	Orange Co.	2 #8 FLS	4-3-45	4 Main Line	0	Gates, 1967	854	3 Pass. 24 Frt. 3 Switch	79 MPH
2N-0.4	Jefferson St.	Orange Co.	2 #8 FLS	3-28-66	1 Main Line	2 Accidents 2 Injuries	Gates, 1970	7,420	8 Frt.	40 MPH
2N-0.6	Mira Loma Street	Anaheim	4 FLS	10-25-62	1 Main Line	0	Gates, 1970	2,000	8 Frt.	40 MPH
2N-1.1	La Palma Avenue	Anaheim	4 FLS	10-31-62	1 Main Line	0	Gates, 1970	3,000	8 Frt.	40 MPH

Exhibit No. 10 contains additional information relative to sight distances, angle of crossing, grades of approach, and vehicle speed, among other things. Since June 30, 1960, there have been accidents at the Cerritos Avenue, Esperanza Road, Taylor Street, and Jefferson Street crossings. The accidents at Cerritos Avenue and Esperanza Road allegedly could not have been prevented by gates as in each instance the driver drove into the side of the train. The accident at Taylor Street allegedly could not have been prevented as the driver ignored the flashing light signals, drove into the path of the train and stalled. The two accidents at Jefferson Street allegedly could have been prevented by No. 8 flashing light signals, which signals were installed on March 28, 1966, subsequent to the accidents.

The City of Anaheim joined the Santa Fe in objecting to the installation of gates at the Santa Fe crossings at Cerritos Avenue, Mira Loma Street and La Palma Avenue. Its traffic engineer stated that he made a personal examination of each of said crossings, its past and present traffic volumes, reviewed the accident history, checked visibility, grades of approach, type of traffic, type of location, and vehicle signals. It was his opinion that the existing protective devices at the said crossings are adequate.

Crossings Santa Fe Claims Should  
Be Reviewed Annually

The witness for the Santa Fe testified that the following crossings have adequate protection, but he recommended that the protection thereat be reviewed on an annual basis to determine

whether the existing protection at each crossing is adequate:

<u>Crossing Number</u>	<u>Street Name</u>	<u>Protection</u>	<u>Date of Installation</u>	<u>Accidents in 6 Years</u>
2-167.4	E. Sycamore St.	#8 FLS	12-10-64	1 with no injuries or deaths.
2-168.0	Santa Ana Street	#8 FLS & Cant. FLS	12-8-60	2, with no injuries (truck parked on track in one).
2-168.7	Vermont Avenue	#8 FLS	9-5-62	0
2-172.3	Walnut Avenue	#8 FLS	1-16-63	0
2-172.5	Palm Avenue	#8 FLS	5-31-60	1 - vehicle drove into side of train.
2-172.9	Palmyra Avenue	#8 FLS	5-6-63	No accidents since lights installed.
2-173.3	La Veta Avenue	#8 FLS	1-22-57	No accidents since 1960.
2-173.6	Fairhaven Avenue	#3 Wigwag	7-13-18	No accidents.
2-175.8	Chestnut Street	#3 Wigwag	2-18-42	1 accident with no injuries.
2-182.9	Sand Canyon Ave.	#8 FLS	8-19-60	No accidents.
2-197.4	Del Obispo St.	#8 FLS	2-18-48	No accidents.

The recommendations on these 11 crossings were differentiated from the Santa Fe's recommendations concerning the prior 13 crossings referred to on the basis that the crossings herein should annually have the protection reviewed whereas the prior 13, in the opinion of Santa Fe, have adequate protection for now and in the foreseeable future.

The Santa Fe also placed in evidence information relative to some of the hereinabove referred to crossings at which engineering difficulties will be encountered when improvements are made in the protection thereat (see pages 46 to 67, Exhibit 10).

We realize there may be engineering difficulties in modifying the protection at the crossings, but these are matters to be solved by the railroads and the governmental agencies concerned and are not matters of which we will presently take notice.

Findings

The Commission finds that:

1. Orange County is rapidly growing in population and the growth may be expected to continue in the future. Between 1950 and 1965 the population increased from 216,224 to 1,110,211, an increase of 412%. The present rate of increase is over 8% per year for the entire county. Such increases of population are reflected in increasing volumes of vehicular traffic on the road system of the county and over the railroad crossings.

2. The Santa Fe's No. 2 line and No. 2B line referred to herein are each main lines in Orange County with authorized passenger train speeds of not to exceed 90 miles per hour over some of the crossings. Its 2N line has authorized speeds of 40 miles per hour.

3. The Southern Pacific's BK line is a branch line in Orange County for freight traffic only and the maximum authorized speed at any crossing on said line herein considered is 15 miles per hour. Its 6NA line is also a branch line for freight traffic only and the maximum speed thereon at any of the crossings herein considered is 30 miles per hour.

4. The Union Pacific's 3Y line is a branch line in Orange County for freight traffic only, the maximum speed thereon is 15 miles per hour, and at Lincoln Avenue (Crossing No. 3Y-20.1) is eight miles per hour.

5. Public convenience and necessity, welfare, health and safety require the installation of improved railroad crossing protection as set forth in the order herein at the crossings listed in paragraph 1 of the order herein on or before the dates specified in the said ordering paragraph.

6. Public health and safety require an annual review by the Commission staff of the protection at those crossings not listed in the order herein to be improved at the present time, and a report with recommendations to the Commission and interested parties.

7. The Mission Street crossing (Crossing No. 2-197.1) in the City of San Juan Capistrano should be closed and reclassified as a pedestrian crossing.

8. The following crossings of the Southern Pacific are within 100 feet, or less, of a crossing of the same street by the Santa Fe. Public health, safety, welfare and convenience and necessity require that the protection at these crossings should be improved as set out in the order herein; that the improvement work should be done simultaneously by each railroad at each of said crossings on or before the date specified in the order herein; and that the construction expenses should be apportioned as set forth in the order herein:

	<u>Southern Pacific</u> <u>Crossing No.</u>	<u>Santa Fe</u> <u>Crossing No.</u>
Walnut Avenue	6NA 3.79	2-172.3
Collins Avenue	6NA 4.29	2N-4.9
Katella Avenue	6NA 4.76	2N-4.4

9. The cost of installing the protection devices at each crossing whereat the order herein requires increased crossing protection should be allocated 50 percent to the railroad involved and 50 percent to the public agency or agencies involved.

10. Maintenance costs of protection should be divided between the railroads and the public agencies involved pursuant to Section 1202.2 of the Public Utilities Code.

11. The petition for a proposed report should be denied.

Conclusion

We conclude that the crossing protection specified in the order which follows should be installed.

O R D E R

IT IS ORDERED that:

1. The Atchison, Topeka and Santa Fe Railway Company shall install automatic signal protection on or prior to June 30 of each of the years 1967, 1968, 1969 and 1970, as provided for each of the following grade crossings:

<u>Crossing Number</u>	<u>Street Name</u>	<u>Governmental Agency</u>	<u>Protection</u>	<u>Year</u>
2-164.7	Highland Avenue	Fullerton	Gates, with Predictors	1968
2-165.1	Lemon Street	"	Gates	1968
2-167.4	E. Sycamore St.	Anaheim	"	1968
2-168.0	Santa Ana St.	"	"	1968
2-168.7	Vermont Avenue	"	"	1968
2-172.3	Walnut Avenue	Orange	1 Gate	1968
2-172.5	Palm Avenue	"	Gates	1968
2-172.7	Chapman Avenue	State	"	1968
2-172.8	Almond Avenue	Orange	"	1968
2-172.9	Palmyra Avenue	"	"	1968
2-173.3	La Veta Avenue	"	"	1969
2-173.6	Fairhaven Ave.	Orange County	"	1969
2-174.2	Santa Clara Ave.	Santa Ana	"	1969
2-174.9	Washington Ave.	"	"	1969
2-175.2	Fruit Street	"	"	1969
2-175.8	Chestnut Street	"	"	1969
2-176.7	McFadden Street	Santa Ana-Orange Co.	"	1969
2-179.9	Harvard Avenue	Orange County	"	1969
2-182.9	Sand Canyon Avenue	"	"	1969
2-196.2	Oso Road	S. Juan Capistrano	2 Standard #8 FLS	1970
2-197.3	Verdugo Street	" " "	Gates	1970
2-197.4	Del Obispo Street	" " "	"	1970
2-201.0	Beach Road	Orange County	"	1970
2B-43.6	Placentia Avenue	Placentia	"	1967
2N-2.5	Lincoln Avenue	Orange County	"	1967
2N-4.4	Katella Avenue	Orange	1 Gate	1970
2N-4.9	Collins Avenue	"	1 Gate	1970

The protection at Walnut Avenue (Crossing No. 2-172.3), Collins Avenue (Crossing No. 2N-4.9), and Katella Avenue (Crossing No. 2N-4.4) in each instance is to consist of one Standard No. 8 flashing light signal (General Order No. 75-B), together with an automatic gate arm on the west side of the Santa Fe's right of way, interconnected with identical protection on the east side of the Southern Pacific Company's right of way so that a movement on either track will activate all protective devices at the respective crossing.

Gates, as used in this ordering paragraph, shall consist of one or more Standard No. 8 flashing light signals (General Order No. 75-B), supplemented with automatic gate arms, or an automatic gate arm.

2. The Atchison, Topeka and Santa Fe Railway Company shall at its expense, within sixty days after the effective date hereof, close the Mission Street crossing (Crossing No. 2-197.1) in the City of San Juan Capistrano to vehicular traffic, remove the existing crossing protection, and reclassify the crossing as a pedestrian crossing (Crossing No. 2-197.1-D) with protection by appropriate fixed signs.

3. The Union Pacific Railroad Company shall install two Standard No. 8 flashing light signals (General Order No. 75-B) at each of the grade crossings listed below on or before June 30 of the year indicated:

<u>Crossing No.</u>	<u>Street Name</u>	<u>Governmental Agency</u>	<u>Year</u>
3Y-17.1	Highland Avenue	City of Fullerton	1968
3Y-17.6	Lemon Street	City of Fullerton	1968
3Y-19.75	E. Sycamore St.	City of Anaheim	1967
3Y-20.1	Lincoln Avenue	City of Anaheim	1968

4. The Union Pacific Railroad Company shall, at its sole expense, install two No. 1 crossing signs with reflex reflecting sheet material thereon at each side of the Broadway crossing (Crossing No. 3Y-20.2) within sixty days after the effective date hereof. The City of Anaheim shall paint and maintain double clearance lines and RRR pavement markings on each side of this crossing. The Union Pacific Railroad Company shall require that each train or locomotive shall be brought to a complete halt prior to entering Broadway at this crossing. After halting, if in daylight hours, a trainman shall precede the train or locomotive across Broadway with a stop sign, and if in the nighttime, a trainman shall place a lighted fusee on each side of the track and shall precede the train or locomotive carrying a lighted red lantern. These requirements shall be set forth in the railroad's written instructions to employees and two copies of such instructions shall be filed with the Commission within sixty days after the effective date hereof. These requirements shall be enforced by said railroad during its period of operation at all times thereafter.

5. The Southern Pacific Company shall install automatic signal protection at each of the grade crossings listed below on or before June 30 of the year indicated:

<u>Crossing No.</u>	<u>Street Name</u>	<u>Governmental Agency</u>	<u>Protection</u>	<u>Year</u>
BK-517.0	East 4th Street	City of Santa Ana	Gates	1968
BK-517.4	Chestnut Street	City of Santa Ana	Gates	1969
6NA-3.79	Walnut Avenue	City of Orange	1 Gate	1968
6NA-4.29	Collins Avenue	City of Orange	1 Gate	1970
6NA-4.76	Katella Avenue	City of Orange	1 Gate	1970



The protection at Walnut Avenue (Crossing No. 6NA-3.79), Collins Avenue (Crossing No. 6NA-4.29), and Katella Avenue (Crossing No. 6NA-4.76) in each instance is to consist of one Standard No. 8 flashing light signal (General Order No. 75-B), together with an automatic gate arm on the east side of the Southern Pacific's right of way, interconnected with identical protection on the west side of The Atchison, Topeka and Santa Fe Railway Company's right of way so that a movement on either track will activate all protective devices at the respective crossing.

Gates as used in this ordering paragraph shall consist of one or more Standard No. 8 flashing light signals (General Order No. 75-B) supplemented with automatic gate arms or an automatic gate arm.

6. Installation cost for the signal work specified herein shall be apportioned 50 percent to the railroad involved and 50 percent to the public agency or agencies involved.

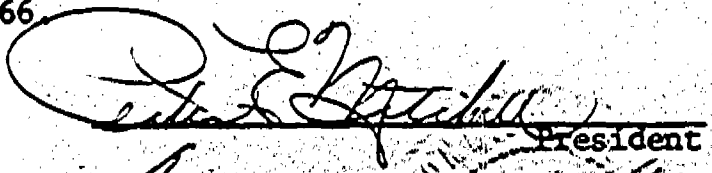
7. Maintenance cost of automatic protection shall be divided between the railroad and the public agency or agencies involved pursuant to Section 1202.2 of the Public Utilities Code.

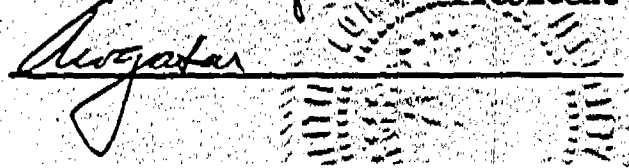
8. The Union Pacific Railroad Company's petition for a proposed report is denied.

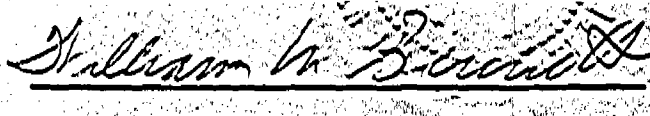
9. On or before January 1, 1968 and each year thereafter until further order of the Commission, the Commission staff shall make a review of the protection at all crossings not ordered for protection herein and report to the Commission and to the interested parties the results of the review together with recommendations for any necessary improvements in protection.

The Secretary of the Commission is directed to cause personal service of this decision to be made upon each of the respondents. The effective date of this decision as to each respondent shall be twenty days after the completion of such service as to each such respondent.

Dated at San Francisco, California, this 22nd day of NOVEMBER, 1966.

  
\_\_\_\_\_  
President

  
\_\_\_\_\_  
Attorney

  
\_\_\_\_\_  
Commissioner

Commissioners

Commissioner Frederick B. Holeboff, being necessarily absent, did not participate in the disposition of this proceeding.

Commissioner George C. Grover did not participate in the disposition of this proceeding.