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ORIGINAL

Decision No. 91048 NOV 20 1979

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Investigation into the status, safety, )  
 maintenance, operation, use, protection )  
 and closing of the following crossings )  
 at grade with the "D" Line of the )  
 Southern Pacific Transportation Company )  
 in the City of Lodi: Crossing No. )  
 D-102.9, Tokay Street; Crossing No. )  
 D-103.1, Lodi Avenue; Crossing No. )  
 D-103.2, Walnut Avenue; Crossing No. )  
 D-103.25, Oak Street; Crossing No. )  
 D-103.3, Pine Street; Crossing No. )  
 D-103.4, Elm Street; Crossing No. )  
 D-103.5, Locust Street; Crossing No. )  
 D-103.6, Lockford Street. )

OII No. 2  
(Filed October 25, 1977)

Harold S. Lentz, Attorney at Law, for  
 Southern Pacific Transportation Company,  
 and Robert H. Mullen, Gene Walton,  
 and Ron Stein, Attorneys at Law, for  
 the City of Lodi, respondents.  
William J. Jennings, Attorney at Law, and  
Robert Stich, for the Commission staff.

OPINION AND ORDER

Background

Because of a persistent and unacceptable record of  
 train-involved accidents on the Southern Pacific Transportation  
 Company's (SP) Oakland-Sacramento main line running through the  
 City of Lodi (Lodi) and the inability of the principals to agree  
 on the required improvements, on October 25, 1977, this Commission  
 on its own motion opened this investigation into the status, safety,  
 maintenance, use, protection, or closing of certain crossings  
 located in Lodi to determine:

1. Whether or not the public health, safety, and welfare require the relocation, widening, closing, or other alteration of said crossings, or require the installation and maintenance of additional or improved protective devices at said crossings;

2. If any of the above-stated actions is required, to prescribe the terms on which any such installation and maintenance of additional or improved protective devices, relocation, widening, closing, or other alternative shall be accomplished, and to make such apportionment of costs, including maintenance costs, among the respondents, or any of them, as may appear just and reasonable; and

3. To enter any other order or orders that may be appropriate in the lawful exercise of the Commission's jurisdiction.

In addition to Lodi, SP was named respondent.

On November 23, 1977, Lodi requested that the matter be continued to a date beyond January 10, 1978. The matter was then removed from the Commission calendar and continued to a date to be set.

On October 18, 1978, the staff sent its report to Lodi for comments and in February 1979 to the remaining respondent and all interested parties. Upon receipt of the staff report, Lodi asked that no hearings be held in order that the report could be further analyzed.

On February 20, 1979, hearings were set for May 1, 1979.

In April 1979 Lodi again requested that the matter be continued. On April 26, 1979, the matter was reset for June 27, 28, and 29, 1979.

On June 21, 1979, Lodi requested another 60-day continuance. This request was denied and hearing was held June 27, 1979, at Lodi before Administrative Law Judge Banks.

At the June 27, 1979, hearing, the staff report was introduced and received into evidence as Exhibit No. 1. After the introduction of Exhibit No. 1 and before any cross-examination of the staff witness, Lodi moved that the matter be continued pending a city council meeting at which time the staff report and its recommendations would be presented to for acceptance by Lodi. Notwithstanding the mild objection of SP that it was ready to proceed, the motion was granted with hearing set for August 15, 1979. Before the August 15, 1979, hearing, Lodi retained special counsel who requested that the matter be continued so that he could familiarize himself with the case. The matter was then continued until October 23, 1979.

On September 17, 1979, Lodi filed a motion requesting a Commission determination whether the closing of railroad crossings was categorically exempt from the provision of the California Environmental Quality Act of 1970 (CEQA) as alleged in the staff report. SP's response to the motion was that if an Environmental Impact Report was not required by the California Department of Transportation for the closing of railroad crossings, the Commission likewise would be exempt. The staff stated in its response that the upgrading of grade crossing protection has been and is exempt from CEQA pursuant to Rule 17.1(h)(A)5 and 7 of the Commission's Rules of Practice and Procedure. ✓

On September 30, 1979, the Commission received Lodi's Resolution No. 79-140 which requested the Commission and SP to "take immediate action to see that automatic gates be installed" at the eight subject crossings.

On September 30, 1979, special counsel for Lodi requested that the matter be continued until after the end of 1979. The

assigned ALJ denied this request explaining to Lodi's special counsel that the number of accidents at the subject crossings since this investigation began required that the hearings proceed as scheduled.

The matter was finally heard on October 23, 1979, in Lodi and October 24, 1979 in San Francisco before ALJ Banks. At the October 24th hearing the City of Lodi withdrew its motion of September 17, 1979 regarding an environmental determination.

Lodi was founded in 1869 with the building of the Central Pacific Railroad (now SP). It has grown from 166 acres to 5,100 acres with a population in excess of 32,000. Lodi is located about 90 miles east of San Francisco and 34 miles south of Sacramento. SP's Valley main line, servicing California's San Joaquin Valley, runs through the central business district.

The surrounding area is agricultural with major crops being grapes, tomatoes, tree fruit, nuts, and dairy products. The Lodi Chamber of Commerce states that over 97 percent of the world's Tokay grapes are grown in the Lodi area. It is also a center for wine making and food processing.

Lodi gradually built up around the tracks of SP, the major railroad in the area, and is the junction point for SP's two east-west branch lines. To handle local shipping and branch line operations, SP has laid approximately 4.6 miles of siding and spur tracks. These sidings and spur tracks are laid parallel to the main line, traversing the center of Lodi. This has resulted in street crossings of up to nine tracks within Lodi.

Lodi's main business section is located on Sacramento and School Streets, one and two blocks west of the railroad tracks. On the east side, within a couple of blocks of the tracks, are fruit packing plants, lumber yards, and warehouses. Beyond two to three blocks on both sides of the tracks is low-density residential housing.

Lodi's General Plan has reserved an area of about two blocks along the west side of the tracks for commercial development and about two blocks along the east side of the tracks for light and medium industrial development. The general plan also guides major future development in the southwest section of Lodi. The San Joaquin County General Plan to 1995, in the vicinity of Lodi, essentially follows Lodi's General Plan. Lodi's 1975 General Plan Amendment shows various phases of industrial development with industrial areas around the railroad tracks over 93 percent developed as of 1975.

#### Staff Report

The following is a summary of material contained in the staff report and introduced into evidence as Exhibit No. 1.

Lodi's street system is laid out in a grid pattern with seven contiguous streets crossing the railroad tracks at grade. The streets cross a minimum of two to a maximum of nine tracks consisting of main line, drill, and spur tracks. The crossing widths vary from 36 feet to 56 feet and the width at the approaches ranges from 28 to 56 feet. Lockeford Street has a reverse curve on the east approach to the crossing. All other streets have tangent alignment at the crossing approaches. The Lodi Street crossing is protected with Standard No. 8 signals and all other crossings are protected with Standard No. 3 wigwags, "Two Train" indicators and advance warning signs. Pavements are marked and all crossings have street lighting.

#### Accident History

Between January 1, 1968, and March 31, 1979, the train-vehicle accidents yearly at each crossing range from a low of 4 to a high of 20 accidents. This is an average of 0.36 to 1.8 accidents

per year per crossing contrasted to the statewide average at public crossings within city boundaries for the year 1977<sup>1/</sup> of 0.059 accidents per crossing per year.

A comparison of casualties at the Lodi crossing accidents to the statewide average shows that the pedestrian and bicycle casualties in Lodi are high with most of the casualties elderly residents of the area. Because there are a considerable number of low-rent residences on the east side of the tracks and the absence of local transit service, the elderly residents on the east side of the tracks generally walk across the railroad tracks for their commercial needs.

With respect to the accident circumstances at each crossing, in about 79 percent of the train-vehicle accidents, drivers failed to stop and yield the right-of-way to trains. In about 8 percent of the accidents, the driver stopped too close to the tracks and in about 8 percent of the accidents, the drivers initially stopped for the train but then decided to proceed. Almost all of these accidents may be regarded as misjudgments on the part of the driver. Thus, the present crossing protection does not provide adequate physical restrictions and guidance to those using the crossings.

#### Vehicle Traffic

Lodi conducted a vehicular traffic survey at seven of the crossings in August 1976. Because this is the latest data available, the staff used the 1976 traffic counts for its report.

A comparison of the year 1966 and the year 1976 actual traffic volumes shows that, during that ten-year period, the traffic at Lodi Avenue, Walnut Street, Oak Street, and Pine Street decreased,

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<sup>1/</sup> Annual Report of Railroad Accidents Occurring in California, Calendar Year 1977; Table 5, Public Utilities Commission Transportation Division, San Francisco, California, June 30, 1978.

whereas the total population of Lodi increased approximately 7 percent. Further, during this ten-year period, the major development has been in the southwest section of Lodi, which is continuing. The San Joaquin County General Plan reveals that the majority of 1995 weekday driver trips to and from the Lodi area will be in a north-south direction with a major interaction between Lodi and Stockton and a very minor demand for east-west travel. The development in the southwest section and completion of Route Interstate 5 is expected to de-emphasize the use of State Route 99 for north-south travel to and from the area.

The local traffic circulation across the railroad tracks is expected to be affected by industrial development in the easterly section of Lodi. The 1975 General Plan Amendment shows the industrial development in the easterly section of Lodi and that about 37 percent of the ultimate planned development was complete as of October 1, 1975, and that Phase "O" development, located in the vicinity of the railroad tracks, was over 93 percent complete as of October 1, 1975.

It is expected that Turner Road, Lodi Avenue, and Kettleman Lane will develop into major streets for east-west travel. Turner Road and Kettleman Lane are presently grade separated at the SP tracks. The San Joaquin County General Plan also makes a recommendation for construction of a four-lane grade separation at Lodi Avenue. It is anticipated that any increase in east-west traffic, due to industrial development east of Route 99, will be concentrated on those streets which cross Route 99, mainly, Turner Road, Lockeford Street, Pine Street, Lodi Avenue, and Kettleman Lane.

SP Switching Yard

SP's switching yard in Lodi is located between Tokay Street on the south and Lockeford Street on the north. It handles shipping requirements throughout the year for General Mills' food processing plant. This yard also handles the shipping requirements of various fruit and vegetable packing houses, grain warehouses, and wineries on a seasonal basis, as well as shipments of cement from San Andreas and from Ione and coal to San Andreas. Trains to and from the two branch lines, one to Woodbridge and the other to San Andreas, are made up in Lodi. The yard handled approximately 31,000 railroad cars during the year 1977.

The switching crews work in three shifts, 24 hours a day, Monday through Friday. Cars brought in on the main line track are broken up and stored at the siding tracks awaiting orders from the industrial plants in the area. Empty cars are dispatched and full cars are brought back from the various industries on a continuous basis. The demand for this service generally varies from day to day and season to season. The empty and full cars are stored on various tracks in the yard. Due to the at-grade crossings in the switching yard, the trains have to be broken up into short segments. Under the present conditions a maximum of six cars can be stored between two crossings on any one track. Various switching movements are necessary in order to move a particular car to and from storage locations. The switching movements generally depend on the location of the stored cars in the yard, location of the industry requesting the cars, the time of the request, and the final destination of the full cars. The necessity of keeping the grade crossings open and breaking up the train into short segments adds additional switching movements in the yard area and across the various grade crossings.



The staff reports that a field observation of the yard operation conducted on Tuesday, April 11, 1978, and Thursday, April 20, 1978, at Walnut Street, Oak Street, Pine Street, and Elm Street reveals that the Walnut Street and Oak Street areas have the highest number of switching operations and the longest delays at the crossings. The close proximity of the crossings and the need for temporary storage of empty and full cars require trains to be broken into smaller units. This process requires time-consuming manual coupling and uncoupling of the cars. Once the cars are coupled together, the engine still has to wait until proper air pressure is established in the braking system. It is the general consensus that if the need for breaking up the trains is eliminated it will simplify switching operations and also reduce the delay at the remaining crossings.

#### Emergency Facilities

With respect to emergency facilities, i.e., police, fire, and medical, in Lodi, the main fire station is located in the civic center area on Elm Street near Church Street. The fire station located to the east of the railroad tracks at Main Street and Elm Street is specifically situated to handle emergency needs on the east side of the tracks. If additional equipment were necessary and all of the downtown crossings were closed by a long train, grade separated alternatives are available via Turner Road and/or Kettleman Lane. The Police Department is also located in the civic center area on Elm Street near Church Street. The Police Department has indicated to the staff that, as a matter of policy, a police unit is always stationed on the east side of the tracks. The Lodi Memorial Hospital is located in the southwest quadrant of Lodi, approximately one-quarter to one-half mile north of Kettleman Lane in the southern part of Lodi.

Alternatives

The staff states that each of the eight grade crossings was analyzed by applying the three basic alternatives: (1) closure, (2) separation, and (3) improved at-grade system. It was immediately evident that the Lockeford Street, Pine Street, Lodi Avenue, and Tokay Street crossings could not be closed due to their high vehicular traffic counts, relative importance, and isolation. An initial inspection, however, revealed that the four minor streets in the downtown cluster--Oak, Walnut, Elm, and Locust Streets--were close together, carried little traffic, and provided minimal convenience to through traffic and, therefore, warranted a more detailed examination of the closure alternative.

Due to the close spacing between Oak and Walnut Streets and between Elm and Locust Streets and interrelationship of the pairs of streets with the operations of the railroad switching yard, primary consideration was given to the cumulative effect of closing the crossings as pairs.

All of the crossings were analyzed with particular attention to the following:

1. The nature of the area served by the street in the vicinity of the grade crossing, including hospital, fire station, police station, and business establishments.
2. Growth trends and prospective development along the street.
3. Daily volume and type of vehicular traffic using the crossing.
4. Availability of alternate crossings, route circuitry, and added travel distance.

5. Accident experience (including number and severity of accident) or potential hazard at the crossing, type and number of trains, multiple train movements at adjacent tracks, low- and high-speed trains, restricted view, and delay.

6. Railroad switching yard operations, including possible reduction of delay at the Pine Street grade crossing due to alterations in switching operations.

7. Initial investment cost for upgrading crossing protection.

8. Annual maintenance cost of automatic protection.

9. Possible use of closed streets for parking and loading facilities.

10. Overall demonstrated need for the crossings.

Staff states that the Elm Street grade crossing was separated from the initial traffic closure analysis because transfer of its present and future traffic as estimated might create mild deficiencies, even taking into account the proposed street improvements at Lockeford and Pine Streets. Elm Street also extends west as far as Lower Sacramento Road and provides a direct east-west route for both police and fire vehicles. However, the future traffic estimated by the more conservative San Joaquin County General Plan to 1995, with the proposed street improvements affected, would not create service level deficiencies should Elm Street be closed. Although Elm Street currently carries a moderate traffic volume, slightly in excess of 2,500 vehicles per day, the anticipated traffic increase would be minor compared to that at the major east-west crossings of Lockeford and Pine Streets.

#### Oak, Walnut, and Locust Streets

The vehicular traffic volumes at the crossings of Walnut, Oak, and Locust Streets are very light carrying less than 10 percent of the total east-west traffic. Under the San Joaquin County

General Plan plus the staff traffic projections, this percentage of traffic further reduces to about 9 percent in the year 1995.

The diversion of traffic may cause some slight inconvenience to users of the crossings. In a staff "Time and Motion Study" conducted on Tuesday, January 14, 1978, of automobile trips via direct and indirect routes between Stockton Street and Sacramento Street, observing all traffic regulations, it was determined that an average of 29 seconds to 55 seconds additional time was required if Oak, Walnut, Locust, and Elm Streets, were closed. The actual number of motorists inconvenienced was not determined because of the time-consuming and expensive origin and destination survey. The present traffic survey shows that only 21 percent of the total east-west traffic (eight crossings) is using the four crossings proposed for closure. It was theorized that only the very small portion of traffic which has its origin and destination in the immediate vicinity of the crossings, proposed to be closed, would be inconvenienced. [An origin and destination survey conducted in Red Bluff, California, with similar conditions, revealed that only approximately 6 percent of the total traffic was actually inconvenienced.<sup>2/</sup>]

The diversion of traffic to adjacent streets is likely to increase traffic conflicts at the intersections of those streets; however, the detours will be only one to two blocks long and will cause only a slight increase in turning movements at the intersections. The increase in turning movements can be handled with present traffic controls.

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<sup>2/</sup> Report to SP on Origin-Destination Traffic Survey at selected railroad grade crossings, Red Bluff, California, August 31, 1961, by DeLeuw, Cather & Company Engineers, San Francisco, California.

The location of emergency facilities as previously described, and their respective standard operating procedures, minimize any theoretical effect of closing of Oak, Walnut, and Locust Streets.

The closing of Oak, Walnut, Locust, and Elm Streets would, according to the staff, eliminate points of potential collision between trains and vehicular and pedestrian traffic. These crossings have unusually high accident rates which are unacceptable given today's technology. The hazards could be mitigated somewhat by improved at-grade warning devices; however, Commission studies have determined that the effectiveness of automatic warning devices diminishes with increasing numbers of tracks and only reduces the potential for accidents, whereas closure of a crossing completely eliminates the potential for an accident. Alternate vehicle routes would be available over crossings equipped with the most effective warning devices or over grade separations. The consensus, according to federal studies,<sup>3/</sup> is that the potential for grade crossing accidents will be reduced for combined traffic as it has been demonstrated that the rate of occurrence of accidents increases at a slower rate than the increase in traffic volume, other factors being equal.

Although the quantitative effect is difficult to estimate, closure of Oak and Walnut Streets would improve the operation of the railroad eliminating the need to cut trains at these critical locations and thus provide additional continual storage space. The additional space will reduce the number of train moves required to maintain the equivalent railroad operation and will eliminate

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<sup>3/</sup> Coleman, J. and Stewart, G. R., Investigations of Railroad-Highway Grade Crossing Accident Data.

the need for much of the time-consuming hand coupling and uncoupling, thus reducing time required to operate over the crossings left open. Therefore, the potential inconvenience of reassigning vehicles to Lodi, Pine, and Lockeford Streets will be mitigated by the increased efficiency of the railroad operation.

Exhibit No. 1 states that the proposed closure of Oak Street, Walnut Street, Elm Street, and Locust Street would result in the elimination of four hazardous grade crossings and, therefore, maximize the potential safety benefits while minimizing any potential inconvenience and saving the federal, state, and city governments and SP approximately \$750,000 in capitalized costs. Further, all relevant traffic studies have determined that Oak, Walnut, and Locust Streets are minor in relation to the total east-west traffic pattern and needs, and elimination of the three will not result in any major traffic deficiencies now or in the future. Although Elm Street's negative effect is questionable, the safety benefits realized are real and considerable.

Adequate alternative routes are not only easily accessible, but if equipped with the most modern of automatic grade crossing warning devices will provide the logical and only means for through traffic between the developing industrial and residential areas of Lodi. Exhibit No. 1 concludes that there is no demonstrated need for the grade crossings at Oak, Walnut, Locust, and Elm Streets.

In addition to recommending the closure of the crossings at Walnut, Oak, Elm, and Locust Streets, it is recommended that costs associated with the closure be paid 90 percent by federal 203 funds and the remainder by Lodi and that the following improvements be ordered without further delay.

Tokay Street, D-102.9 - Replace existing wigwags and crossing signs with two CPUC Standard No. 9-A crossing gates controlled by two each Grade Crossing Predictor (GCP) units on the main and two passing tracks. A third CPUC Standard No. 9-A crossing gate should be installed on the easterly side of the yard tracks. This third gate should be controlled by island circuits and key controls.

Lodi Avenue, D-103.1 - Replace two existing flashing light crossing signals with two CPUC Standard No. 9 crossing gates controlled by two GCP units on the main and passing tracks.

Pine Street, D-103.3 - Replace existing wigwag signals with two CPUC Standard No. 9-A crossing gates controlled by two each GCP units on the main and passing tracks. A third CPUC Standard No. 9-A crossing gate should be installed on the easterly side of the yard tracks. This third gate should be controlled by island circuits and key controls.

Lockeford Street, D-103.6 - Replace existing wigwags with two CPUC Standard No. 9-A crossing gates controlled by two each GCP units on the main and passing tracks.

If Elm and Locust Streets are not ordered closed, Exhibit No. 1 recommends the following.

Elm Street, D-103.4 - Replace existing wigwags and crossing signs with two CPUC Standard No. 9-A crossing gates controlled by two each GCP units on the main and passing tracks and by island track circuits with railroad stop signs on each of the remaining three tracks.

Locust Street, D-103.5 - Replace existing wigwags with two CPUC Standard No. 9-A crossing gates controlled by two each GCP units on the main and passing tracks and by island track circuit with railroad stop signs on the Woodbridge Branch track.

Discussion

At the October 23, 1979, hearing, it was disclosed that the staff and Lodi had reached a compromise agreement to close Oak Street and Walnut Street and that CPUC Standard No. 9-A crossing gates with cantilever lights be installed at crossings remaining open. Counsel for SP stated that he was unaware of the negotiations between staff and Lodi and thus was unable to commit his client to the compromise.

Because of the highly emotional response to the staff proposal, the October 23 hearing was held in Lodi to receive public witness testimony and statements. Of the approximately 75 persons in attendance, 26 made statements, most in opposition to the staff proposal, including State Senator John Garamendi; Assemblyman Norman Waters; and George Barber, Chairman, County Board of Supervisors, San Joaquin County. Assemblyman Waters introduced a petition with over 4,000 signatures addressed to Governor Brown and Commission President John Bryson opposing the closing of any crossings in Lodi.

The opinions expressed by most of those making statements were that any closing would effectively divide Lodi into two separate social and economic entities and that many elderly citizens utilize those crossings proposed to be closed.

SP presented testimony and exhibits from Mr. D. E. Baker, public projects engineer; Mr. Robert McDonald, assistant engineer - public projects; and Mr. Hershel H. Marsh, trainmaster.

Of the four crossings proposed for closure by the staff, Elm and Locust Streets have by far the most vehicular traffic. Locust Street currently carries over 1,500 vehicles per day which



is expected to increase to some 4,500 per day in the next 15 years. According to the staff, which was not rebutted, the only possible traffic service deficiency of any consequence created by the closures recommended would be concentrated at Pine and Lockeford Streets.

The staff, in Exhibit No. 1, segregates the Elm Street crossing from its analysis of the Oak, Walnut, and Locust Streets crossings. Although arguments for the closure of Elm Street were advanced, the staff by cross-examination admits that Elm Street is a major collector in Lodi, one of the few streets which traverses across the main part of town. It is clear that Elm Street is a major element in Lodi's street system and that it should be retained as a grade crossing.

Mr. Marsh of SP testified that the recommended closures would significantly reduce both the time required for each switching move as well as the actual number of switching moves over the remaining crossings; that the reduction in time and train movements would provide important relief to the motoring public, mitigate the effect of increased traffic on the crossing left open, and that closure would result in a reduction in accident potential. He also testified that the crossings most essential to the improvement of train switching service, with a resultant decrease in delay, were the crossings of Oak and Walnut Streets with the benefits realized only if both were closed. In response to a question concerning the possible effect on Elm or Locust Streets, Mr. Marsh stated that the number of train moves would only be reduced by a limited amount and only then if Oak and Walnut Streets were closed.

Mr. McDonald testified that, in addition to the closures recommended by the staff in Exhibit No. 1, in his opinion the crossing at Tokay Street could also be closed. However, Tokay Street is one of the few streets that extends completely across town and is thus a major collector carrying an estimated 4,000 vehicles per day, which is expected to increase to as much as 6,300. Further, Tokay Street is some 1,300 feet south of Lodi Avenue, the next nearest crossing, and approximately one mile north of Kettleman Lane, the next nearest crossing south. It would appear that the staff's conclusion that the relative high traffic count and the isolation of Tokay Street should preclude its closure is correct.

The pedestrian problem at the downtown crossings, as evidenced by the large number of pedestrian-train accidents and tragic fatalities, is significant and deserves the utmost attention. We agree with the recommendation of SP that CPUC Standard No. 10 pedestrian signals should be installed at Tokay and Pine Streets and that certain street improvements, primarily curbs and sidewalks to provide safe walking areas for pedestrian approaches, should be made. Thus, the improvements as contained in Appendices 15, 16, 19, 20, 21, and 22 of Exhibit No. 1 are both prudent and necessary and should be adopted.

Lodi should make application for federal funding to provide necessary improvements in automatic protection at the Tokay, Pine, Elm, Locust, and Lockeford Streets crossings and close the Oak and Walnut Streets crossings. If federal funding is not available, the cost of installing the automatic protection and closing of the Oak and Walnut Streets crossings should be borne equally by Lodi and SP.

A thorough review of the evidence and record in this case leads us to conclude that the compromise agreement reached by Lodi and staff is reasonable and should be adopted. In reaching this decision, we are not concluding that this is an ideal solution or the best solution to the continuing problem of accidents occurring at the subject crossings, but we do believe it will greatly reduce the number and severity of accidents while preserving the identity and integrity of the community of Lodi and that it strikes an equitable balance between grade crossing safety and public convenience and necessity.

Findings of Fact

1. The accident history of the eight crossings in this investigation indicates that accidents at these crossings range from a low of 4 to a high of 30 times the statewide average accident rate at grade crossings in an urban area.
2. The Commission staff has been making recommendations and requesting Lodi and SP to implement safety measures at the subject crossings, including closure of the Oak Street and Locust Street crossings, as far back as the year 1916.
3. Lodi and the Commission staff reached a compromise agreement wherein Oak Street and Walnut Street would be closed with the remaining six crossings protected by CPUC Standard No. 9-A automatic gates.
4. The closing of Oak Street and Walnut Street and the installation of CPUC Standard No. 9-A automatic gates at the remaining crossings will significantly reduce the vehicle-train accidents in Lodi.
5. The closing of Oak Street and Walnut Street will cause little inconvenience to the citizens of Lodi and will not adversely affect Lodi's emergency facilities.

6. The crossing protection at the crossings left open may be financed by federal funds. Lodi should apply for federal funding to provide necessary improvements at the Tokay Street, Lodi Avenue, Pine Street, Elm Street, Locust Street, and Lockeford Street crossings and to close the crossings at Oak Street and Walnut Street.

7. If federal funding is not available, the cost of improving the automatic protection and blocking the Oak and Walnut Streets crossings should be borne equally between Lodi and SP.

8. Improvements and automatic protection to be installed at the crossings should be constructed as described or illustrated in Exhibit No. 1.

9. It can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment.

#### Conclusion of Law

On the basis of the findings, we conclude that the following order should be issued and, in the interest of expediting the critical public safety measures ordered, made effective the date of signature.

#### IT IS ORDERED that:

1. Walnut Street, Crossing D-103.2, and Oak Street, Crossing D-103.25, shall be closed within six months after the effective date of this order.

2. The crossing protection at Tokay Street, Crossing D-102.9, shall be improved to two CPUC Standard No. 9-A automatic gate-type signals (General Order No. 75-C) controlled by two each Grade Crossing Predictor (GCP) units on the main and two passing tracks. A third CPUC Standard No. 9-A automatic gate-type signal shall be installed on the easterly side of the yard tracks, controlled by island circuits and key controls, and two CPUC Standard No. 10 pedestrian signals shall be installed in the northwest and southeast quadrants. To facilitate the installation of these devices and to improve pedestrian facilities, the City of Lodi (Lodi) shall extend the curb and the curb and sidewalk

in the westerly quadrants to and through the tract area and construct curbs in the northeast and southeast quadrants sufficient to install the ordered protection.

3. The crossing protection at Lodi Avenue, Crossing D-103.1, shall be improved to two CPUC Standard No. 9-A automatic gate-type signals controlled by two each GCP units on the main and passing tracks. To improve pedestrian facilities, Lodi shall extend curbs and sidewalks on each approach to and through the crossing to provide a uniform cross section.

4. The crossing protection at Pine Street, Crossing D-103.3, shall be improved to two CPUC Standard No. 9-A automatic gate-type signals controlled by two each GCP units on the main and passing tracks. A third CPUC Standard No. 9-A automatic gate-type signal shall be installed on the easterly side of the yard tracks, controlled by island circuits and key controls, and two CPUC Standard No. 10 pedestrian signals shall be installed in the northwest and southeast quadrants. In conjunction with the installation of the pedestrian signals, Lodi shall extend or construct curbs and sidewalks to the track area on each approach to the crossing.

5. The crossing protection at Elm Street, Crossing D-103.4, shall be improved to two CPUC Standard No. 9-A automatic gate-type signals controlled by two each GCP units on the main and passing tracks and by island track circuits with railroad stop signs on the remaining track.

6. The crossing protection at Locust Street, Crossing D-103.5, shall be improved to two CPUC Standard No. 9-A automatic gate-type signals controlled by two each GCP units on the main and passing tracks and by island track circuits on the Woodbridge Branch track. To improve pedestrian facilities, Lodi shall extend curbs and sidewalks to the track area in each approach to the crossing.

7. The crossing protection at Lockeford Street, Crossing D-103.6, shall be improved to two CPUC Standard No. 9-A automatic gate-type signals controlled by two each GCP units on the main and passing tracks. To improve pedestrian facilities, Lodi shall install curbs and sidewalks to and through the track area in each approach to the crossing.

8. Walkways shall conform to General Order No. 118.

9. The railroad shall repair each of the crossings to be left open to effect a smooth, even ride over the track area, within two years after the effective date of this order.

10. Lodi shall attempt to secure federal funding for the improved protection and costs associated with the closing of Oak and Walnut Streets. If federal funding is not made available to Lodi, then Lodi and the Southern Pacific Transportation Company (SP) shall bear the costs of installation and closure on a 50/50 basis.

11. Maintenance costs of the automatic protection to be installed at Tokay Street, Crossing D-102.9; Lodi Avenue, Crossing D-103.1; Pine Street, Crossing D-103.3; Elm Street, Crossing D-103.4; Locust Street, Crossing D-103.5; and Lockeford Street, Crossing D-103.6 shall be borne equally by Lodi and SP pursuant to the provisions of Section 1202.2 of the Public Utilities Code.

12. Lodi shall notify the Commission in writing within thirty days after completion of work at each of the crossings.

The effective date of this order is the date hereof.

Dated NOV 20 1979, at San Francisco, California.

John E. Byron  
President  
James L. Sturgeon

Commissioner Richard D. Gravello, being necessarily absent, did not participate in the disposition of this proceeding.

Clair T. DeWitt  
Harold W. Green  
Commissioners