

DISCUSSION DRAFT – UNDER REVIEW

Encinitas Quiet Zone Analysis Initial Analysis

Introduction

The City of Encinitas is interested in creating a railroad quiet zone along the LOSSAN rail corridor within its city boundaries. The aim of a quiet zone is to reduce noise around roadway-rail grade crossings for nearby residents and businesses.

A quiet zone is a section of a rail line at least ½ mile long with one or more roadway-rail grade crossings in which train horns are not routinely sounded when trains are approaching a grade crossing. They can be established at any roadway-rail grade crossing that meets federal requirements for quiet zones established by the Federal Railroad Administration (FRA). Train horns may still be sounded in emergency situations and/or at the discretion of the train operator even in a quiet zone. Quiet zones also do not eliminate the use of train bells at crossings. Thus, quiet zones may be more accurately described as “reduced noise zones”.

Quiet zones can be implemented by the City of Encinitas in its role as the local public agency responsible for traffic control and law enforcement at grade crossings. Because the absence of a train horn increases the risk of a crossing incident, an analysis is done to measure that risk and assess whether additional safety measures may be needed.

This report presents the findings of an initial analysis based a review of aerial photography on whether the proposed roadway-rail grade crossings could meet the federal requirements for quiet zones. A field assessment would be needed to verify these preliminary findings.

Proposed Quiet Zone Boundaries

The proposed quiet zone analysis includes all existing rail at-grade crossings within the City of Encinitas and one proposed pedestrian crossing as listed below and shown in the Figure 1 map:

- Leucadia Avenue roadway crossing
- Encinitas Station pedestrian crossing
- East D Street roadway crossing
- East E Street roadway crossing
- Montgomery Avenue proposed pedestrian crossing
- Chesterfield Drive roadway crossing

Since train noise can be heard beyond the ½ mile area where train horns are sounded, implementation of a quiet zone would benefit residents and businesses beyond the immediate grade crossing areas.

Figure 1



Initial Quiet Zone Analysis and Findings

The initial analysis of the proposed quiet zone is a review of aerial photography to assess whether current safety measures at each grade crossing make them eligible for quiet zone status. If current conditions do not make a crossing eligible, possible Supplemental Safety Measures (SSM) are identified that may make them eligible. SSMs are specific measures identified in the Federal Railroad Administration (FRA) Train Horn Rule that have been shown to enhance safety at railroad-highway grade crossings.

Future analysis will include an on-site field review of each grade crossing location to verify the initial analysis, and would compare the nation-wide significant risk threshold for roadway-rail grade crossings and the risk associated with the current crossing(s) where train horns are routinely sounded to the calculated risk of the proposed quiet zone with and without the implementation of additional safety measures designed to enhance safety.

A summary of the initial analysis and findings related to establishing a quiet zone is provided below.

Leucadia Avenue

This roadway-rail grade crossing is located approximately 76 feet from the northbound lanes of N. Coast Highway 101 on the west and 63 feet from N. Vulcan Avenue on the east. Existing grade crossing warning equipment consists of two quad crossing gates (gates for westbound and eastbound traffic lanes) and flashers, and cantilevered overhead flashers.

The initial analysis indicates that the Leucadia Avenue crossing may not be eligible for quiet zone status under the current conditions. However, with an SSM upgrade to four quad crossing gates, the crossing may be eligible. The four quad crossing gate system means that there would be crossing gates on both sides of the crossing for both westbound and eastbound traffic lanes designed to prevent a motorist from driving around the gates when they are down. An application to the FRA may not be required because of the implementation of the SSM at the crossing that is identified in the FRA Train Horn Rule.

Encinitas Station/East D Street/East E Street

Because of the proximity of these crossings (within $\frac{1}{4}$ mile), a quiet zone would have to include all three crossings.

The existing warning equipment at the Encinitas station pedestrian crossing consists of flashers. The existing grade crossing warning equipment for the East D Street roadway crossing, which is located approximately 250 feet from S. Coast Highway 101 on the west and 130 feet from North Vulcan Street on the east, consists of crossing gates and flashers (the gate arms block both the roadway and sidewalk), and overhead cantilevered flashers. The East E Street roadway crossing, which is located approximately 250 feet from S. Coast Highway 101 on the west and 130 feet from N. Vulcan Street on the east, also has existing grade crossing warning equipment consists of crossing gates and flashers (the gate arms block both the roadway and sidewalk), and overhead cantilevered flashers.

The initial analysis based on a review of aerial photography indicates the crossings may not be eligible for quiet zone status under the current conditions. The close proximity of the three crossings makes securing a quiet zone potentially more complex. However, with the implementation of an SSM upgrade to four quad gates at the East E Street crossing, it appears the crossings may be eligible for quiet zone status. An application to the FRA may not be required because of the implementation of the SSM at the E Street crossing that is identified in the FRA Train Horn Rule.

Montgomery Avenue

Montgomery Avenue is a proposed future pedestrian only at-grade crossing. It is expected that, if constructed, the crossing would have signal gates and flashers, pedestrian channelization fencing, pedestrian escape exit swing gates, handrails and detectable warning strips.

According to the current FRA standards, this pedestrian crossing could not be eligible for quiet zone status as it is not within a quarter mile of a roadway-rail at-grade crossing; however, there is some precedence to obtaining waivers from the FRA that would allow the crossing to gain quiet zone status with additional improvements to enhance the safety of the crossing. These improvements could include a pedestrian audible warning system, a wayside horn, or grade separation.

Chesterfield Drive

This existing roadway-rail grade crossing is located approximately 120 feet from N. Coast Highway 101 on the west and 140 feet from San Elijo Avenue on the east. Existing warning equipment consists of two quad crossing gates (the gate arms block both the roadway and sidewalk) and flashers, and flashers on either side within the center raised medians.

The initial analysis based on a review of aerial photography indicates the crossing may not be eligible for quiet zone status under the current conditions. However, with the implementation of an SSM upgrade to four quad crossing gates, the crossing may be eligible. An application to the FRA may not be required because of the implementation of the SSM at the crossing that is identified in the FRA Train Horn Rule.

Next Steps

The next step is to conduct an on-site field review of each grade crossing location to verify the initial analysis and findings summarized above. From there, a determination can be made on whether to move forward with the formal process for establishing a quiet zone by the City of Encinitas.