Memorandum City of Lawrence City Manager's Office

TO: Traffic Safety Commissioners

FROM: Jonathan Douglass, Management Assistant

CC: Mike Wildgen, Debbie Van Saun, Dave Corliss, Chuck Soules,

Terese Gorman, David Woosley, Mark Bradford, Ron Olin, Craig Weinaug, Rick Gammill, Joni Appleman, Jeanette Kroeger, Adrian

Derousseau, Ted Boyle, Al Cathcart, Howard Gillespie, Mike

Benjamin, Wayne Zachary

Date: November 21, 2005

RE: North Lawrence Train Horn Quiet Zone

Background

Normally, trains must sound their horns 15-20 seconds prior to arrival at a public road-rail grade crossing, but not more than 1/4 mile in advance of the crossing. On June 24, 2005, the final version of the Federal Railroad Administration (FRA) Train Horn Rule became effective, allowing for the establishment of quiet zones where sounding of the train horn is not required (train operators, however, always maintain the right to sound the horn in case of an emergency). City staff has researched the feasibility of establishing a quiet zone in North Lawrence which would be comprised of the railroad crossings at 3rd, 4th, 7th, 8th and 9th Streets.

Requirements for Establishment of a Quiet Zone

Every crossing within a quiet zone must be equipped with a minimum of flashing lights and gates which control traffic over the crossing. Supplementary Safety Measures (SSMs) may also be required, depending on the calculated risk level of the crossings. The FRA provides an online Quiet Zone Calculator which allows public authorities to calculate the risk level of their proposed quiet zones and determine what improvements are necessary to lower the risk to an acceptable level.

Each crossing in the proposed North Lawrence Quiet Zone is already equipped with flashing lights and gates, with the exception of one of the two 3rd Street crossings and the pedestrian crossing at 4th Street. The 3rd Street crossing in question is for the set of tracks that run alongside the grain elevator and end just short of the Union Pacific Depot parking lot on Locust Street (see attached aerial photo). This crossing would be exempt

from the requirement to sound train horns as long as the speed of trains does not exceed 15 mph and the railroad uses flag crews to alert drivers when a train is approaching. The pedestrian crossing at 4^{th} Street would need to be permanently closed. The North Lawrence Improvement Association has expressed its support for the closing of this crossing.

With only the current safety measures in place, the risk level is too high to establish a quiet zone. There are two options which city staff believes would lower the risk level to a level acceptable per FRA regulations:

- 1. The risk level of the proposed quiet zone corridor can be lowered most effectively by addressing the highest-risk crossings: 3rd Street and 7th Street (see attached aerial photos of the crossings). Installing Supplementary Safety Measures at those two crossings lowers the risk level of the corridor to an acceptable level for creating the quiet zone. The installation of non-traversable medians and necessary road improvements at an approximate cost of \$50,000 would, we believe, accomplish this requirement (please see attached screen shots of the FRA's Quiet Zone Calculator for more details of the risk calculations.) Per FRA rules, the medians would have to extend 100 feet from the gate arms in both directions from the crossing. Where there is an intersection within 100 feet of the crossing, the medians would have to extend at least 60 feet from the gate arms.
- 2. The use of wayside horns (directional horns mounted on the gate structures at each crossing, which are automatically triggered by an approaching train) is considered a one-for-one trade off, in terms of safety, for the use of the train horn. Installing wayside horns at all of the crossings in the proposed quiet zone would lower the risk level of the corridor to an acceptable level for creating the quiet zone. Installing wayside horns at all four crossings would cost approximately \$240,000-\$320,000.

The FRA allows for the creation of full quiet zones (24 hours per day) or partial quiet zones (where trains do not sound horns from 10:00 p.m. to 7:00 a.m.).

Steps to Establish a Quiet Zone

The City of Lawrence, as the public authority responsible for traffic control and law enforcement at the vehicle and pedestrian crossings of the railroad tracks, may establish a quiet zone consistent with FRA requirements. Because the 9th Street crossing is outside city limits (see attached aerial photo), cooperation with Douglas County is necessary. The County may designate the City of Lawrence as the filing authority, or the City and County can jointly take the necessary steps to establish the quiet zone. In Option 1 above, no physical improvements are necessary at the 9th Street crossing. In Option 2, the installation of wayside horns at the 9th Street crossing would be necessary.

The City must provide written notification of its *intent* to create a quiet zone to Union Pacific Railroad Company and to KDOT. After allowing for a sixty day comment period and completing the installation of the SSMs, the City must provide notice of the *establishment* of the quiet zone to the same parties as before and also to the FRA. The

notice of establishment shall include the date upon which routine sounding of the train horn shall cease.

The FRA will perform an annual risk review comparing the Quiet Zone Risk Index to the Nationwide Significant Risk Threshold. If the Quiet Zone Risk Index is higher, then the City will have six months to increase safety and avoid the termination of the quiet zone. Also, between $2\frac{1}{2}$ and 3 years after the establishment of the quiet zone, the City must affirm in writing to the FRA that all Supplementary Safety Measures implemented in the quiet zone continue to conform to FRA requirements. The City has the option of terminating the quiet zone at any time.

Action Requested

The City Commission received a staff report and public comment regarding the quiet zone on October 11, 2005. The Commissioners voted to send this item to the Traffic Safety Commission for further discussion of the concerns raised by the public and the City Commissioners (please see the minutes of the 10/11/05 City Commission meeting).

Attachments:

10/11/05 City Commission meeting minutes

3rd Street aerial photo

4th Street aerial photo

7th Street aerial photo

8th Street aerial photo

9th Street aerial photo

Quiet Zone Calculator screen shots

The Board of Commissioners of the City of Lawrence met in regular session at 6:35 p.m., in the City Commission Chambers in City Hall with Vice Mayor Amyx presiding and members, Hack, Rundle, and Schauner present. Mayor Highberger was not present.

REGULAR AGENDA ITEMS:

Receive staff report regarding the train horn rule.

Jonathan Douglass, Management Assistant, presented the staff report. He said at the request of residents of North Lawrence, City staff had been studying the possibility of creating a train horn quiet zone.

The Federal Railroad Administration (FRA) calculated a risk index for every railroad crossing which was determined by traffic and train counts, speed, and safety measures that were present at the crossings. He said when a quiet zone corridor was proposed, the risk level of all those crossings were averaged to give a risk index for the entire corridor. The corridor that staff had studied started from 3rd Street through 9th Street in North Lawrence. If a quiet zone were established, train horns would not need to be routinely sounded as trains approached those crossings within the corridor. He said to get the average risk index of the corridor low enough to qualify, by FRA rules for a quiet zone, safety improvements would need to be made at those crossings at 3rd, 4th, and 7th Streets.

He presented aerial photos to the City Commission that depicted the crossings and discussed the improvements that would need to be made in order to qualify for a quiet zone.

He said there were two sets of tracks at the crossing on 3rd Street. The tracks to the south were only used to turn trains and would be exempt from the need to sound horns as long as the railroad agreed to use flag crews anytime trains would cross. At the other crossing a median would need to be installed approaching the crossing which would prevent people from driving around the gates when they were closed. The FRA rule required medians to extend 100 feet from the gate arms in both directions from the crossing. He said because of the second set of tracks, it was right at 60 feet which was the minimum length that a median could be according to this rule. In order to bring the risk index for this crossing down, a 100 foot median would need to be installed and a 60 foot median between those two sets of tracks. Other small improvements would be curb and guttering and pavement thickening along that stretch. The total cost for those improvements was approximately \$25,000 for those crossings.

The pedestrian crossing at 4th Street, in order to qualify for the quiet zone, would need to be permanently closed. Those sidewalks would be removed and a "no crossing sign" would need to be placed at that location. He said the North Lawrence Improvement Association indicated that approximately 6 to 8 students use that crossing during the school year. If that crossing was closed, those students would need to cross at either 2nd or 3rd Streets. He said the association expressed their support for the closing of that crossing.

At 7th Street, a median would need to be installed. He said there were 60 and 100 foot medians that stopped just short of that intersection. He said one issue to consider concerned a heating and air conditioning business in that area. He said their parking lot had one-way traffic and had parking places that were angled to serve that one-way traffic. He said the property owner's concern was that traffic going west on the south section of Maple Street, the traffic would be unable to turn left at 7th because the median went all the way to the crossing gates. Therefore, traffic might be cutting

through that parking lot. The owner suggested making a certain stretch of Maple Street, up to the first residence, a one-way street, but staff had not researched that idea. The property owner was supportive of creating a quiet zone, but would like the City to take some steps to prevent cut-through traffic through his parking lot. The improvements at 3rd and 7th Streets would cost approximately \$50,000.

He also said there was a possibility of creating a partial quiet zone which would be for the hours of 10:00 p.m. to 7:00 a.m. He said it would require the same improvements to all those intersections that he had discussed. The only difference would be if the City Commission wanted the trains to continue sounding their horns throughout the daytime hours when there would probably be more traffic.

Vice Mayor Amyx asked Douglass to explain the procedures the City would have to go through to establish a quiet zone.

Douglass said the first step would be to make all of those improvements to those intersections which would bring down the risk level to an acceptable level according to federal rules. He said because those improvements could be done without any problems, the City did not need to make special application to KDOT or FRA. A notice of intent would need to be published to create a quiet zone and that notice would be sent to the railroad, KDOT, and FRA. He said there would be a 60 day comment period from the time of that notice being sent out to voice any concerns. Also, the public could make comment at anytime. Once that comment period was over and the improvements were implemented, staff could publish a notice of establishment that would cite the date in which those horns would not need to be sounded. He said the City was the public authority in this case and the City would need to establish that notice. He said there was one crossing in the County at 9th Street just outside the City limits which could be included if the County was interested in this issue. He said the County could either send out notices jointly with the City or they could simply designate the City as the filing

authority. He suggested making a presentation to the County Commission to see if they were willing to go along with that idea.

Commissioner Schauner asked if the City would need to make all of those improvements in order to get the risk threshold low enough to qualify.

Douglass said yes, the improvements that he had outlined would need to be completed. He said there were other things that could be done to qualify, but making those improvements by far was the cheapest way. He said if they installed four quadrant gates at all those crossings, the City would qualify, but the costs were much greater.

Commissioner Schauner asked if those students walking to school and making the crossing at 4th Street were at additional risk of going to the next crossing either 3rd or 7th Streets in order to cross the tracks.

Douglass said there were some sidewalks in the area, but he had not completed an inventory of where those sidewalks were located, but there were probably some areas where those students would be walking on the street.

Commissioner Schauner asked what needed to be done to close the pedestrian crossing.

Douglass said the path would need to be torn out and a "no crossing" sign placed at that location. He said at the end of the road was a sign that indicated that road no longer went through.

Vice Mayor Amyx said obviously if there were 6 or 7 students using that crossing, the signage might not be working.

Wildgen said that area was a road crossing at one time. The pedestrian crossing had been a legal crossing for some time.

He said there were no sidewalks on Maple Street to the north, but there were sidewalks on Locust that went east to west.

Commissioner Schauner asked if the City would have increased liability by closing the pedestrian crossing.

David Corliss, Assistant City Manager/Legal Services Director, said the liability standards were from the tort area of the law, personal injury. The general area would be negligence and the key in a negligence action would be the "standard of care." He said the Federal Government and KDOT were essentially establishing this "standard of care" or perhaps it had been changed somewhat with this new horn rule. He said they had established a "standard of care" that indicated that if certain alternative warnings for the motoring public were established it would be appropriate for trains to remove the horn sound as a type of warning device because there would be alternatives established. He said if those regulations were followed, he thought that in Kansas, there would be protection from claims because they would be following the appropriate "standard of care" and they would not be negligent because they would have followed those regulations.

The issue of pedestrian access was something that there was not really a lot of case law. There were obviously some court decisions regarding liability for vehicles at train intersections for pedestrians. He said he was not aware that there were any court decisions or "standard of care" that would probably provide for safe crossings for pedestrians over rail areas, but staff would need to look further into that issue. If passing at an intersection where vehicles were allowed and following the same standards for vehicles, he assumed that would probably be appropriately safe.

Vice Mayor Amyx called for public comment.

John Wysocki, President of Artful Marketing, LLC, said one of the events that they had put on earlier this year was a series of art market/art fairs which happened at the Depot. He said it would be wonderful if the City could institute a quiet zone or a

quieter zone in the area that had just been described because it would attract more wonderful outdoor events to the depot facility.

Ted Boyle, President of North Lawrence Improvement Association, said approximately two years ago, the subject of this quiet zone was brought forward to the Association's attention by new residents that had joined the North Lawrence Improvement Association. He said those residents were concerned about the train horns and could not sleep at night. He said he had also received calls from people who were intending to buy property in North Lawrence and those people were also wondering what could be done about those train horns. He said they believed that a quiet zone would enhance North Lawrence and would also increase planned residential and commercial development in North Lawrence.

He said the North Lawrence Association believed that those supplementary editions to the 3rd Street and 7th Street crossings would make it a safe environment for pedestrians and truck and car traffic.

The 4th Street crossing came about when the railroad closed that road that went from Locust to Maple because the crossing was located by the elevators in North Lawrence. He said it was a trade off to close that vehicle crossing for improvements on the 8th Street crossing. He said now the railroad did not condone any pedestrian crossing where there were no traffic crossings. The North Lawrence Improvement Association would like to see that crossing closed. The sidewalks on the north side of the tracks were remnants of sidewalks that at one time accompanied the street.

He said the North Lawrence Improvement Association and the residents of North Lawrence would like to see the quiet zone instituted and they believe it would encourage planned development in North Lawrence, residential and commercial. He encouraged the City Commission to sign-off on this quiet zone.

Wayne Zachary, Laidlaw Transit, said his concerns would be the school bus crossings in the North Lawrence area. He said they had approximately 10 to 12 buses that cross those tracks daily. He said their concern was that one of the warning signals for a school bus driver was the horn. He said school buses in Kansas were required, under Kansas statutes, to stop at all railroad crossings, open their window and door to reduce all the noise and ascertain that there was no train coming.

He said he was not opposed to a quiet zone for certain hours of the day, but they would be very concerned about reducing or eliminating the horn requirements during school or bus time hours. He said perhaps, if the City Commission could look at an overnight reduction in the horn requirement that would be satisfactory or acceptable, but they recommended allowing those horns to be blown during prime business hours. He said they were not the only people required to stop because other hazardous material type of vehicles were required to stop at those crossing as were other public transportation types of vehicles. He encouraged the City Commission to look at that side of the issue, dove-tailing off of Commissioner Schauner's comment about the liability issues. He said in the litigious society that we live in today we need to be concerned about not removing any aspects of safety that someone might question at a later date after a tragic accident.

Vice Mayor Amyx asked what he meant by prime business hours.

Zachary said their buses operated from 6:00 a.m. until 5:00 p.m. in the evening which were prime school bus hours and probably prime business hours. He said they had 4 regular school bus routes and approximately 6 to 8 special needs bus routes that crossed those tracks 2 to 3 times daily.

Commissioner Hack said if the bus drivers were required to stop before crossings, she asked if those bus drivers would stop regardless of whether or not they

heard a horn at those crossings. She asked what difference a horn would make to bus driver that was stopping anyway.

Zachary said that horn would let the bus driver know that there was a train in the area. He said many times those bus drivers hear those horns prior to the lights flashing and the gates closing which made those bus drivers aware that a train was approaching. He said bus drivers did not attempt to cross tracks when they sensed that there was a train in the area because there was too much risk such as transmission failure, motor failure, or some type of difficulty that might make that bus stall.

Commissioner Rundle said with Laidlaw being a national company, he asked whether Zachary had any experience with quiet zones in other communities.

Zachary said no, he did not. He said this was all new to him. Again, he was not opposed to the quiet zone, but there were concerns from an aspect of safety at a school bus crossing.

Vice Mayor Amyx said he had seen in the news recently that there were several smaller communities in the state that had opted into quiet zones. He suggested staff find out information from those communities.

He asked if the City had to follow the same type of rule in stopping at those crossings.

Mike Wildgen, City Manager, said yes.

Commissioner Schauner said he could support a quiet zone in the off hours. He said putting the safety of children and other pedestrians in the hands of a formula, developed by the railroad agency did not strike him as particularly good policy. He said from 6:00 a.m. until 5:00 p.m. or 6:00 p.m., horns should be sounded and this Commissioner should give every pedestrian and every bus driver every chance to see a train and avoid the possibility of a bad accident. He also suggested that it they did close the 4th Street pedestrian crossing that they look into making sure there was a sidewalk

for those children going to school. He said the \$50,000 figure for doing those retro-fits might be little short because the City needed to make sure there were sidewalks for those children. He said he did not want to be a person casting a vote to essentially put children in the street to get to school.

Commissioner Hack said putting those improvements in would benefit those crossings whether there was a quiet zone or not because it would prohibit people from skirting around those tracks. She said she appreciated Zachary's comments because the idea of those train horns making bus drivers aware a train was approaching before hand was something that made perfect sense. She concurred to remove the pedestrian crossing on 4th Street and make sure that those children were able to walk to school safely. She said the quiet zone from 6:00 p.m. to 6:00 a.m. made a lot more sense than placing children or bus passengers in jeopardy.

Commissioner Rundle asked if it was typical for those partial quiet zones to be those particular hours plus weekends.

Douglass said the FRA had standardized their rule to avoid confusion for the actual train operators. He said the rule for a quiet zone could only apply for 24 hours or from 10:00 p.m. to 7:00 a.m. seven days a week.

Commissioner Schauner said his only concern about a partial quiet zone was that if people were used to hearing a horn during the daylight hours, those people would expect to continue to hear that horn 24 hours a day. He said he wondered if they were creating some additional risk during the quiet zone because of people's expectation of hearing a horn.

Commissioner Rundle said following on that idea, he asked if signage would be required.

Douglass said signage would be required at each crossing.

Vice Mayor Amyx suggested that the Commission receive the report and send the report to staff with updates to all improvements like the sidewalks.

Commissioner Rundle asked if it would be overkill to send this report to the Traffic Safety Commission.

Wildgen said no. He said sidewalks in some areas would be a challenge.

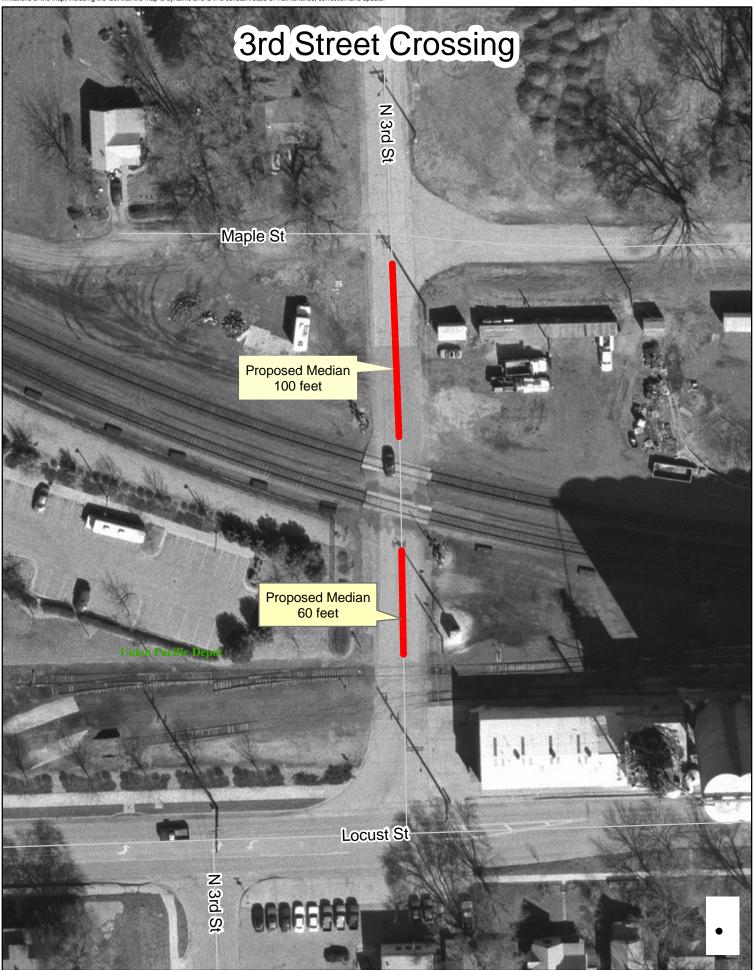
Vice Mayor Amyx suggested that Boyle give staff information concerning what route those children take to the school.

Wildgen said the school district might have a better handle on the route those children take to school.

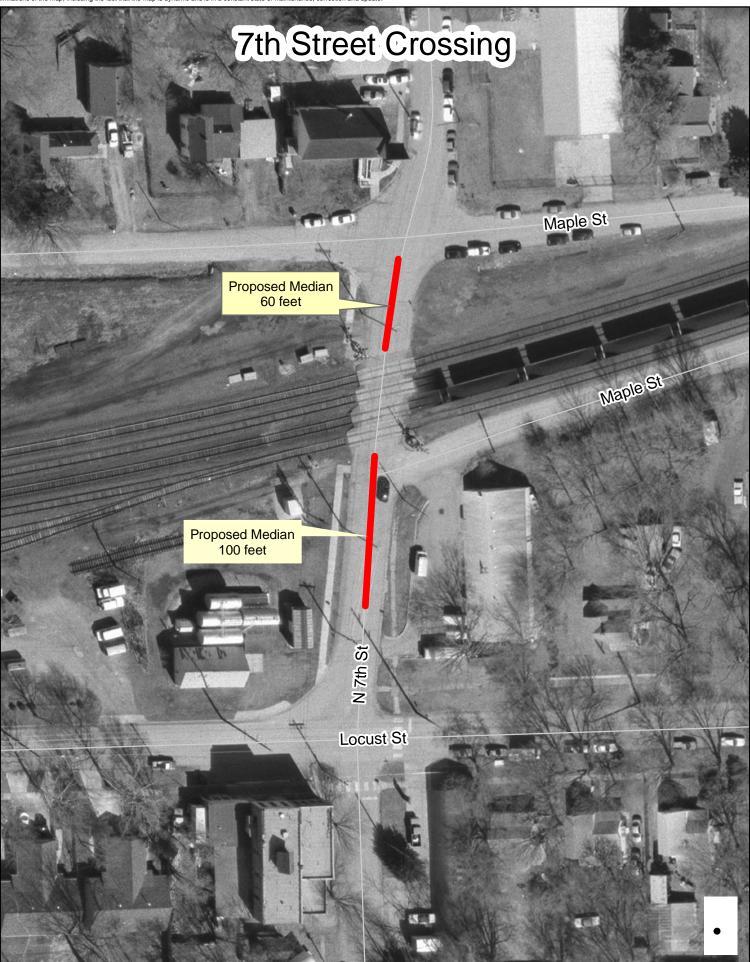
Boyle said there was a crossing guard at 4th and Locust Streets and a sidewalk along 3rd and Locust on the north. He said there needed to be a crossing guard to escort those children across Locust Street to cross the railroad tacks. The crossing guard had been kind enough in that she checked the tracks before she sent the kids across the tracks. He said Locust Street was a busy street and it was necessary to have a crossing guard. He said if the 4th Street crossing was closed, those children could walk down the south side of Locust Street and those children would not need to cross the street until 3rd Street. He said there had never been any sidewalks on Maple, Perry, Lincoln, or Lyon Streets, but there was a sidewalk on the south side of Locust Street and the kids would not need to cross on 4th Street, but at the intersection by James Gang Automotive and a crossing guard could be placed at that location.

Vice Mayor Amyx suggested that the Traffic Safety Commission review the recommendations made by the public and the City Commission.

Moved by Schauner, seconded by Hack, to send the report to the Traffic Safety Commission. Motion carried unanimously.



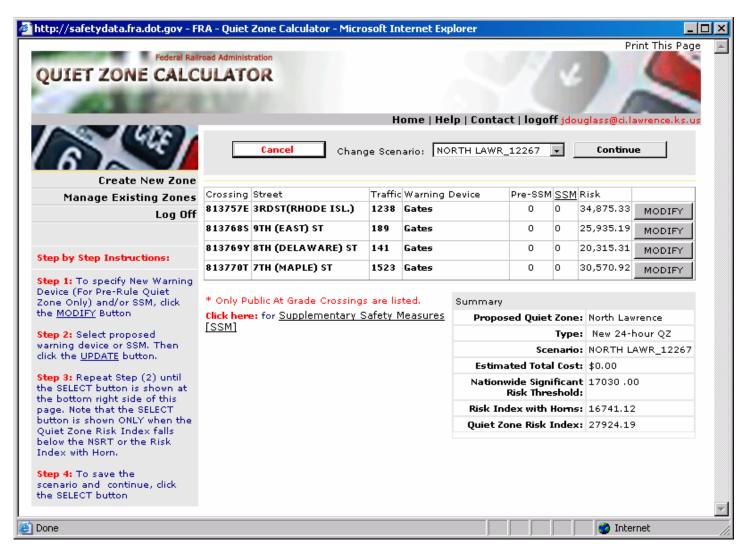




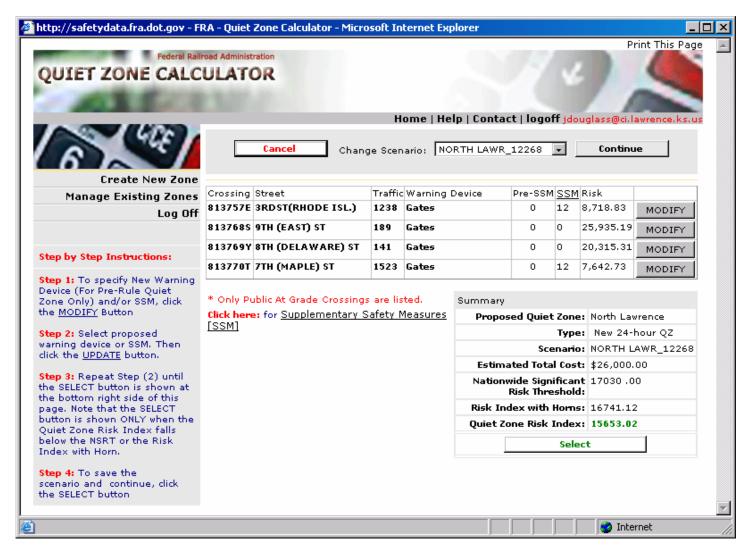




The screen shot below illustrates the quiet zone with crossings at 3rd, 7th, 8th, and 9th Streets with no supplementary safety measures (SSMs). The Quiet Zone Risk Index is not lower than either the Nationwide Significant Risk Threshold or the Risk Index with Horns; therefore a quiet zone cannot be established without implementing SSMs.



The Quiet Zone Risk Index is most cost-effectively lowered by implementing SSMs at the crossings with the highest risk level. Installation of medians with reflective traffic channelization devices (coded "12" in the "SSM" column below) at the 3rd Street and 7th Street crossings lowers the Quiet Zone Risk Index to an acceptable level for establishing a quiet zone under Federal Railroad Administration rules.



NORTH LAWRENCE IMPROVEMENT ASSOCIATION

LAWRENCE, KANSAS

RECEIVED

November 4, 2005

NOV 0 8 2005

CITY MANAGERS OFFICE LAWRENCE, KS

Lawrence Traffic Commission 6 East 6th Street Lawrence, KS 66044

Dear Commission Members:

The North Lawrence Improvement Association has been working with the City of Lawrence and the UP Railroad to provide a quiet zone in North Lawrence from 3rd Street to 9th Street. At the Lawrence City Commission meeting, safety concerns were expressed concerning the lack of train whistles at railroad crossings.

When this quiet zone was first discussed, horns were to be installed on top of the crossing warning signs that could be heard 200 to 300 feet around the crossing to warn pedestrians and traffic about on-coming trains. These horns would not be heard throughout the entire neighborhood. Also during these early discussions, it was stated that crossbars could be installed to block both lanes of traffic instead of just the one lane that is now blocked by the current crossbars. The traffic median barrier at 3rd Street and 7th Street would also improve safety. Closing the pedestrian crossing at 4th Street and Locust Street would be an additional safety measure because its location at the east end of the co-op elevator makes seeing to the west difficult. There are no sidewalks at any of the crossings, but the 3rd Street and 7th Street crossings are wide enough to have sidewalks if they are clearly marked. There are sidewalks on Locust Street to the rail crossings at 3rd Street and 7th Street, but there is only one block of sidewalk at 3rd and Maple to the alley. The 7th Street crossing has sidewalk from the railroad track north to Lyon Street. There is no sidewalk on Maple from 3rd to 9th, nor has there ever been.

The North Lawrence Improvement Association and the residents of North Lawrence feel this quiet zone would improve the quality of life and promote planned development in North Lawrence.

Sincereig

Ted Boyle, President

North Lawrence Improvement Association

CC:

Lawrence City Commission
Lawrence Neighborhood Resources
Office of Lawrence City Manager
Douglas County Commission