



Request for City Council Committee Action From the Department of Public Works

Date: June 7, 2005
To: Honorable Sandra Colvin Roy, Chair Transportation & Public Works Committee
Honorable Barbara Johnson, Chair Ways & Means Budget Committee

Subject: Railroad Quiet Zone

Recommendation: Receive and file

Previous Directives:

- 9/24/04 Receive & File – Interim Report on FRA Quiet Zone Requirements
- 12/23/04 Submit report to FRA for Quiet Zone Requirements

Prepared by: Jon Wertjes, Director of Traffic and Parking Services

Approved by: _____
Klara A. Fabry, P.E., City Engineer, Director of Public Works

Presenters: Jon Wertjes

Financial Impact (Check those that apply)

No financial impact - or - Action is within current department budget.
(If checked, go directly to Background/Supporting Information)

Action requires an appropriation increase to the Capital Budget

Action requires an appropriation increase to the Operating Budget

Action provides increased revenue for appropriation increase

Action requires use of contingency or reserves

Other financial impact (Explain):

Future CIP requests as part of 2006-2010 CIP Program

Request provided to the Budget Office when provided to the Committee Coordinator

Background/Supporting Information

There have been a number of inquiries about the Federal Railroad Administration's new safety rules and how it may impact Minneapolis' existing whistle ban.

Federal Railroad Administration's new safety rules and "Quiet Zone"

New Federal law (49 USC 20153) will require that all trains under the jurisdiction of the Federal Railroad Administration (FRA) sound the locomotive horns as they approach public at-grade intersections. The new federal law takes effect on June 24, 2005; however, the new rules provide options for cities (such as Minneapolis) that currently have whistle bans to extend this deadline five years, to 2010.

Public Works has been proactively working to meet the requirements that allow Minneapolis to have the deadline extended by receiving "Pre-Rule Quiet Zone Status" from the FRA. Here are the steps required:

Pre-Rule Quiet Zone Status

FRA and Public Works have met twice to discuss this matter. Based on analysis, it appears that Minneapolis will qualify for approval of "Pre-Rule Quiet Zone Status" by the FRA for all rail corridors within the city. Public Works will submit the necessary FRA documentation this month to meet the "Pre-Rule Quiet Zone Status", and this will allow trains to continue to operate through the City without sounding horns at grade crossings until 2010. As a reminder, this applies only to commercial railroads and not LRT.

The "Pre-Rule" status is similar to a "Grandfather clause," meaning that the City is given additional time to bring all 90 public and 27 private at-grade crossings up to current FRA standards. To maintain our whistle ban after 2010, Minneapolis will be required to have some type of Supplemental Safety Measure (SSM) at nearly every grade crossing.

Long-Term Quiet Zone Plan

The second step is to develop an improvement plan within two years of the federal law action (by June 24, 2007), to address corridors that will need changes to retain the whistle ban. Public Works has taken proactive steps as part of the 2006-2010 Capital Improvement Program (CIP) process to address the Quiet Zone requirements. More detail of this program is discussed below.

Railroad Crossing Improvements

The last step will be to complete the required safety measures to retain the whistle ban within five years of the federal law action (by June 24, 2010). Potential safety measures include crossings upgraded with gates, medians on the approaches, new crossing gates, crossing closures, signing, etc. In addition Public Works will need to update the railroad crossing database on an annual basis and review accident records to ensure adequacy of warning devices to maintain Quiet Zone status.

Quiet Zone Plan and the 2006-2010 CIP Submittal

As noted above the city needs to submit a Quiet Zone Plan to retain the whistle ban. Public Works has taken proactive and systematic action to develop a plan. Each of the 90 public railroad crossing were analyzed and are presented in Attachment A titled "FRA Priority Risk Assessment". This risk assessment spreadsheet determined the appropriate mitigation measure needed to bring the crossing into compliance with the Quiet Zone requirements and address any other safety needs. The mitigation measures noted on the right hand side of this risk assessment spreadsheet are further described in Attachment B titled "Summary of Supplemental Safety Measures/Mitigation Measures".

The Federal legislation requires that Quiet Zones be established on a corridor bases and not on an individual basis. Overall, 13 corridors were established throughout the city. Then, Public Works and the consultant took this information and determine methodologies to prioritize the corridors. The methods used included:

- Corridor ranking by safety and volume index
- Funding options for corridors
- Qualitative assessment of priorities

Each of these methods is summarized in Attachment C titled "Summary of Railroad Quiet Zone Priorities". Based on these methods, Public Works has identified preliminary ranking (high, medium and low) for each corridor. This preliminary ranking is identified in Attachment C and in the attached map. The key implications from this preliminary ranking are as follows:

- The 5 high priority corridors are critical to address high train volumes and critical safety crossings (example – BNSF Talmadge).
- The 4 low priority corridors are in locations located in commercial areas and/or have very infrequent train use (example – MNRR Broadway).
- The 4 medium priority corridors are a greater challenge due to proximity to residential areas, potential development opportunities and high quiet zone costs (example – CPR 14th Ave spur). These four corridors account for approximately 60% of the total \$11 million Quiet Zone Plan.

In summary, whereas cost for full implementation city-wide would be roughly \$25 million, based on our professional assessment of safety and neighborhood livability, changes for the corridors that should retain the whistle ban will have an approximate cost of \$11 million, over a number of years and funded through a number of sources. The 2006-2010 CIP Plan presents a preliminary program to address \$6.65 million. This five-year program will account for all of the high priority corridors, some of the medium priority corridors, and none of the low priority corridors. The remaining \$4.5 million is recommended to be programmed in after 2010 or not at all if future development occurs.

Next Steps

Public Works will:

- Obtain future CPED input regarding the potential development opportunities within the medium priority corridors.
- Seek public input through a group of public meetings to be held over the next months.
- Return to T&PW and W&MB Committees with further information this fall.

Attachments:

Attachment A -- FRA Priority Risk Assessment

Attachment B -- Summary of Supplemental Safety Measures/Mitigation Measures

Attachment C -- Summary of Railroad Quiet Zone Priorities & Map

Attachment B

Summary of Supplemental Safety Measures/Mitigation Measures

Mitigation Measures cited on Risk Assessment spreadsheet are summarized below. Table 1 lists the measures and the estimated costs from the spreadsheet. Each measure is briefly described thereafter.

Table 1: Unit Cost Summary

| Measure | Unit Cost Estimate (2004) |
|--|--------------------------------------|
| Do Nothing (34) | \$0 |
| Close Crossing (12) | \$15,000 |
| Install Center Median (6) | \$30,000 |
| Center Median & Device Relocation/Expansion (13) | \$120,000 |
| Quad Gate Upgrade (3) | \$120,000 |
| New Quad Gates System (3) | \$210,000 |
| New Gate System (18) | \$165,000 |
| New Cantilever & Gate System (0) | \$180,000 |
| Other Improvement | varies |
| New Multi-Track Circuits | varies |

“Do Nothing” Crossings (34)

At these 34 crossings, it was considered probable to “do nothing.” In this case, crossings are either already sufficient for quiet zone operation past 2010 (1 location), have virtually abandoned track (7 locations), or are industrial switching locations that typically require flag protection due to backing rail cars through the crossing (26 locations).

Close Crossing (12)

It is understood that mobility is a key factor for the City. Closures were only assumed as “probable” in locations with redundant crossings that could be easily closed, thus allowing for reasonable access and circulation without undue hardship to the adjacent area.

Install Center Median (6)

This measure adds a center median to crossings that already have gates in two quadrants. The center medians would be installed to further prevent vehicles from driving around the two gate arms. This is a lower cost improvement than install gates in all four quadrants.

Center Median & Device Relocation/Expansion (13)

This improvement would install the same median as noted above. In addition, a device (gates, flashers etc.) would need to be relocated or expanded. For example, gates may need to be shorten/lengthen or a device needs to be moved.

Quad Gate Upgrade (3)

These three locations already have two gate systems and would add two new gates to make a quad gate system. This measure is recommended due to address safety and quiet zone due to high traffic volumes.

New Quad Gates System (3)

This crossing would add new gates in all four quadrants. This measure is recommended due to address safety and quiet zone due to high traffic volumes.

New Gate System (18)

These crossings vary in their existing conditions. Sometimes, existing flashers may need two new gates. Others have just crossbucks and/or stops signs and should have two new gates. A lot of these new gate systems would also include a center median or other minor roadway changes as part of the improvement (see Other Improvement noted below). This is shown in the “probable” cost column (e.g. \$165k for gates, probable cost = \$195k gates and median).

New Cantilever & Gate System (0)

Currently, no crossing includes a new cantilever as a “probable” measure. However, in the high cost column a few may include such a measure. A cantilever is a “post and arm” device that hangs over the street that includes flashers and signs. Such a device adds visual target value for the traffic motorists.

Other Improvement

If a certain crossings needs additional improvements, these items were added here. Such improvements may include street work, extra median work due to obtuse angles, unique geometric improvements to accommodate trucks, \$30,000 medians additional to a new gate system, driveways or access changes, etc.

New Multi-Track Circuits

Multi-track circuitry is needed to detect trains on two or more tracks. This circuitry includes additional train detection devices for each appropriate track.

Signing, Design, Inflation & Contingency

The City will also be responsible for providing upgraded signing (crossbucks, etc) at 25 private at-grade crossings and installing “NO TRAIN HORN” signs at all 114 grade crossings (89 public and 25 private). Crossbucks are typically provided by each rail carrier; however, for private crossings within a Quiet Zone, it is likely that each carrier will demand the City to pay for the new signing. The construction cost of these measures is expected to be approximately \$340,000.

Design costs of railroad signals (warning devices) are included in the estimate of cost for each system. Each railroad dictates their specific design needs that are included within the unit costs used. Design costs for sign placement, medians, and other roadway work are estimated to be \$128,000. This includes the costs of design for a limited number of streets changes where crossing closures are considered probable.

Inflation rates were assumed to be constant at 3.5% per year. The overall measures at each crossing will require approval from each rail carrier. In some cases where the rail warning

devices are older, the circuitry may need to be updated. At this point, there is no way to know which (if any) crossings these may be – until the design process is started. However, a contingency has been added to allow for some circuitry upgrades throughout the City. Contingency was assumed at 10%.

The signing, design, inflation and contingency bring the estimated Year 2004 “probable” cost from \$8.364 million to an \$11.138 million over the five-year CIP program.