



Eugene City Council

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EUGENE CITY COUNCIL AGENDA

October 8, 2014

12:00 PM CITY COUNCIL WORK SESSION

Harris Hall

125 East 8th Avenue

Eugene, Oregon 97401

Meeting of October 8, 2014;
Her Honor Mayor Kitty Piercy Presiding

Councilors

George Brown, President

Pat Farr, Vice President

Mike Clark

George Poling

Chris Pryor

Claire Syrett

Betty Taylor

Alan Zelenka

CITY COUNCIL WORK SESSION

Harris Hall

- A. **WORK SESSION:
Ordinance Concerning Establishment of a Tax on Marijuana**
- B. **WORK SESSION:
City Hall**
- C. **WORK SESSION:
Railroad Quiet Zone**

**time approximate*

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EUGENE CITY COUNCIL

AGENDA ITEM SUMMARY



Work Session: Railroad Quiet Zone

Meeting Date: October 8, 2014
 Department: Public Works Maintenance
www.eugene-or.gov

Agenda Item Number: B
 Staff Contact: Tom Larsen
 Contact Telephone Number: 541-682-4959

ISSUE STATEMENT

The City Council has asked for an update on the status of a Downtown Railroad Quiet Zone. In the last decade, following council direction, staff has analyzed the requirements, costs and public support for various options related to establishing a railroad quiet zone. The purpose of the Quiet Zone (QZ) is to eliminate the routine sounding of train horns at 10 downtown railroad crossings to increase neighborhood livability and downtown redevelopment potential. Regional experience has demonstrated that a Quiet Zone is possible; previous cost estimates are significantly less than actual construction and operations costs will be, and funding has come from local, not state or federal sources.

BACKGROUND

In 2005, the Department of Transportation passed rules which codified the use of train horns at rail crossings and allowed for the creation of a Quiet Zone where horns would not be sounded based on alternative safety measures reducing the risk of crashes. The Federal Railroad Administration (FRA) Risk Index is a statistical calculation based on FRA analysis based on the existing conditions and the FRA Risk Calculator modifies the Index based on proposed supplemental safety measures (SSM). FRA uses the term "Risk Index with horns" to reflect current conditions in Eugene. FRA annually calculates a National Risk Threshold reflecting the nationwide crash experience with crossings.

There are three ways the city could add SSMs in order to obtain a Quiet Zone:

- Add SSMs at each crossing;
- Add sufficient SSMs to reduce the Risk Index below the current Risk Index with horns, or
- Add sufficient SSMs to reduce the Risk Index below the National Risk Threshold.

The first alternative must be recertified on a five-year cycle, the second alternative recertified on a two- to three-year cycle and the last alternative must be recertified annually. The existing Risk Index with horns and the National Risk Threshold vary as the crash or incident history, automobile crossing volume and train frequency changes. The National Threshold has fallen from 19,347 in 2007, to 14,347 this year. Locally the Risk index with Horns has increased from 14,849 in 2007, to a current value of 16,762.

The council held railroad quiet zone work sessions on July 20, 2005, June 26, 2006, and February 25, 2008. The agenda item summaries from each of the work sessions are attached. The analysis was focused on specific supplemental safety measures (SSM) designed to reduce the statistical risk levels sufficiently to obtain a quiet zone designation from the Federal Rail Administration (FRA). Among the measures considered were closing streets, converting two-way streets to one-way operation, constructing “quad” gates and installing other apparatus to warn people of approaching trains and/or keep them off the tracks.

At the first work session, staff presented information about the Federal Railroad Administration rules allowing local jurisdictions to obtain a Quiet Zone designation. At that session, the council directed the City Manager to further refine cost estimates for specific construction of several of the supplemental safety measures required to obtain a Quiet Zone and to monitor the quiet zone process and evaluate the progress made by other jurisdictions. The proposed Quiet Zone includes the ten railroad crossings from 8th and Hilyard on the east to Van Buren on the west. A map is attached. Seven potential scenarios using a mixture of different crossing supplemental safety measures (SSM) treatments was presented. The FRA rules describe Quiet Zones as local community improvements and federal funds were not made available for the express purpose of obtaining a Quiet Zone.

At the second work session, staff presented options for obtaining a QZ with federal and state funding. Based on the safest crossing being one that was closed, eliminating the possibility of a crash, the Federal Secretary of Transportation announced an initiative to close redundant or unnecessary crossings. ODOT Rail Division offered to partner with the City using federal funds, if the City would agree to closing crossings. The City Council directed staff to study the necessary steps to close up to four railroad crossings and convert streets to one-way at railroad crossings in order to obtain federal Title 23 Section 130 funding for crossing safety improvements at the remaining crossings and conduct a public process to gage support for potential street closures.

The third work session presented the outcome of the public process and focused on the development of SSM alternatives needed to obtain a QZ. Community support for a Quiet Zone was high, but support for closing any of the street crossings almost non-existent. At the conclusion of the meeting, the council adopted a motion directing staff to pursue funding for a Quiet Zone based on a design using all quad gates at all ten crossings. In 2008, the cost for quad gates was estimated by the Federal Railroad Administration at about \$400,000 each.

Regional QZ Experience

Since 2008, many jurisdictions have designed and funded the improvements necessary to obtain Quiet Zones. Salem, Oregon is the closest city to do so. The Salem QZ was obtained by using a number of what FRA considers lower cost SSMS. Salem funded their QZ as a specific project included in a large local street repair bond measure. No state or federal funds were used.

The Salem QZ project was similar in size to the Eugene study area and included SSM work at 10 crossings. Salem used a combination of non-traversable curbs, median islands and conversion of a two-way street to one-way to obtain its' QZ. Salem chose to install SSMS at every crossing lengthening the interval until required FRA recertification of the QZ.

Salem conducted a wayside horn demonstration. Wayside horns are a form of SSM that uses remote activated, permanently mounted horns, placed to sound directly down the streets approaching the RR crossing to provide the audible warning of an approaching train. The duration is the same as train mounted horns, but due to the location and directionality the loudest volume is less than that of a train mounted horn. On the other hand the volume is constant and does not rise and fall as a stationary observer would notice when the train moves. While the demonstration is described as well received by the public, the estimated \$200,000 cost per crossing was higher in cost than the other SSMs used in Salem and would not eliminate routine horn sounding.

Updating Alternatives and Cost Estimates

The original Salem proposal was estimated at \$1.2 million for these lower cost safety improvements. Ultimately Salem QZ improvements to 10 RR crossings cost \$2.6 million, more than twice the original estimate. Both Salem staff and ODOT staff report actual construction costs to be in excess of FRA estimates. The Americans with Disabilities Act mandates enhancement of pedestrian facilities at rail crossings when other work is done, but the largest part of the increased cost is simply the difference between the FRA estimates and real world construction costs.

Salem is currently working on adding two additional crossings to their QZ. One crossing will include their first quad gate. They estimate the work on these two crossings will cost \$1.7 million. Salem staff recommends using \$1 million as a reasonable construction estimate for quad gate installation. Quad gates are maintained by the railroad at local road authority expense, currently \$9,000 per year per crossing with quad gates.

Re-location and reconstruction of the Hilyard /8th railroad crossing and associated redevelopment of the Eugene Water & Electric Board (EWEB) site will increase the traffic using the crossing and the Risk Index of that crossing. A recent fatality at the crossing has already increased its Risk Index significantly. The geometric constraints of this crossing will make a quad gate the SSM of choice.

The safest railroad crossings are grade-separated or closed, eliminating the potential for a crash. Proposed enhancements at the Amtrak station in the City's long-range plans for improving passenger rail service include a new siding for keeping passenger trains overnight at the Eugene Station. The new switch to serve the new siding will require the closure of the Lincoln Street crossing.

To make Quad Gate improvements at the nine remaining crossings will cost about \$9,000,000 and require an annual railroad maintenance cost of \$81,000.

Based on the Salem experience, quad gates at 8th/Hilyard and 5th streets coupled with average-priced alternative SSMs at the seven remaining crossings would cost about \$3,820,000 and require an annual railroad maintenance cost of \$18,000.

Funding

In Eugene no local funding source, of sufficient magnitude to make all the improvements needed for a QZ, has been identified or programmed. Potential sources of local funding include the

General Fund, Community Development Block Grants, urban renewal funds, and assessments levied through a local improvement district. Staff is not aware of any non-local sources of funding that could pay for creation of a quiet zone.

Impact

Creating a quiet zone will have the immediate impact of enhancing neighborhood livability for those residential areas impacted by train noise. As the Lane Livability Consortium report notes, impacts from noise due to trains result in negative consequences for health and wellbeing. While the train horns are audible many miles from the tracks, those areas in closest proximity are hardest hit. A railroad quiet zone would benefit residents in these areas in a significant way, and enhance livability throughout the community.

Downtown development scenarios, particularly housing, are also negatively impacted by the sounding of rail horns. The noise from the horns is considered an environmental impediment for redevelopment, typically increasing the costs and impacting the type of use envisioned. The prospective developers of the EWEB riverfront property stated that a quiet zone is critical to their development scenarios, as have other developers of private property in the Fifth Street Market and northeast downtown areas. Since downtown development has a significant role in the implementation of Envision Eugene as well as the Regional Prosperity Plan, the importance of a quiet zone cannot be overstated.

RELATED CITY POLICIES

City Council Goals:

- Neighborhood Empowerment
 - Redesign the neighborhood initiative to support the neighborhoods which includes public participation in the livability and protection of neighborhoods
- Sustainable Development
 - Increased downtown development

Adopted Growth Management Policies:

- Policy 1: Support the existing Eugene Urban Growth Boundary by taking actions to increase density and use existing vacant land and under-used land within the boundary more efficiently.

Envision Eugene Pillars:

- Promote compact urban development and efficient transportation options.
 - Integrate new development and redevelopment in the downtown, in key transit corridors and in core commercial areas.
 - Meet the 20-year multi-family housing need within the existing Urban Growth Boundary.
 - Make compact urban development easier in the downtown, on key transit corridors, and in core commercial areas.
- Protect, repair, and enhance neighborhood livability.

Regional Prosperity Economic Development Plan:

- Strategy 5: Identify as a Place to Thrive - Priority Next Step - Urban Vitality
- As a creative economy is fostered, dynamic urban centers are an important asset. Eugene, Springfield and many of the smaller communities in the region recognize the importance of supporting and enhancing vitality in their city centers. Building downtowns as places to live, work and play will support the retention and expansion of the existing business community and be a significant asset to attract new investment. The Cities of Eugene and Springfield will continue to enhance their efforts to promote downtown vitality through development and redevelopment.

Eugene Climate & Energy Action Plan:

- Increase density around the urban core and along high-capacity transit corridors

Eugene Downtown Plan:

- Facilitate dense development in the courthouse area and other sites between the core of downtown and the river.
- Stimulate multi-unit housing in the downtown core and on the edges of downtown for a variety of income levels and ownership opportunities.
- Downtown development shall support the urban qualities of density, vitality, livability and diversity to create a downtown, urban environment.
- Facilitate dense development in the courthouse area and other sites between the core of downtown and the river.

COUNCIL OPTIONS

Staff has identified options for the council to consider in providing direction on this issue:

- A. Continue to monitor Quiet Zone experience in other jurisdictions.
- B. Direct staff to evaluate alternative scenarios and local funding options for a QZ.

CITY MANAGER'S RECOMMENDATION

Direct staff to explore options for use of alternatives to obtain a Downtown QZ, investigate options for local funding and bring a proposed QZ back to the council.

SUGGESTED MOTION

Move to direct the City Manager to explore optional scenarios to obtain a downtown Quiet Zone, investigate options for local funding and bring a Quiet Zone Proposal back to the council.

ATTACHMENTS

- A February 25, 2008, Agenda Item Summary and map of study area
- B. June 26, 2006, Agenda Item Summary
- C. July 20, 2005, Agenda Item Summary

Item C.

FOR MORE INFORMATION

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EUGENE CITY COUNCIL AGENDA ITEM SUMMARY



Work Session: Railroad Quiet Zone

Meeting Date: February 25, 2008
Department: Public Works Maintenance
www.eugene-or.gov

Agenda Item Number: [Agenda Item Number]
Staff Contact: Tom Larsen
Contact Telephone Number: 682-4959

ISSUE STATEMENT

Following council direction, staff has engaged in extensive public involvement and analysis of requirements, costs and public support for various options related to establishing a railroad quiet zone in which the routine sounding of train horns at specific railroad crossings would cease. Analysis and input was focused on specific supplemental safety measures designed to reduce risk levels sufficiently to obtain a quiet zone designation from the Federal Rail Administration (FRA). Among the measures considered were closing streets, converting two-way streets to one-way operation, constructing "quad" gates and installing other apparatus to warn people of approaching trains and/or keep them off the tracks. This work session is an opportunity for council to review the analysis and input and provide additional direction.

BACKGROUND

Council held a railroad quiet zone work session on July 20, 2005. At that session, staff presented information about a new Federal Railroad Administration rule allowing local jurisdictions to obtain a quiet zone designation. Quiet zones are considered a local quality of life issue and no federal funding is available specifically for obtaining one. At that session, the council directed the city manager to further refine cost estimates for specific construction of several of the supplemental safety measures required to obtain a quiet zone and to monitor the quiet zone process and evaluate the progress made by other jurisdictions.

On June 26, 2006, council held another railroad quiet zone work session. At that work session, council directed the city manager to study the necessary steps to close up to four railroad crossings and convert streets to one-way at railroad crossings in order to obtain federal Title 23 Section 130 funding for crossing safety improvements. These funds are administered by Oregon Department of Transportation Rail Division (ODOT Rail). Council also directed that no closings or conversions will be constructed until a public process has been completed and council has given final approval.

Analysis of Supplemental Safety Measures

Risk-mitigation supplemental safety measures (SSMs) were considered for 10 at-grade railroad crossings in the downtown area, from Hilyard Street (near the EWEB entrance on Eighth Avenue) on

the east to Van Buren Street on the west. A map of the area is included as Attachment A. Potential risk-management strategies included closing streets to all forms of through traffic, installing quad-gates, constructing median barriers, converting two-way streets to one-way traffic, and leaving some crossings unchanged. Each potential strategy at each specific at-grade crossing was evaluated based on a number of criteria, including ability to reduce risk based on a "risk index" used by the FRA, costs (initial capital costs and ongoing maintenance costs), engineering feasibility, public acceptance, and conformance with traffic safety standards and other policies related to the local transportation system.

Closing at-grade rail crossings is the safety measure most preferred by the FRA, ODOT Rail and the Union Pacific Railroad, which owns and operates the rail lines that run through the downtown area. Closing redundant or unsafe railroad crossings is a goal of the U.S. Department of Transportation. The likelihood of obtaining non-City funding from these agencies increases with the number of at-grade crossings that are closed. However, closing at-grade rail crossings is the safety measure least supported by the public. The FRA process to obtain a quiet zone requires ODOT Rail, Union Pacific and the City to all agree on the SSMs proposed. None of the parties can force a quiet zone or other changes to railroad crossings without the consent of the others.

Based on analyses of the federal criteria necessary to obtain a quiet zone and a sense of public acceptance, staff has developed a conceptual design that would likely result in a quiet zone. The scenario displayed in Table 1 describes the different supplemental safety measures needed to reduce the risk index from the current level of 17,689 to 11,029. Guidelines stipulate that implementation of a quiet zone shall result in a reduction of the risk index for the segment under consideration.

Table 1

Crossing Location	Treatment
Van Buren	Median
Monroe	None
Madison	Close
Jefferson	One-way
Washington	One-way
Lawrence	Median
Lincoln	None
Pearl	None
High	Quad-gates
8th and Hilyard	Quad-gates
Risk Index	11,029
Estimated Cost	\$1,350,000

This scenario assumes only one street closure and is likely to qualify for only \$50,000 of ODOT Rail-administered Section 130 funds. If the City decides to pursue more street closures to increase the likelihood of non-City funding, staff considered five potential closures: Monroe, Madison, Jefferson, Lawrence and Lincoln streets. Given the lack of public support for multiple street closures in this area, staff did not fully analyze a scenario involving multiple closures, other than to determine that there would be significant impacts to business access, neighborhood connectivity, bicycle and pedestrian routes and emergency response.

In 2007 the FRA updated its risk index calculator to take into account a train-pedestrian crash at the Eighth and Hilyard crossing. The risk index at that crossing increased almost five fold, and the average risk index for the 10 crossings in the potential quiet zone went from about 14,000 to over 17,000. In previous alternative analyses and as presented at several public forums, staff proposed no changes at Eighth and Hilyard. However, to reduce the overall risk index to quiet zone levels it is likely that quad gates must be added at this crossing, increasing the cost of a quiet zone by approximately \$400,000 over any of the previous scenarios.

Results of Public Input Process

During the summer and fall of 2007, Public Works staff completed a comprehensive public outreach process to gather input on the implications of creating a railroad quiet zone in Eugene. In total, four public forums were held. Additional comments were sought using an online survey hosted on the City's web portal. The public involvement process began with a widely advertised public forum that attracted participants with various levels of interest in the quiet zone study. The second forum was targeted at commercial property and business owners in the general vicinity of the study area, however was also open to the general public. The third forum was held at the Ya-Po-Ah Terrace to reach a less mobile, yet very interested group of nearby residents. The final public forum was attended by a variety of interested participants including neighborhood residents, property and business owners, residents from outside the study area, and staff from the railroad. The final forum provided staff an opportunity to report back on comments and input gathered previously while also collecting any final input and detailing the next steps of moving forward with an official quiet zone.

As directed by council, staff set out to study public support for closing up to four railroad crossings to obtain federal funding to implement safety improvements that would result in a quiet zone. At each of the public forums, staff presented a range of potential scenarios that could feasibly result in a quiet zone; these scenarios ranged from closing zero to five of the ten at-grade crossings. Throughout the public process, staff heard general community support for the concept of a quiet zone. Although participants favored implementing a quiet zone, virtually none were in favor of closing crossings as a prerequisite. Staff found that when provided a scenario with one closure, participants were more supportive. There was minimal support for multiple closures as a means of obtaining outside funding. Any opposition to the concept of a quiet zone was rare and more focused on being against spending city resources to implement a quiet zone. When potential funding mechanisms were discussed, staff found opposition for special assessment districts, particularly in the Whiteaker neighborhood. Many participants suggested implementing a quiet zone even if it cost the City millions of dollars because of the positive effect it would have on the local quality of life.

A summary of comments received at the public forums and through the online survey is included as Attachment B

Cost Estimates

The scenario detailed on page 2 of the memo would cost approximately \$1.4 million. In addition, the annual maintenance for quad gates, which would likely become a City financial liability, is estimated to cost approximately \$10,000 for each quad gate (\$20,000 a year for the two quad gates in the scenario) .

In recent discussions, ODOT Rail has reiterated its policy on state-administered federal Section 130 funding. Currently, to be eligible for Section 130 funding, half (five) of the 10 crossings in the proposed quiet zone would need to be closed in order for ODOT Rail to fully participate in safety improvements

to the remaining five crossings at a level necessary for the city to obtain a quiet zone designation. If less than half of the crossings are closed, ODOT Rail has offered \$50,000 per closure to be applied towards safety improvements at other crossings within the proposed quiet zone. In other words, if the City closed one crossing, we could expect ODOT Rail to put \$50,000 toward the total cost of the supplemental safety measures necessary to obtain a quiet zone designation.

No local funding source has been identified or programmed for construction of SSMS to obtain a quiet zone. Potential sources of local funding include the General Fund, Community Development Block Grants, urban renewal funds, and assessments levied through a local improvement district. Staff is not aware of any non-local sources of funding that could pay for creation of a quiet zone.

RELATED CITY POLICIES

2007-2008 City Council Goal - Neighborhood Empowerment:

- Redesign the neighborhood initiative to support the neighborhoods which includes public participation in the livability and protection of neighborhoods and identifies specific redevelopment strategies that preserves the integrity of residential uses, including design standards, site review, down zoning, infill regulation, and bolstering and empowering neighborhood associations to get more involvement.

Adopted Growth Management Policies:

- Policy 1: Support the existing Eugene Urban Growth Boundary by taking actions to increase density and use existing vacant land and under-used land within the boundary more efficiently.

COUNCIL OPTIONS

Staff has identified four options for council to consider in providing direction on this issue:

- Option 1: Appropriate \$60,000 from the council contingency to retain a consultant that would finalize the design of the quiet zone through negotiations with appropriate regulatory agencies. This assumes a commitment of local funding at the conclusion of the negotiation process.
- Option 2: Continue to monitor the evolving practice of creating quiet zones in the United States. If there are considerable changes to current practice including non-local sources of funding, staff will provide this information to council.
- Option 3: Indicate council support for closing up to five at-grade crossings, and proceed to negotiate for a quiet zone with no expenditure of local funds.
- Option 4: Cease the study of implementing a railroad quiet zone in Eugene.

CITY MANAGER'S RECOMMENDATION

Direct the City Manager to continue to monitor the evolving practice of creating quiet zones in the United States. The City Manager does not recommend moving forward with quiet zone implementation at this time because of the impacts to programs that are dependent on the local sources of funding that would be required to create a quiet zone.

SUGGESTED MOTION

Move to direct the City Manager to continue to monitor the evolving practice of creating quiet zones in the United States.

ATTACHMENTS

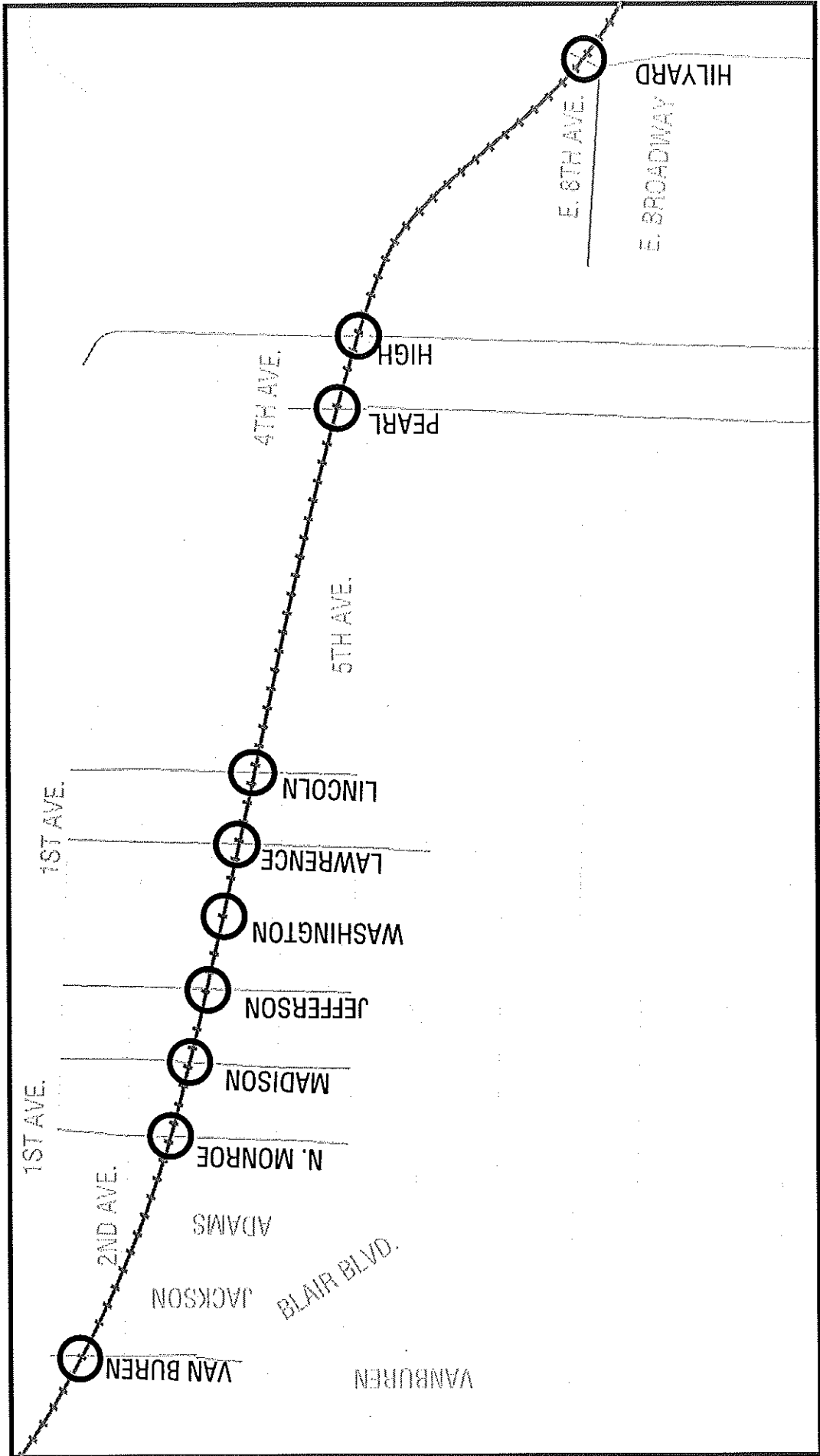
- A. Map of study area
- B. Summary of public involvement process

FOR MORE INFORMATION

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Item C.

Railroad Crossings in Downtown Eugene Area



July 11, 2005

Item C.

EUGENE CITY COUNCIL AGENDA ITEM SUMMARY



[Agenda Item Title]

Meeting Date: [June 26, 2006]
Department: [Public Works Maintenance]
www.eugene-or.gov

Agenda Item Number: [Agenda Item Number]
Staff Contact: [Tom Larsen]
Contact Telephone Number: [692-4959]

ISSUE STATEMENT

Council asked for an update on the issue of train horn noise and the potential for establishing a Quiet Zone in which the routine sounding of train horns at specific railroad crossings would cease. In any proposed Quiet Zone, train horns would continue to be sounded for pedestrians, animals or other hazards on or near the track, other trains, switching activities, warning device malfunction and any other operating procedures of the railroad or in any other emergency as determined by the train engineer.

BACKGROUND

PREVIOUS COUNCIL WORK SESSION

An explanation of the new Federal Railroad Administration (FRA) rule allowing local jurisdictions to obtain a Quiet Zone (QZ) was presented to Council on July 20, 2005. The new rule shortened the time horns sound prior to a crossing, set a maximum level (110 dB) for train horns and set criteria and a process for local communities to establish a Quiet Zone wherein the routine horn sounding for crossings could be eliminated. A Quiet Zone will not eliminate all horns sounding. The area identified for a potential QZ included the ten railroad crossings from Van Buren Street on the west to Hilyard Street at Eighth Avenue on the east. A major unknown cost component at that time was the possible need for additional railroad detection/pre-emption equipment, estimated at about \$2 million. No federal or state funding is available for the crossing improvements needed to establish a QZ. The FRA position is that Quiet Zones are a local livability issue and the cost should be borne by local authorities. The Council did not authorize or fund creation of a Quiet Zone. There was recognition that initial Supplemental Safety Measure (SSM) installation might not be adequate to obtain a QZ but would be a step toward a future QZ. At the July 20, 2005, meeting the City Council directed staff to:

- Further refine cost estimates for specific construction of several of the Supplemental Safety Measures (SSM) required by the FRA to obtain a Quiet Zone.
- Monitor the QZ process and evaluate the progress made by other jurisdictions.

FOLLOW UP FROM PREVIOUS WORK SESSION COST ESTIMATES

Union Pacific RR has verified that the additional detection/pre-emption circuitry at a cost of \$2 million is not needed. A copy of the updated cost memo to the Eugene Budget Committee is included as

Attachment A. The SSMs are most likely to be included in a future Eugene area QZ are four-quadrant gates with presence detection and median islands. The range of costs for SSMs is:

4-quadrant gates	\$ 400,000 - \$ 500,000 each
Crossing closure	\$ 15,000 - \$ 20,000
Medians	\$ 15,000 - \$ 20,000
One-way conversion	\$ 60,000 - \$ 100,000

Four-quadrant gates are the preferred SSM at High Street, which has the highest FRA Risk Index number. It is difficult to show calculated QZ feasibility in the corridor without addressing the High Street crossing. Due to the crossing geometry and intersection with Fifth Avenue, the High Street quad gate is estimated at \$500,000. Madison and Lincoln are the best candidates for street closure. Because of the impacts to business driveways and street intersections Lawrence and Van Buren are the best candidates for median treatment. Washington and Jefferson offer the best potential for one-way conversion.

QUIET ZONE PROCESS

Since the new rule went into effect, 22 new Quiet Zones have been established nationally. FRA is aware of Notice of Intent for five others. Prior to the rule there were about 220 pre-existing Quiet Zones in 29 states. Wisconsin has 64 including three new zones. Missouri has 36, including one new zone. There are three pre-rule whistle-free zones in Oregon, Pendleton, the Dalles and Umatilla. Five Oregon jurisdictions have seriously discussed new QZs with the ODOT Rail section and only one (Klamath Falls) is proceeding. ODOT Rail staff believes the cost of the required safety improvements discourages jurisdictions from pursuing a QZ. Nationally various funding strategies have been used, including assessments to adjoining and benefited properties, special business taxes or surcharges and local general funds.

NEW INFORMATION AND STRATEGIES

FEDERAL AND STATE RAIL SAFETY INITIATIVES

The U.S. Department of Transportation has announced an initiative to improve safety at the nation's railroad crossings. The Secretary of Transportation, in a June 2004 Action Plan, called for the elimination of 25% of all at-grade crossings. An excerpt from that Action Plan is included as Attachment B. Projected growth in rail freight traffic and increasing efforts at improving rail crossing safety will result in increasing federal and ODOT Rail pressure on the City to close unnecessary, redundant or hazardous crossings. This initiative resulted in ODOT recently requesting the City agree to the closing of two unused crossings. Funding to accomplish crossing closure and improvements to consolidated crossings is provided by Federal Section 130 funds, administered by the ODOT Rail Section. Section 130 funds can not be use for the purpose of making crossings improvements to establish a Quiet Zone. The ODOT program guidelines for active crossings state half the crossings in a corridor be closed in order to qualify for ODOT funding the improvements to the remaining crossings. Recent discussions with ODOT indicate a willingness to negotiate with the City to fund safety improvements to some corridor crossings in exchange for closure of less than half of the crossings in the corridor. According to ODOT and FRA sources the decreased risk represented by crossing closure and ODOT safety improvements can be used as credit toward a QZ. The area containing six crossings in six

blocks (Lincoln, Lawrence, Washington, Jefferson, Madison and Monroe streets) has been specifically mentioned as having “redundant” crossings. ODOT Rail would like to see four of the six crossings closed. The city has no current established process for closing streets at railroad crossings. Attachment C discusses the prioritization and potential for closing specific crossings in the corridor. Madison and Lincoln are the most likely candidate streets for closure, followed by Jefferson. Even if the Council chooses to not proceed with crossing closure, ODOT Rail Section can still push for future crossing closures based on the safety history or redundancy analysis.

Last year’s presentation to Council did not emphasize crossing closure as an alternative. Closure is contrary to recent City efforts to reopen closed streets and to revised connectivity standards in the City’s development code. From the FRA and ODOT Rail standpoint, a closed crossing is the safest crossing

CONVERSION TO ONE-WAY STREETS

The FRA Quiet Zone rule is based on a calculation of the risk of crashes at crossings. The most preventable crash is the driver weaving around the standard crossing gates. Conversion of the crossing to one-way and using one or two gates on the approach side to close all lanes is considered to be more effective at reducing risk than a quad gate on a two-way street. The cost is also significantly lower than for quad gates. Conversion to one-way streets would fit into the existing street grid best at Washington and Jefferson streets as they already form a one-way couplet from Sixth Avenue south to 13th Avenue. Conversion of two-way streets into one-way streets is contrary to recent City projects that have converted downtown one-way streets into two-way streets. The goal of changing two-way streets into one-way streets is most clearly stated in the Central Area Transportation Study (CATS).

ENHANCING PUBLIC SAFETY

Several SSMs are possible at most of the crossings in the corridor. There are multiple permutations of treatments that result in lowering the Risk Index in the corridor to below the FRA minimum. Attachment D lists several scenarios that meet the minimum FRA requirements for a Quiet Zone. A more detailed analysis may result in changes in the calculated Risk Indexes. Scenarios with lower Risk Indexes represent options that increase public safety above the level provided by train horns and are more likely to be successful in obtaining a Quiet Zone.

Scenarios which include street closures and/or one-way conversion have lower cost than those that keep all streets open and two-way. State administered funding for closures and consolidation is available with the level negotiated based on the number and the impact of closures at existing crossings

The minimum estimated cost for a QZ with all streets open and two way is \$1,040,000. Detailed plans developed in the FRA process may increase the number of crossings needing SSM treatment and cost could exceed \$1,500,000 if additional quad gates are required

SUMMARY

The city can, by installing SSMs, establish a Railroad Quiet Zone, silencing routine crossing horns, but not all horns. No state or federal funding is available for obtaining a Quiet Zone. Multiple scenarios of SSMs can result in a Quiet Zone with varying construction and community costs.

State-administered federal funding is available for safety improvements to consolidated crossings when redundant crossings are permanently closed. Reductions in the FRA Risk Index from crossing closure and consolidation can be used in the Quiet Zone eligibility calculations.

RELATED CITY POLICIES

The CATS Study identifies a goal of converting many downtown one-way streets to two-way streets.

The Eugene Development Code and State Land Use Goals encourage street connectivity

In the Eugene Code 5.040 the duties of the City Manager or Designee include (1)(c) "Designate the direction of flow" and (1)(m) "Close or open any street to vehicular or pedestrian traffic. This does not include the authority: 1. To abandon all or part of a pedestrian mall, 2. To vacate all or part of a street, or to close or open a street which the council or the city manger determines is of community wide interest."

COUNCIL OPTIONS

Staff has identified three options for the Council to consider under the new quiet zone rules:

1. Council can accept the current level of safety, mobility and livability and direct staff to continue to monitor the continuing QZ process in Oregon and other states.
2. Council can direct staff to pursue a Quiet Zone while maintaining current mobility levels, identify funding sources for design and public process and direct staff to begin detailed plans for necessary safety improvements.
3. Council can accept the changes in mobility from crossing closures and one-way streets and begin safety improvements by directing staff to enter into negotiations with ODOT Rail for Section 130 Safety improvement funds based on crossing closures and conversion of streets to one-way

CITY MANAGER'S RECOMMENDATION

The City Manager recommends option 3. The opportunity to use Section 130 funds to improve local railroad safety and make progress toward a future Quiet Zone represents an effective and efficient use of resources. The Council will have the opportunity to revisit establishment of Quiet Zone and its costs at the conclusion of the ODOT process.

SUGGESTED MOTION

Council direct the City Manager to take the necessary steps to close up to four railroad crossings and/or convert streets to one-way at railroad crossings in order to obtain State Section 130 funding for crossing safety improvements.

ATTACHMENTS

- A. Updated cost memo to the Budget Committee
- B. Federal DOT excerpt on RR crossing closure
- C. Discussion and prioritization of street closures

D. Table of possible scenarios

FOR MORE INFORMATION

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Telephone: [682-4959]
Staff E-Mail: [tom.c.larsen@ci.eugene.or.us]

Item C.

ATTACH

C

EUGENE CITY COUNCIL AGENDA ITEM SUMMARY



Railroad Crossing Quiet Zones

Meeting Date: July 20, 2005
Department: Public Works
www.ci.eugene.or.us

Agenda Item Number: Agenda Item Number
Staff Contact: Tom Larsen
Contact Telephone Number: 682-4959

ISSUE STATEMENT

Council requested a work session to discuss new federal rules effective June 24, 2005, establishing a process to obtain a "quiet zone" designation from the Federal Railroad Administration.

BACKGROUND

The sounding of train whistles or horns is a long established safety and warning practice. They are of necessity loud and attention getting. For many years the City has received complaints from residents who live near the tracks and are disturbed by the noise. In the late 1980s, the City attempted to obtain a "whistle free" zone under the then-current state rules. Southern Pacific was the principal operator of trains at that time and was strongly opposed to the "whistle free" zone. The City was successful in obtaining an Oregon Public Utility Commission Order to establish a "whistle free" zone in August 1990, conditioned on the City making a number of safety improvements to the crossings in the zone. Southern Pacific appealed in Marion County Circuit Court. On appeal the PUC Order was rescinded in September 1991. In large part the appeal was based on a July 1990 Federal Railroad Administration study showing a 195% increase in nighttime crossing crashes in Florida when whistles were silenced. The current operator, Union Pacific, has stated support for the status quo and current use of train horns.

The majority of citizen complaints come from the downtown and Whiteaker areas. There is no documentation that the sounding of train horns has gotten louder or become more frequent. While horns are sounded at other crossings in town, this discussion will focus on the stretch of railroad track between Van Buren Street on the west to Hilyard Street on the east. See Attachment A for a vicinity map.

The "quiet zone" rule does not restrict the railroad from using train horns as a warning or safety device when people or animals are crossing or walking along the tracks or when used for communication between engineers and train crews. The rules specify that a "quiet zone" must be at least 1/2 mile long, which means the City cannot apply for "quiet zone" designation for just one downtown crossing.

The Federal Railroad Administration (FRA) oversees the administration of the federal rules pertaining to "quiet zones". The FRA's role is that of administrator, assuring that jurisdictions

comply fully with the rules in the process of establishing a "quiet zone." The FRA's primary goal is the protection of public safety at rail crossings. Because the process of obtaining a "quiet zone" under the new rules would require modifications to existing grade crossings, the Oregon Department of Transportation Rail Division must approve the design and issue the implementing order. The affected railroad, Union Pacific, must also be involved in the design and approval process as they own and maintain all devices installed in the railroad right of way.

The new rule establishes supplemental safety measures (SSMs) required to obtain a "quiet zone." One of the principal goals of SSMs is to prevent vehicles from weaving through the existing crossing gates. There are several ways to accomplish this. Quad gates completely close the crossing by barring the vehicle from ducking around the gate to the left. Various forms of channelizing islands or medians also can be used to protect the crossing from unauthorized entry. Attachment B provides a schematic view of these two alternatives. Other options include changing the street to a one-way street with two gates to stop driving around a single gate or completely closing the railroad crossing to all other traffic. Under the new rule there is a wide variety of alternatives, each with a range of construction, maintenance, business and community costs (see Attachment C and D).

The FRA rule establishes a minimum time frame of six months to complete the approval process of establishing a "quiet zone." Approval to make modifications to the crossing must be obtained from the ODOT Rail Division. ODOT's six- to eight-month approval process would not start until after the first two months of the FRA process but may overlap the final four months of it. The design and construction processes would add to the total time to finally implement a "quiet zone." Community decisions as to the nature of the crossing modifications and a funding mechanism should proceed an initial application for the zone.

In Oregon, Pendleton is the only city with an existing "quiet zone," which was obtained under previous rules. Hood River is in the process of applying for "quiet zone" designation.

The new federal rule allows the creation of a "quiet zone" under three different alternatives. The first alternative is if the local agency installs approved SSMs at all crossings in the zone. This is the most expensive alternative but assures a truly "quiet zone" and maximizes public safety. A zone created in this manner will need recertification on about a five-year schedule. There is an option to attempt to establish a "quiet zone" by only installing sufficient SSMs to bring the average risk index for the zone below the current risk index with horns. This zone would require recertification on a two- to three-year cycle. The third alternative is to propose a series of SSMs that would lower the risk index below an established national risk level. The acceptable national risk level is higher than our current risk level and would result in a decrease in public safety. The national index is continually updated and, if a "quiet zone" were established under these conditions, it must be re-evaluated every year. If the national index falls, the City would be required to install new SSMs to retain a "quiet zone" designation.

RELATED CITY POLICIES

Train horns impact both public safety and community livability policies. However, there are not specific policies related to the sounding of train horns.

FINANCIAL, SAFETY AND OTHER CONSIDERATIONS

There are no City funds specifically earmarked for the construction or maintenance of the SSMs required under the new rule to obtain a “quiet zone.” Railroads, ODOT and FRA do not participate in cost of installing SSMs to implement a local “quiet zone.” The installation costs of all SSMs would be borne by the City. The City would need to enter into a maintenance agreement with the railroad for any new devices installed at the crossings.

Cost to implement a “quiet zone” is dependant on the type and extent of SSMs installed. Attachment C covers the potential range of constructions costs. The lowest cost alternative is to install medians at 6 of the crossings for an estimated \$115,000. While this alternative has the lowest construction cost, the impact to businesses within 100 feet of the crossing will be high. All driveways with 100 feet of the crossing must be closed. For some businesses this could be all their street access. As no detailed design has been done, the cost to modify or buy business properties is not included. For alternatives with quad gates the minimum construction estimate is over \$500,000. Any quad gate installation may require an upgrade to the railroad detection and crossing arm pre-emption system, estimated to cost about \$2,000,000. Any quad gate installation will require the City to enter into a maintenance agreement with the railroad. No annual maintenance cost estimate is available.

All of the existing crossings between Van Buren Street and Hilyard Street are already equipped with dual gates and flashing lights. The gates, in conjunction with use of train horns, provide the current standard of protection for motorists and pedestrians crossing the tracks. A “quiet zone” that met only the reduction of the risk index below the national level would increase the risk to citizens. Installation of SSMs at all crossing would increase crossing safety. Quad gates are the most expensive form of SSM. While median islands have a lower construction cost, the definition of a SSM median requires the closure of any commercial driveway within 100 feet of a railroad crossing and any street within 60 feet. For example, a median island at Washington would require the closing of Third Avenue, a median island at High Street would require the closing of Fifth Avenue, and a median island at Eighth and Hilyard would require the closing of either Eighth Avenue or Hilyard Street. For this reason the attached range of alternatives does not include medians at any of these three locations. Attachment E contains an overview of each the crossings and the approximate 100 foot zone where commercial driveways would be prohibited. At Monroe, Madison and Lincoln Streets the prohibition of commercial driveways could effectively close some adjoining businesses. The construction estimates in Attachment C do not account for loss of access or purchase of businesses.

COUNCIL OPTIONS

Staff has identified three options for Council to consider relative to the new federal rules for railroad crossing “quiet zones”:

1. Council can accept the current level of safety, mobility and livability and direct staff to not pursue a “quiet zone.”
2. Council can take a measured approach to the “quiet zone” issue and direct staff to monitor other jurisdictions going through the “quiet zone” process and wait to take action until there is an established cost and procedure history.

3. Council can make establishment of a “quiet zone” a council priority, identify funding sources for impact analyses and community outreach, and direct staff to develop detailed cost estimates and appropriate funding mechanisms to construct and maintain enhanced SSMs at downtown crossings.

CITY MANAGER’S RECOMMENDATION

The City Manager recommends option 2. The “quiet zone” rule is new and no jurisdiction has gone through the process under the new rule so there is no implementation history. Significant funding is required to implement the SSMs necessary to obtain “quiet zone” designation, and additional study is required to identify funding options should the council wish to proceed with implementation. Additional time also would allow staff to further study impacts on local businesses and the area transportation system.

In any event, the manager recommends that any “quiet zone” application be pursued under the “risk index with horns” criteria, not the “national risk index,” to assure the current level of protection of public safety is maintained.

SUGGESTED MOTION

None is suggested.

ATTACHMENTS

- A. Map of a proposed Quiet Zone
- B. Detail of Quad Gate installation and median installation
- C. Table with seven possible alternatives
- D. Discussion of alternative scenarios
- E. Details of specific crossings in the Quiet Zone

FOR MORE INFORMATION

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TRAIN HORNS RAILROAD QUIET ZONE UPDATE

Eugene City Council
October 8, 2014

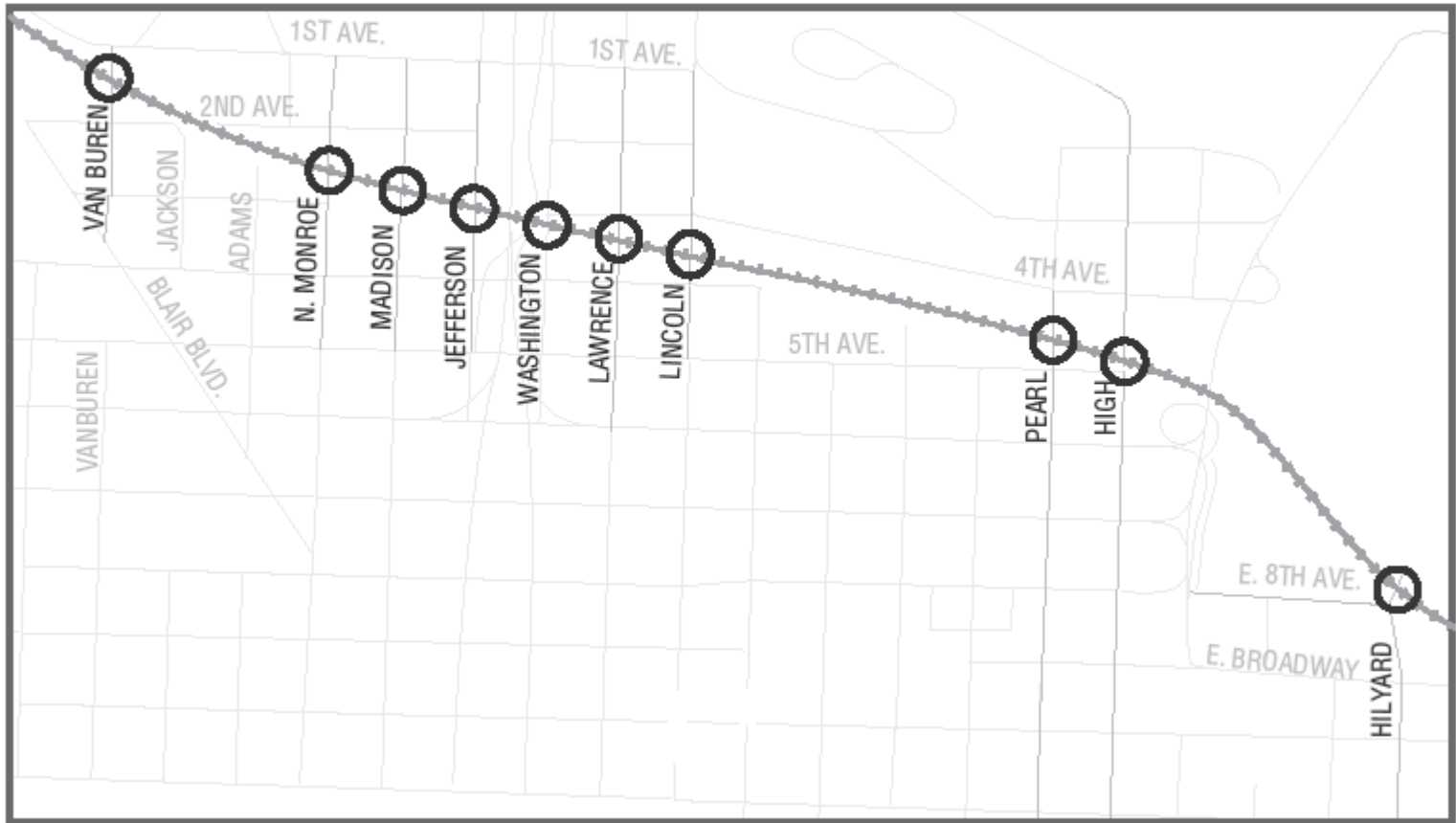
What is a Quiet Zone?

- Federal Rules require sounding horns as a safety measure
 - Proven history
 - Baseline for risk analysis
- The rules allow for alternative methods for achieving the same or better level of safety
- Community livability, safety and funding are local issues,

Cont.

- Federal funding was not available,
- Must be half mile long,
- Horns will still be blown at engineer's discretion for emergencies or objects on the track,
- Must be re-certified by the Federal Railroad Administration on a periodic basis.

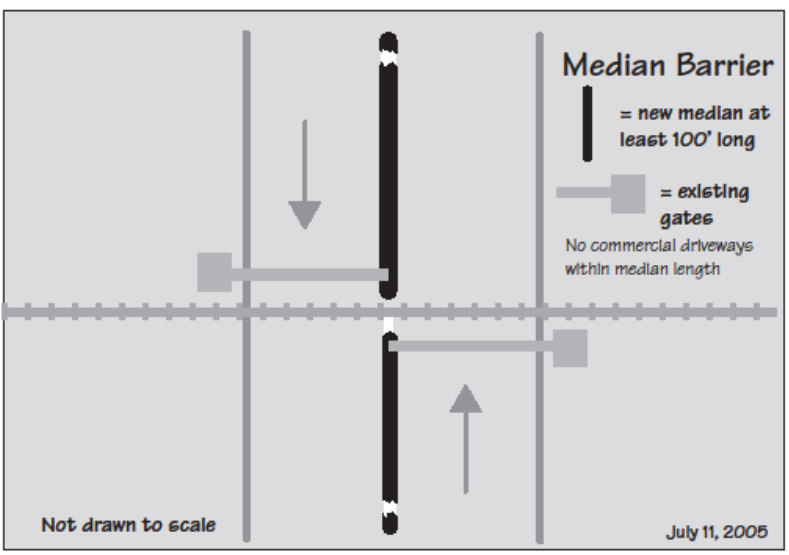
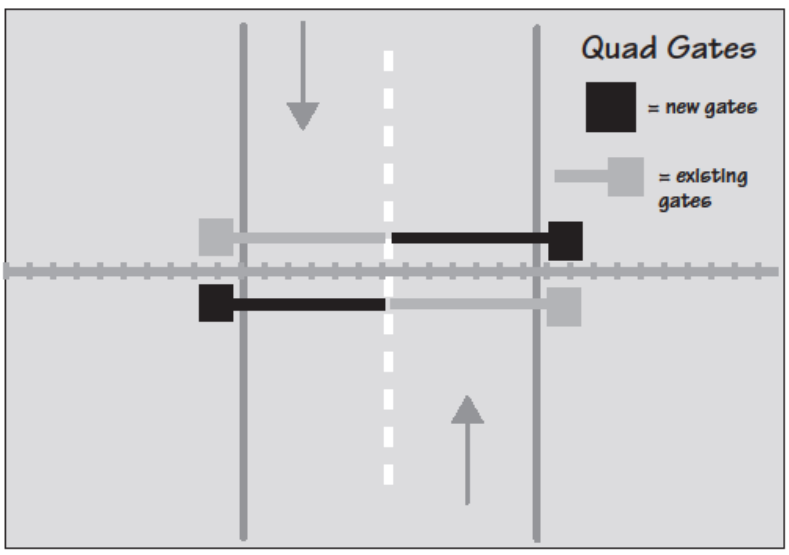
Railroad Crossings in Downtown Eugene Area



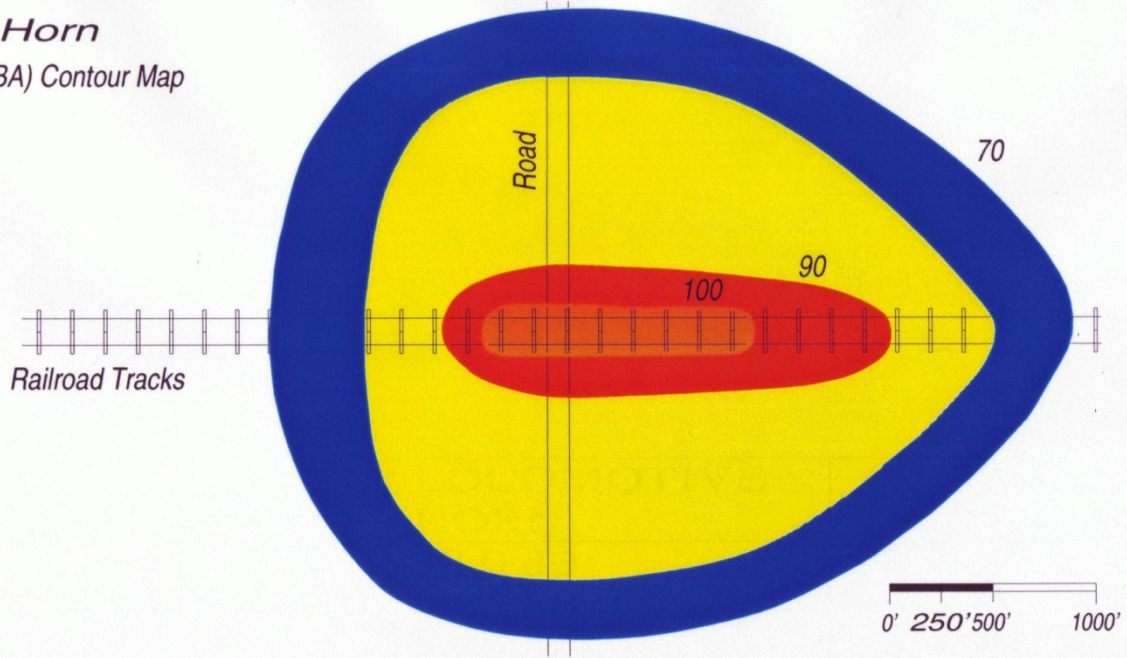
July 11, 2005

Supplemental Safety Measures

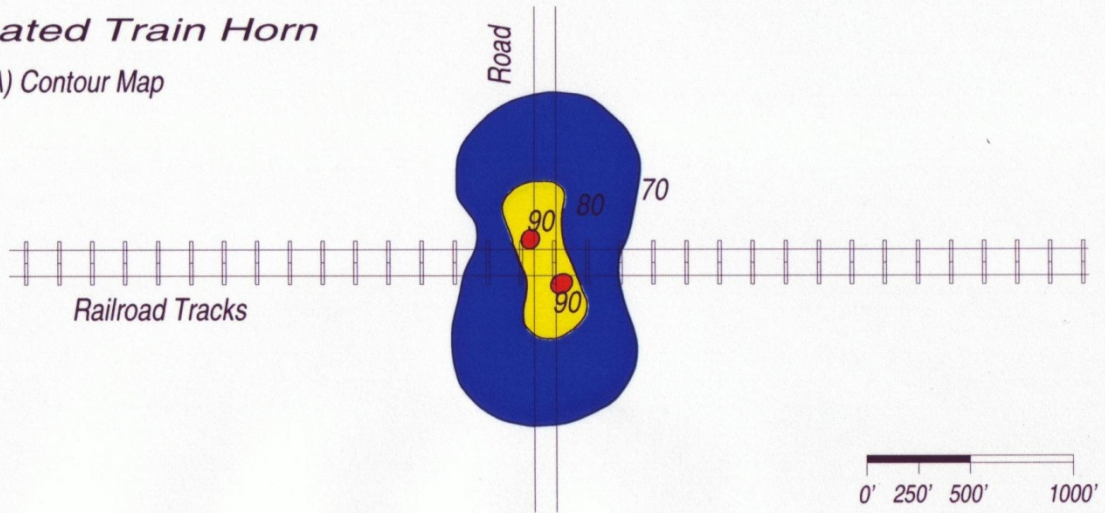
- Median Islands
- Non-traversable barriers
- Conversion of two-way street to one-way
- Quad gates
- Complete closure of the crossing
- Wayside horns



Train Horn
Decibel (dBA) Contour Map



Automated Train Horn
Decibel (dBA) Contour Map



FRA Risk Analysis Index

- Statistical, non-dimensional, relative rating for risk
- National Threshold
- Local experience
- Volume of cars, trains and crashes are included
- Each SSM has different affect

Options

2007 UPDATE								
	No Closure	No closure	Close One A	Close One B	Close Two	Close Five	Gate All	
Crossing	A	B	C	D	E	F	G	
Van Buren	Median	Median	Median	Median	Median	Median	Median	Quad-gates
Monroe						Close	Close	Quad-gates
Madison			Close		Close	Close	Close	Quad-gates
Jefferson	One-way	One way	One Way	One Way	One-way	Close	Close	Quad-gates
Washington	One-way	One way	One Way	One Way	One-way			Quad-gates
Lawrence	One-way	Median	Median	Median	Median	Close	Close	Quad-gates
Lincoln	One-way			Close	Close	Close	Close	Quad-gates
Pearl								Quad-gates
High	Quad-gates	Quad gates	Quad gates	Quad gates	Quad-gates	Quad-gates	Quad-gates	Quad-gates
8th and Hilyard								
Risk Index	10615	12225	10606	10419	8748	8590	5695	
Estimated Cost	\$900,000	\$800,000	\$700,000	\$700,000	\$725,000	\$760,000	\$3.700,000	
Current FRA Risk Index with horns approximately = 14849								
All Risk Index numbers are approximate and subject to change.								

Salem QZ

- 10 Crossings
- Estimated at \$1.2 Million
- Actual cost \$2.6 Million
- Used all 'low cost SSM', No quad gates
- Funded by Pavement Bond measure
- Tested wayside horns
- Phase 2 will add two crossings, one quad gate, Estimated at \$1.5 million

Eugene history

- City Council presentations in 2005, 2006 and 2008
- Public outreach tested support for street crossing closure and conversion to 2 way street, and found little support
- Current council direction (2008) is to seek funding for Quiet Zone with all quad gates.

Lessons learned

- Previous cost estimates are very low
 - Quad gates “\$1,000,000 each plus \$9,000 annual maintenance”
- Construction will include ADA compliance
 - Salem averaged \$260,000 per crossing
- Using local funding, jurisdictions are getting Quiet Zones

Questions?