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**CPUC Guidelines**  
**For the**  
**Federal Aid At-Grade Highway-**  
**Rail Crossing Program**  
**(Section 130 Program)**

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**Consumer Protection and Safety Division**  
**California Public Utilities Commission**



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# BACKGROUND

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## **1.0 BACKGROUND**

### **1.1 Introduction**

As provided by Title 23, United States Code, Section 130 (23 U.S.C. 130), the Section 130 Program provides federal funds for the elimination of hazards at existing at-grade highway-rail crossings (crossings). The purpose of Section 130 Program is to reduce the number, severity and potential of hazards to motorists, bicyclists, and pedestrians at crossings. The Section 130 program is a cooperative effort between the Federal Highway Administration (FHWA), California Department of Transportation (Caltrans), California Public Utilities Commission (Commission), railroad companies and local agencies.

### **1.2 Process Overview**

Crossings are selected for inclusion in the state wide funding list based on their hazard potential. There are a number of sources the Commission staff uses to identify crossings that present a high hazard potential. These include the Federal Railroad Administration's (FRA) Web Accident Prediction System, crossing accident history and trends, the Commission's crossing database, Commission staff, local agencies, and railroads.

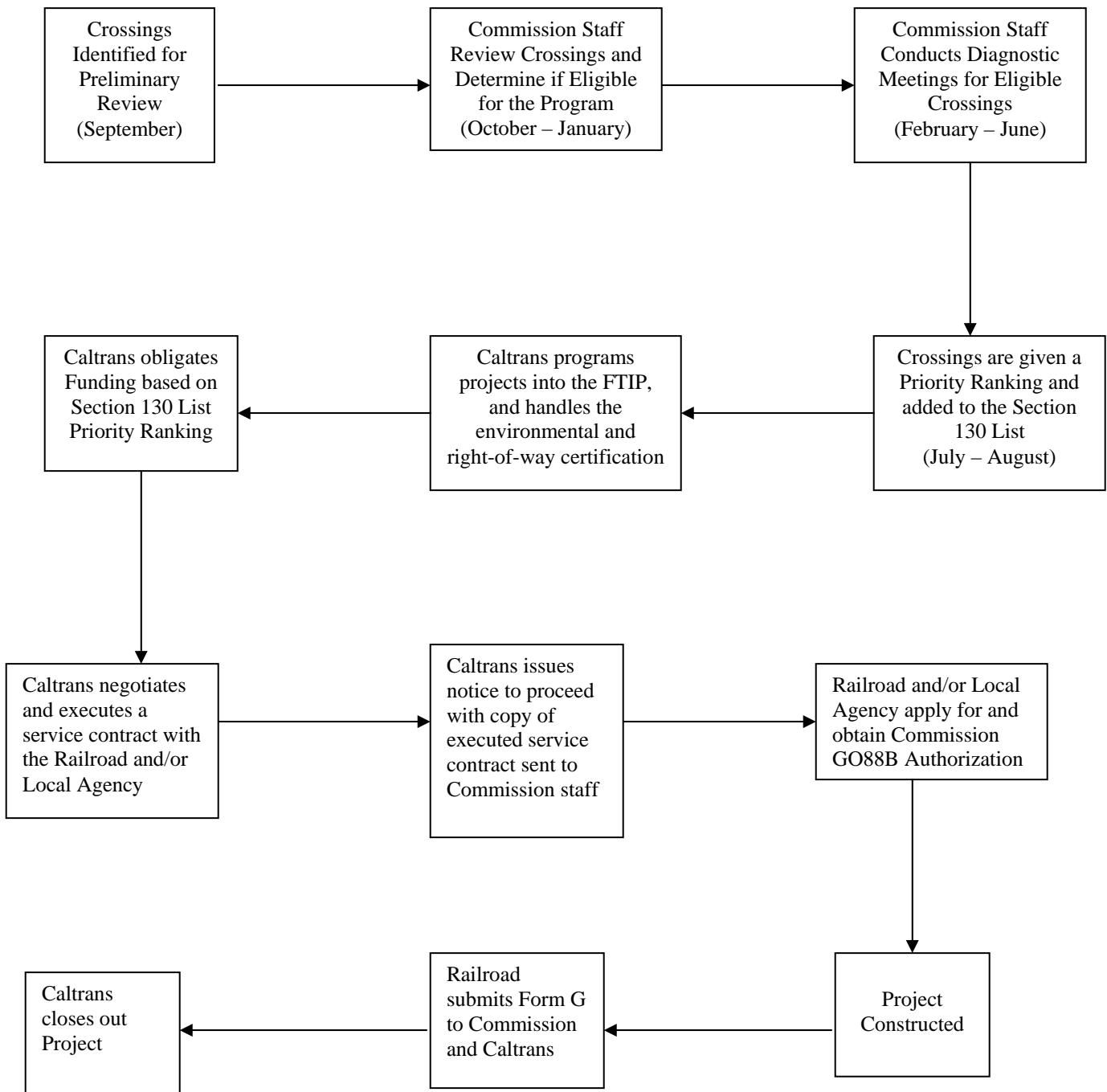
Commission staff reviews each identified crossing. The review determines which crossings are considered for Section 130 funds. This is based upon such factors as the federal program requirements, eligibility criteria, and if there are improvements which can be made to reduce hazards that are covered by the Section 130 program.

An in depth diagnostic review is conducted for each crossing that will be considered for Section 130 funds. These crossings are then given a priority ranking based on several factors, including the US Department of Transportation (U.S. DOT) Accident Prediction Formula. Due to the finite amount of funding, the final priority list is created based on the highest ranking crossings. Commission staff annually provides the updated priority list of projects to Caltrans. Caltrans is then responsible for developing contracts. (See the Caltrans Section 130 Guidelines at <Link TBD> for details.)

Caltrans uses the final priority list to obligate funding in order of priority. Once a project is contracted by Caltrans, a Commission General Order (GO) 88-B request must be filed and approved by Commission staff before construction may begin.

Thirty days after the completion of the project, the railroad or local agency must submit a standard Commission Form G (Report of Changes at Highway Grade Crossing and Separations) to the Commission's Rail Crossing Engineering Section staff with a copy to Caltrans. The Form G may also be submitted electronically to the Commission. (See <http://www.cpuc.ca.gov/static/transportation/crossings/formg.htm> for details.)

## Section 130 Program Process Overview





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# CROSSING SELECTION

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## **2.0 CROSSING SELECTION**

The first step is determining the crossings to review for possible nomination. Commission staff identifies a number of crossings with high hazard potential for review based on several sources. These include FRA's Web Accident Prediction System, crossing accident history and trends, the Commission's database, Commission staff, local agencies, and railroads.

### **2.1 Crossing Eligibility**

Not all crossings are eligible for financing with Section 130 program funds. Crossings must be at-grade vehicular highway-rail crossings on a public road. Crossings which are not eligible include:

- Crossings solely for the use of pedestrians and/or bicyclists, including station crossings.
- Crossings used by light rail vehicles, either solely or in conjunction with freight operation.
- Private crossings.
- Grade separated crossings.

The Section 130 funding will also not be used to fund improvements for the sole purpose of qualifying a local agency to apply for a "Quiet Zone" with the United States Secretary of Transportation pursuant to Title 49 Code of Federal Regulation Section 222 (49 C.F.R. 222), or for demonstration or pilot projects.

### **2.2 Corridor Projects**

A corridor project is comprised of two or more crossings that are located within the electronic advance warning circuitry limits. Commission staff will not nominate corridor projects. Corridor projects require a financial contribution/match from the applicant. New corridor projects will only be approved by joint agreement with Caltrans, the Commission, and the local agency/railroad.



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# REVIEW PROCESS

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### **3.0 REVIEW PROCESS**

The annual review process consists of several steps. It starts with the selection of crossings to consider for eligibility based on hazard potential, as previously detailed, and continues with the diagnostic review of the crossings selected for funding consideration, and concludes with the update to the priority list.

#### **3.1 Crossing Review**

Commission staff will review each identified crossing during the period of October to January to determine if it is eligible, and can be improved by items covered under the program. The Commission staff considers the current conditions including such factors as the train and vehicle counts, the crossing geometrics, accident history, and existing warning devices. If the crossing presents hazards that can be eliminated through the Section 130 program, it will be nominated. The nominated crossings are then ranked on hazard potential and the highest ranked crossings are selected for diagnostics based on the anticipated funding levels.

#### **3.2 Diagnostic Review of Eligible Crossings**

Commission staff conducts a diagnostic review with affected parties for each crossing considered for funding from February to June. This review is a detailed analysis of the crossing. During the diagnostic review, appropriate hazard elimination recommendations are evaluated and determined. The scope of the recommendations is covered in Section 4.

#### **3.3 Priority Ranking**

During July, the Commission staff prioritizes the crossings from the diagnostic review based on a number of factors including: diagnostic review findings, relative project cost, the hazard index (calculated using the U.S. DOT Accident Prediction Formula), passenger trains, school buses, transit buses, observed pedestrian and bicycle usage, and hazardous material vehicles. Commission staff uses the U.S. DOT Accident Prediction formula, as listed in the FHWA Railroad-Highway Grade Crossing Handbook - Second Edition, to calculate the hazard index. An accident history of five years is used in the calculations.



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# REVIEW

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# PROCESS

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### **3.4 Section 130 Final Priority List**

After the crossings are prioritized, the final selection is made based on the highest ranking crossings and the anticipated funding level. Commission staff updates the priority list annually and forwards it to Caltrans at the beginning of August. Projects are contracted by Caltrans in the order listed on the priority list. An expected funding year is assigned, although it is subject to change depending on the actual funding available. All projects on the priority list remain on the list until they receive funding, or are removed by the Commission staff.



# ACCEPTABLE SCOPE OF WORK AND IMPROVEMENT

## **4.0 ACCEPTABLE SCOPE OF WORK AND IMPROVEMENTS**

This section describes the scope of work that is considered acceptable for crossing improvements under the Section 130 Program in the State of California.

### **4.1 Warning Devices**

The Section 130 Program will fund the upgrade of warning devices listed in GO 75-D (See [http://www.cpuc.ca.gov/PUBLISHED/GENERAL\\_ORDER/60157.htm](http://www.cpuc.ca.gov/PUBLISHED/GENERAL_ORDER/60157.htm) for details). For example, the existing warning devices may consist of Commission Standard No. 8 (flashing light signals). An upgrade would be to replace those warning devices to Commission Standard No. 9 (flashing light signals with automatic gates), or Commission Standard No. 9A (a Standard No. 9 with additional flashing lights on a cantilevered mast arm). All new warning devices funded are to use 12 inch Light Emitting Diode (LED) arrays for the flashing light signals with 24 inch hoods.

### **4.2 Grade Crossing Elimination**

**Closure:** Closure is a condition that occurs when vehicular traffic is removed from conflict with railroad traffic at-grade by closing the road. This includes: removal of warning devices, removal of the surfacing and approaches, construction of barriers and/or fencing, signage, and other measures as deemed necessary during the diagnostic review. The Section 130 program will also match a railroad incentive payment for a closure of up to \$7,500 to a local agency.

**Abandonment:** Abandonment is a condition that occurs when railroad traffic is removed from conflict with at-grade vehicular traffic through the cessation of all railroad operation or the removal of tracks from the crossing. Abandoned crossings are not eligible to receive Section 130 funds for their removal.

### **4.3 Other Recommended Items**

There are other improvements that can be made in addition to the warning devices which reduce or eliminate hazards at a crossing.

**Active Advanced Warning:** A train activated warning device placed in advance of the crossing. It may consist of a flashing yellow light on the passive advanced





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# ACCEPTABLE SCOPE OF WORK AND IMPROVEMENT

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warning sign, or an active sign such as “Prepare to Stop”. The specific type of active advance warning device will be determined at the field diagnostic meeting.

**Active Warning:** A train activated warning device placed at the crossing other than the standard railroad warning devices. Examples of this are train activated symbolic “No Right Turn” or “No Left Turn” message signs, or second train coming signs.

**Interconnection:** The electrical connection between the railroad active warning system and the highway traffic signal controller assembly for the purpose of preemption (the transfer of normal operation of highway traffic signals to a special control mode).

**LED:** LED’s shall be installed with all new warning devices. LED’s may also be recommended where warning devices do not need to be replaced, only the flashing light signals upgraded to LED’s. Any relocation of the warning device, or installation of curbing to meet current clearance requirements as a result of upgrading to LED’s will be included, but replacement of the warning device will not.

**Median:** Medians deny the highway user the option of circumventing the conventional approach lane by switching into the opposing traffic lane in order to circumvent the gates. The type, width and length of the median vary depending on the specific site conditions and are determined at the field diagnostic meeting. Median landscaping is not funded.

**Pedestrian Treatments:** There are a number of treatments for hazard elimination for pedestrians and bicycles which are considered. The appropriate treatments for the given situation will be determined at the field diagnostic. Some options are sidewalk (to connect existing facilities on either side of the track), pedestrian gates, pedestrian flashers, swing gates, tactile strips, and fencing.

**Track Circuitry:** Track train detection circuitry may be recommended where appropriate.

**Traffic Control Signals:** Traffic control signals are often found on intersecting roads adjacent to crossings. Recommendations include alterations to existing traffic control signals (such as additional/updated signal heads, phases, or controllers), installation of pre-signals, and installation of new traffic signals where warranted.



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# ACCEPTABLE SCOPE OF WORK AND IMPROVEMENT

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**Other:** Some items are considered on a case-by-case basis. These include pull out lanes, three or four quadrant gate systems, crossing illumination, passive warning signage, curb and gutter, removal of obstructions in the sight triangle, intelligent transportation systems and any other item not specifically mentioned in this guideline.

**Incidental:** Necessary repair or relocation of sidewalk, curb and gutter, road or crossing surface, and/or utilities as a result of the project construction is considered to be included in the project, and does not require specific recommendation.

## 4.4 Items Not Funded

There are a number of items that, as a general practice, will not be funded by the Section 130 program. These include geometric changes such as the relocation or realignment of roads or railroad tracks, grade separation, station crossings, surfacing, widening of the roadway for capacity improvements, purchasing of right of way/easements and environmental documentation.

There may be other improvements that a local agency wishes to implement in conjunction with a Section 130 program project. Such staged construction work should be coordinated between the railroad and the local agency. Any such improvements not specifically included in the recommendations are not funded by the Section 130 program.

Upgrading the crossing surface to concrete panels is not funded. Under GO 72-B, the railroad is responsible for maintaining the surfacing within two feet of the tracks, and beyond that the local agency is responsible to maintain the road surface. If a rough crossing surface is the issue, the assigned Commission staff area engineer should be contacted to evaluate and assist in the resolution of the issue.



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# POST LIST PROCESS

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## **5.0 POST LIST PROCESS**

The Section 130 process is separate from the GO 88-B process. Nomination and funding of a Section 130 project does not imply, nor grant Commission approval for the modification of the crossing(s). After Caltrans issues a service contract, and prior to construction, the railroad or local agency must file a GO 88-B request with the Commission, and receive approval for the crossing modifications. There are only a few instances in which a GO 88-B would not need to be filed, please refer to the GO 88-B specifications at

[http://www.cpuc.ca.gov/static/transportation/crossings/filing+procedures/go88b\\_projects.htm](http://www.cpuc.ca.gov/static/transportation/crossings/filing+procedures/go88b_projects.htm) for details.

All GO 88-B authorizations and service contracts require the railroad or local agency to file Form G with Commission staff and Caltrans to acknowledge completion of the project.

Please refer to the Caltrans Section 130 Guidelines at <Link TBD> for details regarding service contracts, construction approval, programming the projects into the Federal Transportation Improvement Program, environmental/right-of-way certification, payment, and service contract time extensions.