

GLENDALE RAILROAD SAFETY & QUIET ZONE COMMITTEE

Assumptions & Issues

October 3, 2007

Objective: Make recommendations on a Quiet Zone to the Mayor and Village Council by the end of 2007. A Quiet Zone is a corridor of railroad crossings in which train horns are not routinely sounded by trains approaching highway-rail grade crossings.

I. Community/Quality of Life

Assumptions:

- A. Train horn noise was identified as a Quality of Life issue for Glendale in the 2000 Village Plan.
- B. The Committee recommendations should be seen as valid for the foreseeable future rather than needing subsequent review in just a few years.
- C. The Committee intends to make the Quiet Zone effort a unifying influence for the community rather than a potentially divisive issue
- D. The current number of daily trains through Glendale is 64. CSX Transportation does not have archive records with the number of daily trains in the past. Although there is no reliable forecast for the future, 75 to 80 trains per day would likely be the saturation level.
- E. The FRA New Rule for the first time limits train horn volume 110 dB. According to RCL, typical train horns are in the range of 96-110 dB at 100 feet. A wayside horn signal is 92 dB at 100 feet. Train noise by itself would likely be in the range of 82-88 dB.

Issues:

- A. Develop a strategy for how to proactively involve Glendale residents in the Committee recommendations.
- B. Develop decision criteria or principles for deciding among Quiet Zone options.
 - 1. Safety, Cost, Funding, Noise Level, Community Accessibility, Time to implement, Liability?
- C. Identify Quality of Life issues listed in the 2000 Village Plan other than a Quiet Zone.

II. Background Info

Assumptions:

- A. The Federal Railroad Administration website shows 264 Quiet Zones located throughout the country (report dated 2/6/2007)
 - 1. Pre-Rule/Pre-Rule Partial – 204 locations
 - 2. Intermediate Partial – 2 locations
 - 3. New Rule/New Rule Partial – 55 locations (TX-9, CA/MN-7, WI-5, IL-6, MO-4, CT/FL/IA/WA-2, AL/KY(Louisville)/MA/NJ/NM/OH(Moraine)/SC/UT/VA-1)
- B. Initial contact has been made with several communities that have established Quiet Zones under the FRA Final Rule. Thus far all of the communities which have responded have used low-cost median barriers before crossing gates as their Supplementary Safety Measures. RCL is aware of only one location, Chicago, where four-quadrant gates were installed for a Quiet Zone.
- C. Moraine has the only New Rule Quiet Zone in Ohio. The City Engineer, Mr. Charles Haught (chaught@moraineoh.org) (937-535-1000), reports their QZ was achieved at a cost of less than \$20,000 and without using outside consultants. Highway median dividers were installed at the Vance Road crossing (Crossing No. 155059U). The control circuitry did not need upgrading, although Mr. Haught does not know the type of circuitry which was pre-existing.
- D. Wayside horn installations in North America are located in these communities (per Railroad Controls Limited): Alaska (Anchorage), California (Riverside & Roseville), Idaho (Boise), Illinois (Libertyville, Mundelein & Vernon Hills), Iowa (Ames), Kansas (Parsons, Wichita), Missouri (Branson), Nebraska (Gering, Kearney), North Carolina (Rocky Mount), Texas (Austin, Richardson, Sugarland), Washington (Tacoma), Quebec (Chicoutimi)

GLENDALE RAILROAD SAFETY & QUIET ZONE COMMITTEE

Assumptions & Issues

October 3, 2007

III. QZ Regulations & Risk Index (<http://www.fra.dot.gov/us/content/1318>)

Assumptions:

- A. Quiet Zone Establishment. A Quiet Zone must be at least 0.5 miles in length along the railroad tracks.
 - 1. Designation by public authority (Public authority designation)
 - a. Preferred method since FRA approval not required
 - b. Each highway-rail crossing within QZ equipped with approved SSM or Wayside Horn
 - c. Quiet Zone Risk Index (QZRI) Requirements
 - 1) QZRI < NSRT (National Significant Risk Threshold) (Current NSRT is 19,047)
 - OR
 - 2) QZRI < RIWH (Risk Index With Horns) (Glendale QZ RIWH is 24,005)
 - 2. Application by public authority (Public authority application)
 - a. Requires approval by FRA. Likely to be a longer process than designation.
 - b. If the Risk Index is less than twice the national average (19047 X 2 = 38094), then a Quiet Zone can be applied for.
 - c. Can be used with ASM's (Alternative Safety Measures)
 - 1) Modified SSM's (example: shorter median than currently allowable)
 - 2) Non-engineering ASM's (examples: education & enforcement efforts)
 - 3) Other engineering ASM's (example: an engineering treatment not yet approved as SSM)
- B. The Quiet Zone Calculator is a tool created by the Federal Railroad Administration to calculate the risk index for a proposed Quiet Zone corridor
- C. FRA National Inventory: Glendale crossing data must be updated by the Ohio Public Utilities Commission (PUCO) who will forward the data to the FRA.
 - 1. In April PUCO forwarded the following vehicle count information to the FRA. The vehicle count data was collected by engineering firm SDS and forwarded by their manager John Pagano to Leah Dalton.
 - a. CDS email of 4/26/07 says 10,933 vehicles/day on Sharon (2006 count), 1309/day at Albion (2006 count) and 1050 vehicles/day at Oak (2001 count).
 - b. For reference, an earlier CDS letter of 11/13/06 says 2000/01 survey recorded 10,477 vehicles/day on Sharon, 808/day at Albion and 1037/day at Oak.
 - 2. In mid-July Debbie Grueninger arranged for the County Engineer to send a drawing to PUCO which shows there are only three lanes of traffic at the Sharon Avenue crossing, not the four that are shown in the FRA inventory.
 - 3. PUCO gets information annually on the number of school buses using each crossing directly from school districts.
 - 4. PUCO also gets information annually on daily train traffic at each crossing directly from the railroads.
- D. Per FRA rules, all crossings within a Quiet Zone are not required to have the same level of safety protection. The average value of all the crossings within the Zone must meet the required target index.
- E. A Diagnostic Team will need to be convened to determine safety measures for the pedestrian crossing.

IV. Supplementary Safety Measures (SSMs)

Assumptions:

- A. Four-Quadrant Gate System (with or without vehicle detection)
- B. Gates with Medians or Channelization Devices
 - 1. Medians at the Sharon Road crossing are deemed possible, but would have a serious negative impact on access to Village Square, access to the Village Square parking lot east of the tracks, and access to North Greenville. In addition the entrance to North Troy would need to be relocated roughly 20 feet further east on Sharon Road.
 - 2. Medians at Albion and Oak are deemed impossible because the medians would completely block north/south traffic on Greenville and Troy at the crossings.

GLENDALE RAILROAD SAFETY & QUIET ZONE COMMITTEE

Assumptions & Issues

October 3, 2007

- C. One Way Street with Gate(s)
 - 1. Judged not likely to be possible because a one-way approach at Oak or Albion would be too short to be effective as a safety measure. Sharon Road as one way is unfeasible.
- D. Permanent Closures (Effectiveness rate is 1.0)
 - 1. ~~Water mains on Greenville have been enlarged so that in the event of fire it should not be necessary to drag hoses across the tracks from Troy to Greenville at the Albion crossing.~~
- E. Temporary Closures (Effectiveness rate is 1.0)
- F. Wayside Horn
 - 1. Wayside Horn is considered by the FRA to be a one-for-one substitute for the train horn
 - 1. Wayside Horn can be used within or outside of a Quiet Zone
 - 2. Wayside Horn is the simplest way to reduce train noise since a Quiet Zone is not required.
- G. The FRA Final rule requires the use of Constant Warning Time circuitry with SSM's.

Issues:

- A. Ohio requires Quad Gate installations to be equipped with vehicle detection systems, but the FRA Risk Calculator assigns 5% less effectiveness to quad gates with vehicle detection than to quad gates without vehicle detection
- B. Develop a program to investigate the noise profile of Wayside Horns versus current train horns. (Oliver Debikey)
- C. **Confirm Fire Department arrangements for supplying water west of railroad tracks if Albion crossing is closed.**

V. Funding

Assumptions:

- A. Federal Crossing Upgrade Program. The PUCO, in partnership with the Ohio Rail Development Commission (ORDC) selects Ohio highway-railroad crossing for federally-funded upgrades based on a priority list that ranks the crossing in order of risk of accident. (ORDC website)
- B. State Crossing Upgrade Program. For crossings not eligible under the federal program, the state funded Grade Crossing Upgrade Program allows the cost of a project to be shared between the local community, the state of Ohio, and the railroad involved. The PUCO will allocate funds based on an objective formula measuring both the seriousness of the hazard and other special conditions at the crossing. (ORDC website)
- E. Ohio House Bill 247 establishes a pilot program for railroad quiet zones in a specified area of northeastern Ohio. (State Rep Jim Raussen letter dated 11/14/03). This Bill was enacted by the Legislature, but provides no funding. In fact, the reverse.
- F. ORDC has offered payment to Glendale to close the Albion crossing.
- G. CSX offers separate payment for crossing closures, typically \$7500.
- H. Per Leah Dalton, Ohio Public Utilities Commission, although Ohio circuitry upgrade programs in the past have installed motion detection circuitry at a limited number of Ohio crossings as a safety measure, no programs are in the foreseeable future which would fund the upgrade of existing motion detection circuitry to Constant Warning Time circuitry.
- I. A report prepared by consultant firm R.L. Banks & Associates for Kingston, NY states that "federal and state funding... is generally not available for implementation of Quiet Zones. On the other hand, the thousands of projects which received "earmarks" in the SAFETEA-LU (Act), which became law in August 2005, included .. at least one Quiet Zone. Other than crossing closures, funding of SSMs likely will be a local responsibility with the potential of earmarks in the next federal surface transportation authorization (expected in 2009)."
- J. Glendale crossing crash data (from Cliff Stayton, CSX)
 - 1. Sharon Road - 152376N 10 crashes back to 1975, latest was 1993
 - 2. Pedestrian - 153617D 0
 - 3. Albion Ave - 152375G 2 crashes 1985, 1989
 - 4. Oak Street - 152374A 2 crashes 1985, 1989
 - 5. Marion Ave - 152370X

GLENDALE RAILROAD SAFETY & QUIET ZONE COMMITTEE

Assumptions & Issues

October 3, 2007

- K. Potential local funding sources, including a combination from all sources: Although there is no indication low interest financing will be available from the State, conventional financing could spread QZ capital costs over several years.**
- 1. Impact fees from Landmark development**
 - 2. Village operating budget**
 - 3. Procter Fund grant**
 - 4. Community voluntary fund raising**

Issues:

VI. Cost

Assumptions:

- A. After the Diagnostic Team review and after Glendale tentatively decides which SSMs to use for its Quiet Zone, CSX at no cost will provide a proposal with a firm price for Preliminary Engineering at each crossing.
- B. A typical cost for Preliminary Engineering is \$15-25,000/crossing and is not included in the budget costs below.
- C. Typical budget costs:
 1. Four quadrant gates (Sharon) \$400,000 + CWT
 2. Four quadrant gates (Oak or Albion) \$300,000 + CWT
 3. Wayside Horns/crossing \$100,000 + CWT
 4. A budget cost of \$100,000 per crossing for CWT and power out circuits is typical for a two track crossing.
- D. Costs can vary considerably from crossing to crossing and cannot be known precisely until after CSX Preliminary Engineering.

Issues:

VII. Liability

Assumptions:

- A. Michael Honerlaw, the Glendale Solicitor, has provided a letter to the QZ Committee dated July 12, 2007 stating that under current Ohio law there would be no liability for Glendale if the Village would legislatively permit a railroad Quiet Zone. The Solicitor believes that several sections of the Ohio Revised Code would provide a defense should a lawsuit ever be filed. Further, given the current makeup of the Ohio Supreme Court, the Solicitor believes that it is very unlikely that significant changes would be made that would reduce the defenses and immunities of political subdivisions.
- B. This opinion is reinforced by the fact that the community of Moraine, OH has already established a Quiet Zone under the FRA New Rule and the community of Rocky River, OH is actively pursuing a Quiet Zone under the FRA New Rule. The Moraine City Engineer reports that CSX did not require the city to purchase liability insurance to protect CSX when the QZ was established.

Issues:

1. Given the importance of the liability issue, it may be prudent for the Village Solicitor to request a confirming letter on Quiet Zone liability from the Ohio Attorney General before Quiet Zone legislation is enacted by the Village Council.

GLENDALE RAILROAD SAFETY & QUIET ZONE COMMITTEE

Assumptions & Issues

October 3, 2007

VIII. CSX Transportation

Assumptions:

- A. Quiet Zone contact is Mr. Cliff Stayton, Director Public Safety Awareness, Jacksonville, FL (Cliff_Stayton@CSX.com)(904-366-5049)
- B. Comments from 8/7/07 phone call between CSX (Cliff Stayton) and Dan Raabe and a followup conference call with Mr. Stayton and the entire QZ Committee on 9/5/07.
 1. CSX believes the safest crossing is when the trains sound the horn.
 2. CSX will participate in a Diagnostic Team review of our community crossings (free of charge) This is usually the first step. CSX will participate in additional Diagnostic Team reviews at no charge if this should prove necessary.
 - a. Identify who the responsible road authority is for each crossing. They should participate with the Diagnostic Team review.
 - b. Others who should attend the Diagnostic Team review are CSX, FRA, DOT and PUCO.
 - c. The outcome of the Diagnostic Team review is verification of what equipment currently exists at each crossing.
 3. Each included municipality should file notice of intent for a Quiet Zone.
 4. CSX recommends that the Quiet Zone be designed for future increased traffic. Mr. Stayton could not provide an accurate projection of future train volume but suggested that using 75 to 80 trains per day in the Risk Calculator would allow for future saturation.
 5. Constant Warning Time circuits are required and they may need interconnects with all three crossings and a maintenance agreement with CSX.
 6. CSX confirms that it is possible to leave Albion without SSMs if the Risk Index falls below the required risk threshold for the Quiet Zone.
 7. If SSM's are installed on the CSX right-of-way, CSX will make the determination of which engineering contractor to use. CSX crews would be used for installation.
 8. If SSM's such as highway medians are to be installed outside the CSX right-of-way, CSX will not perform this work. The local government must contract it.
 9. Allow 24-30 months from the time of the diagnostic review until the end of construction.
 10. A CSX public project information manual is available at: www.csx.com >general>resources. See pages 17-19.
- C. CSX Regional Director of Construction for Cincinnati area is Mr. Dave Fette
- D. CSX engineer for Diagnostic Review is Lacoya Greggley (904-359-2234). Ms. Greggley's supervisor is

Issues:

- A. How will the Glendale pedestrian crossing be handled by the Diagnostic Team?
- A. Over time the Albion crossing seems to be elevated higher and higher above the approach roads due to improvements in the rail bed. Might the steep approach angle cause the crossing to be closed within the foreseeable future? Discuss during Diagnostic review.

IX. Organization/Roles/Resources

Assumptions:

- A. The Mayor Ray Terrell of Woodlawn has designated Woodlawn Councilman Willie Norton to represent Woodlawn on the QZ Committee.
- B. Glendale is located in FRA Region 2. Our contact is Evelyn Hendricks, Grade Crossing & Trespassing Regional Manager, Akron, OH. Evelyn.Hendricks@dot.gov, (330) 745-2197**
- C. The FRA owner for the Risk Index Calculator is Ronald Ries, Ronald.Ries@dot.gov**

Issues: