



INFORMATION PACKET MEMORANDUM

To: Members of City Council

From: Jane S. Brautigam, City Manager
Paul J. Fetherston, Deputy City Manager
Maureen Rait, Executive Director of Public Works
Tracy Winfree, Director of Public Works for Transportation
Michael Gardner-Sweeney, Transportation Planning and Operations Coordinator
Kathleen Bracke, GO Boulder Manager
Cris Jones, GO Boulder Transportation Planner II
Stephany Westhusin, Transportation Capital Projects Manager
Alex May, Transportation Project Manager

Date: January 21, 2014

Subject: Information Item: Update on the Railroad Quiet Zone Study

EXECUTIVE SUMMARY

In response to concerns expressed by Boulder community members regarding the impacts of train horn noise, the City of Boulder (city) commissioned a Railroad Quiet Zone study. The purpose of the study is to provide information, including cost estimates, to evaluate potential infrastructure improvements and non-infrastructure programs to reduce and/or eliminate train horn noise at the nine Burlington Northern Santa Fe (BNSF) railroad crossings located within and adjacent to the city. The city is also partnering with Boulder County and neighboring cities such as Broomfield, Louisville, and Westminster to develop local quiet zone studies and leverage resources with consultants.

Based on the study results, the total cost to create “quiet” crossings at nine locations ranges from approximately \$2.4 million to \$4.4 million. This cost range is based upon the wide variety of options possible to create quiet zones at each railroad crossing.

The city, working in coordination with project partners, will need to determine the preferred quiet zone option(s) to pursue – if any – for each BNSF railroad crossing. Factors to consider include type and proximity of adjacent land uses – existing and/or planned- as well as street characteristics, safety, and costs for installation plus any potential on-going maintenance

responsibilities. Coordinating quiet zone implementation with neighboring communities maximizes effectiveness since train horn noise crosses jurisdictions due to horn engagement length and duration requirements.

Staff will continue to work with project partners to seek options for refining the crossing treatments and implementation strategies. An option may include seeking federal/state/regional grant funding opportunities working in partnership with Boulder County and neighboring communities along the BNSF corridor. Locally, there may be opportunities to pursue potential public/private partnerships, including consideration of participation by adjacent property owners and/or developers, to create quiet zones within new mixed use, transit-oriented districts such as Boulder Junction or other areas along the BNSF corridor. City Council may see funding proposals surface in the future through grant applications, the comprehensive financial strategy and annual capital improvement program.

Efforts to coordinate with other Colorado municipalities will continue to monitor future statewide and federal legislative initiatives related to train horn noise and Quiet Zone regulations.

In addition to this City Council memo, the Railroad Quiet Zone study reports will be shared with the city's Transportation Advisory Board, district boards, and with the Boulder community in January/February 2014.

A copy of the Railroad Quiet Zone studies and accompanying materials are provided on the city's website at www.BoulderTransportation.net under "Transportation Projects and Programs", click on "Train Noise and Quiet Zones".

FISCAL IMPACT

The Railroad Quiet Zone study is supported by existing funding from the Transportation Fund in 2012 and 2013. This funding supports the consultant teams hired to support staff with the study and coordination with other project partners.

COMMUNITY SUSTAINABILITY ASSESSMENTS AND IMPACTS

- *Economic:* The Railroad Quiet Zone study support the city's economic vitality efforts by identifying opportunities to reduce/eliminate train horn noise that is impacting existing neighborhoods and businesses as well as future mixed use infill/redevelopment areas of the community located along the BNSF railroad corridor.
- *Environmental:* Identifying options to create Quiet Zones for railroad crossings in the Boulder area supports the reduction/elimination of the noise related environmental impacts from the existing freight trains. Reducing/eliminating train horn noise also supports the city's Sustainability Framework and Climate Commitment greenhouse gas reduction goals by fostering more livable conditions within existing and future "transit oriented development" areas of the community to support walking, biking, and access to local and regional transit.
- *Social:* Understanding options and costs associated with potential Quiet Zone improvements can lead to improved safety and physical conditions for Boulder community members of all ages and income levels living and working in the vicinity of the BNSF railroad corridor. Enhancing the livability of this area of the community will

improve opportunities for additional housing and employment sites near access to existing and future transit, which is particularly important to older adults, people with low income, and people with disabilities. The increased focus on transit oriented development areas will also have multiple benefits throughout the community.

BACKGROUND

Boulder residents and people working within the vicinity of the BNSF railroad corridor have endured train horn noise for many years. Railroad tracks in Boulder are owned and operated by the BNSF Railway Company. The sounding of train horns at crossings is regulated by federal rules from the Federal Railroad Administration (FRA). While the number of trains passing through our community has remained fairly stable, the train horn noise levels have increased since federal rules went into effect in 2005. In the same 2005 rulemaking process, the FRA established a process by which local road authorities (cities and counties) can establish “Quiet Zones”.

ANALYSIS

The Railroad Quiet Zone study has been prepared for the City of Boulder by consultants from Short Elliott Hendrickson, Inc. (SEH) and HDR with assistance from Felsburg Holt Ullevig (FHU). In addition to the city staff and consultant teams, the information provided has been developed in coordination with the Federal Railroad Administration (FRA), Colorado Public Utilities Commission (PUC), BNSF Railway Company, and Boulder County staff.

The Railroad Quiet Zone study provides an overview of federal requirements, options, conceptual designs and cost estimates to reduce and/or eliminate train horn noise impacts for each of the railroad crossings in the Boulder area. Information regarding potential non-infrastructure Quiet Zone measures allowed by the FRA, and potential implementation strategies, including opportunities to phase-in Quiet Zone crossing improvements over time to address immediate and future needs as well as to respond to resource constraints is also included.

Railroad Quiet Zone – Infrastructure Safety Measures

The FRA requires communities to install “Supplemental Safety Measures” and/or “Alternative Safety Measures” to create Quiet Zones. These safety measures include physical barriers to prevent vehicles from entering the railroad track area when a train is present. Examples include railroad crossing gates and raised medians/curbs.

Other types of treatments to address train horn noise include “wayside horns,” which are horns located at the railroad crossing (not on the train) that sound when a train is present. While wayside horns do not eliminate train horn noise for a true “quiet zone”, they are typically a less expensive option that provides a narrower noise pattern that is focused on the approaching street, rather than impacting the larger surrounding area.

Project partners evaluated all types of potential safety measures for each of the identified railroad crossings as part of this study, including participation in a field diagnostic meeting with BNSF, FRA, and PUC representatives to determine which measures are applicable for each crossing. A

map showing the locations of the railroad crossings included in the Quiet Zone analysis is provided in the study report.

The total estimated cost to create “quiet” railroad crossings for all locations, ranges from approximately \$2.4 to \$4.4 million. This cost range is based upon the wide variety of options possible to create quiet zones at each of these railroad crossings.

The study also notes that Quiet Zone improvements for all crossings could be pursued via a phased approach over time as funding is identified. From a practical standpoint, the city may want to consider implementing Quiet Zones in segments - bundling a set of crossing improvements - to create economies of scale for implementation and a noise relief benefit for people living/working adjacent to closely spaced railroad crossings.

Boulder Junction Area Crossings

The report prepared by HDR provides more detailed, engineering-level information for Quiet Zone requirements at the Pearl Parkway and Valmont Road crossings as part of the planning for Boulder Junction. Street improvements currently being installed on Pearl Parkway are designed to accommodate the additional infrastructure/railroad equipment needed to create Quiet Zones at this crossing, and signal circuitry, new bungalow, conduit for future exit gates and other railroad signal improvements are either complete or are soon to be completed in conjunction with the Pearl Parkway project. The total cost for Quiet Zone improvements at these two crossings is approximately \$1.3 million. Quiet Zone installations could begin when funding is identified and could be installed separately or together in a phased approach relative to the other corridor-wide Quiet Zone improvements. Consideration of funding for any Quiet Zone improvements will need further work and consideration within a wider context of city-wide priorities.

Railroad Quiet Zone - Non-Infrastructure Safety Measures

The studies include information regarding non-infrastructure safety measures allowed by the FRA’s rules to create Quiet Zones. These measures include intensive, on-going education, enforcement, and video monitoring by the local community. To-date, these types of measures have been used by local communities in conjunction with infrastructure improvements to create Quiet Zones, but there are no examples nationally of communities employing only these non-infrastructure measures to successfully achieve a Quiet Zone designation.

Based on the consultant teams’ research as well as discussions with project partners, city staff suggests consideration of these types of measures in concert with physical infrastructure improvements to create Quiet Zones. This is due to potential safety risks and on-going, uncertain cost factors associated with developing, gaining approvals, implementing, monitoring, and maintaining these types of programs in accordance with FRA requirements if they were to be done as “stand alone” safety measures.

Summary

The full Railroad Quiet Zone study reports from SEH and HDR are available for review on the city’s website. This information is intended to provide a clearer picture of the options and costs

to create railroad Quiet Zones for the Boulder community. Work with project partners will continue to refine the preferred option(s) for each crossing and evaluate potential implementation strategies.

Implementation options could include seeking federal/state/regional grant funding opportunities working in partnership with Boulder County and neighboring communities along the BNSF corridor; as well as exploring local opportunities for potential public/private partnerships including consideration of participation by adjacent property owners and/or developers to create Quiet Zones in new mixed use, transit-oriented districts such as Boulder Junction. Coordinating quiet zone implementation with neighboring communities maximizes effectiveness since train horn noise crosses jurisdictions due to horn engagement length and duration requirements.

NEXT STEPS

The Railroad Quiet Zone study reports will be shared with the City's Transportation Advisory Board, District Boards, and with the Boulder community in January/February 2014. Community outreach will include using social media and the city's website, a news release, and public events conducted in coordination with the Transportation Master Plan Update.

This information will be incorporated into the upcoming review of the city's transportation capital investment planning process as part of the 2013-14 Transportation Master Plan Update and other city-wide investment prioritization discussions. Currently, the city's Capital Improvement Program (CIP) does not include funding to implement Quiet Zones. City Council may see funding proposals surface in the future through grant applications, the comprehensive financial strategy and annual capital improvement program.

Coordination with other Colorado municipalities will continue to monitor future statewide and federal legislative initiatives related to train horn noise and Quiet Zone regulations.

Additional information regarding railroad Quiet Zones, including copies of the detail reports provided by the consultant teams, are available on the city's website at www.BoulderTransportation.net under "Transportation Projects and Programs," click on "Train Noise and Quiet Zones."