

ORIGINAL

Decision No. 90399 JUN 5 1979

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Investigation for the purpose of establishing a list for the fiscal year 1979-80 of existing and proposed crossings at grade of city streets, county roads or state highways most urgently in need of separation, or projects effecting the elimination of grade crossings by removal or relocation of streets or railroad tracks, or existing separations in need of alteration or reconstruction as contemplated by Section 2452 of the Streets and Highways Code.

OII No. 32  
(Filed December 12, 1978)

(Appearances listed in Appendix A.)

O P I N I O N

Section 2452 of the Streets and Highways Code requires that by July 1 of each year the California Public Utilities Commission establish a Railroad-Highway Grade Separation Priority List (priority list) for the succeeding fiscal year of existing and proposed crossing at grade of city streets, county roads, or state highways, which are not freeways, most urgently in need of separation, including projects effecting the elimination of grade crossings by removal or relocation of streets or railroad tracks and existing separations in need of alteration or reconstruction. This investigation was instituted by Commission order dated December 12, 1978 for the purpose of establishing the fiscal year 1979-80 priority list.

Copies of the Commission's order instituting the investigation were served upon each city, county, and city and county in which there

is a railroad crossing, each railroad corporation involved, the California Department of Transportation (Caltrans), the California Transportation Commission, the League of California Cities, the County Supervisors Association, and other persons who might have an interest in the proceeding. Projects may be nominated for inclusion on the priority list by a city, county, city and county, Caltrans, and the various railroad companies operating within the state. The priority list, based on criteria established by the Commission, is furnished to Caltrans and the California Transportation Commission, and those agencies, pursuant to the provisions of Sections 190 and 2453 of the Streets and Highways Code, allocate \$15,000,000 annually, plus amounts carried over, to those projects in accordance with their priority on the priority list.

Funding for projects included on each annual priority list is provided through Section 190, and the basis for allocation is contained in Sections 2450-2461 of the Streets and Highways Code. On projects which eliminate an existing crossing, or alter or reconstruct an existing grade separation, an allocation of 80 percent of the estimated cost of the project is made, with the local agency and railroad each contributing 10 percent. An allocation of 50 percent of the estimated cost of the project is made for a proposed crossing with the remaining 50 percent contributed by the local agency.

Following issuance by the Commission of an annual priority list, applications to Caltrans for an allocation must be made no later than April 1 of each fiscal year or the next business day thereafter if April 1 is not a business day. The requirements for filing an application for an allocation of grade separation funds are set forth in Title 21 (Public Works), Chapter 2, Subchapter 13 (Grade Separation Projects) of the California Administrative Code.

The allocation by the California Transportation Commission is limited to that necessary to make the separation operable and the initial allocation of funds by the California Transportation Commission is not to

exceed the applicant's project cost estimate utilized by the Public Utilities Commission in establishing the annual separation priority list.

By Decision No. 88956 dated June 13, 1978, as modified by Decision No. 89272, the Commission established the twenty-second priority list of 65 projects for the 1978-79 fiscal year, which will expire on June 30, 1979. A new priority list for the 1979-80 fiscal year is now required.

Public hearings were held in San Francisco and Los Angeles before Administrative Law Judge Pilling, and the matter was submitted on April 13, 1979 upon the receipt of late-filed Exhibit 7.

In response to the order instituting investigation, 37 agencies nominated 81 projects for the 1979-80 priority list and filed with the Commission the following information about each project.

- A. For Existing or Proposed Crossings at Grade Nominated for Elimination by Proposed Separation and Grade Crossings Nominated for Elimination by Removal or Relocation of Streets or Railroad Tracks
1. Identification of crossing, including name of street or road, name of railroad, and crossing number.
  2. Twenty-four hour vehicular traffic count, or for proposed crossings, estimated ADT for 1979.
  3. Number of train movements for one typical day segregated by type, i.e., passenger, through freight, or switching.
  4. Vehicular speed limit and the maximum prevailing train speed.
  5. Quantitative statement as to vehicular delay at crossing, in minutes per day.
  6. Distance on each side of the crossing to the nearest alternate routes, in feet.
  7. A 10-year accident history of the number of vehicle-object and vehicle-vehicle accidents directly attributable to the presence of the grade crossing.
  8. Width of the crossing in feet and in number of lanes.

9. Preliminary cost estimate for project with costs separated into right-of-way, engineering, and construction.
  10. Statement as to need for the proposed improvement and agencies' willingness to pursue the project.
  11. Any proposed crossing nominated for separation should be subtyped either:
    - a. A grade crossing is practical and feasible.
    - b. A grade crossing is not practical and feasible.
  12. For grade crossing(s) nominated for elimination by removal or relocation of streets or tracks, the estimated cost of eliminating crossing(s) if grade separation facilities on the existing alignment of the street and railroad tracks were constructed.
- B. For Grade Separations Proposed for Alteration
1. Identification of crossing, including name of street or road, name of railroad, and crossing number.
  2. Twenty-four hour vehicle traffic count.
  3. Number of train movements for one typical day segregated by type, i.e., passenger, through freight, or switching.
  4. Description of existing and proposed separation structure with principal dimensions.
  5. Type of alteration proposed.
  6. Preliminary cost estimate of project with costs separated into right-of-way, engineering, and construction.
  7. A list and relative description of any of the following, if applicable:
    - a. Substandard highway width or height clearances.
    - b. Highway speed reduction due to alignment.
    - c. Railroad slow order due to structure.

- d. Highway load limit due to structure.
- 8. A 10-year history of the number of vehicle accidents attributable to the structure.
- 9. A detailed statement describing acute structural deficiencies, if any, and the probability of structural failure.
- 10. Statement as to need for the proposed improvement and agencies' willingness to pursue the project.

For the purposes of determining the 1979-80 Grade Separation Priority List, the staff used the following criteria which are substantially similar to that used in the 1978-79 proceeding:

$$P = \frac{V \times T}{C \times 24} + SCF$$

Where:

- P = Priority Index Number
- V = Average 24-Hour Vehicular Volume
- C = Total Costs of Separation Project (In Thousands of Dollars)
- T = Average 24-Hour Train Volume
- SCF = Special Conditions Factor

For Existing or Proposed Crossings Nominated for Separation or Elimination

$$SCF = G1 + G2 + G3 + G4 + G5 + G6 + G7$$

Where:

	<u>Points Possible</u>
G1 = Vehicular Speed Limit	0 -5
G2 = Railroad Prevailing Maximum Speed	0 -5
G3 = Crossing Geometrics	0 -5
G4 = Crossing Blocking Delay	0-10
G5 = Alternate Route Availability	0 -5
G6 = Accident History	0-20
G7 = Irreducibles	<u>0-15</u>
Total Possible	0-65

For Separations Nominated for Alteration  
or Reconstruction

$$SCF = S1 + S2 + S3 + S4 + S5 + S6$$

Where:

	<u>Points Possible</u>
S1 = Width Clearance	0-10
S2 = Height Clearance	0-10
S3 = Speed Reduction or Slow Order	0- 5
S4 = Load Limit	0- 5
S5 = Accidents at or Near Structure	0-10
S6 = Probability of Failure and Irreducibles	<u>0-10</u>
Total Possible	0-50

Points in each category were assigned according to the following schedule:

Grade Crossings

G1 = Vehicular Speed Limit

<u>MPH</u>	<u>Points</u>
0-30	0
31-35	1
36-40	2
41-45	3
46-50	4
51-55	5

G2 = Railroad Maximum Speed

<u>MPH</u>	<u>Points</u>
0-25	0
26-35	1
36-45	2
46-55	3
56-65	4
66 +	5

G3 = Crossing Geometrics

0-5 points based on relative severity of physical conditions.

G4 = Crossing Blocking Delay, Total Minutes per Day

<u>Minutes</u>	<u>Points</u>
0-20	0
21-40	1
41-60	2
61-80	3
81-100	4
101-120	5
121-140	6
141-160	7
161-180	8
181-200	9
201 +	10

G5 = Alternate Route Availability

<u>Distance-feet</u>	<u>Points</u>
0-1,000	0
1,001-2,000	1
2,001-3,000	2
3,001-4,000	3
4,001-5,000	4
5,001 +	5

G6 = Accident History (10 years)

Each reportable train-involved accident

$$\text{Points} = (1 + 2 \times \text{No. killed} + \text{No. injured}) \times \text{PF}^*$$

\* PF = Protection Factor for:

Std. #9 = 1.0

Std. #8 = 0.4

Std. #3 = 0.2

Std. #1 = 0.1

Note 1. No more than 3 points shall be allowed for each accident prior to modification by the protection factor.

Note 2. Each accident shall be rated separately and modified by a factor appropriate to the protection in existence at the time of the accident.

G7 = Irreducibles

- (a) Secondary accidents.
- (b) Emergency vehicle usage.
- (c) Accident potential.

Separations

S1 = Width Clearance

S2 = Height Clearance

<u>Width (ft.)</u>	<u>Points</u>	<u>Underpass (ft.)</u>	<u>Points</u>
9' + 12(N)	0	15' +	0
6' but less than 9' + 12(N)	2	14' but less than 15'	4
3' but less than 6' + 12(N)	4	13' but less than 14'	8
0' but less than 3' + 12(N)	6	Less than 13'	10
11(N) but less than 12(N)	8	<u>Overpass (ft.)</u> 22-1/2' +	0
Less than 11(N)	10	20' but not less than 22-1/2'	4
		18' but not less than 20'	8
		Less than 18'	10

N = Number of Traffic Lanes

S3 = Speed Reduction or Slow Order

None	0
Moderate	2
Severe	5

S4 = Load Limit

None	0
Moderate	2
Severe	5



## S5 = Accidents at or Near Structure (10 years)

<u>Number</u>	<u>Points</u>
0- 10	0
11- 20	1
21- 30	2
31- 40	3
41- 50	4
51- 60	5
61- 70	6
71- 80	7
81- 90	8
91-100	9
101 +	10

## S6 = Irreducibles

- (a) Probability of Failure.
- (b) Accident Potential.
- (c) Delay Effects.

The above criteria differs from that applied to determine the 1978-79 priority list only to the extent that the 10-year accident history, G6, was expanded to include all train-involved accidents instead of limiting the accident history to merely vehicle-train accidents as was done in previous years.

Projects involving the closure of multiple crossings were evaluated in the same manner as single crossing projects with two major exceptions involving the Accident History and Crossing Blocking Delay Factors. For a multiple crossing project, the Accident History points for each crossing were added and that cumulative total reflected in Appendix C for G6 = Accident History.

Crossing Blocking Delay was considered on an individual project basis. For single street crossings of two railroads, the delays at each crossing were simply added; at multiple street crossings of a single railroad, the delay points awarded depended on the street configuration. For the vast majority of these projects, delay points were awarded based on a weighted average taking into account the delay and the number of vehicles at each crossing in the project.

The basic procedure employed by the staff for processing and evaluating the nominations was as follows:

1. Nominations were received by the Commission and logged in by the Traffic Engineering Section staff;
2. The data required to complete the formulae and the information identifying the crossing(s) were entered on a crossing file input form;
3. Data entered on the form was transferred to data input cards and entered into the computer;
4. The  $\frac{V \times T}{C \times 24}$  calculation was performed for each project and SCF points were assigned according to the defined schedules by the computer;
5. Totals for each project in the Special Conditions Factor categories were gathered and the Priority Index Number was calculated;
6. The projects were ranked according to their descending Priority Index Numbers.

Following the hearing the staff prepared and submitted late-filed Exhibit 7. Based upon the testimony and evidence presented during the course of hearing, changes were made in the number of points originally awarded to projects, as the result of changes in factual data and further explanation of data that was first submitted with the nominations. Changes were also made where local agencies did not provide sufficient evidence or foundation for the information contained in their original nominations. Projects for which no appearance was made were eliminated from consideration. Projects with points revised because of changes in factual data or a further explanation of previously submitted information are as follows:

<u>Agency</u>	<u>Crossing Name</u>	<u>Affected Category</u>
Alameda Co.	Sunol-Pleas CNSL. Liv-Alt CNSL.	Project Cost Vehicle Volume Project Cost
Anaheim	Lincoln Ave/SPT Co.  Lincoln Ave/AT&SF Katella Ave  Brookhurst St.	Accident History Train Volume Blocking Delay Irreducibles Train Volume Blocking Delay Train Volume Blocking Delay
Bakersfield	Union - 24th Chester Ave	Vehicle Speed Blocking Delay
Barstow	First St.	Irreducibles
Buena Park	Beach Blvd.	Project Cost
CALTRANS	238-Alameda	Width Clearance
Contra Costa Co.	Somersville	Vehicle Speed
Dunsmuir	Scherrer Ave	Project Limits Project Cost Blocking Delay Accident History Irreducibles
Irvine	Alton Parkway	Vehicle Volume
Los Angeles Co.	Hollywood Way	Vehicle Speed
	Alondra Blvd.	Vehicle Speed
Los Angeles	North Main St.	Train Volume Blocking Delay
	Santa Fe-Wash.	Vehicle Volume Train Volume
Oceanside	Combined LWR	Train Volume
Ontario	Euclid Ave	Irreducibles
Oroville	Bridge St.	Revised Project (Alt.) Project Cost
Pittsburg	Railroad Ave/SPT Co.	Vehicle Volume
	Railroad Ave/AT&SF	Vehicle Volume
Pomona	Humane Way	Vehicle Volume Train Volume
San Gabriel	Del Mar Ave	Train Speed
	San Gabriel Blvd.	Train Speed
	San Gabriel LWR	Train Speed Geometrics Irreducibles
San Jose	Branham Lane	Project Cost Vehicle Speed Train Speed Blocking Delay Irreducibles
	Bernal Road	Train Volume Project Cost Vehicle Speed Blocking Delay Irreducibles

<u>Agency</u>	<u>Crossing Name</u>	<u>Affected Category</u>
Sunnyvale	Wolfe Road	Project Cost
Yorba Linda	Wier Canyon	Irreducibles Blocking Delay

Projects eliminated from consideration by request or failure to appear at the designated public hearing are as follows:

<u>Agency</u>	<u>Crossing Name</u>
Berkeley	2K Line - Abandonment
San Bernardino	Rialto Avenue

Eight of the projects appearing on the 1978-79 priority list, which were also nominated for the 1979-80 priority list, have been approved for allocations since the date of the hearing on the 1979-80 priority list, the Commission has learned. These projects, therefore, will not appear on the 1979-80 priority list. The projects, by agency and crossing name, are as follows:

<u>Agency</u>	<u>Crossing Name</u>
Los Angeles County	Daly Street
Los Angeles County	Eastern Avenue
Bakersfield	Chester Avenue
Santa Fe Springs	Carmenita Road
Fairfield	Main - Rio Vista
Los Angeles County	Alondra Boulevard
Riverside	Van Buren Boulevard
Hayward	"A" Street

Findings of Fact

1. The Commission adopts the criteria set forth in Appendices B, C, D, and E attached hereto for use in establishing the 1979-80 priority list.

2. Because a representative of the nominating agency failed to appear in support of the nomination or requested withdrawal, the nomination of the city of Berkeley of its 2K Line - Abandonment project and the nomination of the city of San Bernardino of its Rialto Avenue project should be eliminated from consideration.

3. The eight projects listed in the body of this decision, which received allocations subsequent to hearing hereon, should be excluded from the 1979-80 priority list.

4. The criteria of rules of the Commission established for use in determining the 1979-80 priority list are subject to modification, and the Commission invites the participation of interested parties to offer their recommendations.

5. The priority list set out in Appendix E will be established as the 1979-80 Grade Separation Priority List established in accordance with Section 2452 of the Streets and Highways Code.

6. With regard to projects having the same priority index number, consideration shall first be given to projects which separate or eliminate existing grade crossings, then to projects for the alteration or reconstruction of grade separations, and, finally, to projects for the construction of new grade separations. Within each of these categories, first consideration shall be given to the lowest cost project in order that the maximum number of projects may be accomplished with the available funds.

As the statute requires our order by July 1, the effective date of the order should be the date of signing.

O R D E R

IT IS ORDERED that:

1. The list of projects appearing in Appendix E is established, as required by Section 2452 of the Streets and Highways Code, as the 1979-80 list, in order of priority, of projects which the Commission determines to be most urgently in need of separation or alteration.

2. The Executive Director shall furnish a full, true, and correct copy of this opinion and order to the California Transportation Commission.

The effective date of this order is the date hereof.

Dated at San Francisco, California, this 5<sup>th</sup> day of UNE 4, 1979.

John E. Ryan  
President

Thomas L. Stegeman

Richard J. Farrell

Clare J. DeLuca

Harold W. Smith  
Commissioners

APPENDIX A

LIST OF APPEARANCES

Applicants: Eldon K. Lee, for City of Indio; Earl L. Pitkin, for City of Los Angeles; Robert L. Larson, for Los Angeles County; and G. Brent Muchow, for City of Irvine.

Interested Parties: Harold S. Lentz, Attorney at Law, for Southern Pacific Transportation Company and affiliated companies; John C. Miller, for Western Pacific Railroad Company; Eugene C. Bonnstetter, Attorney at Law, for California Department of Transportation; Jean F. Ridone, for City of Richmond; B. J. Kerekes, for County of Contra Costa; Joseph L. Shilts, for City of Fairfield; Roland L. Brust, for City of Ronnert Park; Donald M. Somers and Robert A. Smith, for City of Sunnyvale; Arnold Joens, for City of Salinas; Robert M. Barton, for City of Oroville, City of Bakersfield, County of Alameda, City of Pleasanton, and City of Livermore; and Daniel E. Boatwright, Attorney at Law, for City of Pittsburg.

Commission Staff: Robert W. Stich.

Alphabetical List of Projects by Nominating Agency

AGENCY	CROSSING NAME	RR	DR	MILE POST	SUF	PROP	TYPE PRDJ	VEH VOLUME	TRAIN VOLUME	PROJECT COST	V X T
											C X 24
ALAMEDA COUNTY	LIV-ALT CNSL	1	D	46.0			1	57489	5	2915000	4
ALAMEDA COUNTY	LIV-PLEAS CHL	4		37.2			1	119049	5	6970000	4
ALAMEDA COUNTY	SUNDL-PLES CL	4		37.2			1	54787	5	6200000	2
ANAHEIM	STATE COLLEGE	2		170.3			1	18900	26	3550000	6
ANAHEIM	LINCOLN AV	1	BK	508.5			1	25400	38	4650000	9
ANAHEIM	KATELLA AV	1	BK	512.4			1	29800	15	4055000	5
ANAHEIM	LINCOLN AV	2		167.7			1	17800	30	5000000	4
ANAHEIM	BROOKHURST ST	1	BAA	511.9			1	28200	24	5000000	6
BAKERSFIELD	UNION-24TH	1	B	312.3			1	21200	32	4587000	6
BAKERSFIELD	CHESTER AV	1	D	311.2			1	25500	30	3851000	8
BAKERSFIELD	H ST	2		887.5			1	16100	56	3430000	11
BARSTOW	FIRST STREET	2		746.5	A		4	10403	70	2381000	13
BUENA PARK	BEACH BL	2		160.6	B		4	60049	52	5750000	23
CALTRANS	237-SANTA CLRA	1	E	37.1	A		4	26000	61	2500000	26
CALTRANS	237-SANTA CLRA	1	L	39.8			1	35500	9	8000000	2
CALTRANS	84-YOLO	1	A	87.5	B		2A	10000	36	2145000	7
CALTRANS	70-YUBA	1	C	141.7	B		4	13300	40	8337000	3
CALTRANS	79-RIVERSIDE	1	B	562.4			1	8000	35	2563000	5
CALTRANS	41-FRESNO	1	D	205.9			1	11850	32	7572000	2
CALTRANS	238-ALAMEDA	4	G	1.4	B		4	17000	8	1600000	4
CALTRANS	68-MONTEREY	1	E	119.29			1	13500	44	3180000	8
CALTRANS	180-FRESNO	2		997.8			1	22250	38	5909000	6
CALTRANS	138-SAN BROO	2		60.9			1	2800	52	3206000	2
CALTRANS	166-SIA BARBA	1	E	276.8			1	5000	34	1940000	4
CHICO	DAYTON ROAD	1	C	183.8			3	1702	29	602000	3

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APPENDIX B  
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Alphabetical List of Projects by Nominating Agency

AGENCY	CROSSING NAME	RR	DR	MILE POST	SUF	PROP	TYPE PROJ	VEH VOLUME	TRAIN VOLUME	PROJECT COST	V X I ----- C X 24
CONTRA COSTA COUNTY	SOMERSVILLE	1	B	52.1			1	14216	5	2105000	1
CORONA	RAILROAD-LINC	2	B	25.6			1	2307	35	2801000	1
DUNSMUIR	SCHERRER-AVE	1	C	321.7			1	1682	40	400000	7
EL MONTE	PECK-RAHONA	1	D	495.0			1	43026	38	13420000	5
FAIRFIELD	MAIN-RIOVISTA	1	A	49.1			1	20130	44	6120000	6
FRESNO COUNTY	ASHILAN AV	1	B	199.9			1	4483	35	2944000	4
HAYWARD	A STREET	4		20.2			1	28704	8	6057000	2
HAYWARD	A STREET	1	D	20.0			1	38447	56	5785000	16
INDIO	HONROE ST	1	B	609.7			1	15428	42	5569000	5
IRVINE	IRVINE LVR	2		180.5			1	36164	12	14325000	2
IRVINE	ALTON PARKWAY	2		185.8		*	2A	4700	18	1208000	3
LOS ANGELES COUNTY	GRAND-INDUSTY	1	B	508.0	A	*	2A	9000	56	5131000	4
LOS ANGELES COUNTY	RT 105-RLC	1	BBL	491.71			3	138156	4	15940000	1
LOS ANGELES COUNTY	ALONDRA BL	2		159.6			1	18320	52	8221000	5
LOS ANGELES COUNTY	BANDINE BL	3	A	1.4			1	20011	20	6496000	3
LOS ANGELES COUNTY	GREENWOOD-MTB	2		149.5			1	13162	49	5384000	5
LOS ANGELES COUNTY	HOLLYWOOD WAY	1	B	469.4			1	21127	16	7848000	2
LOS ANGELES COUNTY	FLORENCE AV	1	UG	488.3			1	30409	16	8828000	3
LOS ANGELES COUNTY	DOUGLAS ST	2	H	15.02	B	*	2A	12000	12	3420000	2
LOS ANGELES COUNTY	EASTERN AV	2		147.3			1	15851	46	3093000	10
LOS ANGELES	SANTA FE-WASH	2		143.29	C		1	42298	40	10545000	7
LOS ANGELES	SATIMCOY ST	1	E	456.0		*	2A	23000	18	9964000	2
LOS ANGELES	VALLEY-EASTRN	1	B	485.8			1	26523	28	12984000	2
LOS ANGELES	DAILY ST	1	B	483.26	A		4	17600	311	2251000	106
LOS ANGELES	NORTH MAIN ST	3	B	1.42			1	9557	66	17500000	2

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Alphabetical List of Projects by Nominating Agency

AGENCY	CROSSING NAME	RR	DR	MILE POST	SUF	PROP	TYPE PROJ	VEH VOLUME	TRAIN VOLUME	PROJECT COST	V X I
											C X 24
LOS ANGELES	NORDHOFF ST	1	E	448.5			2A	16000	18	3978000	3
NORWALK	IMPERIAL HWY	1	BR	498.0			1	27580	18	3331000	6
OCEANSIDE	COMBINED LWR	2		225.9			1	33970	55	8426000	9
ONTARIO	EUCLID AVE	1	B	520.1			1	33902	74	5186000	20
OROVILLE	BRIDGE ST	4		205.3	A		4	9474	24	845000	11
OROVILLE	BRIDGE ST ALT	4		205.3	A		4	9474	24	565000	17
PITTSBURG	RAILROAD AV	1	B	48.9			1	21714	38	4757000	7
PITTSBURG	RAILROAD AV	2		1155.7			1	19122	33	3310000	8
POMONA	ROSELAWN AV	1	B	511.8	A		2A	18000	49	1600000	23
POMONA	HUMANE WAY	3		29.8	A		4	1980	20	650000	3
RICHMOND	23RD ST	1	A	14.5			1	17500	34	6697000	4
RICHMOND	23RD ST	1	A	14.5			1	17500	34	4998000	5
RIVERSIDE	VAN BUREN DL	2	B	16.4			1	27100	22	3617000	7
RIVERSIDE	ARLINGTON AV	2	B	12.4			1	30220	22	4294000	6
ROHNERT PARK	ROHNERT PK EX	5		47.4			1	13107	10	2146000	3
SALINAS	BORONDA ROAD	1	E	116.7			1	8218	44	6385000	2
SANTA BARBARA COUNTY	HOLLISTER AVE	1	E	365.7	B		4	15075	17	1800000	6
SANTA FE SPRINGS	CARMENITA RD	2		157.3			1	18464	52	4327000	9
SAN CARLOS	HOLLY ST	1	E	23.2			1	20700	62	6789000	8
SAN GABRIEL	SAN GABRIEL BL	1	B	491.2			1	29150	42	3120000	16
SAN GABRIEL	MISSION DR	1	B	490.3			1	13843	42	3120000	8
SAN GABRIEL	RAMONA ST	1	B	490.2			1	16323	42	3120000	9
SAN GABRIEL	SAN GABRIEL LWR	1	B	490.2			1	71607	42	12480000	10
SAN GABRIEL	DEL MAR AV	1	B	490.7			1	12291	43	3120000	7
SAN JOSE	BERNAL RD	1	E	61.0			1	10500	30	6650000	2

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APPENDIX B  
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Alphabetical List of Projects by Nominating Agency

AGENCY	CROSSING NAME	RR	BR	MILE POST	SUF	PROP	TYPE PROJ	VEH VOLUME	TRAIN VOLUME	PROJECT COST	V X T
											C X 24
SAN JOSE	BRANHAM LN	1	E	57.3			1	1090	30	6008000	0
STOCKTON	HAMMER LAKE	4		98.5			1	26000	17	4770000	4
SUNNYVALE	WOLFE RD	1	E	39.7			1	27082	68	5280000	15
TORRANCE	TORRANCE RCL	1	BBG	500.73			3	67479	4	961000	11
TORRANCE	DEL AMO BL	2	II	19.5		*	2A	25000	36	3387000	11
YORBA LINDA	NIER CANYON	2	B	35.8	A	*	2A	24200	27	2710000	10

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Special Conditions Factors for Grade Crossings Nominated for Separation or Elimination

AGENCY	CROSSING NAME	RR	BR	MILE POST	SUF	PROP	VEH SPD LIMIT G1	TRAIN SPEED G2	XING GEOM G3	BLKNG DELAY G4	ALT RTE G5	ACC HIST G6	IRR G7	TOTAL SCF
ALAMEDA COUNTY	LIV-ALT CHSL	1	0	46.0			2	3	5	0	5	11	15	41
ALAMEDA COUNTY	LIV-PLEAS CNL	4		37.2			0	3	5	1	3	20	15	67
ALAMEDA COUNTY	SUNOL-PIES CL	4		37.2			0	3	5	1	3	20	15	47
ANAHEIM	STATE COLLEGE	2		170.3			2	5	2	1	2	3	8	23
ANAHEIM	LINCOLN AV	1	BK	508.5			1	0	3	4	2	1	8	19
ANAHEIM	KATELLA AV	1	BK	512.4			1	0	3	2	5	0	8	19
ANAHEIM	LINCOLN AV	2		167.7			0	5	3	2	0	2	9	21
ANAHEIM	BROOKHURST ST	1	BAA	511.9			1	1	1	3	5	1	6	18
BAKERSFIELD	UNION-24TH	1	B	312.3			0	3	4	8	2	5	11	33
BAKERSFIELD	CHESTER AV	1	B	311.2			1	3	3	5	1	6	8	29
BAKERSFIELD	H ST	2		887.5			0	0	2	10	0	3	11	26
CALTRANS	237-SHTA CLRA	1	L	39.8			5	4	2	1	4	2	9	27
CALTRANS	84-YOLO	1	A	87.5	B	*	3	5	0	3	3	0	5	19
CALTRANS	79-RIVERSIDE	1	0	562.4			1	3	2	4	1	0	8	19
CALTRANS	41-FRESNO	1	B	205.9			0	1	3	2	0	3	8	17
CALTRANS	68-MONTEREY	1	E	119.29			1	0	2	6	1	3	7	20
CALTRANS	180-FRESNO	2		997.8			0	0	2	5	1	5	8	21
CALTRANS	138-SAN BROO	2		60.9			5	1	4	7	5	11	8	41
CALTRANS	166-STA BARBA	1	E	276.8			0	3	2	4	4	5	7	25
CHICO	DAYTON ROAD	1	C	183.8			3	1	4	5	5	0	6	24
CONTRA COSTA COUNTY	SOMERSVILLE	1	B	52.1			1	2	2	0	3	1	6	15
CORONA	RAILROAD-LINC	2	B	25.6			1	1	5	3	5	0	9	24
DUNSHUIR	SCHERRER-AVE	1	C	321.7			0	0	5	10	5	2	13	37
EL MONTE	PECK-MAHONA	1	B	495.0			2	4	3	5	4	20	14	52
FAIRFIELD	MAIN-RIOVISTA	1	A	49.1			0	5	4	9	3	4	12	37

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Special Conditions Factors for Grade Crossings Nominated for Separation or Elimination

AGENCY	CROSSING NAME	RR	BR	MILE POST	SUF	PROP	VEH SPD LIMIT G1	TRAIN SPEED G2	XING GEOM G3	BLKNG DELAY G4	ALT RTE G5	ACC HIST G6	ERR G7	TOTAL SCF
FRESNO COUNTY	ASHLAN AV	1	B	199.9			5	1	5	7	5	1	10	34
HAYWARD	A STREET	4		20.2			0	4	5	0	1	2	8	20
HAYWARD	A STREET	1	D	20.0			0	1	3	3	3	9	11	30
INDIO	MONROE ST	1	B	609.7			0	5	4	9	5	3	10	36
IRVINE	IRVINE LWR	2		180.5			5	5	3	3	2	3	10	31
IRVINE	ALTON PARKWAY	2		185.8		*	5	5	0	0	5	0	4	19
LOS ANGELES COUNTY	GRAND-INDUSTY	1	B	508.0	A	*	3	4	0	5	2	0	4	18
LOS ANGELES COUNTY	RT 105-HLC	1	BBL	491.91			1	0	2	3	0	13	9	28
LOS ANGELES COUNTY	ALONDRA BL	2		159.6			3	4	3	6	5	4	10	35
LOS ANGELES COUNTY	BANDINE BL	3	A	3.4			3	0	3	5	1	4	9	25
LOS ANGELES COUNTY	GREENWOOD-HTB	2		149.5			1	4	3	7	3	3	8	29
LOS ANGELES COUNTY	HOLLYWOOD WAY	1	B	469.4			1	3	3	2	4	3	10	26
LOS ANGELES COUNTY	FLORENCE AV	1	BG	488.3			1	0	3	3	2	2	6	17
LOS ANGELES COUNTY	DOUGLAS ST	2	H	15.02	B	*	2	0	0	1	2	0	5	10
LOS ANGELES COUNTY	EASTERN AV	2		147.3			2	4	4	8	3	2	7	30
LOS ANGELES	SANTA FE-WASH	2		143.29	C		2	0	3	9	2	5	10	31
LOS ANGELES	SATICOY ST	1	E	456.0		*	2	4	0	2	2	0	5	15
LOS ANGELES	VALLEY-EASTRN	1	B	485.8			1	0	3	3	4	3	7	21
LOS ANGELES	NORTH MAIN ST	3	B	1.42			1	0	5	4	1	2	11	24
LOS ANGELES	NORDHOFF ST	1	E	448.5		*	1	4	0	2	1	0	6	14
NORWALK	IMPERIAL HWY	1	BK	498.0			2	1	3	3	2	3	9	23
OCEANSTOE	COMBINED LWR	2		225.9			0	1	4	5	2	12	13	37
ONTARIO	EUCLID AVE	1	B	520.1			1	4	2	9	1	6	14	37
PITTSBURG	RAILROAD AV	1	B	48.9			0	2	3	1	2	1	9	18
PITTSBURG	RAILROAD AV	2		1155.7			0	2	4	3	1	6	10	26

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Special Conditions Factors for Grade Crossings Nominated for Separation or Elimination

AGENCY	CROSSING NAME	RR	UR	MILE POST	SUF	PROP	VEH SPD LIMIT G1	TRAIN SPEED G2	XING GCGM G3	BLKAG DELAY G4	ALT RIE G5	ACC HIST G6	IRR G7	TOTBL SCF
POMONA	ROSELAWN AV	1	B	511.8	A	*	2	4	0	4	1	0	5	16
RICHMOND	23RD ST	1	A	14.5			0	3	4	3	1	8	10	29
RICHMOND	23RD ST	1	A	14.5			0	3	4	3	1	8	10	29
RIVERSIDE	YAN BUREN BL	2	B	16.4			2	3	5	2	1	8	11	32
RIVERSIDE	ARLINGTON AV	2	B	12.4			1	2	5	1	1	8	9	27
ROHNERT PARK	ROHNERT PK EX	5		47.4			1	2	1	1	2	2	4	13
SALINAS	BORONDA ROAD	1	E	116.7			5	5	1	6	5	5	7	34
SANTA FE SPRINGS	CARMENITA RD	2		157.3			3	4	4	4	3	11	9	36
SAN CARLOS	HOLLY ST	1	E	23.2			0	4	2	4	4	6	10	30
SAN GABRIEL	SAN GABRIEL BL	1	B	491.2			1	1	1	5	1	2	8	21
SAN GABRIEL	MISSION DR	1	B	490.3			0	1	4	5	0	1	9	20
SAN GABRIEL	RAMONA ST	1	B	490.2			0	1	4	5	0	0	9	19
SAN GABRIEL	SAN GABRIEL LWR	1	B	490.2			1	1	5	5	2	4	15	33
SAN GABRIEL	DEL MAR AV	1	B	490.7			0	1	3	5	0	1	7	17
SAN JOSE	BERNAL RD	1	E	61.0			2	5	4	5	5	1	8	30
SAN JOSE	BRANHAM LN	1	E	57.3			1	5	3	5	2	1	8	25
STOCKTON	HAMMER LANE	4		98.5			3	4	1	3	5	3	7	26
SUNNYVALE	WOLFE RD	1	E	39.7			1	5	3	4	2	3	11	29
TORRANCE	TORRANCE RCL	1	BBG	500.73			0	0	3	2	3	2	9	19
TORRANCE	DEL AMO BL	2	H	19.5		*	3	0	0	4	5	0	5	17
YORBA LINDA	WIER CANYON	2	B	35.8	A	*	5	4	0	5	5	0	6	25

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## APPENDIX D

Special Conditions Factors for Separations Nominated for Alteration or Reconstruction

AGENCY	CROSSING NAME	RR	BR	MILE POST	SUF	PROP	WIDTH CLEAR S1	HEIGHT CLEAR S2	SPEED REDUC S3	LOAD LIMIT S4	ACC STRUC S5	IRR S6	TOTAL SCF
BARSTOW	FIRST STREET	2		746.5	A		6	0	2	5	10	7	30
BUENA PARK	BEACH BL	2		160.6	B		10	4	2	5	9	6	36
CALTRANS	237-SANTA CLARA	1	E	37.1	A		0	0	5	0	6	5	16
CALTRANS	70-YUOA	1	C	141.7	B		4	4	5	2	2	8	25
CALTRANS	238-ALAMEDA	4	G	1.4	B		8	4	2	0	0	5	19
LOS ANGELES	DALY ST	1	B	483.26	A		8	4	0	0	0	7	19
OROVILLE	BRIDGE ST	4		205.3	A		6	0	5	0	0	7	18
OROVILLE	BRIDGE ST ALT	4		205.3	A		6	0	5	0	0	7	18
POMONA	HUMANE WAY	3		29.8	A		4	0	0	0	0	5	9
SANTA BARBARA COUNTY	HOLLISTER AVE	1	E	365.7	B		0	0	5	0	10	9	24

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Projects Nominated by Priority Index Number

AGENCY	CROSSING NAME	RR	BR	MILE POST	SUF	PROP	V X I	SCF	PRIORITY INDEX NUMBER	PRIORITY NUMBER
							C X 24			
BUENA PARK	BEACH BL	2		160.6	B		23	36	59	1
ONTARIO	EUCLID AVE	1	B	520.1			20	37	57	2
EL MONTE	PECK-RAHONA	1	B	495.0			5	52	57	3
ALAMEDA COUNTY	LIV-PLEAS CNL	4		37.2			4	47	51	4
ALAMEDA COUNTY	SUNOL-PLES CL	4		37.2			2	47	49	5
OCEANSIDE	COMBINED LVR	2		225.9			9	37	46	6
ALAMEDA COUNTY	LIV-ALT CHSL	1	D	46.0			4	41	45	7
DUNSMUIR	SCHERKER-AVE	1	C	321.7			7	37	44	8
SUNNYVALE	WOLFE RD	1	F	39.7			15	29	44	9
CALTRANS	138-SAN BRDD	2		60.9			2	41	43	10
SAN GABRIEL	SAN GABL LVR	1	B	490.2			10	33	43	11
BARSTOW	FIRST STREET	2		746.5	A		13	30	43	12
CALTRANS	237-SANTA CLRA	1	E	37.1	A		26	16	42	13
INDIO	MONROE ST	1	D	609.7			5	36	41	14
BAKERSFIELD	UNION-24TH	1	B	312.3			6	33	39	15
POKONA	ROSELAWN AV	1	B	511.8	A		23	16	39	16
FRESNO COUNTY	ASHLAN AV	1	B	199.9			4	34	38	17
SAN CARLOS	HOLLY ST	1	E	25.2			8	30	38	18
LOS ANGELES	SANTA FE-WASH	2		143.29	C		7	31	38	19
SAN GABRIEL	SAN GABRL BL	1	B	491.2			16	21	37	20
BAKERSFIELD	H ST	2		887.5			11	26	37	21
SALINAS	BORONOA ROAD	1	E	116.7			2	34	36	22
ORUVILLE	BRIDGE ST ALT	4		205.3	A		17	18	35	23
YORBA LINDA	NIER CANYON	2	B	35.8	A		10	25	35	24
PITTSBURG	RAILROAD AV	2		1155.7			8	26	34	25

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Projects Dominated by Priority Index Number

AGENCY	CROSSING NAME	RR	OR	MILE POST	SUF	PROP	V X I			SCF	PRIORITY INDEX NUMBER	PRIORITY NUMBER
							C	X	I			
RICHMOND	23RD ST	1	A	14.5			5		29	34	26	
LOS ANGELES COUNTY	GREENWOOD-MT B	2		149.5			5		29	34	27	
REVERSHIDE	ARLINGTON AVE	2	U	12.4			6		27	33	28	
RICHMOND	23RD ST	1	A	14.5			4		29	33	29	
IRVINE	IRVINE LYR	2		180.5			2		31	33	30	
SAN JOSE	BERNAL RD	1	F	61.0			2		30	32	31	
TORRANCE	TORRANCE RD-L	1	BBG	500.73			11		19	30	32	
STOCKTON	HAMMER LINE	4		98.5			4		26	30	33	
SANTA BARBARA COUNTY	HOLLISTER AVE	1	E	365.7	B		6		24	30	34	
CALTRANS	166-SANTA BARBARA	1	E	276.8			4		25	29	35	
NORWALK	IMPERIAL HWY	1	BK	498.0			6		23	29	36	
ANAHEIM	STATE COLL-DEGE	2		170.3			6		23	29	37	
CALTRANS	237-SANTA CLARA	1	L	39.8			2		27	29	38	
LOS ANGELES COUNTY	RT 105-RLC	1	BUL	491.91			1		28	29	39	
UKOVILLE	BRIDGE ST	4		205.3	A		11		18	29	40	
SAN GABRIEL	RAMONA ST	1	U	490.2			9		19	28	41	
SAN GABRIEL	MISSION D ER	1	D	490.3			8		20	28	42	
CALTRANS	68-MONTEREY	1	E	119.29			8		20	28	43	
ANAHEIM	LINCOLN A V	1	BK	508.5			9		19	28	44	
LOS ANGELES COUNTY	BANDINI BL	3	A	3.4			3		25	28	45	
LOS ANGELES COUNTY	HOLLYWOOD WY	1	U	469.4			2		26	28	46	
CALTRANS	70-TUBA	1	C	141.7	U		3		25	28	47	
TORRANCE	DEL ANO BL	2	U	19.5			11		17	28	48	
CHICO	DAYTON ROAD	1	C	183.8			3		24	27	49	
CALTRANS	180-FRES NO	2		997.8			6		21	27	50	

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Projects Nominated by Priority Index Number

AGENCY	CROSSING NAME	RR	DR	MILE POST	SUF	PROP	V I I	SCF	PRIORITY INDEX NUMBER	PRIORITY NUMBER
							----- C X 24			
LOS ANGELES	NORTH MAIN ST	3	0	1.42			2	24	26	51
CALTRANS	84-YOLO	1	A	87.5	0	*	7	19	26	52
CORONA	RAILROAD-LINC	2	B	25.6			1	24	25	53
PITTSBURG	RAILROAD AV	1	0	48.9			7	18	25	54
ANAHEIM	LINCOLN AV	2		167.7			4	21	25	55
SAN JOSE	BRANHAM LN	1	E	57.3			0	25	25	56
CALTRANS	79-RIVERSIDE	1	0	562.4			5	19	24	57
SAN GABRIEL	DEL MAR AV	1	B	490.7			7	17	24	58
ANAHEIM	KATELLA AV	1	BK	512.4			5	19	24	59
ANAHEIM	BROOKHURST ST	1	BAA	511.9			6	18	24	60
LOS ANGELES	VALLEY-EASTRN	1	B	485.8			2	21	23	61
CALTRANS	238-ALAMEDA	4	G	1.4	0		4	19	23	62
HAYWARD	A STREET	4		20.2			2	20	22	63
IRVINE	ALTON PARKWAY	2		185.8		*	3	19	22	64
LOS ANGELES COUNTY	GRAND-INDUSTRY	1	B	508.0	A	*	4	18	22	65
LOS ANGELES COUNTY	FLORENCE AV	1	BG	488.3			3	17	20	66
CALTRANS	41-FRESNO	1	B	205.9			2	17	19	67
LOS ANGELES	NORDHOFF ST	1	E	448.5		*	3	14	17	68
LOS ANGELES	SATICOY ST	1	E	456.0		*	2	15	17	69
CONTRA COSTA COUNTY	SOMERSVILLE	1	B	52.1			1	15	16	70
ROHNERT PARK	ROHNERT PK EX	5		47.4			3	13	16	71
PHOENIX	HUNANE WAY	3		29.8	A		3	9	12	72
LOS ANGELES COUNTY	DOUGLAS ST	2	H	15.02	0	*	2	10	12	73

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