DMATS RAILROAD QUIET ZONE STUDY

DUBUQUE METROPOLITAN AREA TRANSPORTATION STUDY

CITY OF DUBUQUE, IOWA
CITY OF EAST DUBUQUE, ILLINOIS
CITY OF PEOSTA, IOWA
DUBUQUE COUNTY, IOWA

8.14.2024

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I hereby certify that this Engineering document was prepared by me or under my direct personal supervision and that I am a duly Licensed Engineer under the laws of the State of Iowa.

8.14.24

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EXECUTIVE SUMMARY

The attached study has been completed to evaluate and recommend the optimum method for designating a railroad quiet zone at provided crossings within the study area. The study area focuses on the DMATS service area, or the general Dubuque, IA metropolitan area. The public entities involved in this study include Dubuque County (Iowa), City of Peosta (Iowa), City of Dubuque (Iowa), and the City of East Dubuque (Illinois).

The study area includes roughly 30 total crossings. After Anderson-Bogert received the desired crossing list, we worked with the state DOT's, public entities, and the FRA to acquire and update existing crossing inventory forms and traffic count data. From here, coordination with FRA was completed to determine the correct interpretation of the federal regulations to this area relating to quiet zone limits. Once these interpretations were set, Anderson-Bogert determined the appropriate quiet zone boundaries and partitions.

Initial concepts were drafted up for each location. The concepts were sent out to the required diagnostic review parties (FRA, DOT's, Railroads, Cities, consultants) for review. On-site diagnostic reviews for each crossing were completed in April 2023. All required private crossings were completed, along with the public crossings (out of courtesy).

From here, the crossing exhibits and conceptual designs were refined over the next few months in coordination with follow up information from each railroad involved. With these improvements drafted, work could begin on developing multiple combinations for each quiet zone. Two quiet zone plans were drafted up and presented to the DMATS team at a regular board meeting in fall of 2023. Gaining general approval, options were developed for the remaining quiet zones.

The initial sections of this report provide general background on the federal regulations and how to create a quiet zone. Each quiet zone is then discussed in greater detail, including findings and recommendations made by the diagnostic team in April 2023.

Different combinations of pre-approved improvements are provided for each quiet zone. If FRA preapproved measures are not installed at each public crossing in a quiet zone, it is subject to regular review and "risk comparison". Each quiet zone has a calculated risk number which is compared to several different national standards. If a public entity qualifies for a quiet zone without installing preapproved measures everywhere, the quiet zone risk must stay below one of several national standards. Since these numbers are all subject to change at any given time, there is a potential that the FRA will rescind a quiet zone whose risk rises above one of these national standards. A sensitivity analysis has been provided in this report to help determine what an appropriate "buffer" would be to prevent public entities from losing a quiet zone based on risk numbers changing.

In 2024, Dubuque and East Dubuque elected to apply for the FRA Consolidated Rail Infrastructure and Safety Improvement grant. Public surveys and letters were created and disseminated. Comments were received, and data included in the CRISI application which was submitted in May 2024. The report was updated to more closely match updates during the CRISI application process in June 2024.

Final recommendations are summarized and conveniently provided in tabular form at the end of this report. The final recommendations include a preferred combination of improvement for each quiet zone, identifies critical crossing locations, and crossing locations which may be better served by excluding them from quiet zone consideration.

INTRODUCTION AND BACKGROUND

EXISTING CONCERNS: INCREASED TRAIN TRAFFIC

In September of 2021, Canadian Pacific and Kansas City Southern announced a merger between the two railroad companies. This merger was expected triple daily through trains along the existing line. This equates to about 12 additional trains every day. The existing railroad line generally parallels the Mississippi River along the western bank as shown in Figure 1 below.

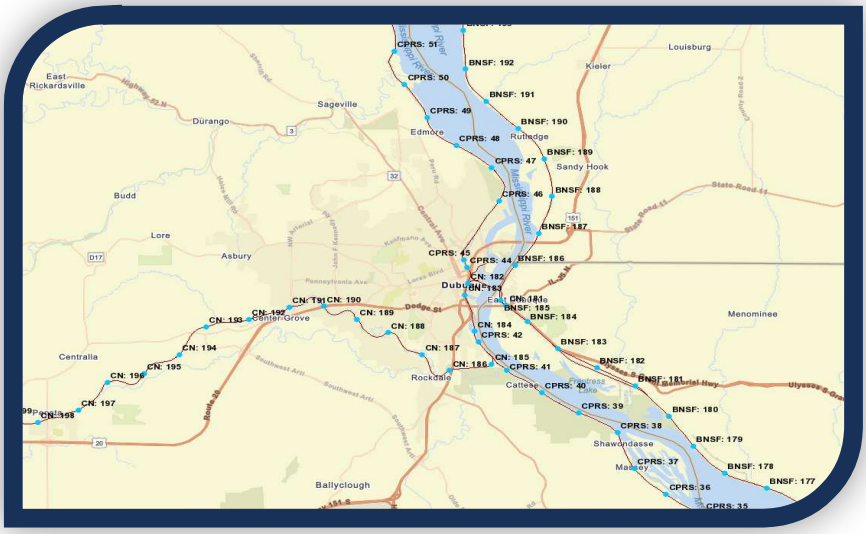
The City of Dubuque and Dubuque County have concerns that increased train traffic will correspondingly increase the use of train horns within their jurisdictions. While train horns provide a key safety benefit at railroad crossings, they can also provide unintentional consequences and "noise pollution" to the surrounding community. This consequence leads to a decrease in the quality of life for residents and business owners.

With multiple political jurisdictions involved, the Dubuque Metropolitan Area Transportation Study (DMATS) has headed up a combined effort to mitigate the effects of increased rail traffic. Also within the DMATS area are the cities of Peosta, Iowa, and East Dubuque, Illinois. While not directly located on the Canadian Pacific line, the two jurisdictions also wish to explore available options for train horn mitigation.

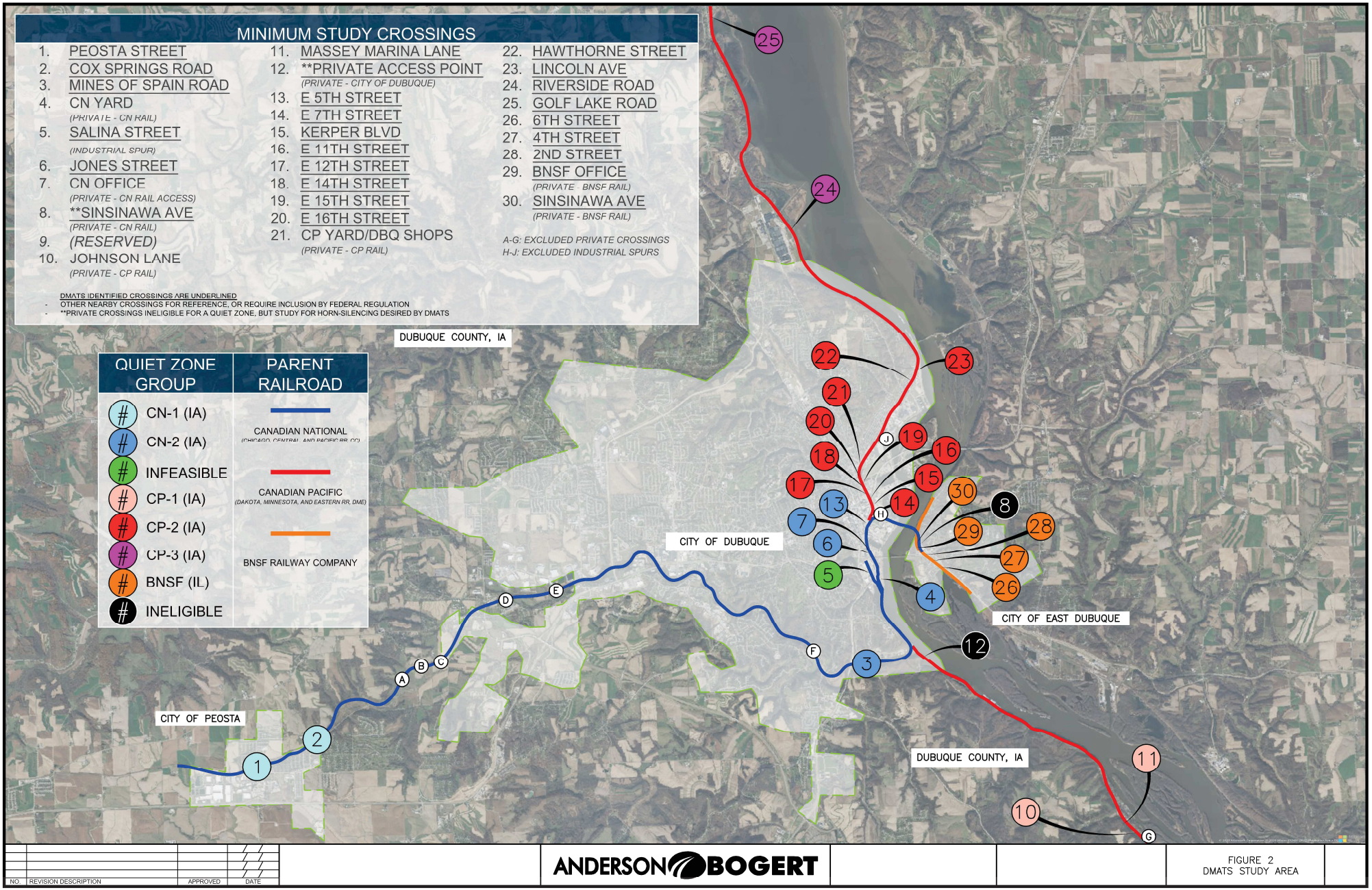
EXISTING RAILROAD INFRASTRUCTURE

The metropolitan area surrounding Dubuque, Iowa is a hub of railroad lines and activity. The area hosts 3 operating railroads: Canadian National Railway (CN), Canadian Pacific Railway (CP), and BNSF Railway Company (BNSF). The governing agency of these three major railways is the Federal Railroad Administration (FRA). Figure 1 below shows the FRA railway map in the Dubuque area. Iowa is located within FRA Region 6, whereas Illinois is located within FRA Region 4.

Figure 1 – Dubuque Area FRA Safety Map



Generally, CN runs in the east/west direction, from Peosta to Dubuque, and ends just on the Illinois side of the Mississippi River in East Dubuque. CP runs north/south typically following the western bank of the Mississippi River in Iowa. BNSF runs along the eastern bank of the Mississippi in Illinois. The railroads are also depicted with a color code in Figure 2 below.



NO.	REVISION DESCRIPTION	APPROVED	DATE

ANDERSON BOGERT

FIGURE 2
DMATS STUDY AREA

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FEDERAL REGULATION

The Train Horn Rule

Current federal regulations on train horns can be found within Title 49 of the Code of Federal Regulations (CFR) Part 222 – *Use of Locomotive Horns at Public Highway-Rail Grade Crossings.* This code stipulates the proper use of horns at all *public* at-grade crossings, using the customary "long-long-short-long" pattern. *Public crossings* are defined in the regulation as locations where *"a public authority maintains the roadway on both sides of the crossing."* All other grade crossings are either a private crossing, or a pedestrian crossing.

The federal rule does not require sounding of horns at private or pedestrian crossings. At the time of this study, there were no apparent state or local regulations requiring the routine sounding of horns at private and pedestrian crossings within the study area. According to railroad representatives, CN and BNSF do not routinely sound horns at private and pedestrian crossings within the study area. CP informed Anderson-Bogert that they do choose to signal with horns at all at-grade crossings.

Exceptions to The Train Horn Rule

Subpart C of the regulation provides *exceptions* to the horn requirement. Public grade crossings or groups of public crossings which fall under the exception and do not routinely use horns are known as *Railroad Quiet Zones.* The minimum requirements for crossings to be eligible for inclusion in a quiet zone are summarized as follows:

- A Quiet Zone must be a minimum length of ½ mile along a rail line.
- Separate Quiet Zones within a single political jurisdiction need to be separated by a minimum of 1 public crossing which routinely uses horns.
- Existing Quiet Zones may be extended by "adding-on" additional crossings outside of the existing outermost public crossings.
- Quiet Zones may extend across multiple political jurisdictions.
- Public crossings within a Quiet Zone must at minimum contain a 2-quadrant gate system with flashing lights, bells, MUTCD compliant signs, power-out indicators, and constant warning time devices unless constant warning time is impractical, and an FRA waiver is obtained.
- All private or pedestrian crossings between outermost public crossings or within ¼ mile of the outermost public crossings must be part of the quiet zone.
- All private and pedestrian crossings within a quiet zone that allow access to the public, or to commercial/industrial sites must be treated in accordance with recommendations of a diagnostic review team.
- Partial Quiet Zones (only in effect for a portion of the day) are allowed.

After discussion with the FRA representative for the project area, the following *FRA interpretations* have been stipulated for the project area:

- Quiet zones shall be separated by operating railroad *(i.e. CN crossings and CP crossings shall not be allowed in the same quiet zone).*
- Quiet zones shall be split across state lines and FRA districts *(i.e. Iowa crossings and Illinois crossings shall not be allowed in the same quiet zone).*
- The exception to the horn rule applies to public crossings. It does not permit stand-alone private or pedestrian crossings to be included in a quiet zone, unless they meet the criteria listed above relating to spacing from public crossings.

It is important to note that even though crossings may be within a "quiet zone", the federal regulations still require train operators to use their horn in the event of an emergency, equipment malfunction or loss-of-power, and instances where the operators perceive a hazard to the public safety. Therefore, it's possible and likely that horns may still be occasionally sounded within the quiet zone.

Reducing Risk Through Safety Improvements

To designate a legally enforceable quiet zone, the public entity must complete additional safety improvements within the quiet zone to offset the increased danger (safety risk) from silencing train horns. Every public crossing has an FRA-calculated "risk number" associated with it. The calculated risk is based on lane geometrics, vehicular traffic, train traffic, and safety/warning devices, and incident history in place at the crossing. Generally, the federal regulations allow public authorities to create railroad quiet zones be reducing risk below certain thresholds.

Key "risk numbers" and thresholds identified in the train horn rule:

- *Quiet Zone Risk Index (QZRI)* – The average of all individual crossing "risk numbers" within the proposed quiet zone.
- *Nationwide Significant Risk Threshold (NSRT*) – The "risk number" of an average crossing with 2-quadrant gates, lights, constant warning time, and where train horns are used in the USA.
- *Risk Index With Horns (RIWH)* – The "risk number" associated with the existing quiet zone where train horns are used at all crossings within the quiet zone.

Each crossing within the quiet zone has a minimum standard of safety which must be satisfied under all circumstances. The minimum standards for all crossings within a quiet zone are:

- Public Crossings – Flashing Lights, 2-Quadrant Gates, constant warning time (or FRA-approved waiver), MUTCD Signage
- Private and Non-Vehicular Crossings with access to commercial/industrial properties, or to the public – MUTCD Signage including advanced no train horn assembly, along with a crossbuck/stop sign assembly, and any additional safety improvements deemed necessary through a quiet zone diagnostic review

Once consideration for the minimum requirements has been made, the public authority will likely need to complete additional safety improvements to reduce risk below the designated thresholds. Quiet zone safety improvements are generally categorized as *Supplemental Safety Measures (SSMs)* or *Alternative Safety Measures (ASMs)*. SSMs are pre-approved safety improvements, the most common being:

- Temporary Closure of a Crossing (for a quiet zone which is only in effect for portions of the day)
- Four-Quadrant Gate System
- 2-Quadrant Gate System with medians or channelization devices
- One-way Street with Gates covering the entire approach
- Permanent Closure or grade separation

An ASM includes all other safety improvements. ASMs will require justification and proof of risk reduction (an engineering study) and effectiveness estimate to the FRA. These studies and ASM applications can take more than 24-months to complete. The five SSMs have already been studied and pre-approved for general implementation by the FRA.

How a Public Authority can achieve a New Quiet Zone

The federal regulations provide two paths to create a quiet zone: public authority designation and public authority application to the FRA.

Public Authority Designation

A public authority may designate a new quiet zone ***without formal application to the FRA*** if any of the following conditions are met:

- Public Authority installs one or more SSMs at all public crossings and complies with minimum safety requirements (including diagnostic review) at private and pedestrian crossings.
- Public Authority meets the minimum requirements at ALL crossings within the quiet zone and installs SSMs at enough targeted crossings within the quiet zone to reduce the average public crossing risk (QZRI) below the national risk threshold (NSRT).
- Public Authority meets minimum requirements at ALL crossings within the quiet zone and has enough SSMs in-place within the quiet zone to reduce the average public crossing risk (QZRI) below the average crossing risk when train horns are used at all public crossings within the quiet zone (RIWH).

Public Authority Application to FRA

Any improvements or combinations which don't meet one of three criteria listed above will ***require an application to the FRA***. These applications with associated studies typically take upwards of 2 years for approval. This method is not recommended.

Susceptibility and Long-term Compliance of Quiet Zones

The most reliable, resistant, and durable method of creating a quiet zone is to install SSMs at each public crossing within the quiet zone. The public authority will need to provide a written affirmation statement and send updated crossing inventory forms to the FRA, state, and railroads at least every 4.5-5 years stating that the quiet zone still meets the federal requirements. It is important to note that all quiet zones are subject to FRA audit at any time.

Where SSMs are not installed at every crossing, the affirmation and updating frequency is about every 3 years. Since these methods involve comparison to risk threshold numbers (QZRI, NSRT, RIWH), the quiet zone is at risk of being revoked any time the QZRI is above both the NSRT and RIWH. The QZRI and RIWH may change each time a crossing inventory form is updated by the State, FRA, or operating railroad.

Since 2006, FRA has continually updated the NSRT. Table 1 below details the history of the NSRT:

Table 1 – NSRT Updates

Update	Year	NSRT Value
Original	2006	17,030
1	2007	19,047
2	2008	17,610
3	2009	18,775
4	2010	14,007
5	2012	13,722
6	2013	14,347
7	2017	14,723
8	2019	13,811
9 (current)	2021	15,488

Required Notices

Regardless of the method of designation, public entities are required to submit a series of specific notices relating to the new quiet zone. Part 222 describes these notices in detail, including required contents and recipients.

During the quiet zone planning process, public entities are required to draft and disseminate a *Notice of Intent* (NOI). This typically goes out to the effected jurisdictions, state department in charge of highway and grade crossing safety (Iowa DOT Rail or Illinois Commerce Commission), and operating railroad. Providing a courtesy email copy to the local FRA representative is also recommended, but not required. Parties have sixty (60) days to provide comments before proceeding in the design/construction process.

Once all improvements are made, comments are addressed, and requirements are satisfied, public entities shall submit a *Notice of Establishment* (NOE). This notification goes to the same contacts as the NOI and notifies them that per federal regulation, *routine sounding* of locomotive horns must cease by a specific date.

Lastly, public entities are required to complete reoccurring affirmation and inventory updates at a specified interval.

EXISTING SAFETY RANKINGS

The FRA maintains an online database which predicts and ranks the quantity and severity of railroad collisions at all public crossings. Utilizing the *New Model for Highway-Rail Grade Crossing Accident Prediction and Severity*, the database calculates the predicted crashes along with their severity. The crossings within the study area were queried from the system in June of 2024 and the resulting statewide rankings are shown in the list below. The 5 crossings with the highest predicted crash frequency rankings are located at: E 5th Street, E 11th Street, E 14th Street, E 16th Street, and 6th Street in East Dubuque. From a safety standpoint, these locations have the largest potential for reducing predicted collisions.

Table 2 - FRA Predicted Crash Rankings

ID	FRA ID	Road	Political Jurisdiction	Operating Railroad	Iowa/Illinois Crash Prediction Rank
1	306971L	Peosta (Main) Street	Peosta	CN	1338/4169
2	306970E	Cox Springs Road	Dubuque County	CN	1593/4169
3	306952G	Mines of Spain	City of Dubuque	CN	2382/4169
6	911770M	Jones Street	City of Dubuque	CN	572/4169
11	376108Y	Massey Marina Lane	Dubuque County	CP	559/4169
13	911776D	E 5th Street	City of Dubuque	CN	187/4169
14	376119L	E 7th Street	City of Dubuque	CP	1531/4169
15	376121M	E 9th Street	City of Dubuque	CP	343/4169
16	376122U	E 11th Street	City of Dubuque	CP	141/4169
17	376123B	E 12th Street	City of Dubuque	CP	520/4169
18	376125P	E 14th Street	City of Dubuque	CP	121/4169
19	376126W	E 15th Street	City of Dubuque	CP	524/4169
20	376127D	E 16th Street	City of Dubuque	CP	102/4169
22	376131T	Hawthorne Street	City of Dubuque	CP	488/4169
23	376132A	Lincoln Avenue	City of Dubuque	CP	890/4169
24	376134N	Riverside Dr	Dubuque County	CP	1177/4169
25	376136C	Golf Lake Road	Dubuque County	CP	1658/4169
26	306924D	6th Street	East Dubuque	BNSF	368/7768
27	306926S	4th Street	East Dubuque	BNSF	2096/7768
28	306928F	2nd Street	East Dubuque	BNSF	2688/7768

STUDY PURPOSE AND SCOPE

The purpose of this document is to provide guidance and recommendations to the members of DMATS regarding designation of new railroad quiet zones. The following goals were established for this study:

- Public Authorities shall complete required diagnostic reviews at predetermined crossings in the DMATS area.
- Public Authorities shall receive adequate information necessary to determine if a quiet zone will be programmed and pursued, tabled for a later date or abandoned entirely.
- Public Authorities wishing to pursue a quiet zone will be able to disseminate a Notice of Intent Document required by federal regulation (to be drafted by Anderson-Bogert).

Several crossings were identified by DMATS and provided to Anderson-Bogert for inclusion in the study. Anderson-Bogert added additional crossings which must also be included to comply with federal regulations. Figure 2 provided previously lists the crossings included within the general study area. Crossings which are numbered and underlined in Figure 2 were identified by DMATS. Crossings without an underline were included to comply with federal regulations. Several other crossings in the vicinity have been lettered for reference.

I - DETERMINE APPROPRIATE QUIET ZONE BOUNDARIES

Given the list of crossings provided by DMATS, the first step in planning for a railroad quiet zone is to determine the desired and required limits of the proposed quiet zones.

JOINT-JURISDICTION CONSIDERATIONS

One factor that should be considered when determining the appropriate quiet zone limits is the political jurisdiction boundaries. While quiet zones are permitted to span multiple jurisdictions, these tend to create additional reporting and compliance issues for the public entities, railroads, and FRA. In these instances, the cooperation of all jurisdictions must be gained for the creation and maintenance of the quiet zone.

This cooperation requires signatures from chief executive officers of all jurisdictions participating in the notices. Ideally, all jurisdictions also would require an opportunity to provide comments and assist in the development of improvement documents for all crossings within the quiet zone area. This can lead to complicated coordination between entities. A single noncompliant crossing negatively impacts all jurisdictions in the quiet zone.

Jurisdictions sharing a quiet zone typically execute a 28-E or similar agreement. The agreement often stipulates if one jurisdiction is "taking the lead" in the design, construction, and/or long-term maintenance of certain crossings. The agreement also stipulates each jurisdiction is responsible for maintaining compliance at their individual crossings. The consequences for failing to comply may also be included.

SPACING AND PHASING CONSIDERATIONS

The outermost public crossings in a quiet zone must be more than ¼ mile from the next non-quiet zone public crossing. If this separation cannot be met, the quiet zone must be extended until there are no public crossings within ¼ mile. If the next public crossing is more than ¼ mile away, it can be added to the quiet zone in the future. Private crossings within ¼ mile of the outermost public crossings must be included in the quiet zone. Private crossings more than ¼ mile from the outermost public crossings are not eligible for inclusion.

Public authorities often complete quiet zones in stages due to funding limitations. If there are gaps between public crossings within the quiet zone of over ¼ mile, quiet zone implementation can be completed in stages.

RECOMMENDATION OF ULTIMATE QUIET ZONE LIMITS

After coordination with the railroads, state authorities, and FRA, Anderson-Bogert recommends the quiet zone boundaries shown previously in Figure 2.

Quiet Zone CN-1

Anderson-Bogert determined that crossings A-F between Peosta and the City of Dubuque should not be pursued in a quiet zone. Through discussions with CN, it was determined that horns are not routinely sounded at these crossings. Dubuque County and the City of Dubuque were not aware of any issues or complaints of train horn noise at these locations.

Crossings A-F are all privately owned and would require diagnostic review. Property owner permission and cooperation would also be required to review and complete improvements at Crossings A-F. It is economically advantageous to keep CN-1 and CN-2 split to eliminate Crossings A-F from consideration.

Crossings 1 and 2 shown in Figure 2 are currently in different political jurisdictions. Crossing 1 is the responsibility of Peosta, whereas Crossing 2 is currently the responsibility of Dubuque County. In this instance, Crossing 2 is on the edge of Peosta corporate limits, and horns at this crossing regularly impact the quality of life for city residents. Therefore, it seems appropriate that Peosta has a vested interest in silencing routine horns at this crossing. If Peosta's future plans call for expansion/additional annexation in the area, then both Crossings 1 and 2 would need to be a part of the same quiet zone.

If the Cox Springs Road crossing remains within the jurisdiction of Dubuque County, the two crossings could be separated into individual quiet zones. The City and County would also have the option to create a quiet zone with only one of these crossings, and then could "add on" the other crossing later since the two are separated by more than ¼ mile. Such a process would require an amended notice of intent and establishment mailing before adding the next crossing in.

Quiet Zone CN-2

Quiet Zone CN-2 is located entirely within the southern end of Dubuque city limits. It includes Mines of Spain Road (Crossing 3), CN Yard (Crossing 4), Jones Street (Crossing 6), CN Office (Crossing 7), and E 5th Street (Crossing 13). The southernmost public crossing at Mines of Spain Road is located more than ¼ mile from any surrounding public crossing. Therefore, this crossing could be eliminated from all quiet zones, or added to CN-2 later while focusing on crossings between E 5th Street and Jones Street in the near term.

Based on the federal regulations, if Mines of Spain is added later, it would need to be added to the same quiet zone that includes Jones Street and E 5th Street. Therefore, the minimum recommended path forward would be to designate the initial CN-2 quiet zone from Crossing 13 (E 5th Street) through Crossing 6 (Jones Street), and then add Crossings 3 and 4 later.

Also worth noting is that E 5th Street and E 7th Street crossings are separated by less than ¼ mile. If both quiet zones CN-2 and CP-2 are not designated at the same time, trains using the horns in advance of 7th Street may still be required to use their horns at 5th Street to satisfy the advanced horn warning requirements for non-quiet zone crossings.

Quiet Zone CP-1

Quiet Zone CP-1 contains one public crossing located at Massey Marina Lane (Crossing 11) in Dubuque County. Crossing 10 is privately maintained and located within ¼ mile to the south. There are no other public crossings to the north of Massey Marina Lane until CP Railway merges with CN near Mines of Spain Road.

Quiet Zone CP-2

The CN line from Peosta merges with the CP line on the south side of Dubuque. Currently, CN has primary crossing maintenance responsibility where the two lines merge. The southernmost CP crossing in Dubuque is located at E 7th Street.

Between Crossings 14 (East 7th Street) and 21 (CP Yard), there are no crossing gaps greater than ¼ mile. All these crossings must become part of the same quiet zone, at the same time based on guidance provided by FRA during diagnostic review. Additionally, if quiet zones CP-2 and CN-2 are not designated together, trains may have to use their horns in advance of E 5th Street while they are crossing E 7th Street.

Crossings 22 and 23 are within ¼ mile of one another, but as a pair are separated from any other at-grade crossing. Based on federal regulations, these two crossings would need to be added to the quiet zone from 16th Street to 7th Street due to FRA regulations for quiet zones within the same political jurisdiction.

Quiet Zone CP-3

The requirement to separate quiet zones by at least 1 public at-grade crossing does not apply between political jurisdictions. During project information gathering meetings, the City of Dubuque and Dubuque County were inclined to separate quiet zones between their jurisdictions. In this case, neither would be subject to the schedule or funding needs of the other jurisdiction.

There are no other crossings between Crossings 24 and 25. With more than ¼ mile between the two, a new quiet zone could be designated with a single crossing, with the second crossing being added in the future. If practical, completing both crossings simultaneously before designating could save administrative time in submitting additional notices, and waiting for the expiration of multiple comment periods from railroad entities. Both would be required to be in the same quiet zone, rather than 2 individual quiet zones.

Quiet Zone BNSF

All the identified crossings along the BNSF railway in East Dubuque are spaced closer than ¼ mile. Crossings 26-28 are public crossings, while 29 and 30 are private. All must be included in the same quiet zone and designated at the same time.

Ineligible Crossings

The federal regulation provides a public entity an opportunity to silence train horns at public at-grade crossings. The regulation does not grant this type of power for pedestrian or privately owned crossings. If pedestrian and private crossings happen to fall between outer public crossings in a quiet zone, or within ¼ mile of the outer public crossings, they must be included. If private and pedestrian crossings meet neither condition, they are ineligible for inclusion in a quiet zone. While crossing G is within ¼ mile of crossing 10, it is over ¼ mile away from the nearest public crossing at Massey Marina Lane. Per discussions with CP railroad representatives, their current practice is to routinely sound horns at private crossings. The federal train horn rule does not require horns at private or pedestrian crossings. At the time of this study, there were no apparent local/state laws requiring horn use at private and pedestrian crossings. CP's current practice is to work directly with those owning/maintaining land on either side of these crossings to determine if horns can be safely silenced. Crossing G provides an opportunity to work with the neighborhood and those who maintain the road to silence horns directly with the railroad.

Since the crossing responsibility changes from CP to CN near Julien Dubuque Road, the proposed quiet zones are required to be partitioned per the *FRA's current interpretation and enforcement practice.* Therefore, crossing 12 is not within ¼ mile of another public CP crossing. The property owner on both sides of the rail appears to be The City of Dubuque per county GIS record at the time of this report. Therefore, the City will need to work directly with CP aside from the quiet zone regulations to silence horns here.

Crossing 8 is operated by CN rail and this crossing is on the private property of BNSF Railway in Illinois. Since it is not within ¼ mile of another public CN crossing, it is ineligible for inclusion in a quiet zone. Per discussions with CN representatives, CN does not routinely sound horns at private crossings. However, they do routinely sound horns entering and exiting tunnels. Since crossing 8 is adjacent to a tunnel entrance, both the diagnostic team and Anderson-Bogert recommended that horns are paramount to safety at this crossing and should not be silenced.

II – UNDERSTAND PRE-APPROVED MEASURES (SSM)

Per the initial scoping meeting, this report assumes that improvements will consist of all SSMs, or SSMs at selected locations. The effectiveness study and FRA application for ASMs is outside the scope of this report. Such a process typically involves more than 2-calendar years from start to approval to proceed. Each pre-approved SSM is further described below. Installing SSM's allows the calculated risk number to be reduced by an FRA-predetermined reduction factor.

4-Quadrant gate systems are typically geometrically feasible at most locations. These systems work well with most highway crossing geometries and are particularly suited for densely populated areas with closely spaced intersections and access points. These systems can be cost-prohibitive, amounting to over $800,000 for a standard single-track installation. Also worth noting is that most crossings have an annual or reoccurring maintenance fee paid to the railroad. The more active equipment that's in place, the larger the annual maintenance agreement will be with the railroad.

Effectiveness (risk reduction credit after installation):
- No Presence Detection: ***0.82***
- Presence Detection: ***0.77***
- Installation with medians of at least 60 feet: ***0.92***

2-Quadrant gate systems are the *minimum* requirement for public grade crossings to be included in a quiet zone. These systems typically cost over $400,000 for a typical single-track installation. Once equipped with 2-quadrant gates, curbed medians and/or channelizers (see Figure 3) can be installed in the roadway center to achieve a compliant SSM. Curbed medians must be non-traversable and at least 6 inches in height. Channelizers must be from an FRA approved manufacturer and have the proper channelizer spacing with unbroken modular curb. Medians and/or channelizers must extend full-height at least 100 feet from the gate arm. If a commercial driveway, roadway intersection, or residential driveway servicing more than 4 units is located within 100 feet, the median/channelizers must extend at least 60 feet. All intersections, commercial driveways, or residential access serving more than 4 units must be closed, eliminated, or relocated outside 60' from the gate arms.

Figure 3 - Channelizer Devices

Anderson-Bogert recommends installing a minimum of 8 inch curb height when building permanent medians. We also recommend extending at least 3 feet-5 feet beyond the minimum length requirement. If future overlays or similar projects are anticipated, additional height should be considered to ensure 6" curb height is always maintained.

The most durable way to meet this SSM requirement is to install full-depth medians. Doweled medians are more susceptible to damage from snowplows and existing pavement conditions. Continuous curb

channelizing systems are fast to install and fix (a matter of hours for an approach) and have less up-front cost than a traditional median (about $12,000 an approach). Installation and repairs can typically be completed by internal city forces. However, maintenance costs can rapidly exceed the cost of installing a permanent median. As soon as one device is struck, the quiet zone becomes non-compliant and is voided until repairs are made. Anderson-Bogert has consulted several similar metropolitan public works departments in Iowa which have installed channelizer systems. All cities who responded recommended that channelizer systems be avoided, even as a temporary solution.

Effectiveness (risk reduction credit after installation):
Channelizing Devices: *0.75*
Non-traversable Medians with or without channelizers: *0.8*

One-way Streets with Gates are functionally equivalent to a 4-quadrant gate system, where all approach lanes are blocked by a gate.

Effectiveness (risk reduction credit after installation):
One-way with gates across entire approach: *0.82*

Closures completely block crossings, or grade separate existing crossings so that all conflict points between trains and other modes of transportation are eliminated. Railroad and State matching programs often provide funding to either completely or partially incentivize the closure of existing crossings. Not only do closures provide safety benefits for the railroad, but they can also be the most cost-effective solution for a city. Closures may work well in areas where crossings a densely spaced and closure of one crossing does not create significant delays or detours for commuting traffic.

Effectiveness (risk reduction credit after installation):
Temporary closure (partial quiet zones only), complete closure, or grade separation: *1.0*

III – IDENTIFY FEASIBLE CROSSING APPLICATIONS

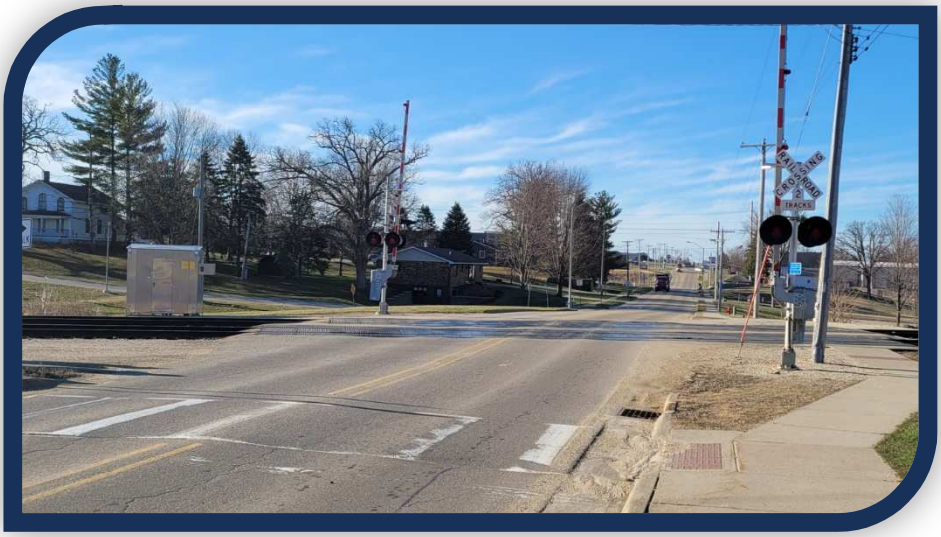
CROSSING 1: PEOSTA STREET

Peosta Street is a 2-lane roadway with a posted speed limit of 25 mph. The roadway is approximately 31 feet between the back of curbs. There is a designated pedestrian mid-block crossing located on the north approach that crosses the tracks on the west side of Peosta Street. The pedestrian crossing appears to be generally compliant with ADA requirements, but survey data should be verified to confirm at the time any fieldwork is scheduled.

There are no curbs within about 20 feet of the crossing as shown in Figure below. There is a gravel railroad bungalow access pad provided adjacent to the tracks in the southwest quadrant of the crossing.

According to the inventory file dated 10/19/22, the crossing is equipped with 2-quadrant gates and constant warning time devices.

Figure 4 – Peosta Street Existing Conditions – Looking South



Diagnostic Review

The diagnostic review team found that the existing signals are compliant for use within a quiet zone. The existing commercial driveway to the north is within 60' of the gate. It will need to be removed within 60' of the gates. The public authority should review the existing advanced crossing signs and markings and relocate them in accordance with the MUTCD regardless of quiet zone status.

SSM: 4-Quadrant Gate System

A 4-quadrant gate system could be installed at this location. However, the existing 2-quadrant gates appear to be compliant with the minimum requirements for a railroad quiet zone. 4-quadrant gates provide a slight advantage in risk reduction credit when compared with 2-quadrant gates. However, this minor risk reduction credit is not proportional to the additional construction and maintenance costs that are associated with a 4-quadrant upgrade.

SSM: 2-Quadrant Gate System

Since the existing signals consist of a 2-quadrant system with constant warning time devices, the public authority can install non-traversable median improvements on the roadway to achieve a compliant SSM.

In the absence of adjacent intersections (roadways or commercial driveways), medians must extend 100 feet from the gate arms. Since there are no adjacent intersections on the south approach, medians or channelizers will need to extend at least 100 feet from the gate arm. Since there is commercial access on the north approach, the median must extend at least 60 feet from the gate arm. The driveway pavement will need to be removed within 60' of the gate arm. Where feasible, we recommend considering removing access points within 100 feet and extending medians the full distance. Some locations are not practical or possible to achieve this, which is why 60 feet is permitted by federal regulation. Generally, we recommend extending several feet beyond the minimum requirement (i.e. 105 feet or 65 feet) to provide a construction buffer over the minimum requirement.

Medians must have a minimum 6-inch curb. We recommend a minimum of 8-inch height on all quiet zone medians. This allows construction tolerance, and the possibility of future overlay/adjustment without decreasing the curb height below 6 inches. The application of a median SSM is shown in Figure 5.

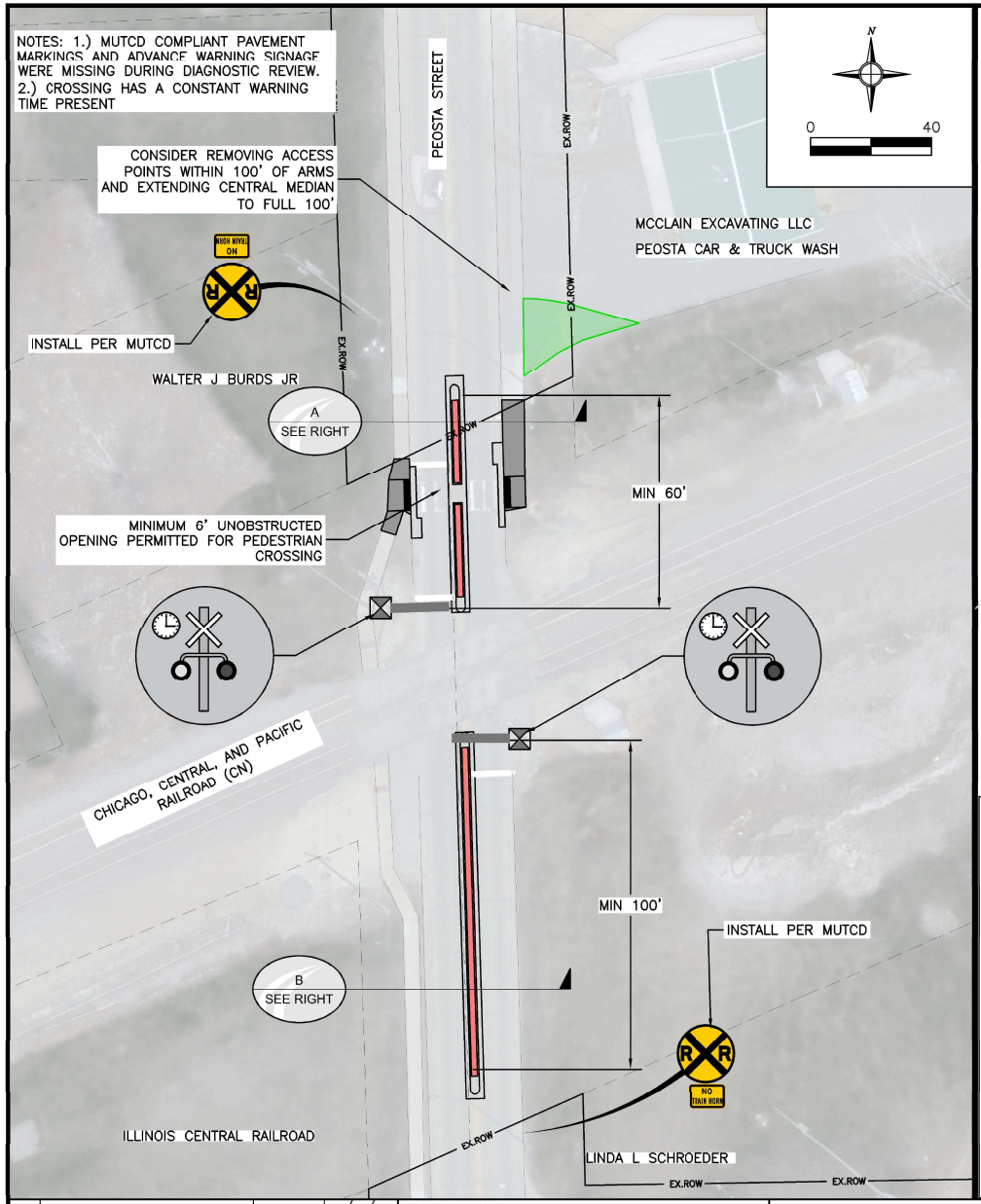
SSM: One-Way Conversion or Closure

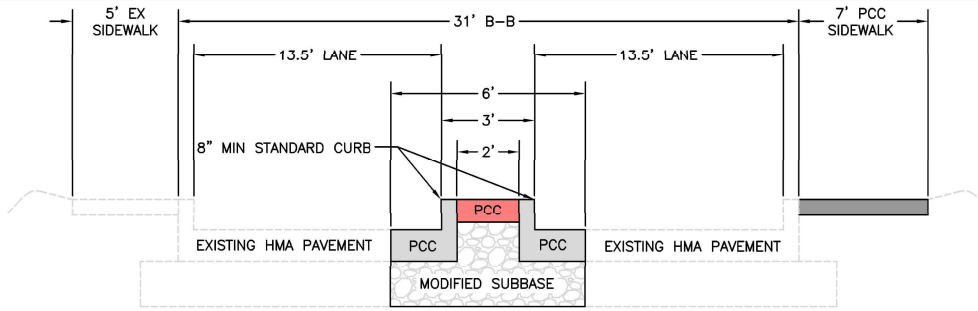
Peosta Street is a secondary highway route, and the only current crossing located in Peosta. As this location is the only Peosta crossing, closure is not advised. Similarly, a one-way conversion would also create connectivity and emergency response concerns. A grade separation would be the most cost-prohibitive alternative.

Future Development

Peosta provided that an overlay project is impending at this location. The proposed project appears to be showing only an overlay/mill+fill on the railroad approaches. A central island median could be accommodated with this project, or as a future project after the overlay is complete. While on-site, the review team noted that breaks in medians of up to 6 feet are allowed for the existing sidewalk midblock crossing. Larger openings are not advised but may be permitted if additional channelizing tubes are provided within the opening. We recommend keeping the total curb opening width to 6 feet or less to avoid any possible issues. At the time of this report, the City of Peosta elected to not pursue any improvements or changes to the mill+fill construction contract that was in place.

Peosta also mentioned the possibility of future sidewalk additions/improvements. The existing sidewalk crossing on the west side of the highway could be improved/widened in the future, provided it stays parallel to the highway within the existing right-of-way. Similarly, an additional pedestrian crossing could be considered on the east side provided it remains within the existing right-of-way and parallel to the highway. These crossings are defined as part of the roadway crossing and would not be considered as a separate crossing. If sidewalks/paths are changed to a unique alignment and separated from the highway, they could be considered as new pedestrian crossings by the railroad and FRA in the future and may require additional action to maintain quiet zone status.





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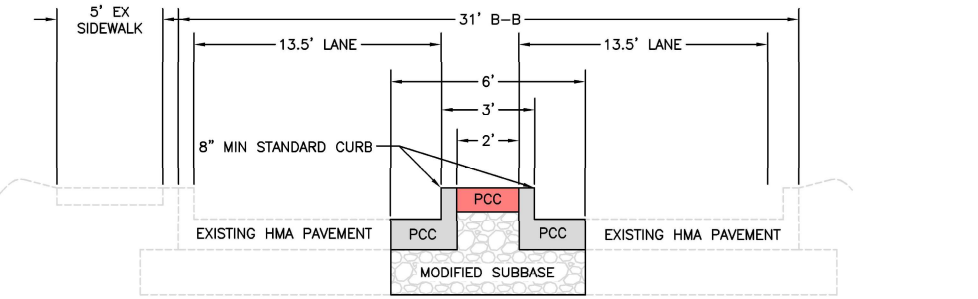
N.T.S.



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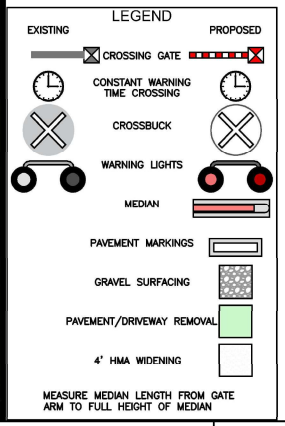

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DATE: JUNE 2023
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FIGURE 5

CROSSING 1: PEOSTA STREET CONCEPT

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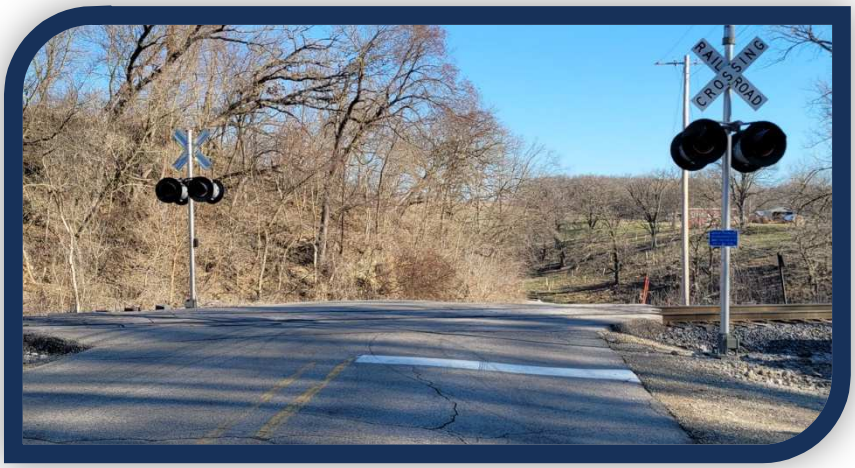
CROSSING 2: COX SPRINGS ROAD

Cox Springs Road is under the jurisdiction of Dubuque County. The existing roadway is a 24-foot rural pavement section. According to the latest inventory update, the crossing does not contain 2-quadrant gates, therefore at minimum a 2-quadrant system must be installed. There are no access points within 100 feet of this crossing. There are no pedestrian facilities at this location. It was noted that vegetation (woods), grades (downgrade from the south), and horizontal alignment (roadway bends) all create unique sight lines at this crossing. The crossing is not readily noticeable or expected when approaching from the south. The advanced warning sign (W10-1) location may need to be adjusted from the MUTCD standard table with a flashing beacon interconnect, or an additional advanced warning sign with flashing beacons may provide additional emphasis and warning of the upcoming crossing.

Diagnostic Review

The diagnostic team determined that the minimum improvement is a 2-quadrant gate system. The county and city should consider future improvement plans prior to designing or installing signal improvements. With limited vehicle sight distance on both approaches, the county should consider installing interconnected beacon devices on the advanced warning signs to provide additional emphasis.

Figure 6 - Cox Springs Road Crossing



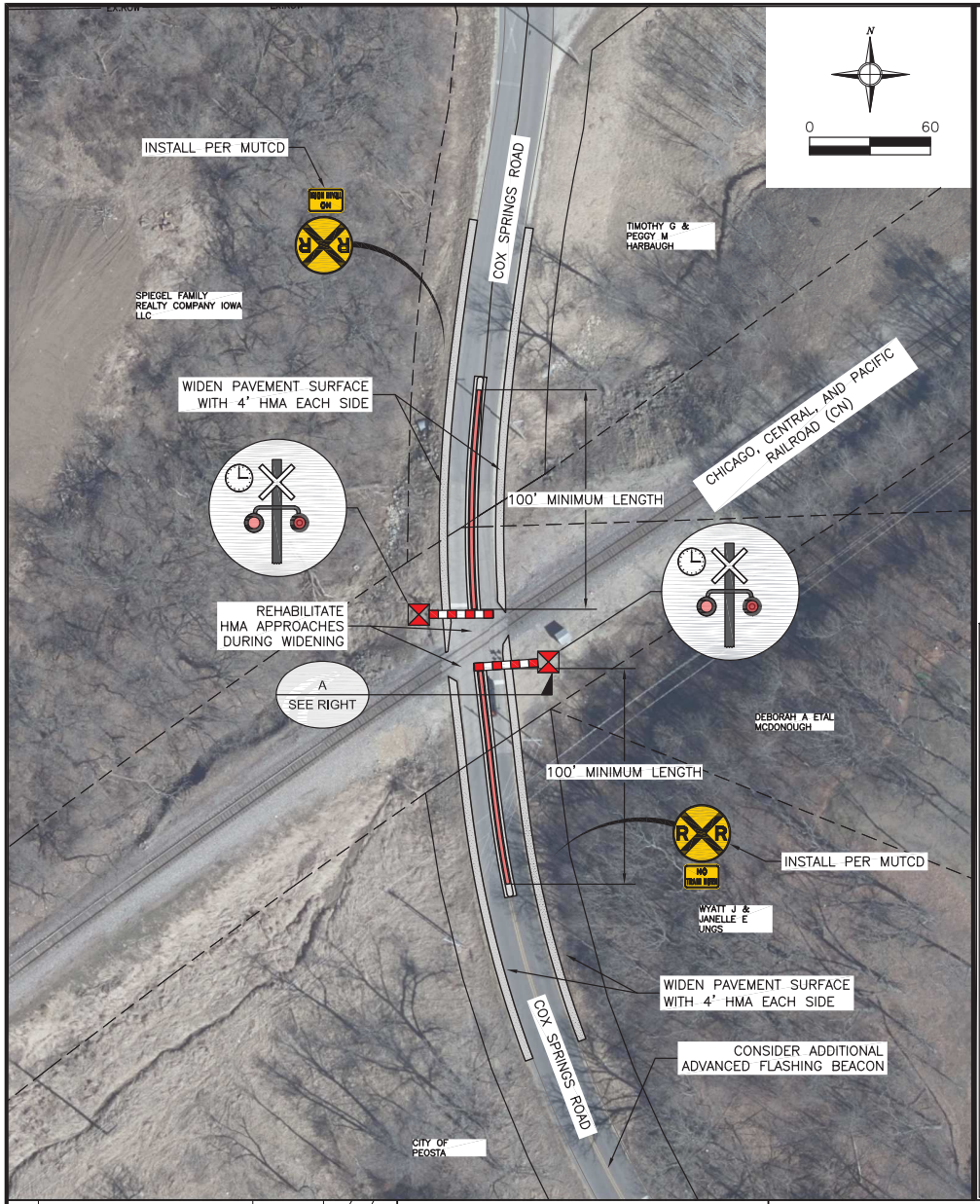
SSM: 4-Quadrant Gate System

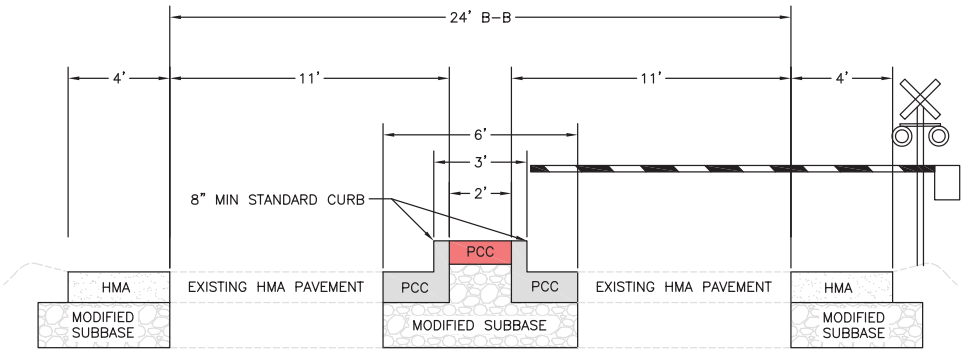
A 4-Quadrant system could be installed at Cox Springs Road but is not the most cost-efficient alternative.

SSM: 2-Quadrant Gate System

A 2-Quadrant SSM system is the most cost-effective installation option for this crossing. Since no gates are present, a new signal system will need to be installed. With no nearby access points, 8" curbed medians can extend at least 100 feet without disruption (see Figure 7). With an existing pavement width of 24 feet, pavement widening is recommended to provide more than 10.5 feet of lane width.

Channelizers could also be used here but are not as durable as a permanent median. Widening lanes while installing channelizers could also help to protect the channelizers. With existing curves in the roadway, channelizers would be susceptible to vehicle or snowplow strikes on a regular basis.





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TYPICAL SECTION

N.T.S.

LEGEND

EXISTING		PROPOSED
	CROSSING GATE	
	CONSTANT WARNING TIME CROSSING	
	CROSSBUCK	
	WARNING LIGHTS	
	MEDIAN	
	PAVEMENT MARKINGS	
	GRAVEL SURFACING	
	PAVEMENT/DRIVEWAY REMOVAL	
	4' HMA WIDENING	

MEASURE MEDIAN LENGTH FROM GATE ARM TO FULL HEIGHT OF MEDIAN

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FIGURE 7

CROSSING 2:
COX SPRINGS ROAD
CONCEPT

SSM: One-Way Conversion or Closure

The total daily traffic on Cox Springs Road is below 400 vehicles per day. This isolated location would not be ideal for one-way conversion or justify costs relating to grade separation. Closure would not directly cut off access to any properties but would require a lengthy permanent detour for local traffic whose only other crossing option is at Peosta Street. Therefore, where a closure may improve "safety", it would detract from the community's overall quality of life and ability for future development.

Future Development

The future land use map published by the City of Peosta (Figure 8) shows future urban development plans near this crossing, along with future shared-use paths. We strongly recommend reviewing timelines for improvements which may affect the immediate vicinity of this crossing. Any improvements should consider near-term improvements. If adjacent development requires roadway reconstruction and widening, a new signal system should be installed so that future widening may be accommodated. Similarly, future trails/sidewalks should be planned to be contained within the right-of-way along the same highway alignment. Separated sidewalks/trails on exclusive alignment may be considered as a new pedestrian-only crossing by the state and federal rail departments. A new crossing may jeopardize the proposed quiet zone. Additional diagnostic review and safety improvement should be done prior to creating any additional crossings (outside of the existing road crossing right-of-way). Any known near-term improvement plans should be listed and detailed on the notice of intent. This will allow the governing agencies to provide comments to Peosta and Dubuque County. The existing crossing surface (wood) should also be considered for upgrade with any improvements.

Figure 8 – City of Peosta Future Land Use Map

CROSSING 3: MINES OF SPAIN ROAD

Mines of Spain Road is about 24 feet wide and constructed of asphalt pavement. The only current warning device installed place are crossbuck signs. Marjo Hills Road intersects Mines of Spain Road 85 feet to the north of the crossing, measured from center of tracks to centerline of Marjo Hills Road (see Figure 9).

Figure 9 – Mines of Spain Road

Diagnostic Review

The diagnostic team noted that there were no residences in the immediate vicinity. They also noted only a few commercial properties were in the area. As a result, this crossing need not be a priority for quiet zone implantation. Since it is isolated, it could be added on in the future. The team noted that 2-quadrant gates would be required at minimum. Any medians would require roadway widening, and intersection relocation. While not required, the team suggested that the city consider improving overhead lighting at the location with any future improvements. The team also noted water treatment plan hoses parallel to the railroad track and suggested that curbs may be considered adjacent to the tracks to discourage pedestrian or vehicular travel parallel to the tracks.

SSM: 4-Quadrant Gate System

With the proximity of nearby Marjo Hills Road, a 4-quadrant system would limit the need to acquire any additional ROW, make any roadway geometry changes, or install medians. The 4-quadrant system is likely still the costliest alternative at this location. However, the difference in cost from a 2-Quadrant SSM is less pronounced due to the roadway geometry modifications which would be required to install required medians.

SSM: 2-Quadrant Gate System

Marjo Hills Road is within 60 feet of the proposed gate arm. Therefore, it will need to be relocated northward to meet the 60 feet exclusion zone (see Figure 10). The relocation of the roadway will require acquisition of private property. Since the existing roadway is only about 24 feet wide, we recommend widening each approach lane to accommodate a single-unit delivery vehicle or snow removal vehicle to pass comfortably through.

In this application, channelizers may be a less-restrictive option to preserve roadway width. However, channelizers are at constant risk of being struck by vehicles or plows. Especially with curved geometry, occurrences of vehicle strikes may exceed that of a "straight installation".

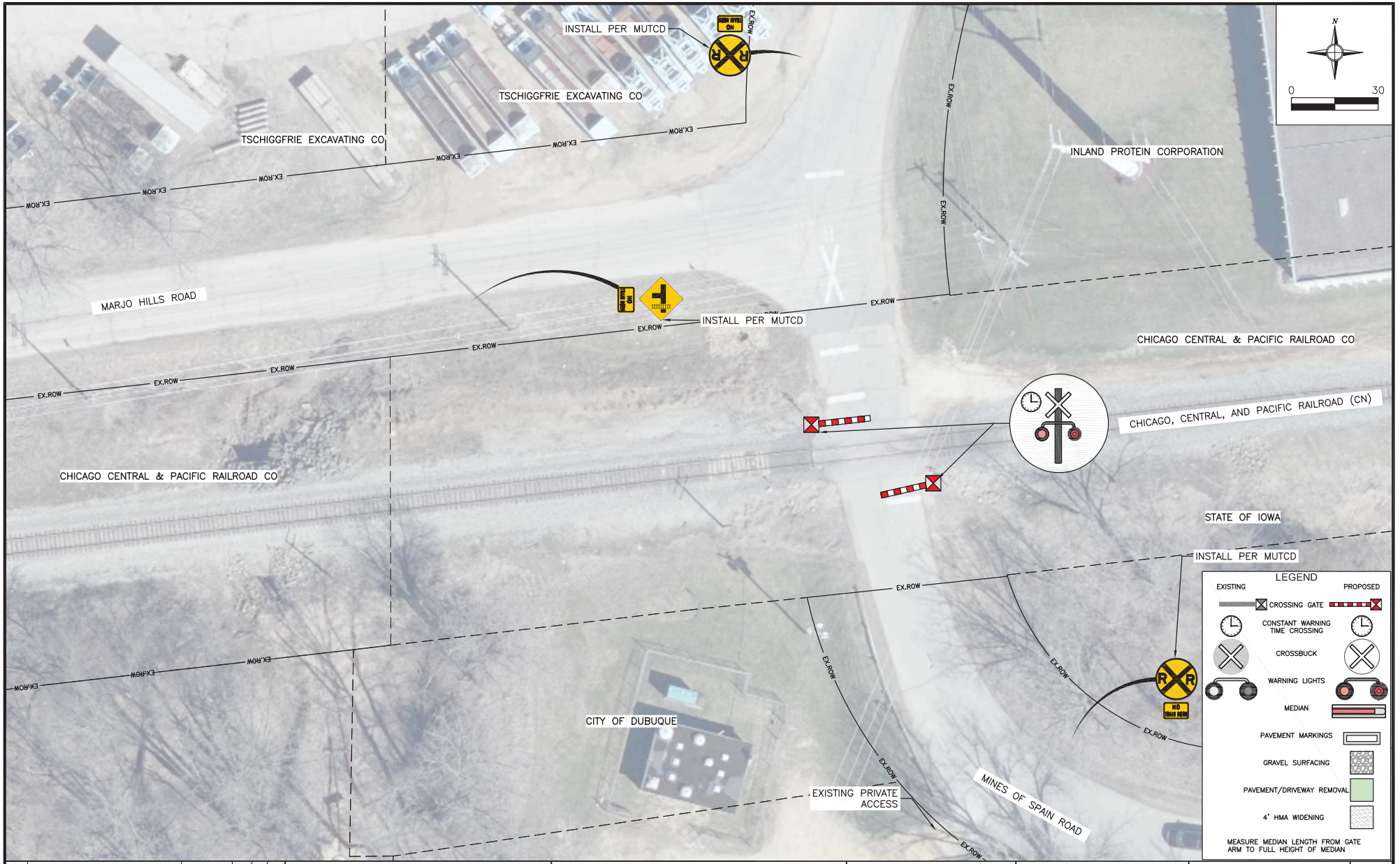

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FIGURE 10

CROSSING 3:
MINES OF SPAIN ROAD
CONCEPT

TASK 1

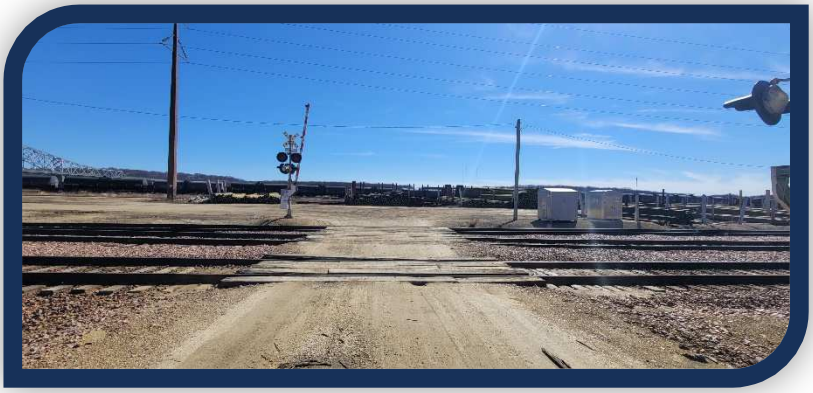
SSM: One-Way Conversion or Closure

This crossing provides one of two main access points to the Julien Dubuque Monument and park. Closing or restricting access at this location could pose issues for local tourism and create response issue for emergency vehicles. Neither a one-way conversion nor closure appear appropriate for this location.

CROSSING 4: CN SOUTHERN RAILYARD (SALINA STREET)

Since the CN railyard is a private crossing, the public entities will need to comply with the findings of the diagnostic review. The existing crossing is used by railroad personnel for access to material stockpiles. It is currently equipped with a 2-quadrant gate system, but not constant warning time. The crossing consists of 3 tracks.

Figure 11 - CN Southern Railyard



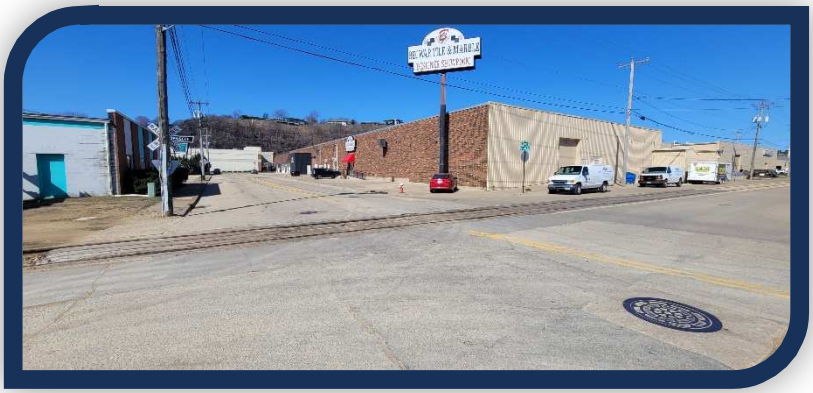
Diagnostic Review

According to the railroad, these tracks are siding tracks and not the through mainline. Accordingly, most trains in the area are typically switching, standing stationary for periods of time, or reversing on the tracks. The railroad suggests that constant warning time would be impractical to implement. The diagnostic team agreed that constant warning time would not be pertinent for this private crossing. While the crossing is well-shielded from the public, the diagnostic team recommended additional "no trespassing" signage close to the highway underpass to keep unwanted people out. The team further recommended installation of W10-1 and no horn plaques on both approaches. The diagnostic team stressed that switching/stopping/reversing trains are still required to use their horns.

CROSSING 5: SALINA STREET

While listed as a public at-grade crossing, Salina Street is one of the more unique "crossings" in the area. For nearly 1,500 feet, the tracks run within a public street. This is like a light-rail or cable car system typically seen in densely populated city centers. As a result, the crossing requires special attention and does not fall within the standard regulations.

Figure 12 - Salina Street Crossing



Diagnostic Review

The diagnostic team noted that the city should consider updating and reviewing the current pavement markings and advanced warning signage to ensure compliance with the MUTCD. The team was unable to provide specific provisions required to make this crossing into a railroad quiet zone. Since this is a spur line, its inclusion or exclusion in a quiet zone has no bearing on the surrounding crossings in the area.

The FRA reviewed this crossing with similar crossings in the United States. While no specific guidance or requirements were provided, it was evident to the entire diagnostic team that significant efforts would need to occur for inclusion in a quiet zone. The improvements would likely include several sets of active warning devices, along with improvements for the entire roadway length. With commercial access concerns, the process would be very cost prohibitive. The city noted that the frequency of trains (about 3 per week) may not be enough financial justification. The diagnostic team recommended that this area be eliminated from quiet zone consideration.

CROSSING 6: JONES STREET

Jones Street is an urban section roadway serving commercial and industrial development along the Mississippi River. It is currently equipped with a 2-quadrant gate system and has a programmed Section 130 funding project scheduled for constant warning time upgrade (see Figure 13). In this location, there are 3 sets of rail tracks. While CC/CP own the crossing, CP rail also uses this crossing.

Figure 13 – Jones Street Crossing

SSM: 4-Quadrant Gate System

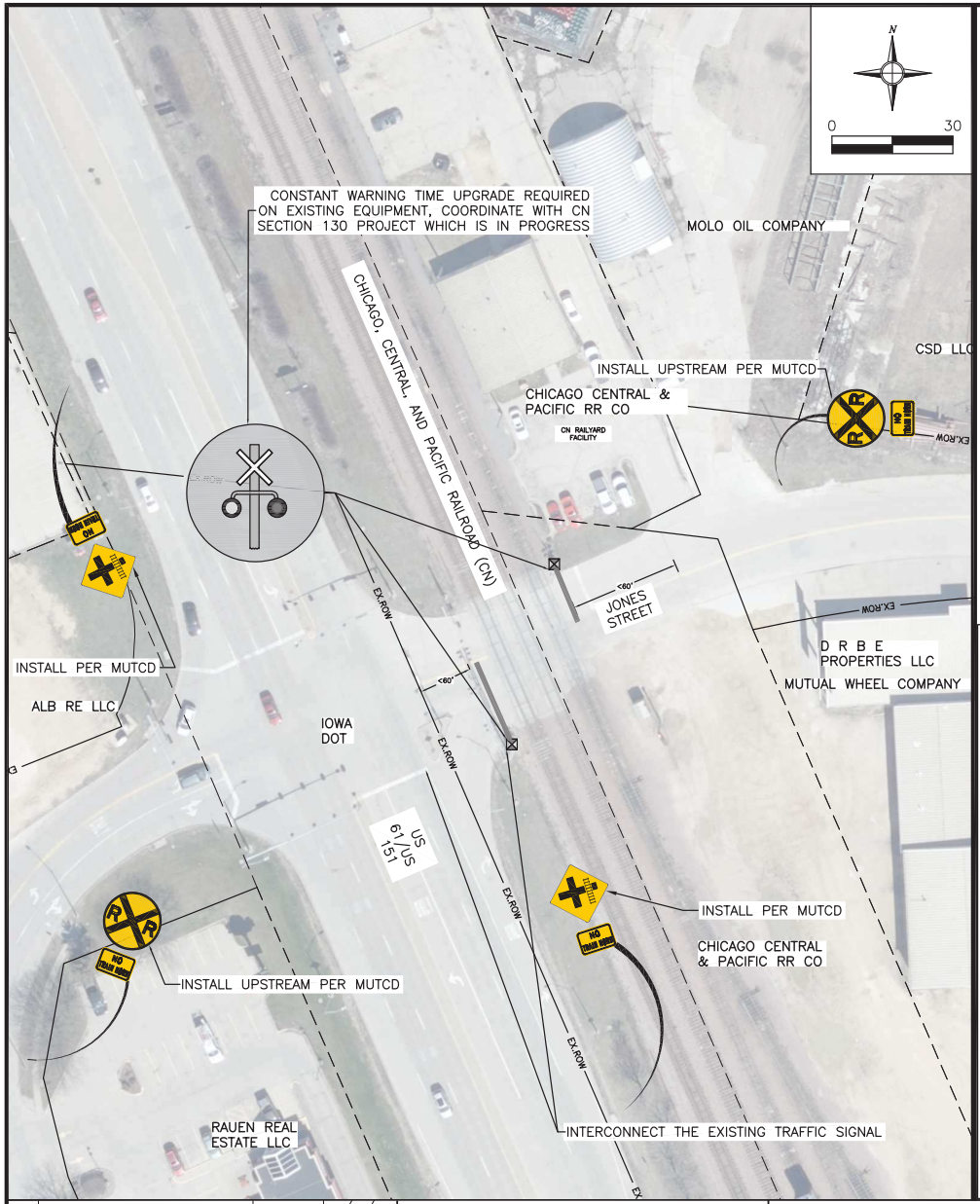
A 4-quadrant gate is the only practical SSM improvement suited for this location. US 61/151 is within 40 feet of the existing gate arm, and the CN railyard entrance is also within 60 feet of the gate arm. A 4-Quadrant gate would allow for complete coverage of the approach lanes, without closure or relocation. With the upcoming Section 130 funding project, the city should attempt to coordinate with the railroad to verify if the new equipment may be expandable to a 4-quadrant system in the future.

SSM: 2-Quadrant Gate System

A compliant 2-Quadrant gate SSM at this location will be impractical and cost-prohibitive. The railroad and adjacent highway would need to be separated to gain the required length separation requirement. Relocating the highway would likely create additional issues and concerns which do not align with the goals of the quiet zone project.

SSM: One-Way Conversion or Closure

A closure/grade separation would be infeasible at this location. This would require major redesign to the adjacent highway and impact all properties along the roadway. This road provides access to many properties and businesses along the river. While another access point to these properties exists to the north at 5th Street via Ice Harbor Drive, the roadway has a posted weight limit. Improvements would be required to this access road to handle the additional volume and weight of industrial traffic. Therefore, closure of Jones Street is not recommended.



LEGEND

EXISTING		PROPOSED
	CROSSING GATE	
	CONSTANT WARNING TIME CROSSING	
	CROSSBUCK	
	WARNING LIGHTS	
	MEDIAN	
	PAVEMENT MARKINGS	
	GRAVEL SURFACING	
	PAVEMENT/DRIVEWAY REMOVAL	
	4' HMA WIDENING	

MEASURE MEDIAN LENGTH FROM GATE ARM TO FULL HEIGHT OF MEDIAN

NO.	REVISION DESCRIPTION	APPROVED	DATE

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DATE: JUNE 2023
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FIGURE 14

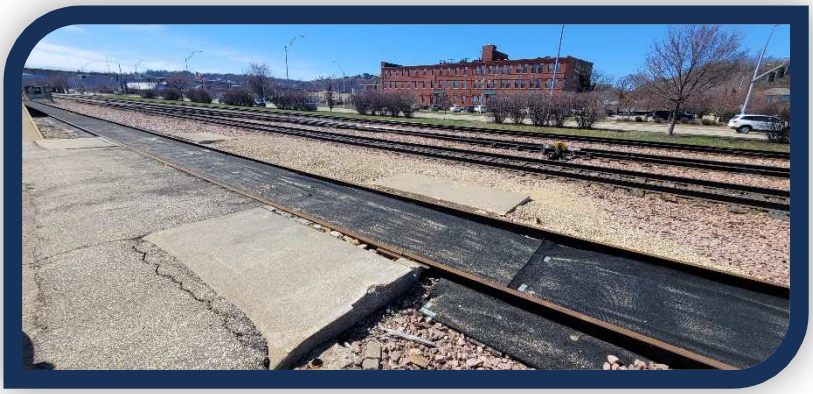
CROSSING 6: JONES STREET CONCEPT

TASK 3

CROSSING 7: CN DOWNTOWN RAILYARD

The City of Dubuque will be required to comply with the recommendations of a diagnostic review at this private crossing. The crossing appears to be a railroad "set-on" point, where roadway service vehicles can access the tracks.

Figure 15 - CN Downtown Yard



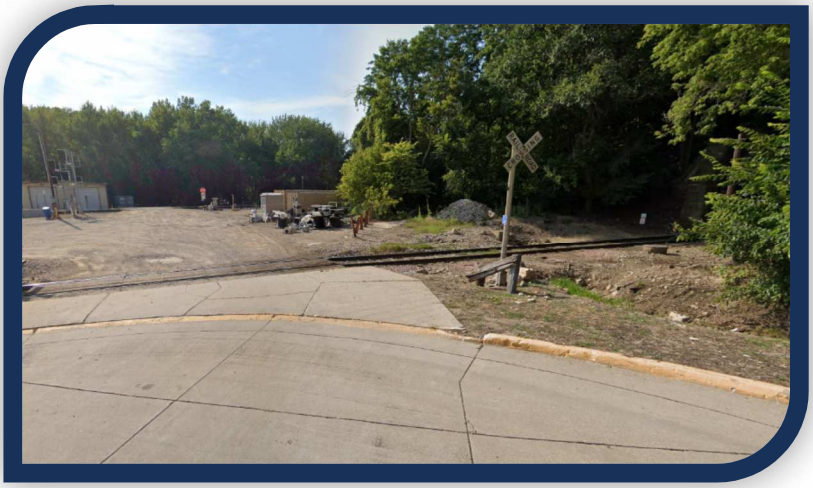
Diagnostic Review

The diagnostic team did not have any additional requirements or stipulations for this crossing. The team determined that this yard (along with other yards) typically get assigned an overarching crossing ID since service vehicles or railroad personnel often cross in these areas. The crossing is not directly accessible from public ground and requires the public to trespass for access. The set-on is located within a private parking lot which has a gate located along the public roadway access point. The diagnostic team stressed the importance of internal notification to railroad employees on the quiet zone status. The team had no further requirements for the public authority at this location as it is not accessible to the public.

CROSSING 8: SINSINAWA AVENUE (CN)

The City of East Dubuque will be required to comply with the recommendations of a diagnostic review. The crossing is listed as "private" as it crosses BNSF property near the cul-de-sac ending of Sinsinawa Avenue. This is the lone crossing with CN as the primary responsible railroad. The nearest CN crossing is located across the Mississippi River in Iowa. There is a railroad tunnel located within 100 feet of the crossing, as shown on the right side of Figure 16 below.

Figure 16 - Sinsinawa Ave (CN) Crossing



Diagnostic Review

The diagnostic team determined that this crossing is ineligible for inclusion within a railroad quiet zone. It is not located within ¼ mile of a public crossing on the same operating railroad (CN). The diagnostic team further determined that silencing routine horns would be detrimental to public safety due to the tunnel. Both crossing vehicles and the trains do not have adequate sight distance into the tunnel to avoid collisions. A horn warning when entering or exiting the tunnel provides a vital method of notifying people and animals to vacate areas near the tracks as the train approaches. The team discussed several other safety improvements at this location related to two adjacent BNSF private crossings (see discussions on Crossings 29 and 30 later in this report). The diagnostic team strongly recommends that horns continue to remain in use at this location.

CROSSING 10: JOHNSON LANE

Dubuque County will be required to comply with the recommendations of a diagnostic review team since this is a private crossing. This crossing is located just under ¼ mile south from Massey Marina Lane. As such, it must be included in the same quiet zone if Massey Marina Lane is to be included. There are no current active warning devices in place as depicted in Figure 17.

Figure 17 - Johnson Lane Crossing

Diagnostic Review

An adjacent property owner approached the diagnostic team on site and had concerns for the railroad relating to a previous derailment in the area, and drainage through existing buried culverts at the crossing location. Neither issue was related directly to implementation of a new quiet zone. The diagnostic team noted that some unrelated issues existed and were to be handled by the railroad and property owners directly.

According to the federal code of regulations CFR 49.B.II.222.43, the county would not be required to provide written notice to the property owner(s) in control of this crossing as part of the NOI process. However, the diagnostic team strongly recommended that the county determine who "controls" the intersection. Anderson-Bogert recommends keeping those in control of this crossing involved prior to, or during the notice of intent process since access easements would be required for the county to complete necessary safety improvements required to create a quiet zone here and at Massey Marina Lane (Crossing 11).

The diagnostic team determined that the railroad is responsible for upgrading the existing passive warning devices to comply with current MUTCD standards. The existing signs are not in compliance with MUTCD standards. The railroad desired to close this crossing rather than include it within a new quiet zone. The railroad was unable to demonstrate that any alternative access points were currently available to the private properties between the railroad and the Mississippi River. Aside of upgraded signing and MUTCD mandated quiet zone advanced warning signs, no further requirements were designated. Each private crossing must be signed with required advanced no train horn signs, along with a crossbuck/stop sign assembly.

CROSSING 11: MASSEY MARINA LANE

Massey Marina Lane is a local asphalt street that did not contain any active warning devices at the time of this report. At its most constricted point, the existing pavement is less than 22 feet in width. Furthermore, the general pavement condition was in poor condition. There are two residential driveways within about 25 feet of the tracks on the southern approach. On the northern approach, there are two private drives located within 60 feet of the tracks. Wakasu Lane is on the north side of Massey Marina Lane (left side of Figure 18), and Eagle Ridge Lane is on the southern side of Massey Marina Lane (right side of Figure 18). Wakasu Lane serves more than four residential property units. Eagle Ridge Lane serves less than four residential property units.

Figure 18 – Massey Marina Lane Crossing

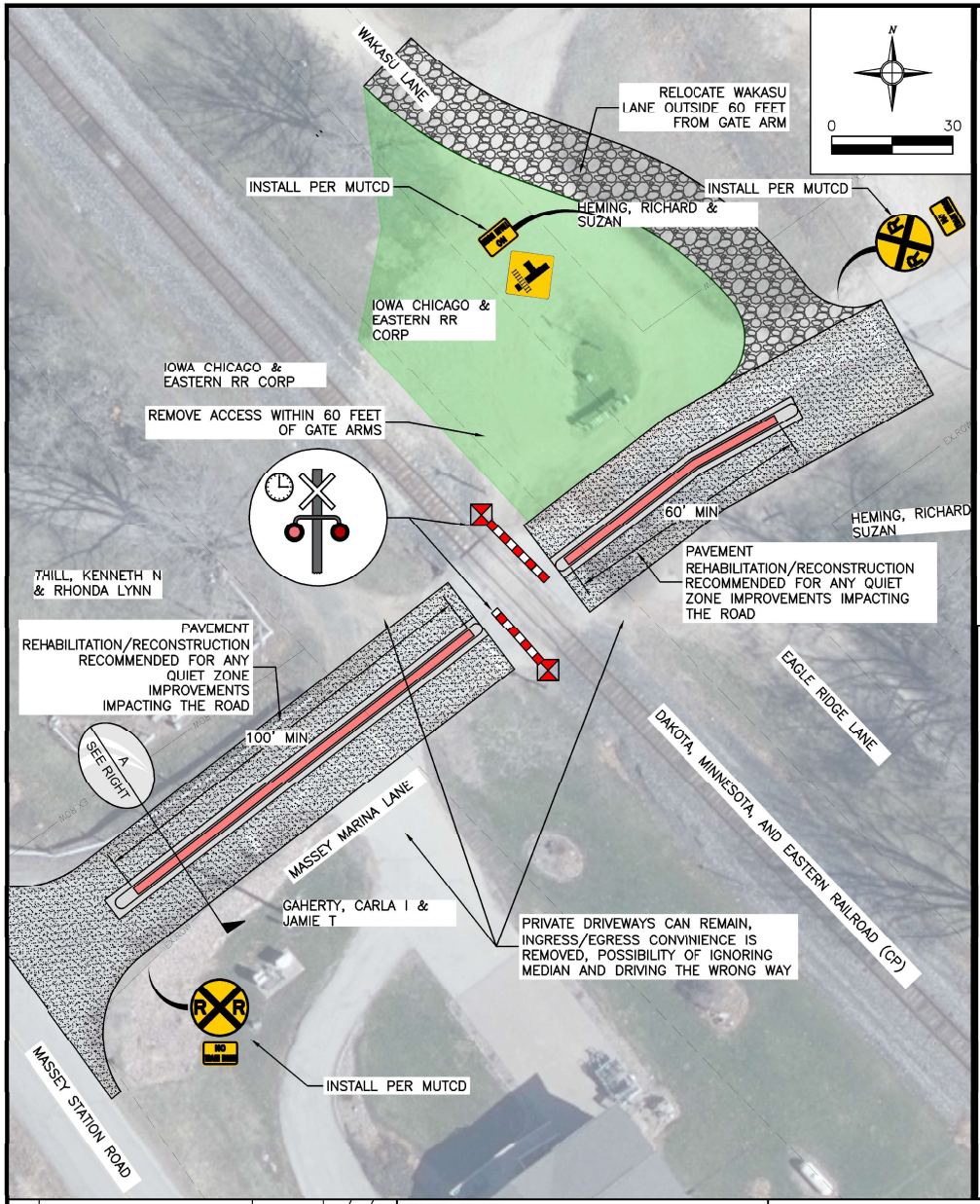
SSM: 4-Quadrant Gate System

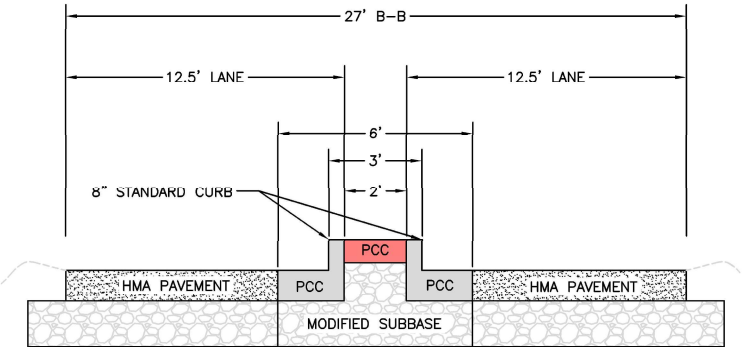
A four-quadrant gate system could be implemented here with negligible access impacts to adjacent properties. Such an improvement may not be the most cost-effective path towards designating a quiet zone at this location.

SSM: 2-Quadrant Gate System

Wakasu Lane serves more than four residential units. It will need to be relocated outside of 60 feet from the gate arm. To enhance the effectiveness of centerline medians, concrete curb should be considered along pavement edges to help discourage vehicles from leaving the paved surface and circumnavigating newly installed gates. Eagle Ridge Lane does not serve over four residential units and is exempt from relocation or closure per the federal regulations. The two driveways on the southern approach may also remain within 60 feet of the crossing per regulation. Installing medians would cause all the private drives within 60 feet to become right-in-right-out only. At a rural low-volume location such as Massey Marina Road, driver compliance with installed medians is poor. In the absence of conflicting traffic, vehicles increasingly may travel against the flow of traffic on the incorrect side of the medians for short distances. For this reason, Anderson-Bogert believes the effectiveness and safety benefit of medians would be low at this location.

After requesting public input including adjacent property owners, there was some concern about buried private sceptic facilities located to the north side of Wakasu Lane which could be impacted by a roadway relocation. Median or channelizer improvements would likely need to be accompanied by pavement improvements. The existing pavement condition is not ideal for proper anchoring of new channelizers, or construction of new medians. A sketch of the required median/channelizer lengths and private driveway realignment is provided below in Figure 19.





A SEE LEFT

TYPICAL SECTION
N.T.S.

LEGEND

EXISTING		PROPOSED
	CROSSING GATE	
	CONSTANT WARNING TIME CROSSING	
	CROSSBUCK	
	WARNING LIGHTS	
	MEDIAN	
	PAVEMENT MARKINGS	
	GRAVEL SURFACING	
	PAVEMENT/DRIVEWAY REMOVAL	
	4' HMA WIDENING	

MEASURE MEDIAN LENGTH FROM GATE ARM TO FULL HEIGHT OF MEDIAN

NO.	REVISION DESCRIPTION	APPROVED	DATE

CLIENT: DMATS

ANDERSON BOGERT

DRAWN BY: JMS APPROVED BY: BJJ
DATE: JUNE 2023
PROJECT NO. 222053

FIGURE 19

CROSSING 11:
MASSEY MARINA LANE
SSM CONCEPT

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SSM: One-Way Conversion or Closure

Massey Marina Road provides the only access and crossing point for the Massey Marina Park and residential properties between the railroad and Mississippi River. Closure or one-way conversions are not feasible at this location. Consideration of maintaining continuous access during any improvements will be essential for this location.

CROSSING 12: PRIVATE CP CROSSING NEAR JULIEN DUBUQUE ROAD

This crossing is not located on either a public or private roadway. The closest road to this crossing is Julien Dubuque Drive. The crossing has gravel approaches on either side. Along the western side of the tracks is a gravel laydown yard for railroad materials. At the time of this report, The City of Dubuque appears to be the property owner on both sides of the railroad property. Despite this, Dubuque was not aware of any permissions or ability to use this crossing. It would be advantageous to obtain the ability to use this crossing. The City's treatment plant outlets to the Mississippi River near this crossing.

Just north of this crossing, this railway joins the Chicago, Central, and Pacific Railroad (CN) which will be designated as a different quiet zone. This crossing is greater than ¼ mile away from any other CP public crossings. As a result, the crossing is ineligible for inclusion in a railroad quiet zone. The city will need to work directly with CP to silence horns at this location outside of the quiet zone regulations.

CROSSING 13: E 5TH STREET

The E 5TH Street crossing is located immediately east of the US 151 bridge. It is an urban concrete section with curbs, streetscaping, and sidewalks. The roadway is approximately 32 feet between the back of curbs with one lane for each direction of travel. There are no access points or intersections within 100 feet of the gate arms. The westbound approach has a pedestrian midblock crossing about 50 feet from the gate arm (see Figure 20). The existing 2-Quadrant gate system is equipped with constant warning time devices per the inventory form.

Figure 20 – East 5th Street Crossing

Diagnostic Review

The diagnostic team noted that the crossing is incorrectly listed as a "DME" or CP responsible crossing. The on-site INS emergency signs are correct in stating that CN has primary operation and maintenance responsibility at this location. The existing equipment was found to be compliant with minimum quiet zone standards. The team noted that a median opening of 6' feet to accommodate the midblock pedestrian crossing would be acceptable.

SSM: 4-Quadrant Gate System

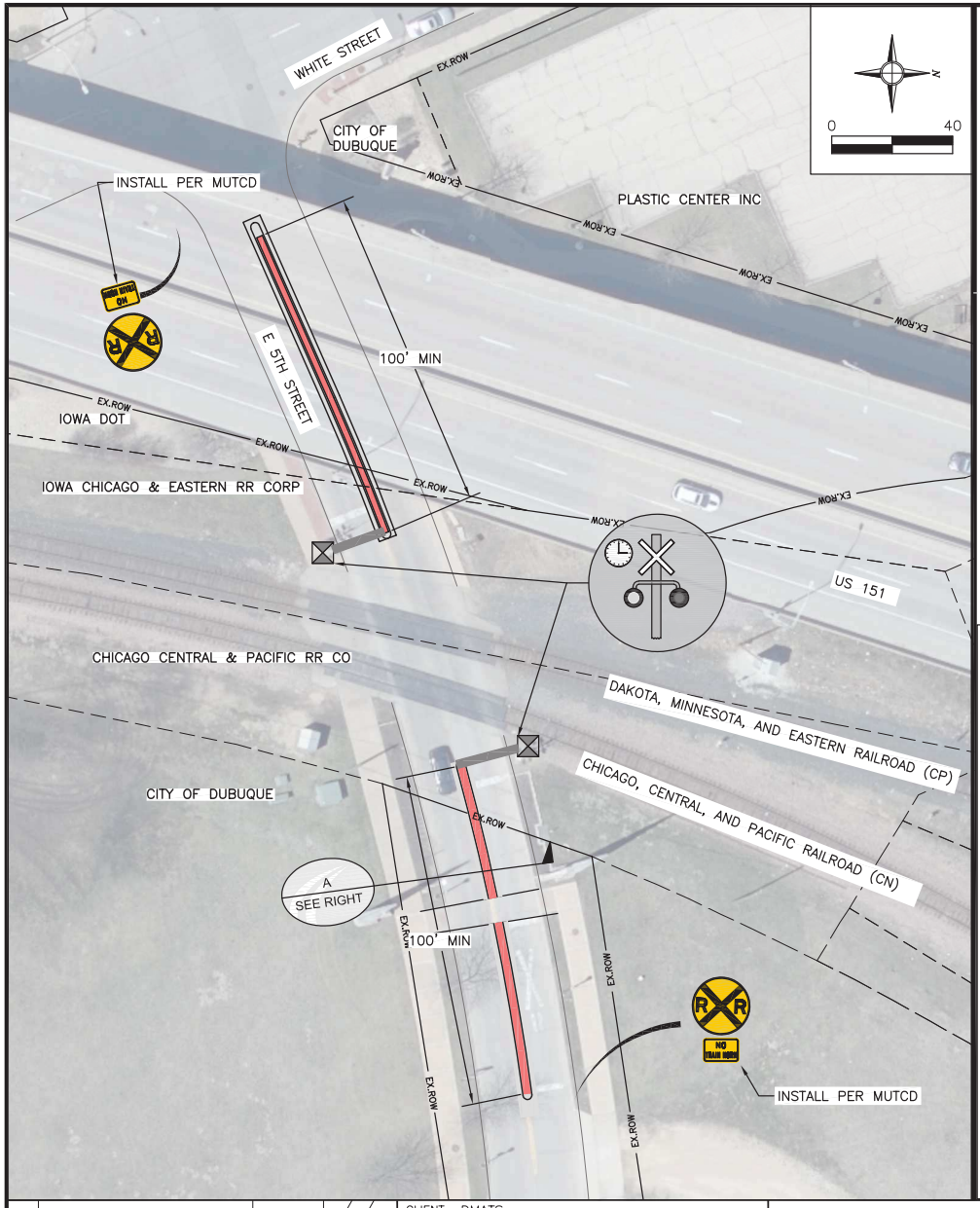
The existing signal system could be upgraded to a full 4-quadrant system. This may not be the most cost-effective solution for this location. The comparative risk reduction credit received compared with 2-quadrant medians would be disproportionate to the increase in cost.

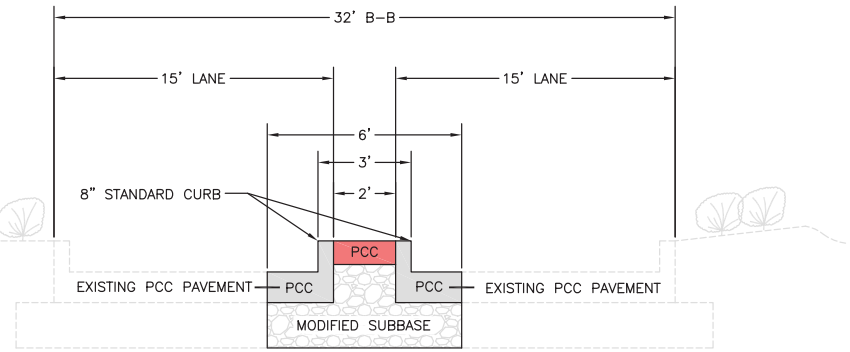
SSM: 2-Quadrant Gate System

With existing compliant 2-quadrant gates, this type of SSM is a cost-effective solution at this location. The existing roadway is of adequate width to permit the construction of a median in the middle of the roadway. Since no access points exist within 100 feet of the railroad crossing, the full 100 feet of length can be provided (see Figure 21).The existing pavement condition is such that doweled medians may also be an option, although not as durable as a full-depth median. Channelizers would also be feasible for installation at this location, but not recommended due to maintenance concerns.

SSM: One-Way Conversion or Closure

E 5th Street provides an essential link connecting the main commercial districts of Dubuque and the areas between US 151 and the Mississippi River. The next closest crossing points on the railroad are at 3rd Street or E 7th Street. To use the 7th Street crossing, the only access is along Commercial Street under a very low clearance railroad overpass. Major events occurring at the riverwalk, conference center, and casino would be effectively funneled to a single crossing. Therefore, neither closure or one-way conversion are recommended.





A
SEE LEFT

TYPICAL SECTION - NORTH APPROACH

N.T.S.

LEGEND

EXISTING		PROPOSED
	CROSSING GATE	
	CONSTANT WARNING TIME CROSSING	
	CROSSBUCK	
	WARNING LIGHTS	
	MEDIAN	
	PAVEMENT MARKINGS	
	GRAVEL SURFACING	
	PAVEMENT/DRIVEWAY REMOVAL	
	4' HMA WIDENING	

MEASURE MEDIAN LENGTH FROM GATE ARM TO FULL HEIGHT OF MEDIAN

NO.	REVISION DESCRIPTION	APPROVED	DATE

CLIENT: DMATS

ANDERSON BOGERT

DRAWN BY: JMS APPROVED BY: BJJ
DATE: JUNE 2023
PROJECT NO. 222053

FIGURE 21

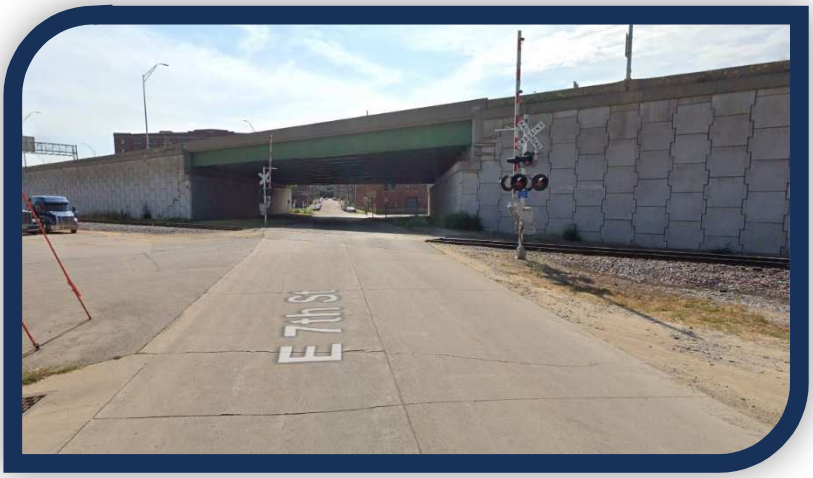
CROSSING 13: E 5TH STREET CONCEPT

TASK 4

CROSSING 14: E 7TH STREET

7th Street currently has 2-quadrant gates installed. The signals are equipped with motion detection sensors for trains but no constant warning time. The east approach is about 27 feet in width with a low 2 inch curb, or no curbs. On the west approach, the road is about 31 feet in width, with standard curbs (see Figure 22). The city has existing plans to convert this street into a "complete street" with pedestrian and bike facilities.

Figure 22 – E 7th Street Crossing



Diagnostic Review

The diagnostic review team noted that constant warning time will be required at this location. Upgrading to constant warning time will require the complete replacement of the existing 2-quadrant system. The city informed the diagnostic team that a future roadway connection between 7th Avenue and 9th Avenue was being planned (additional discussion below). The team identified this location as one of the top 3 most feasible locations for closure or pedestrian conversion provided future adjacent roadway connector is completed.

SSM: 4-Quadrant Gates

With the existing commercial access points near the crossing, a 4-quadrant gate is an appealing option to avoid closure/relocation of any existing driveways. The team noted that a 4-quadrant gate will conflict with the bridge structure due to the vertical gate arm resting position.

SSM: 2-Quadrant Gates

This location presents several issues relating to the installation of medians. There are no access points or intersections within 100 feet along the west approach. On the east approach, there are several driveways and intersections within 60 feet of the crossing (see Figure 23 below). All these driveways would need to be closed or moved at least 60' away from the gates. For some properties, relocation is not possible as the properties currently have only one possible access which falls within 60' of the gate arms.

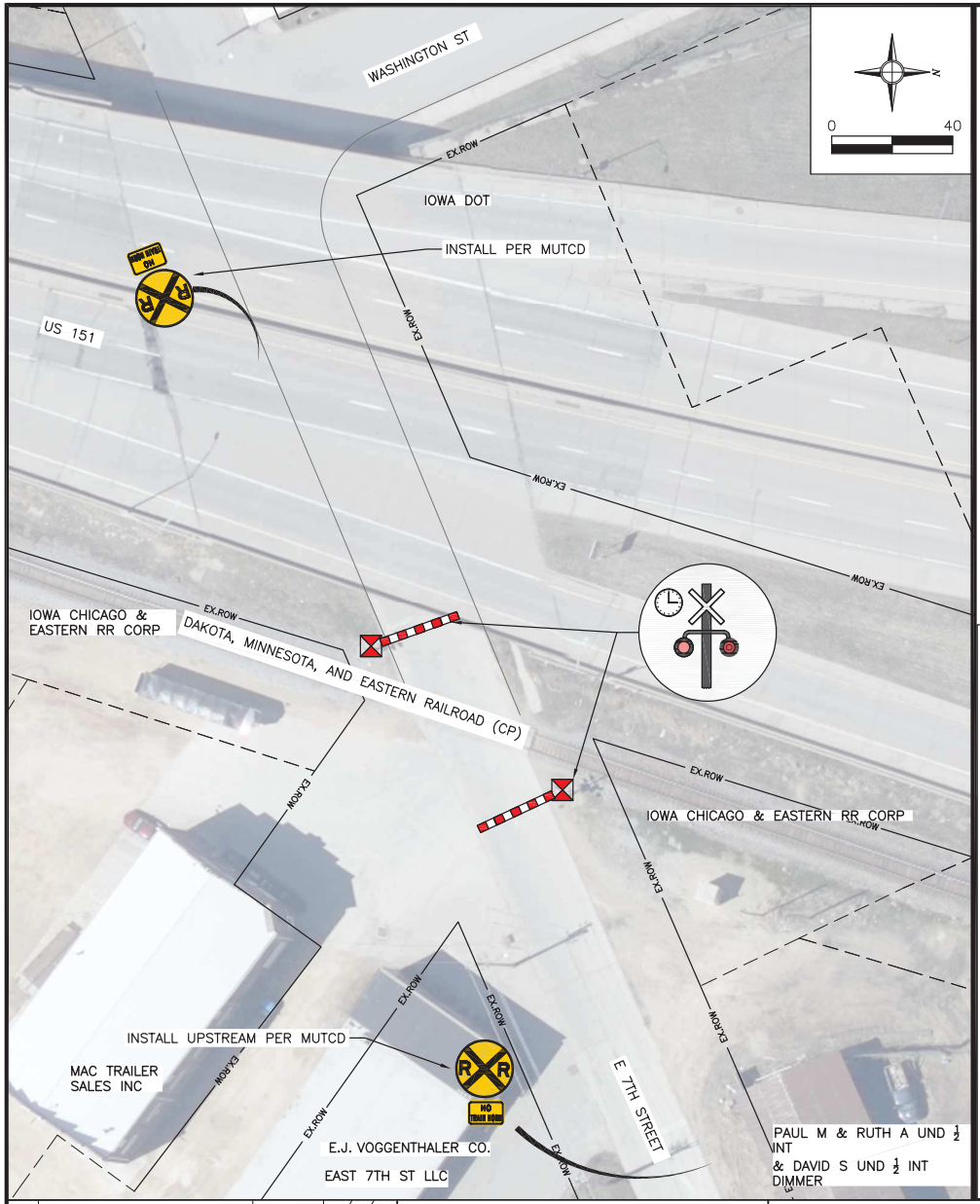
Without widening the roadway, a median on the east approach will reduce lane widths below 12 feet. A 2-quadrant gate with medians would eliminate direct access to the public roadway network for several properties. As a result, a median installation may not be the most economically viable path to quiet zone creation.

SSM: One-Way Conversion or Closure

According to recent traffic counts, this crossing serves over 600 daily vehicles. The neighboring crossing at 9th Street (Kerper Boulevard) serves more traffic (about 2,200). There are a couple commercial properties between the railroad and the Mississippi River including Gavilon Grain which use this primary access route. Due to the lack of other adequate commercial access routes to these properties, a one-way conversion or closure would not be feasible without a new connection to Kerper Boulevard to the north.

At the time of this study, Dubuque notified Anderson-Bogert of plans to purchase the existing substation land from the utility company and construct a new connection between E 7th Street and Kerper Boulevard (see Figure 24). The exact location and configuration of the connector is unknown at this time, except that the connection at Kerper Boulevard is likely to occur near the existing private substation driveway. In this instance, a common design practice would be to align intersecting roads directly across from one another. The figure below shows a possible scenario where the connector is in place with Pine Street realigned directly across Kerper Boulevard. This intersection should be separated from the crossing gates by at least 100 feet no matter what improvements exist at the crossings.

This proposed connection will create a better truck route for large vehicles to serve the commercial properties. Large trucks will have a nearly direct route to US-151 without needing to traverse local downtown streets. Once the connection is in place, E 7th Street could be closed or reconfigured for pedestrians at the railroad crossing. Note that a crossing only qualifies as a closure if it is completely closed to all modes of transportation. Maintaining a pedestrian only crossing would require an additional diagnostic review prior to determining appropriate design parameters.



LEGEND

EXISTING		PROPOSED
	CROSSING GATE	
	CONSTANT WARNING TIME CROSSING	
	CROSSBUCK	
	WARNING LIGHTS	
	MEDIAN	
	PAVEMENT MARKINGS	
	GRAVEL SURFACING	
	PAVEMENT/DRIVEWAY REMOVAL	
	4' HMA WIDENING	

MEASURE MEDIAN LENGTH FROM GATE ARM TO FULL HEIGHT OF MEDIAN

NO.	REVISION DESCRIPTION	APPROVED	DATE

CLIENT: DMATS

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DATE: JUNE 2023
PROJECT NO. 222053

FIGURE 23

CROSSING 14:
E 7TH STREET
CONCEPT

TASK
5

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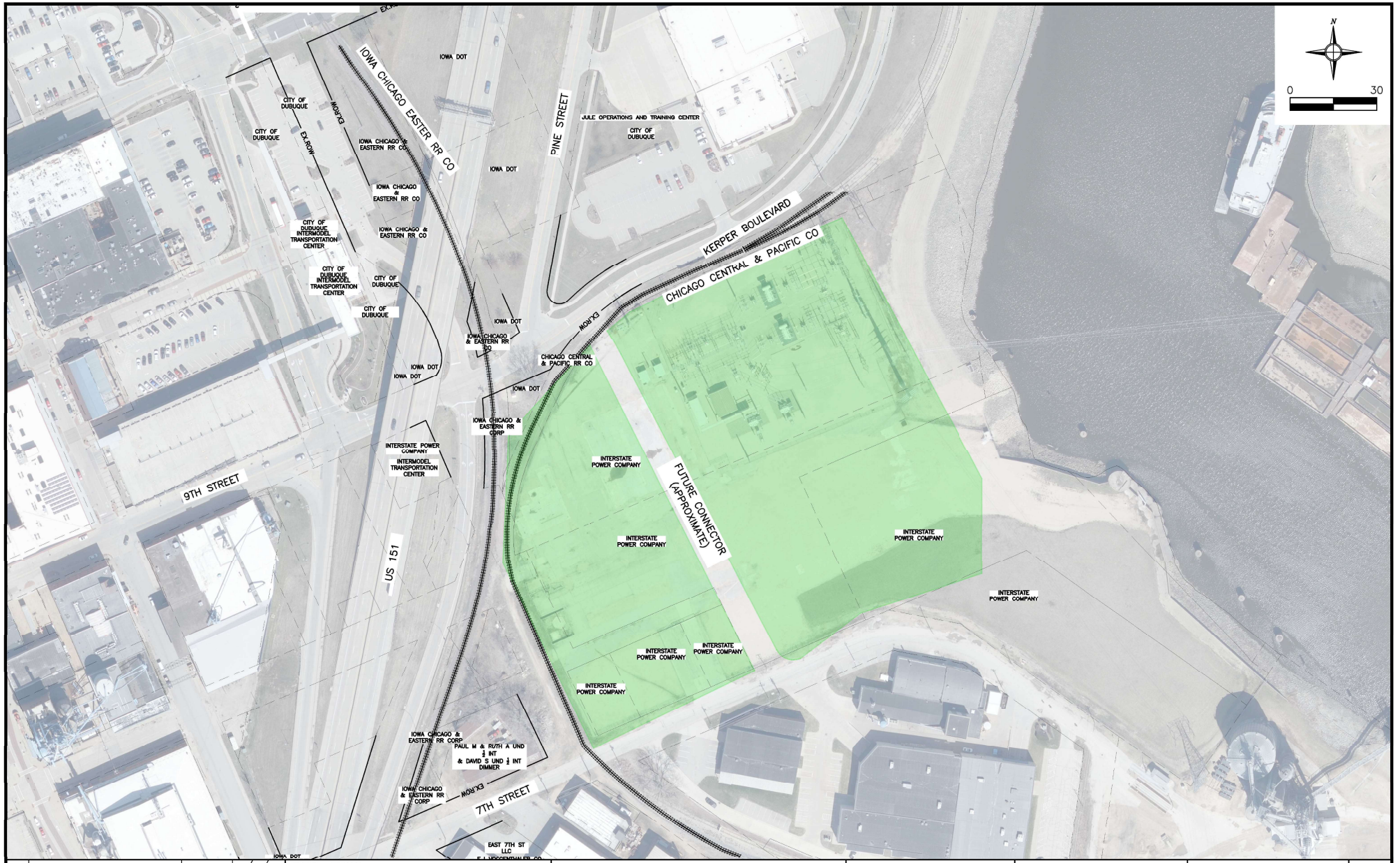

NO.	REVISION DESCRIPTION	APPROVED	DATE

CLIENT: DMATS

ANDERSON BOGERT

DRAWN BY: JMS APPROVED BY: BJJ
DATE: JUNE 2023
PROJECT NO. 222053

FIGURE 24

FUTURE 7TH ST – 9TH ST CONNECTOR

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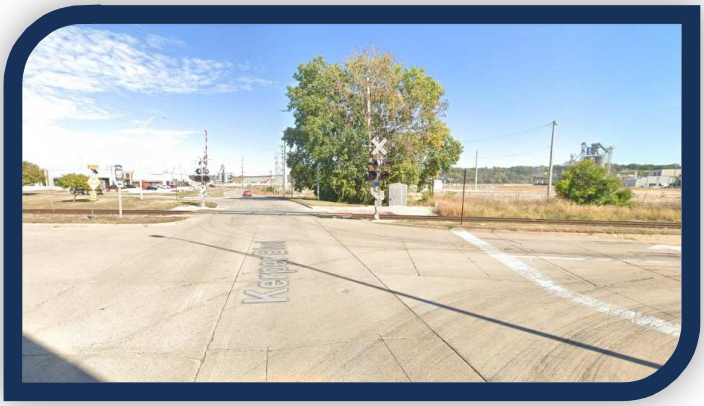
CROSSING 15: KERPER BOULEVARD

Kerper Boulevard crossing currently contains a compliant 2-quadrant gate and warning system. At the crossing, the roadway is about 31 feet between the back of curbs, with one vehicular lane in each direction. The US-151 ramp, transit lot entrance, and Pine Street intersection are all within 60 feet of the existing gate arms (see Figure 25).

Figure 25 – 9th Street/Kerper Boulevard Crossing



Diagnostic Review

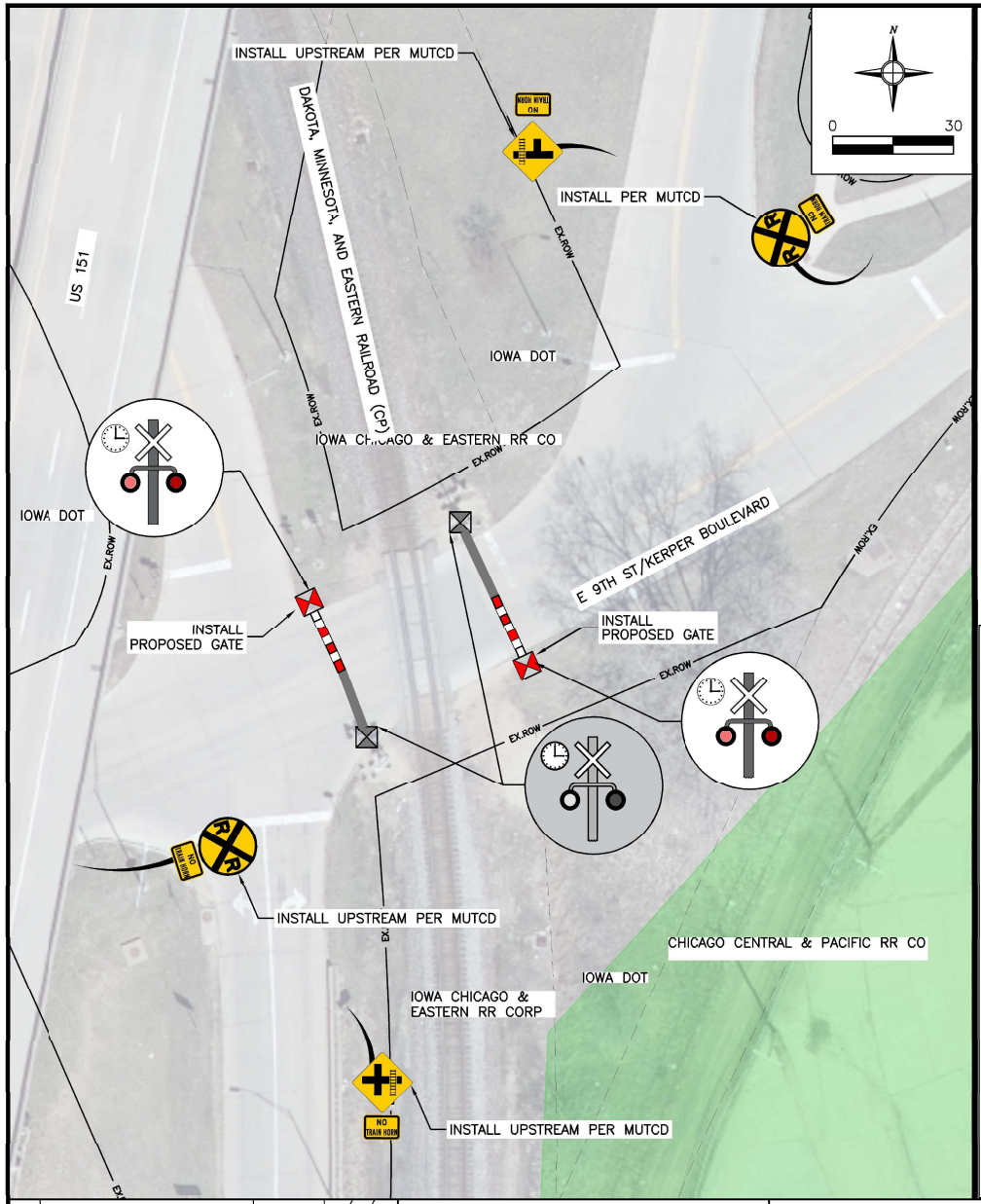
The diagnostic team determined that the existing gate system is compliant with minimum quiet zone standards. The biggest concern of the railroad is the existing eastbound gate near the exit ramp is repeatedly hit by turning trucks. In fact, a railroad technician was on site during the review to adjust the flashing lights which had been hit and misaligned. Any signal upgrades here should consider relocating the pole to minimize these occurrences.

SSM: 4-Quadrant Gates

While the existing crossing is compliant with minimum requirements for inclusion within a quiet zone, a 4-quadrant gate system would have the least amount of impact to existing conditions at this location. A 4-quadrant system would not require the relocation or closure of adjacent intersections and roadways. Such an installation could be done through upgrading/adding to the existing equipment, or complete system replacement. This could be of interest to the railroad who currently have maintenance concerns for the eastbound gate arm.

SSM: 2-Quad Gates

This location contains access points within 60 feet of the crossing on 3 out of 4 quadrants. A 2-quadrant gate system with medians would require closure or relocation of all these access points. The existing US-151 ramp and transit intersection is bound by the US-151 bridge on the west, and railroad on the east. Any relocation/closure of this intersection would be cost-prohibitive or be detrimental to network connection and industrial access to the riverfront. Dubuque has plans for a future connection between 7th Avenue and Kerper Boulevard through the existing substation lot. This connection will provide a convenient access point for commercial trucking to and from US-151 to commercial lots between the railroad and the Mississippi River. With these geometric constraints, a 2-quadrant with median system is not recommended for installation (see Figure 26). Worth noting, 3-quadrant systems have been implemented in other quiet zones. This type of system has gates across one entire side but may have an approach gate with median on the other. Such a configuration would constitute an ASM and require pre-approval from the FRA through an application process.



LEGEND

EXISTING		PROPOSED
	CROSSING GATE	
	CONSTANT WARNING TIME CROSSING	
	CROSSBUCK	
	WARNING LIGHTS	
	MEDIAN	
	PAVEMENT MARKINGS	
	GRAVEL SURFACING	
	PAVEMENT/DRIVEWAY REMOVAL	
	4' HMA WIDENING	

MEASURE MEDIAN LENGTH FROM GATE ARM TO FULL HEIGHT OF MEDIAN

NO.	REVISION DESCRIPTION	APPROVED	DATE

CLIENT: DMATS

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PROJECT NO. 222053

FIGURE 26

CROSSING 15:
E 9TH ST/KERPER BOULEVARD
CONCEPT

TASK 6

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SSM: One-Way Conversion or Closure

This crossing provides a vital link from many commercial and industrial sites along the Mississippi River to US-151. Closure of this crossing would require diversion of industrial traffic to the next highway exit to the north, or even cause industrial traffic to start seeking routes through urban street developments which are not currently designed to facilitate large industrial traffic. A one-way conversion would create similar concerns and would still require a reconfigured gate system.

CROSSING 16: E 11TH STREET

The E 11th Street crossing is equipped with 2-quadrant gates actuated with constant warning time devices. The approaches to the crossing were recently reconstructed. The existing pavement condition appears to be in good shape. The roadway is about 31 feet between the back of curbs. There are no access points or intersections within 100 feet of the gate arms (see Figure 27).

Figure 27 – E 11th Street Crossing

Diagnostic Review

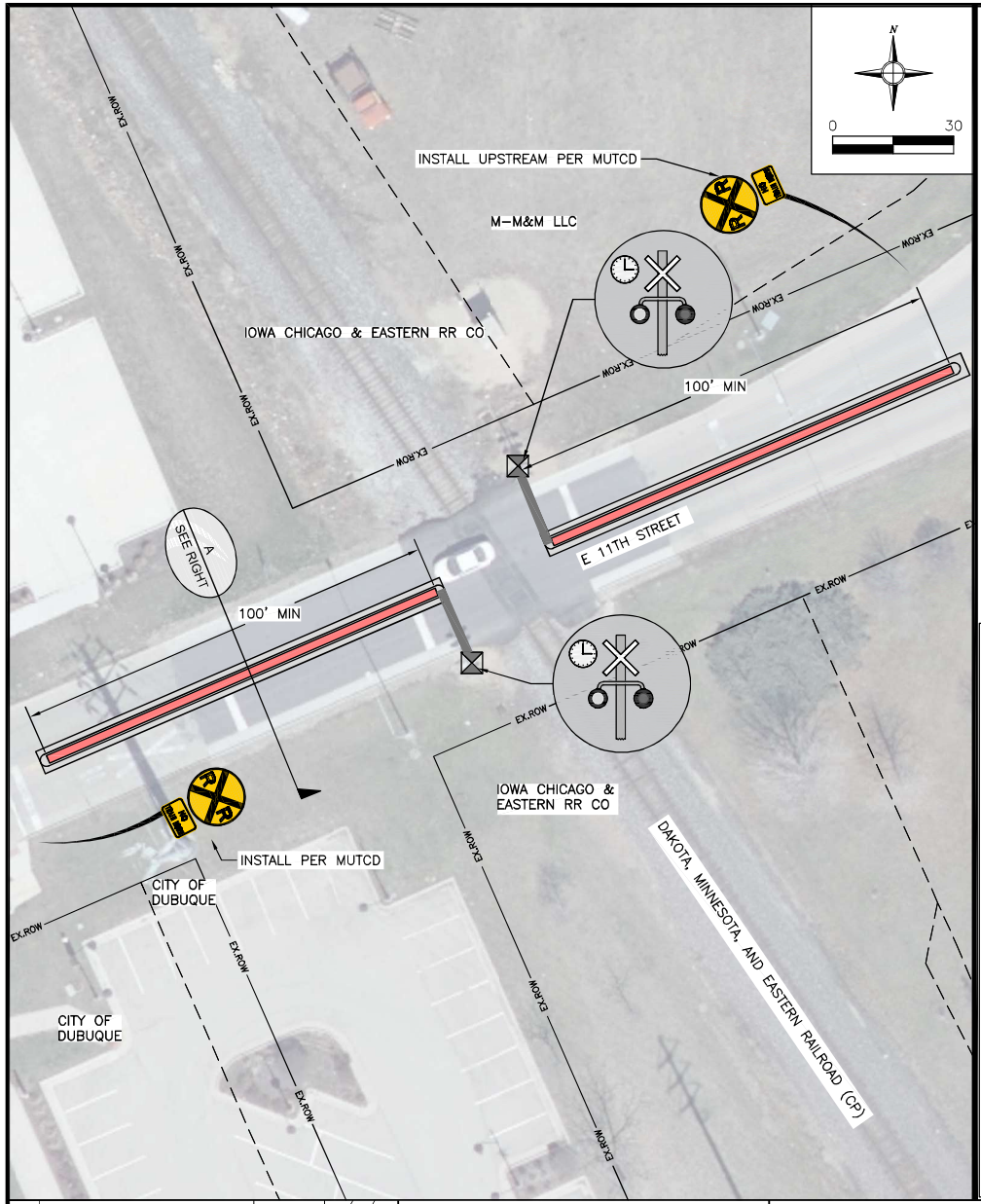
A future trail crossing is being considered at either 11th Street or 9th Street. Due to geometric concerns, 11th Street would be a preferred future route. A future trail would require additional crossing pad extensions, which may have grant funding programs available. The diagnostic team determined the crossing meets the minimum quiet zone requirements in the existing state. This crossing contains one of the highest risk numbers and predicted collision frequencies of all within the study area.

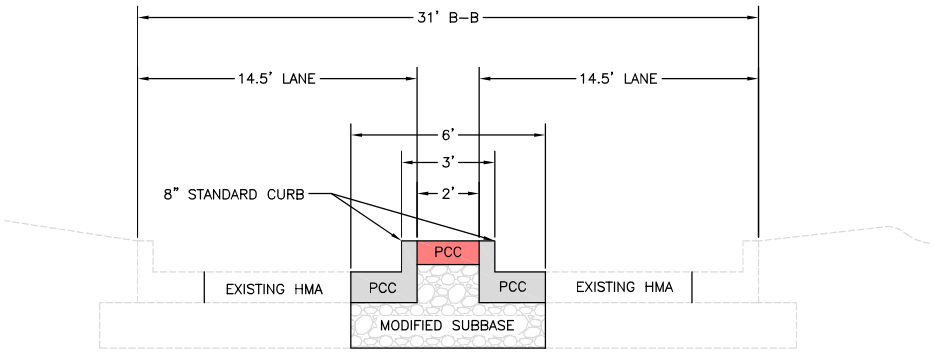
SSM: 4-Quadrant Gates

The signal system can be upgraded to a 4-quadrant system to achieve SSM compliance. However, this option will not be the most economic option at this location.

SSM: 2-Quad Gates

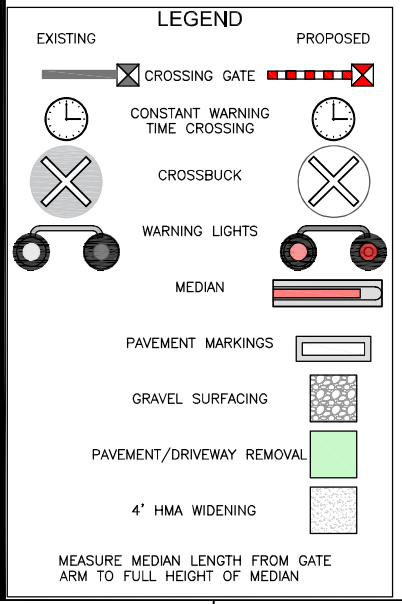
With no access points or intersections within 100 feet, this intersection is a strong candidate for implementing a 2-quadrant and median SSM. Medians could be cut in (preferred), doweled, or channelizers installed as shown in Figure 28 below. Another option may be to remove the recently installed HMA between the concrete curb and gutters and replace with full-width concrete and median. The approaches adjacent to the rubber crossing pad will benefit from remaining as asphalt instead of placing new concrete directly up to the crossing pad materials. This SSM would be the most simple and effective method to achieve an SSM.





A
SEE LEFT

TYPICAL SECTION
N.T.S.



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DATE: JUNE 2023
PROJECT NO. 222053

FIGURE 28

CROSSING 16:
E 11TH STREET
CONCEPT

TASK 7

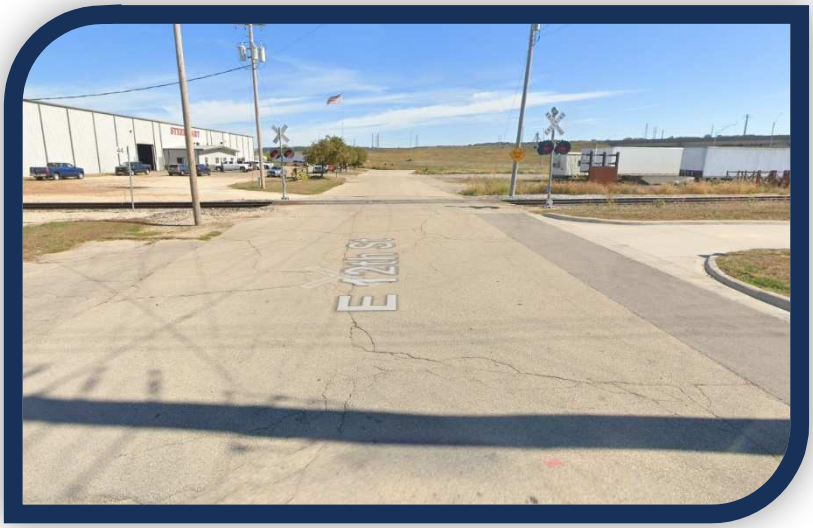
SSM: One-Way Conversion or Closure

E 11th Street is located adjacent to an exit on US-151 which maintains direct access to a large portion of downtown Dubuque. Closure or conversion of the crossing could require diversion of existing traffic to alternate roadways and highway interchanges. As of 2021, the crossing served over 2,000 vehicles per day.

CROSSING 17: E 12TH STREET

E 12th Street is not currently equipped with gates. The existing HMA surface is in fair condition but contains fatigue cracking (see Figure 29). Each quadrant has a commercial access within 60 feet of the location for future gate arms. On the east side of the crossing, 12th Street ends with a cul-de-sac dead end.

Figure 29 – E 12th Street Crossing



Diagnostic Review:

The diagnostic team determined that at minimum, a 2-quadrant gate system will be required unless the crossing is closed. With medians, all access points within 60 feet will require relocation or closure. The team noted that curbs should be provided within 60' to discourage access to the road within 60' of the gate arms. The diagnostic team also strongly recommended the installation of fencing parallel to railroad on each side. The tracks can be easily accessed by pedestrians and vehicles as the tracks are near the surrounding grade elevation. Fencing would force access at the designated crossing locations. The city could not confirm if 13th Street to the north was still dedicated right-of-way, or if it has been vacated.

SSM: 4-Quadrant Gates

Installation of a 4-quadrant gate system would eliminate the need to close or relocate any of the adjacent driveways. A 4-quadrant gate system may also not be the most economical path to quiet zone implementation.

SSM: 2-Quad Gates

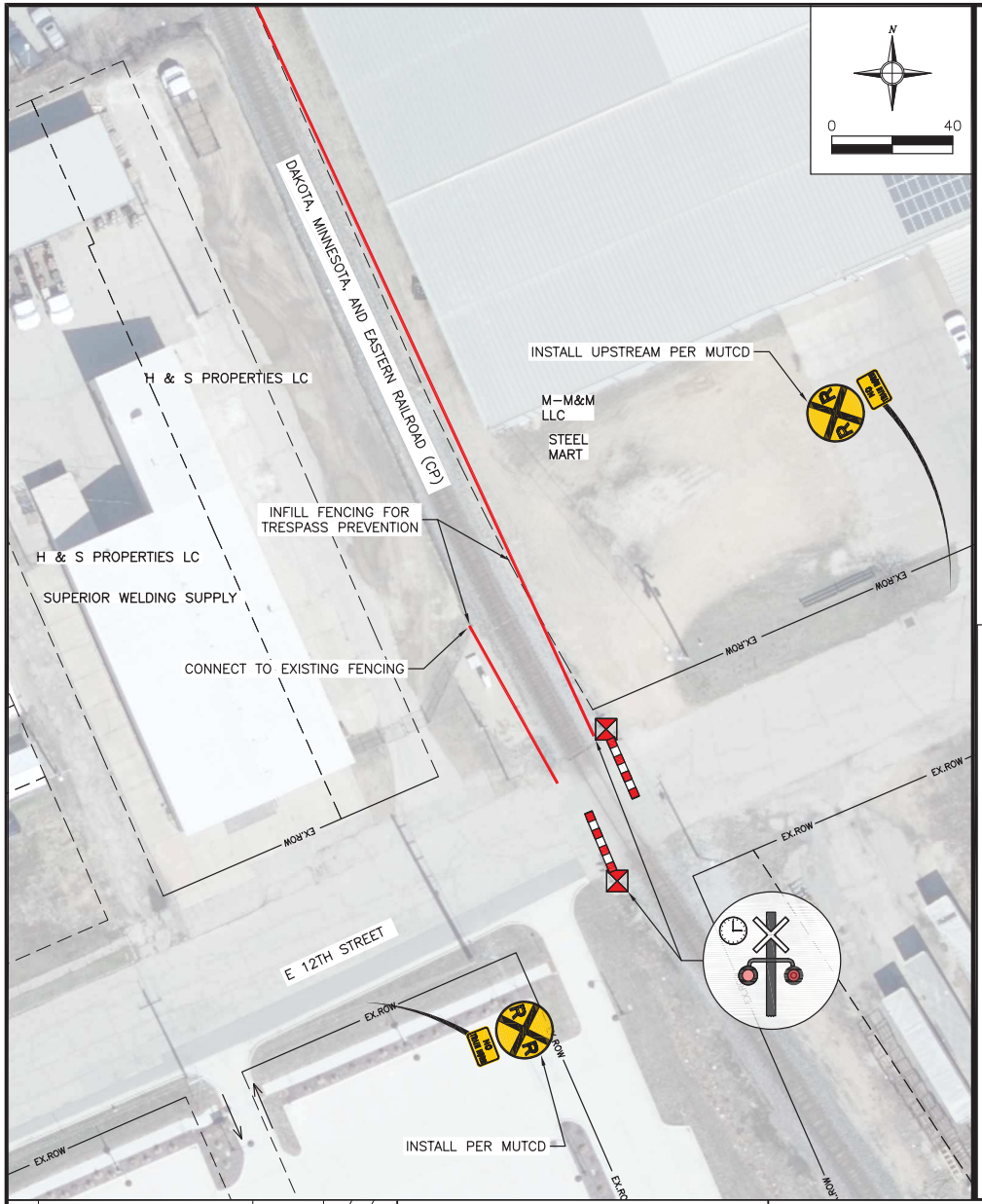
A new 2-quadrant system is the minimum requirement for this crossing. To implement a median SSM, all access points within 60 feet will need to be closed and/or relocated. On the east side of the crossing, concrete curb and gutter will need to be added within 100 feet of the crossing, thereby removing gravel access points

on both sides. On the northwest corner, the existing parking lot and commercial gated access will need to be closed within 60 feet. This should be accomplished through installation of a concrete curb and gutter and removal of existing pavement. The access point will need to be relocated to the north side of the property, to 13th Street (see Figure 30).

The adjacent city parking lot is currently configured with two one-direction access points on 12th Street. The access closest to the railroad will need to be closed. In response, the remaining lot access will need to be reconstructed and expanded to allow both an entrance and exit lane to the lot.

SSM: One-Way Conversion or Closure

Since E 12th Street dead ends just east of the crossing, this location initially appears to be an appealing location for closure. The undeveloped property in the southeast corner of the crossing would likely require buyout from the city if access is removed. The commercial property in the northeast corner would be negatively impacted by a closure. It appears that this property has access to 14th Street through a driveway/alleyway. This access has poor sight visibility for deliveries, clients, and overall business operations. Elimination of the 12th Street access also creates problems related to emergency service access points. As a result, closure may not be feasible at this location.



LEGEND

EXISTING		PROPOSED
	CROSSING GATE	
	CONSTANT WARNING TIME CROSSING	
	CROSSBUCK	
	WARNING LIGHTS	
	MEDIAN	
	PAVEMENT MARKINGS	
	GRAVEL SURFACING	
	PAVEMENT/DRIVEWAY REMOVAL	
	4' HMA WIDENING	

MEASURE MEDIAN LENGTH FROM GATE ARM TO FULL HEIGHT OF MEDIAN

NO.	REVISION DESCRIPTION	APPROVED	DATE

CLIENT: DMATS

ANDERSON BOGERT

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DATE: JUNE 2023
PROJECT NO. 222053

FIGURE 30

CROSSING 17: E 12TH STREET CONCEPT

TASK 8

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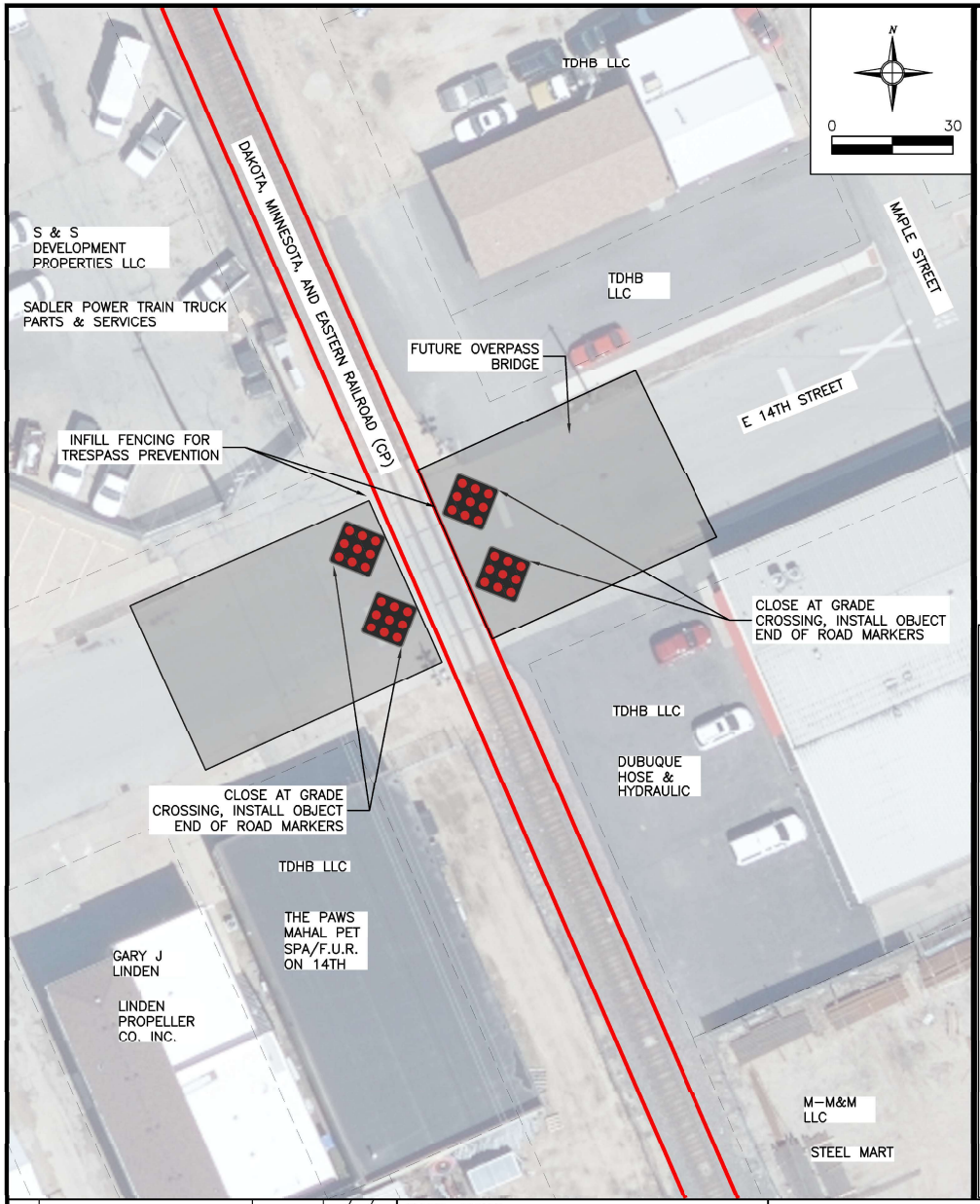
CROSSING 18: E 14TH STREET

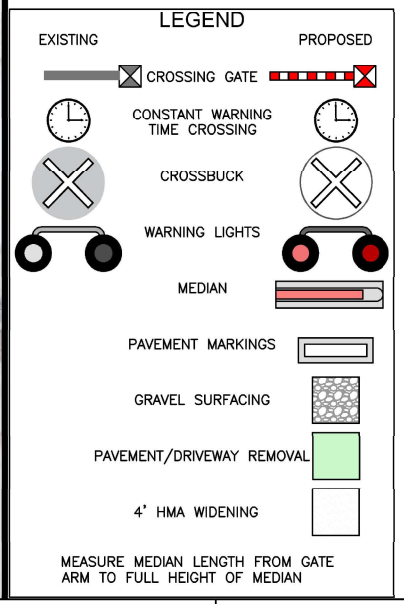
Diagnostic Review

The diagnostic team did not fully evaluate this location due to future improvement plans. The team strongly recommended fencing be provided between crossings from 12th Street through 16th Street.

SSM: Closure

At the time of this report, Dubuque had received grant funding for the study and design to grade separate this crossing. This report assumes the crossing will be closed/separated accordingly. Dubuque mentioned the possibility that the capability to cross at grade may remain for one or more properties at this location. This study assumes the *complete* separation of the crossing. If the capability to cross remains, the crossing will need to be reevaluated by a diagnostic team. If a public crossing remains, the minimum requirement of new 2-quadrant would remain in effect.





NO.	REVISION DESCRIPTION	APPROVED	DATE

CLIENT: DMATS

ANDERSON BOGERT

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DATE: JUNE 2023
PROJECT NO. 222053

FIGURE 31

CROSSING 18:
E 14TH STREET
CONCEPT

CROSSING 19: E 15TH STREET

15th Street is a local road crossing with one lane in each direction. The width of the roadway is approximately 41 feet between the edges of pavement or back of curbs. The east approach was recently improved with a new asphalt surface. The existing pavement condition on the western approach is poor, with significant cracking and pavement distress.

Of all the crossings provided at each block generally between 11th Street and 16th Street, 15th Street serves the least amount of traffic. As of the 2021 AADT counts completed by Iowa DOT, the traffic is about 450 vehicles per day. There are roadways/driveways within 60 feet of the crossing in all quadrants. On the west side of the tracks, the entrances are commercial. On the east side, gravel drive Pine Street is immediately adjacent to the railroad tracks, along with a city-owned driveway (see Figure 32).

Figure 32 - E 15th Street Crossing

Diagnostic Review

The diagnostic team identified this crossing as having high potential for closure. Aside from the closure, the team noted that a 2-quadrant median SSM would provide challenging access issues to adjacent properties. A 4-qudrant or one-way conversion would be acceptable alternatives. The team recommended fencing be installed along both sides of the railroad to encourage crossing at designated points. The diagnostic team could not appropriately identify what a pedestrian crossing treatment would look like. When additional park details and pedestrian demands are known, a new diagnostic review for pedestrian needs will need to be completed. The team also mentioned pedestrian overpasses as an option if the roadway is closed.

SSM: 4-Quadrant Gates

A 4-quadrant gate system would be one of the least intrusive SSMs to implement. A 4-quadrant system eliminates the need to remove and relocate adjacent roads and commercial entrances. Consideration should be given to upgrading pedestrian facilities to achieve ADA compliance over the crossing.

SSM: 2-Quad Gates

At minimum, a new 2-quadrant gate system would need to be installed at this location. With access points or intersections within 60 feet on all quadrants, medians would need to extend at least 60 feet from the gate arms (see Figure 33). The southwest corner property has a single roadway access which is on 15th Street.

Relocation of the driveway would require a restricted width, and poor entrance geometry. A 2-quadrant gate system may not be the most feasible option without needing an ASM justification study and application. Pedestrian facilities should be upgraded to meet ADA requirements.

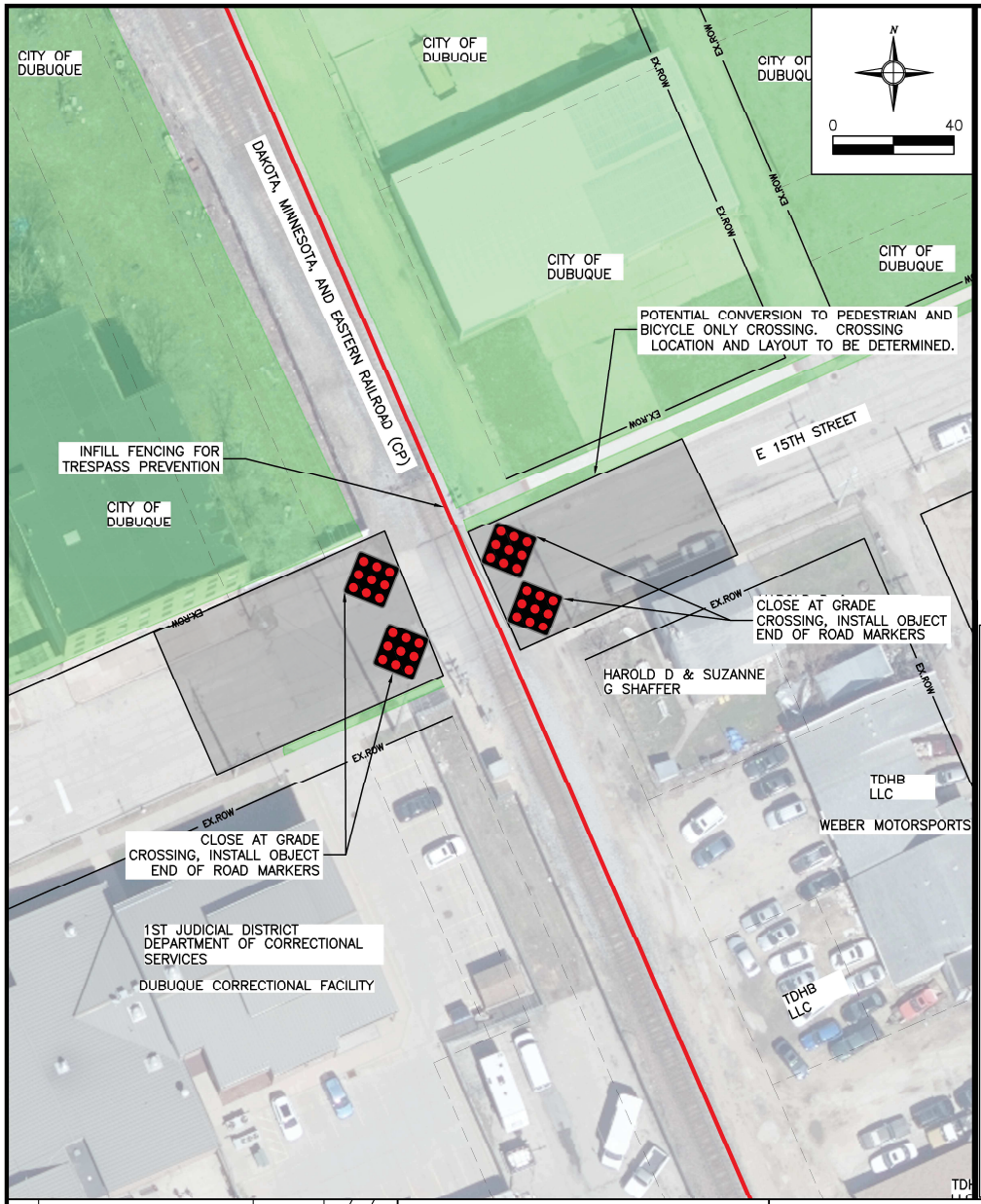
The city is currently in the process of redeveloping the area bounded by Elm Street, 16th Street, 15th Street, and the riverwalk into parkland. The commercial driveway and building in the northeast corner are currently planned for demolition during the redevelopment (see Figure 33).

SSM: One-Way Conversion or Closure

With crossings more-or-less provided at each block along this corridor, there are plenty of opportunities and locations for vehicles to cross the railway in the immediate vicinity. The neighboring streets (14th Street and 16th Street) provide more direct access to the surrounding roadway network compared with 15th Street. 14th Street is classified as a minor arterial roadway, and 16th Street turns into a minor arterial where it intersects with Sycamore Street, just a few hundred feet to the east.

The crossing could be considered for one-way conversion. The conversion would still require a new signal system be installed across all approach lanes. Out of all the crossings studied, E 15th Street represents the most likely candidate for crossing closure. A closure would still maintain reasonable network access to all adjacent properties. With both the state and railroad offering incentives for crossing closures, this SSM is also likely to be the most economical option as well.

Closing this crossing could provide flexibility in the future park design. The CPKC Railroad has voiced support in closure of this crossing and provided incentive funding to the City of Dubuque. Again, a closure project should remove access to the tracks, and ensure tracks can no longer be crossed. Typically features such as fencing or landscaping with walls are methods used to prevent trespassing. Especially with a future adjacent park planned, additional anti-trespass features should be incorporated into the closure design. Closure funding is only available for a complete closure, which includes pedestrian and bike access.



LEGEND

EXISTING		PROPOSED
	CROSSING GATE	
	CONSTANT WARNING TIME CROSSING	
	CROSSBUCK	
	WARNING LIGHTS	
	MEDIAN	
	PAVEMENT MARKINGS	
	GRAVEL SURFACING	
	PAVEMENT/DRIVEWAY REMOVAL	
	4' HMA WIDENING	

MEASURE MEDIAN LENGTH FROM GATE ARM TO FULL HEIGHT OF MEDIAN

NO.	REVISION DESCRIPTION	APPROVED	DATE

CLIENT: DMATS

ANDERSON BOGERT

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DATE: JUNE 2023
PROJECT NO. 222053

FIGURE 33

CROSSING 19: E 15TH STREET CONCEPT

TASK 9

CROSSING 20: E 16TH STREET

E 16th Street is classified as a local street. A few hundred feet to the east at Sycamore Street, the roadway classification changes to a minor arterial. With a width of about 41 feet between the curbs, the concrete approaches are in good shape (see Figure 34). The City of Dubuque is currently in the process of redeveloping the southwest, southeast, and northeast quadrants of this crossing into city park space. For the purpose of this report, it is assumed that future city development will place new access points at least 60 feet from the location of future railroad gate arms. Anderson Bogert would suggest that all new access points be placed at least 100 feet from future railroad gate arms if feasible. This crossing has one of the highest risk numbers and corresponding predicted collision frequencies of all crossings within this study.

Figure 34 - E 16th Street Crossing

Diagnostic Review

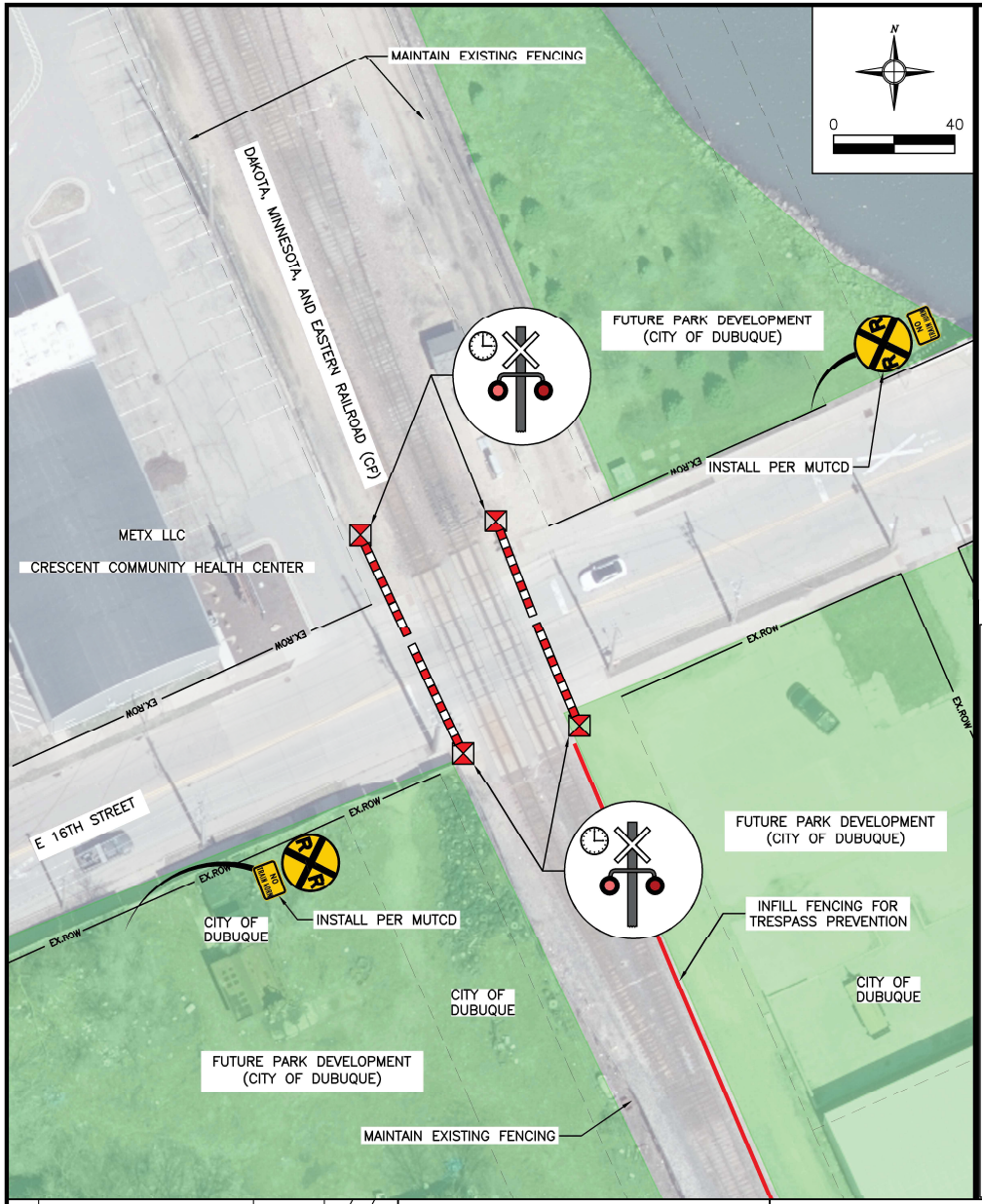
The city identified a 4-quadrant gate system as the most likely signal SSM application at this location. The neighboring property on the northwest quadrant involves a health facility. Reconfiguration of the parking lot and property is not a likely option based on experience with the property owners. The existing sidewalks will need realignment to accommodate a new gate system.

SSM: 4-Quadrant

A 4-quadrant gate is feasible for installation at this location. Installation of gates on all approaches will eliminate the need to close or relocate any access points and intersections in close proximity. A 4-quadrant system could also provide flexibility in the city's ongoing development plans, allowing new access points to be added within 100 feet of the railroad gates.

SSM: 2-Quad Gates

At minimum, a new 2-quadrant system will need to be installed at this location. The addition of medians to make this location an SSM will require the relocation of one commercial access in the northwest quadrant. The parking lot is currently configured as a one-way south path, exiting to 16th Street. This one-way portion of the parking lot is not quite wide enough (less than 60 feet) for 90-degree parking with a 2-directional aisle per the current SUDAS design standards. Closure of the commercial drive would result in the loss of one row of parking stalls within the commercial lot (see Figure 35). After consultation with the city, closure of the NW quadrant driveway is considered impractical. Therefore, 2-Quadrant gates as pictured below is not a feasible SSM at this location.



LEGEND

EXISTING		PROPOSED
	CROSSING GATE	
	CONSTANT WARNING TIME CROSSING	
	CROSSBUCK	
	WARNING LIGHTS	
	MEDIAN	
	PAVEMENT MARKINGS	
	GRAVEL SURFACING	
	PAVEMENT/DRIVEWAY REMOVAL	
	4' HMA WIDENING	

MEASURE MEDIAN LENGTH FROM GATE ARM TO FULL HEIGHT OF MEDIAN

NO.	REVISION DESCRIPTION	APPROVED	DATE

CLIENT: DMATS

ANDERSON BOGERT

DRAWN BY: JMS APPROVED BY: BJJ
DATE: JUNE 2023
PROJECT NO. 222053

FIGURE 35

CROSSING 20:
E 16TH STREET
CONCEPT

TASK 10

SSM: One-Way Conversion or Closure

16th Street is a direct route from the downtown area of Dubuque directly to and from US-151. Closure or conversion would require traffic to divert southward to 14th Street or Kerper Boulevard which run through industrial area prior to entering downtown. With the planned future park development, traffic coming into Dubuque would be able to travel over the greenway and through the new park before entering/exiting downtown. An additional traffic impact study would need to be conducted to estimate possible traffic impacts to neighboring streets. Closure and/or conversion are not the most feasible alternatives.

CROSSING 21: CP NORTHERN DUBUQUE YARD

As a private crossing, the city must comply with the findings of a diagnostic review team. This yard is located approximately ¼ mile north of 16th Street and is not accessible to the public.

Diagnostic Review

The diagnostic team determined that no formal crossing exists at this location. There is a new underpass located on the south end of the yard, which does not have a designated crossing ID number. After reviewing the yard, the diagnostic team did not have any additional recommendations or requirements beyond railroad notification to internal employees.

CROSSING 22: HAWTHORNE STREET

Hawthorne Street is an asphalt road with concrete curbs. It is about 48 feet wide. Equipped with 2-quadrant gates actuated by constant warning time devices, this crossing is compliant with the minimum quiet zone requirements. The existing asphalt pavement appears to be in fair condition, with fatigue cracking present (see Figure 36).

Figure 36 – Hawthorne Street Crossing

There are three driveways within 60 feet of the gate arms. On the southwest quadrant, there is a commercial access immediately next to the gate arm. A similar access exists on the southeast quadrant. On the northeast, there is a locked private gate across an access drive to the Dubuque Eagle Point Water Plant. The main entrance for the water plant is also securely gated and located outside 100 feet from the gate arms.

Diagnostic Review

The diagnostic team determined that the existing signal equipment was compliant with minimum quiet zone standards. To implement a median SSM, the existing water treatment driveway will need to be relocated outside of 60 feet from the gate arm, and two driveways on the south side must be closed. The city and railroad were unsure on who owns or is responsible for a gravel storage alleyway adjacent to the tracks on the southwest quadrant. After consultation with the city and property owner on the southwest quadrant, the city preferred to avoid closing these property access points.

SSM: 4-Quadrant Gates

4-quadrant gates would be a feasible alternative at this location. This upgrade would eliminate the need to adjust/close/relocate the commercial access which is adjacent to the existing gate arm structure. However, a 4-qudrant gate may not be the most cost-efficient path to quiet zone creation.

SSM: 2-Quad Gates

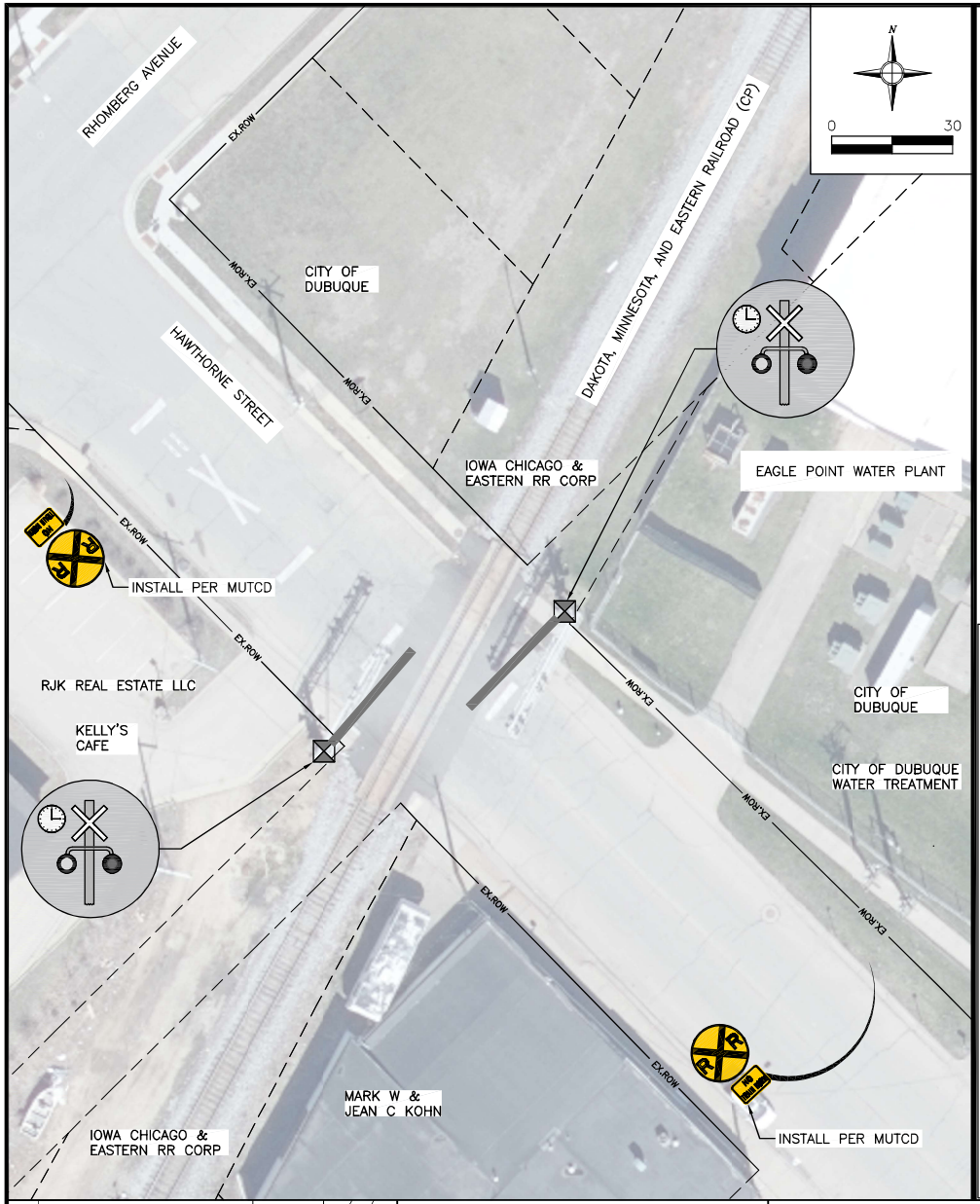
With an existing 2-quadrant system actuated by constant warning time devices, the simplest and cheapest SSM would be 2-Quadrant gates. The roadway contains adequate width to allow the comfortable passage of all types of vehicles. There are existing driveway access challenges at this location which make installation of medians challenging. If no SSM credit is taken at this location, the city may consider installing some length of permanent medians or channelizers along the road in response to silencing horns. In effect, the 3 commercial access points within 60' could remain but would then effectively become right-in-right out. Additional confirmation should be made to ensure the vehicles typically using these access points can still navigate with a restrictive median.

SSM: One-Way Conversion or Closure

The Hawthorne Street and Lincoln Avenue crossings are located a short distance apart. Of the two crossings, Hawthorne Street serves significantly more daily traffic (around 3,000 vehicles) compared to Lincoln Avenue (about 800). There are several other crossing points for properties lying between the railroad and the river, including access points to US-151 which do not involve crossing any railroad tracks. Kerper Boulevard is a divided four-lane roadway beginning just a few hundred feet south of this crossing, providing easy access to the rest of Dubuque.

At minimum, one of the two crossings between Hawthorne Street and Lincoln Avenue should remain open to maintain general roadway network redundancy and connectivity. Of the two railroad crossings, Hawthorne Street is not recommended for closure.

A one-way conversion may provide similar connectivity issues as mentioned above. Furthermore, the existing equipment is already compliant with minimum requirements. A one-way conversion would require a new gate system.



LEGEND

EXISTING		PROPOSED
	CROSSING GATE	
	CONSTANT WARNING TIME CROSSING	
	CROSSBUCK	
	WARNING LIGHTS	
	MEDIAN	
	PAVEMENT MARKINGS	
	GRAVEL SURFACING	
	PAVEMENT/DRIVEWAY REMOVAL	
	4' HMA WIDENING	

MEASURE MEDIAN LENGTH FROM GATE ARM TO FULL HEIGHT OF MEDIAN

NO.	REVISION DESCRIPTION	APPROVED	DATE

CLIENT: DMATS

ANDERSON BOGERT

DRAWN BY: JMS APPROVED BY: BJJ
DATE: JUNE 2023
PROJECT NO. 222053

FIGURE 37

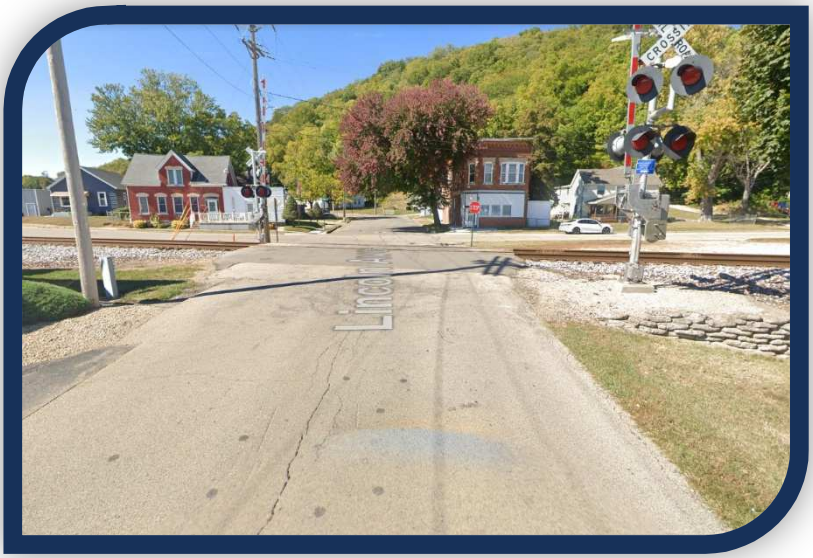
CROSSING 22: HAWTHORNE STREET CONCEPT

TASK 11

CROSSING 23: LINCOLN AVENUE

Lincoln Avenue is a rural-section asphalt roadway. It has a width of about 24 feet and is equipped with a 2-qudrant gate system actuated by constant warning time devices. Rhomberg Avenue and several commercial driveways are located within 60 feet of the gate arms on all quadrants of the crossing.

Figure 38 - Lincoln Avenue Crossing



Diagnostic Review

The diagnostic review team identified vulnerable roadway user demand at this location, primarily bikes. For this reason, any closure or safety improvement should account for these users. The team determined that the existing equipment is compliant with the minimum quiet zone requirements. The abutting properties on the NW and SE quadrants are owned by the same person. It is frequently used when traveling between the two properties.

SSM: 4-Quadrant Gates

This location could be a candidate for 4-quadrant gate upgrades to achieve an SSM. The improvements would likely need to include overhead electric adjustment to avoid conflicts with the vertical gate arm. The proximity of nearby roads and commercial property accesses is such that the 4-quadrant gate eliminates the requirement to close/relocate/remove adjacent access points. Since this crossing has a low daily volume compared with many others within the study, it may be more economically advantageous to target 4-quadrant risk reductions at other locations on the rail line.

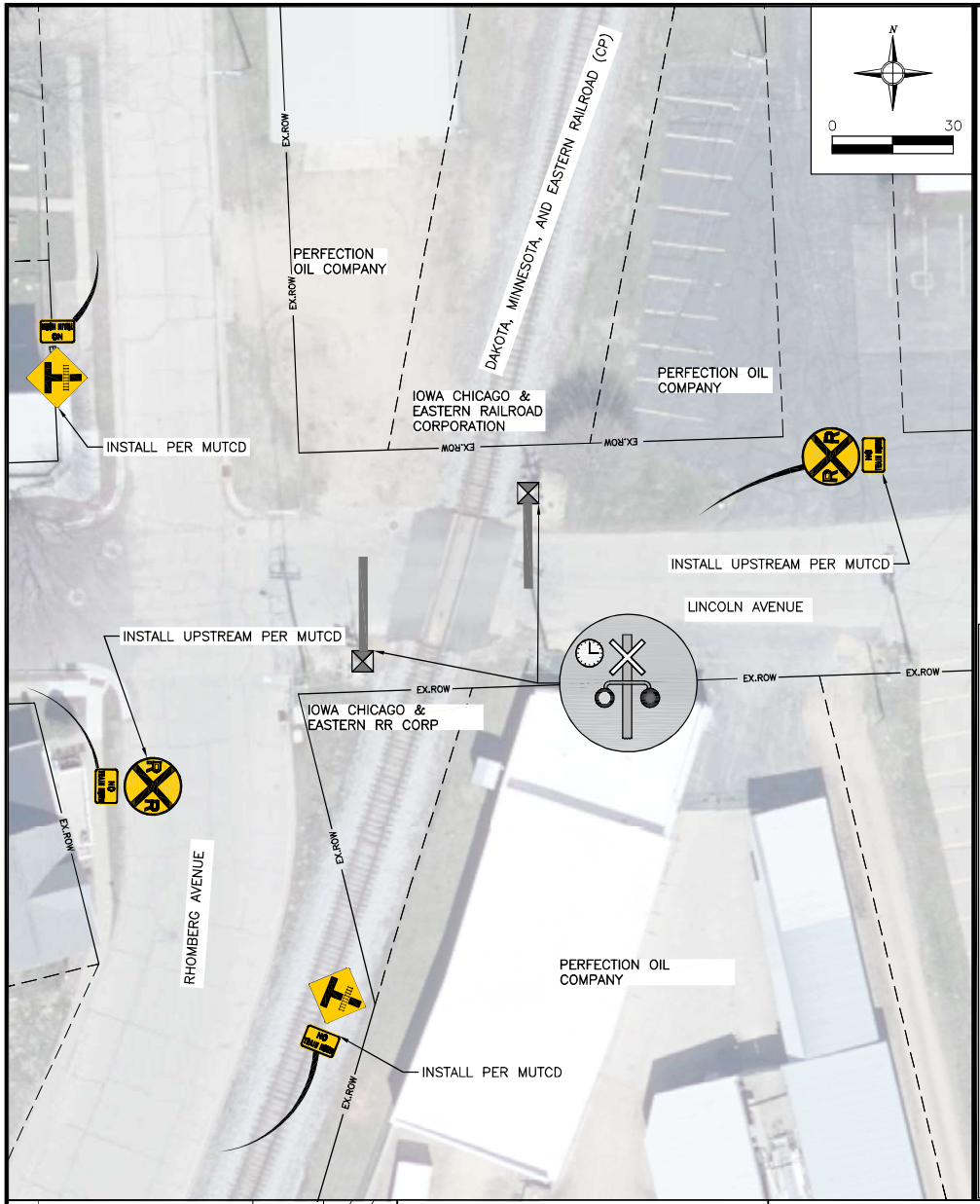
SSM: 2-Quad Gates

Installing medians at this location to achieve a compliant SSM would be both economically and geometrically infeasible. Such medians would require the relocation/closure of Rhomberg Avenue and several commercial driveways on the east side of the crossing. Additional roadway pavement width would also be recommended. For this reason, a 2-Quadrant median SSM would not be recommended at this location.

SSM: One-Way Conversion or Closure

A one-way conversion at this location would be possible but would not provide any improvement to general roadway connectivity and traffic flow. The required diversion route for this conversion would likely be to use the neighboring crossing at Hawthorne Street to the south. This diversion will have a perceived delay/inconvenience associated with it. Couple this with the generally low traffic volume, and the city may want to consider the possibility of compliance issues with a one-way restriction. Without a perceived concern for safety (possibility of meeting oncoming traffic), or regulatory consequence (traffic law enforcement), one-way signs and upright railroad gates may not be sufficient to discourage wrong-way driving.

This crossing could be another candidate for closure. The properties lying between the railroad and river have several other crossing/access opportunities (Hawthorne Street, Fengler Street, Kerper Boulevard, US-151) even with this crossing closed. Based on existing roadway network geometrics, it does not appear that the closure of this crossing would cause a major decrease in site visibility or access to major arterial roadways. As mentioned in the Hawthorne Street discussion, this crossing serves a lower amount of traffic compared to surrounding crossings. Railroads and state entities may also offer monetary incentives for crossing closure which may make closure of this crossing the most economically feasible alternative.



LEGEND

EXISTING		PROPOSED
	CROSSING GATE	
	CONSTANT WARNING TIME CROSSING	
	CROSSBUCK	
	WARNING LIGHTS	
	MEDIAN	
	PAVEMENT MARKINGS	
	GRAVEL SURFACING	
	PAVEMENT/DRIVEWAY REMOVAL	
	4' HMA WIDENING	

MEASURE MEDIAN LENGTH FROM GATE ARM TO FULL HEIGHT OF MEDIAN

NO.	REVISION DESCRIPTION	APPROVED	DATE

CLIENT: DMATS

ANDERSON BOGERT

DRAWN BY: JMS APPROVED BY: BJJ
DATE: JUNE 2023
PROJECT NO. 222053

FIGURE 39

CROSSING 23: LINCOLN AVENUE CONCEPT

TASK 12

CROSSING 24: RIVERSIDE ROAD

Riverside Road is a unique crossing. There are 2 sets of tracks, one being the CP mainline, and the other being a CP siding. Separated by about 84 feet, the two sets of tracks are listed as a single crossing in the FRA database. The mainline track contains 2-quadrant gates without constant warning time actuation. The siding contains flashing lights and bell only. The siding does not serve any industrial or commercial business, and shares warning devices with the mainline. Thus, this situation appears to generally fall within single crossing designation and eligibility for inclusion in a railroad quiet zone. The existing pavement is less than 24 feet in width and is in poor condition (see Figure 40).

Figure 40 - Riverside Road Crossing

Diagnostic Review

The crossing consists of two separate active warning device systems. Neither system is compliant with minimum quiet zone requirements. The team determined that each track would be required to have individual sets of compliant warning systems. The gate system on the siding will need a constant warning time waiver from the FRA since it is not practical for installation on the siding track. A median SSM could work here but would provide possible compliance issues with adjacent property owner access. If gates were installed at both crossings, additional escape opportunities should be provided adjacent to the road between the tracks to avoid a vehicle becoming "trapped" between the two systems. There are also not many opportunities for turnarounds on the roadway, even for commuter vehicles. Consideration should be given to providing such an opportunity with future improvements.

SSM: 4-Quadrant Gates

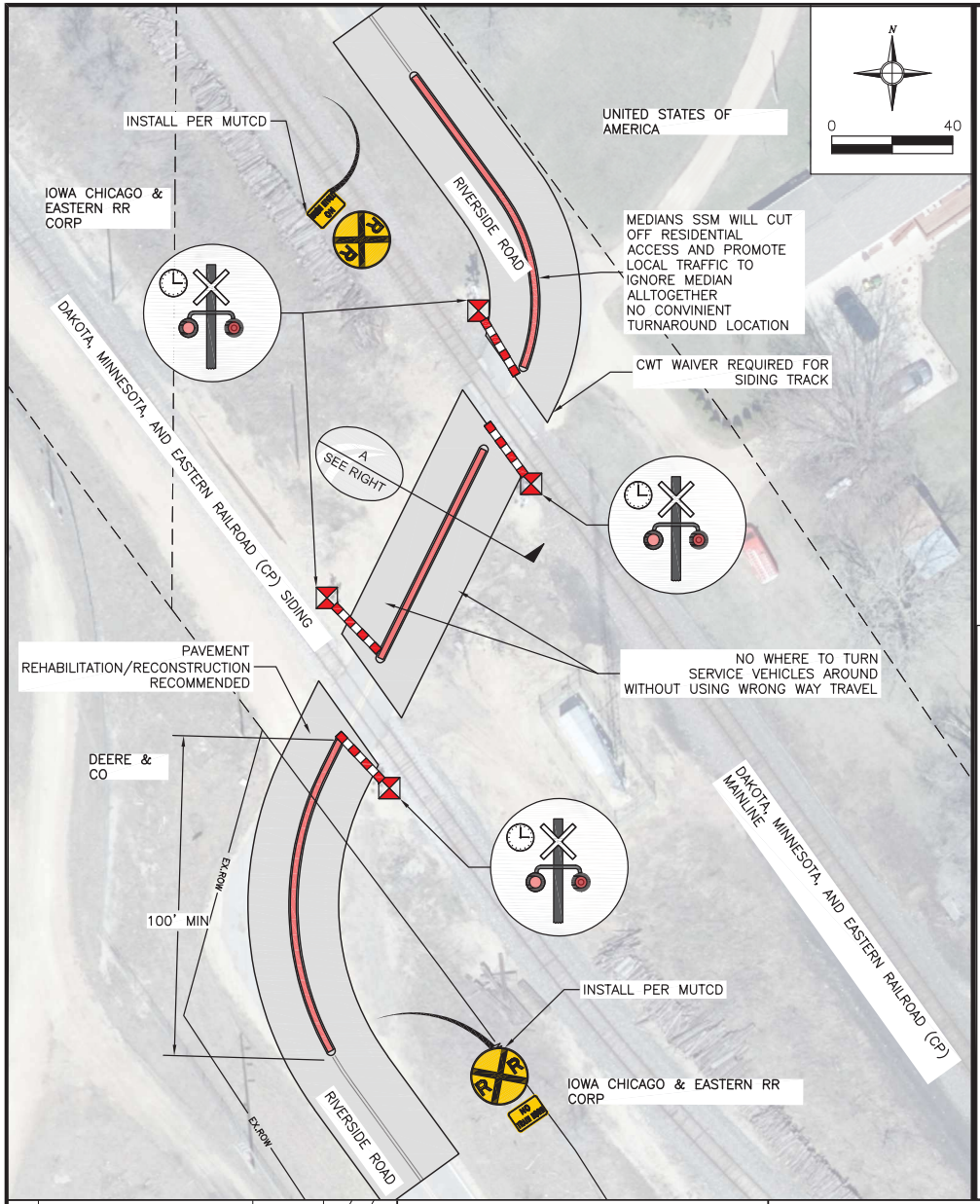
At this location, a 4-quadrant gate system is more nearly an 8-quadrant system since each track would get a 4-quadrant gate. The distance between tracks could allow a vehicle to be "stuck" or "trapped" between the two sets of tracks. For instance, a vehicle could begin crossing the siding line at which point a train activates the warning devices on the mainline. The gates will likely descend into place after the vehicle crosses the siding but before it can clear the mainline. Thus, each track should have its own warning system. At around 250 daily vehicles, the cost of a double 4-quadrant upgrade could be over $1.5 million. The associated cost may not be proportional to the noise reduction benefit received by the few surrounding homes. This may not be the most economic path to creating a railroad quiet zone at this location.

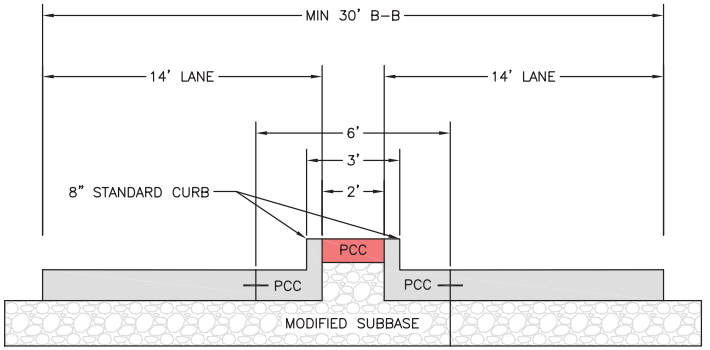
SSM: 2-Quad Gates

At minimum, both signals will need to be upgraded with a new 2-quadrant constant warning time system. Since there are no access points on the southern side, medians would need to extend 100 feet from the gates (see Figure 41**).** On the north side, private residential access points are not required to be closed. There are 2 access points within and "behind" the existing gate. Any medians will likely require the reconstruction of railroad approaches due to the poor existing pavement conditions. Consideration should be given to realigning the north approach to allow the gate to manage this approach more effectively. Riverside Road does not have many options for vehicles to "turn around", especially those pulling trailers. The local owners may therefore not have many other options except to ignore newly installed medians and proceed on the wrong side of the road. A median SSM with a median between the two tracks would also present concerns for vehicles accessing the communication tower and signal bungalow. Vehicles will be required to arrive and use private property to turn around, or travel on the wrong side of the roadway.

SSM: One-Way Conversion or Closure

This crossing provides the only land access to an existing park and several residential properties. Closure or one-way conversion are not feasible options at this location.





A
SEE LEFT

TYPICAL SECTION
N.T.S.

LEGEND

EXISTING		PROPOSED
	CROSSING GATE	
	CONSTANT WARNING TIME CROSSING	
	CROSSBUCK	
	WARNING LIGHTS	
	MEDIAN	
	PAVEMENT MARKINGS	
	GRAVEL SURFACING	
	PAVEMENT/DRIVEWAY REMOVAL	
	4' HMA WIDENING	

MEASURE MEDIAN LENGTH FROM GATE ARM TO FULL HEIGHT OF MEDIAN

NO.	REVISION DESCRIPTION	APPROVED	DATE

CLIENT: DMATS

ANDERSON BOGERT

DRAWN BY: JMS APPROVED BY: BJJ
DATE: JUNE 2023
PROJECT NO. 222053

FIGURE 41

CROSSING 24: RIVERSIDE ROAD CONCEPT

CROSSING 25: GOLF LAKE ROAD

Golf Lake Road is a rural section HMA roadway. It's about 21 feet in existing width and serves less than 25 vehicles a day according to the most recent Iowa DOT traffic data. On the west approach there are no access points within 100 feet. On the east approach, Golf Lake Road continues northward paralleling the railroad. This road is within 60 feet of the railroad crossing (see Figure 42). The crossing is not currently equipped with gates or constant warning time devices.

Figure 42 - Golf Lake Road Crossing

Diagnostic Review

The diagnostic team noted that there have been no concerns of low-clearance vehicles dragging on the crossing or having issues with turning near the crossing. The team noted that a median SSM may work at this location provided the park driveway on the east side is relocated to allow for a 60' median.

SSM: 4-Quadrant Gates

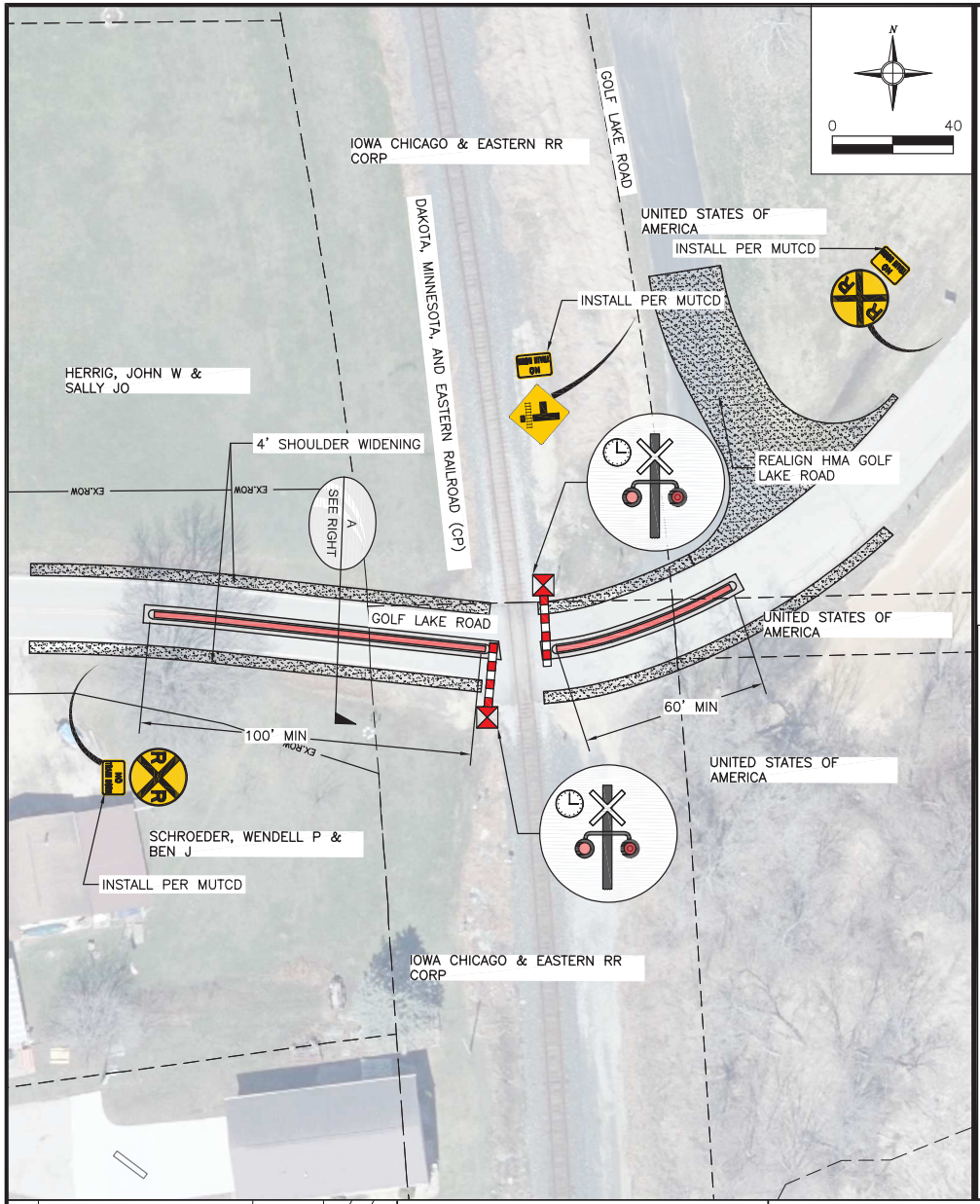
4-quadrant gates would be an acceptable upgrade at this location. However, other SSMs would provide similar risk reduction for smaller initial and reoccurring maintenance costs.

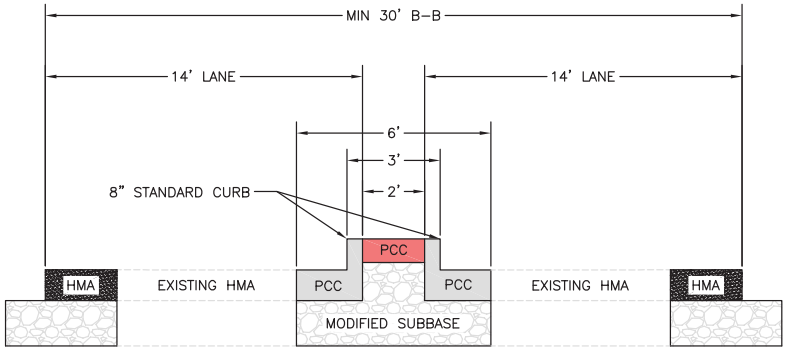
SSM: 2-Quad Gates

At minimum, the crossing will need to be equipped with a new 2-Quadrant gate system actuated by constant warning time devices. Since Golf Lake Road parallels the railway within 60 feet, it will need to be relocated or reconfigured so that there are no access roads within 60 feet (see Figure 43). Since the existing roadway is less than about 27 feet in width, the county will need to consider widening the roadway surface to accommodate a central median or channelizers. With the likelihood of trailers and boats, adequate width is essential to maintain ease of access for recreational vehicles and trailers.

SSM: One-Way Conversion or Closure

This crossing provides the only point of access for many residential, commercial, and park properties. Closure and one-way conversion are not feasible at this location.





A
SEE LEFT

TYPICAL SECTION

N.T.S.

LEGEND

EXISTING PROPOSED

- CROSSING GATE
- CONSTANT WARNING TIME CROSSING
- CROSSBUCK
- WARNING LIGHTS
- MEDIAN
- PAVEMENT MARKINGS
- GRAVEL SURFACING
- PAVEMENT/DRIVEWAY REMOVAL
- 4' HMA WIDENING

MEASURE MEDIAN LENGTH FROM GATE ARM TO FULL HEIGHT OF MEDIAN

NO.	REVISION DESCRIPTION	APPROVED	DATE

CLIENT: DMATS

ANDERSON BOGERT

DRAWN BY: JMS APPROVED BY: BJJ
DATE: JUNE 2023
PROJECT NO. 222053

FIGURE 43

CROSSING 25:
GOLF LAKE ROAD
CONCEPT

CROSSING 26: 6TH STREET

6th Street contains asphalt approaches. The southern approach is just over 27 feet in width, whereas the north side is closer to 40 feet in width. Menominee Road parallels the railroad tracks on the south side and intersects 6th Street within 60 feet of the railroad gate arm. There is a railroad gravel access pad in the southeast corner of the crossing, a gravel railroad access road on the northwest corner, and a commercial parking lot on the northeast corner (see Figure 44). This crossing ranks in the highest 5% in estimated risk and predicted collisions for the state of Illinois, and is the highest calculated risk of all crossings within the study area.

Figure 44 – 6th Street Crossing

Diagnostic Review

The diagnostic team noted that this crossing was lacking the required MUTCD compliant signage. There is not currently any pedestrian demand at this location, nor is there future desire for accommodation. The signal equipment is compliant with minimum quiet zone requirements but will require constant warning time waivers from the FRA on the 2 outer crossings which are "stop and wait". The team suggested that curbs should be installed on the approaches to ensure signal gates are appropriately offset from the traveled way per the MUTCD. The adjacent roadway Menominee would require relocation outside of 60 feet from the gate, along with the commercial access on the northeast quadrant.

While not required, the diagnostic team strongly recommended consideration of fencing along the north side of the railroad which will discourage pedestrians from crossing between roadways.

SSM: 4-Quadrant Gate System

The crossing could be upgraded to a 4-quadrant system. This would not require any additional closures or geometry changes to the intersection. The upgrade may not be the most cost-efficient alternative for this location.

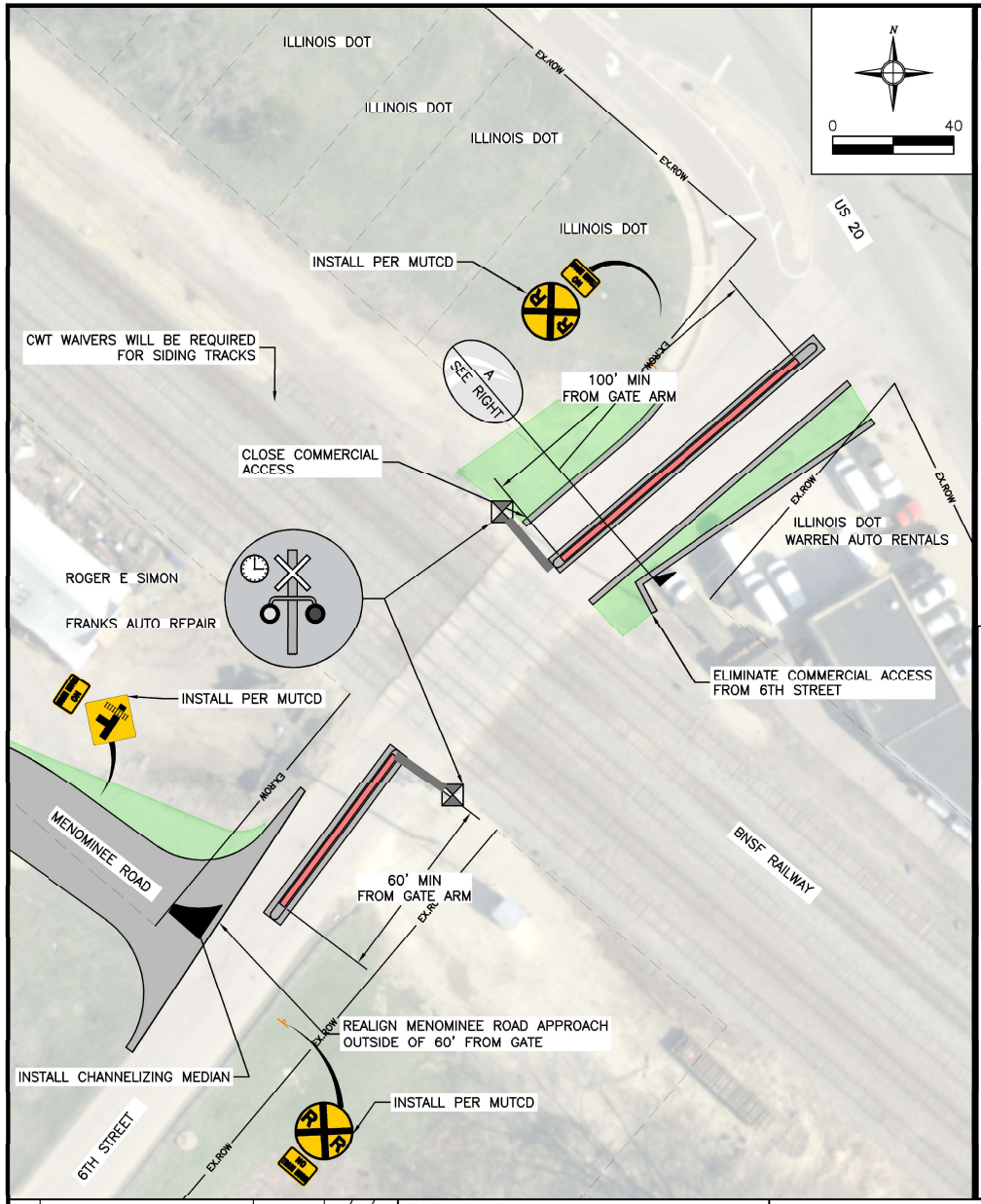
SSM: 2-Quadrant Gate System

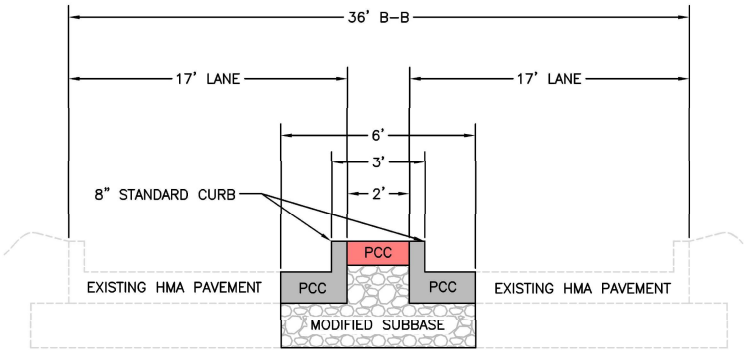
The existing 2-quadrant Gate system appears to comply with quiet zone regulations based on information provided in the current inventory form. These signals could be utilized with additional improvements installed by the city to achieve a 2-quadrant SSM. Since Menominee Road is within 60 feet, it will need to be realigned outside of the distance requirement (see Figure 45). Medians would be the preferred method of lane separation, but channelizers could also be acceptable at a cost of reduced durability.

The north approach will require that both edges of the existing pavement also receive concrete curbs and gutter. Both the gravel access road and the commercial lot are within 60 feet. Therefore, to achieve a 2-quadrant gate system, both must be removed since relocation is impractical. Furthermore, an CWT waiver is required to comply with quiet zone requirements. An additional and specific review with unanimous agreement that CWT is impractical on all tracks must be acquired before the existing equipment is technically considered "acceptable."

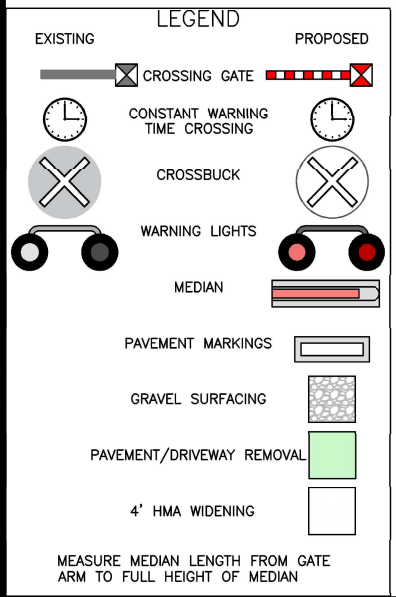
SSM: One-Way Conversion or Closure

6th Street provides one of only three crossings to the south half of East Dubuque. Removal or conversion of this crossing could eliminate an essential redundancy. This route is also the most direct for several boat access locations. Heavy boat traffic may be forced to divert through residential streets to cross the railroad at 2nd Street or 4th Street. A one-way conversion would also still require signal work (with associate signal costs) to be completed. Any improvements should also consider whether pedestrian access is desirable at this location at any point in the future. Improvements made for a quiet zone should take this possibility into account.





A SEE LEFT TYPICAL SECTION – NORTH APPROACH N.T.S.



NO.	REVISION DESCRIPTION	APPROVED	DATE

CLIENT: DMATS

ANDERSON BOGERT

DRAWN BY: JMS APPROVED BY: BJJ
DATE: JUNE 2023
PROJECT NO. 222053

FIGURE 45

CROSSING 26: 6TH STREET CONCEPT

TASK 13

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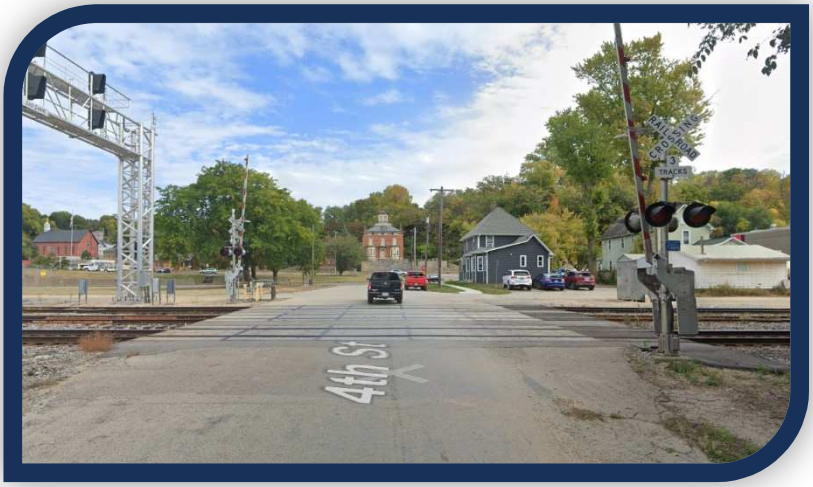
CROSSING 27: 4TH STREET

4th Street serves the most traffic of the three existing public crossings in East Dubuque. The existing pavement is asphalt/overlay, with concrete curbs on the north approach only. The north approach is slightly wider than the southern approach. Within the city limits, the only designated pedestrian crossing facility is located on the east end of this crossing at 4th Street. An asphalt path exceeding about 6 feet in width is provided behind the existing gate.

There are no residential/commercial access points or intersections within 100 feet of the gate on the southern approach. The northern approach appears to contain access points on both sides of 4th Steet, within about 40 feet of the gate (see Figure 46).

Figure 46 – 4th Street Crossing



Diagnostic Review

The diagnostic team suggested that this crossing is the most appropriate pedestrian crossing in the city. The other two crossings serve primarily commercial or recreational vehicle traffic. This crossing is in closest proximity to the residential neighborhood. This crossing is also missing MUTCD advanced signing. The signal gates and outer tracks are compliant with minimum quiet zone requirements. The middle track is a siding and will require a constant warning time waiver from the FRA since constant warning time is not practical for low-speed or stationary tracks. Future land use on the north side of the railroad has been reserved for a future Mississippi River bridge replacement. In the temporary condition, the adjacent home on the north side of the tracks is commercial property. The commercial access to 4th Street and adjacent gravel access roads must be removed and cut off with the use of curbs. The curbs should also be placed so that the signal equipment maintains appropriate setback from the roadway edge per the MUTCD. The team also recommended that the existing sidewalk along the west side of 4th Street be removed so that pedestrians cross at the correct location.

SSM: 4-Quadrant Gate System

The current system could be upgraded to a 4-quadrant gate system. The 4-quadrant upgrade would not require the closure or relocation of adjacent driveways/access points. However, since the existing signal equipment is generally compliant with minimum requirements (with FRA warning time waver), a 2-quadrant system may be a more cost-effective way to reduce risk.

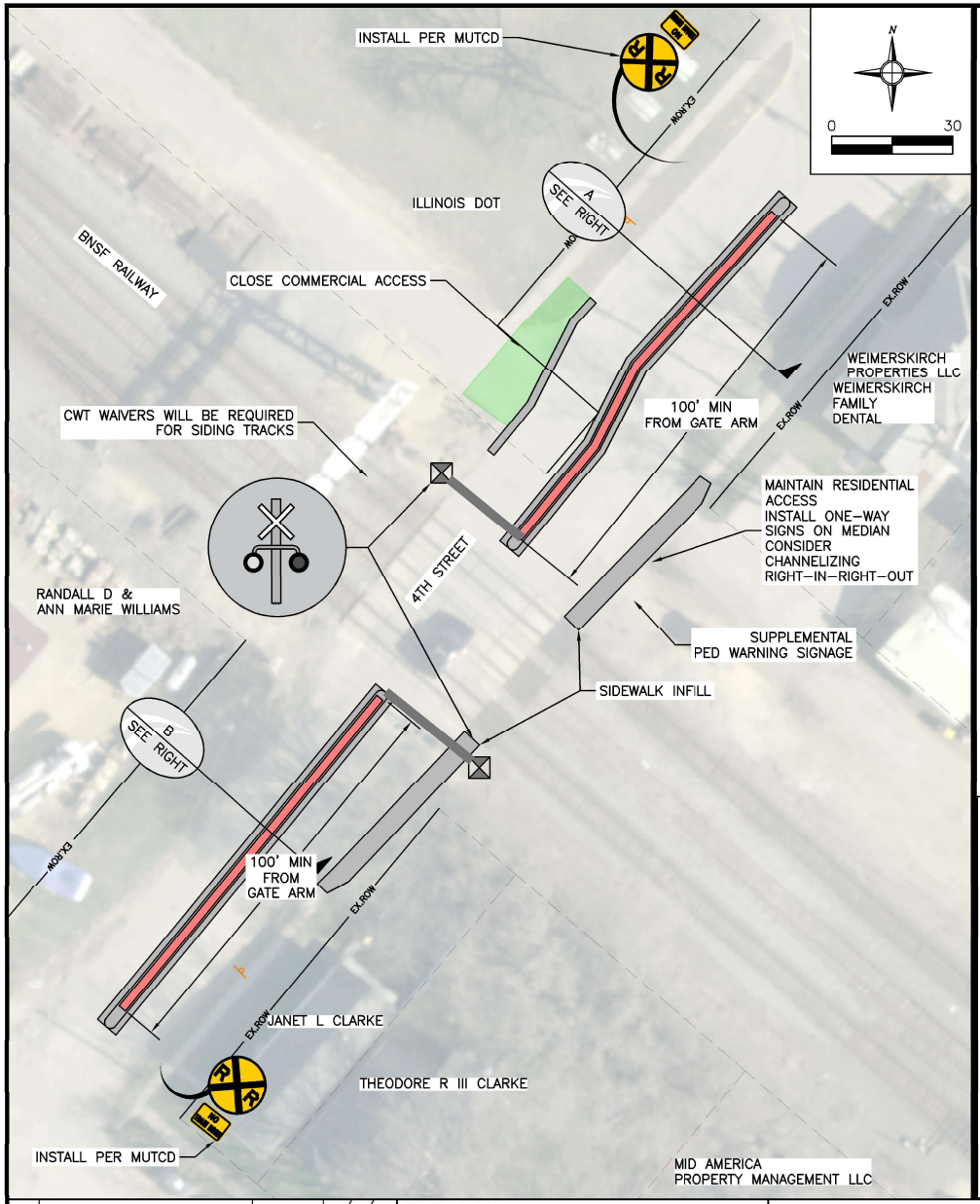
SSM: 2-Quadrant Gate System

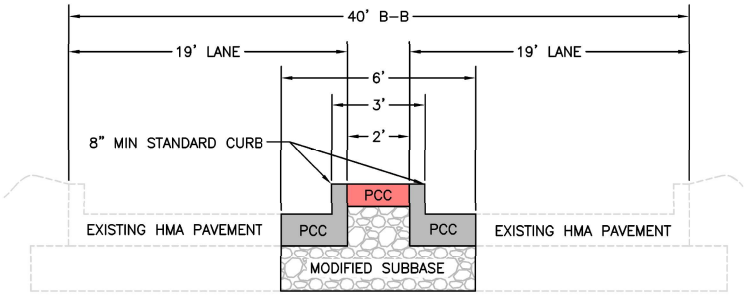
According to the current inventory form, the current 2-quadrant system appears to be compliant with quiet zone minimum requirements subject to an FRA warning time waver on the center track. As a part of any improvements, the city should consider upgrading the pedestrian facilities at this location in accordance with current PROWAG requirements. A crossing path over the railroad has been provided for pedestrians, but the approaching sidewalks do not connect. Since neither of the other two crossings to the south side of town provide pedestrian facilities, this crossing provides an essential location to prioritize pedestrian crossing and safety.

The use of a median SSM at this location will require closure of the commercial access point on the northwest portion of the crossing (see Figure 47). The road currently appears to be used by BNSF for maintenance and laydown. The laydown area is accessible from 3rd Street. This gravel access could also be relocated more than 60 feet from the gate with further coordination from the landowner (Illinois DOT). The northeast quadrant contains a commercial dentistry office. The gravel access road will need to be removed, and alternate access be provided from 5th Street.

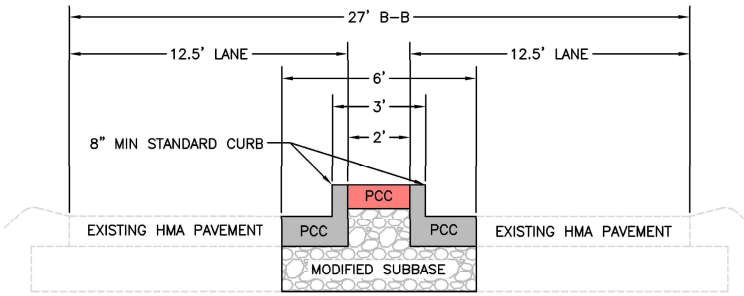
SSM: One-Way Conversion or Closure

A one-way conversion would require additional signal upgrades at this location. Being one of only 3 possible connections to the entire south half of town, essential redundancies could be severed by closing or converting the crossing. The only designated pedestrian crossing may also be affected. If all warning devices were to be moved to one approach, additional pedestrian treatments (pedestrian gates) may be needed. Closures and conversions are not recommended alternatives at this location.

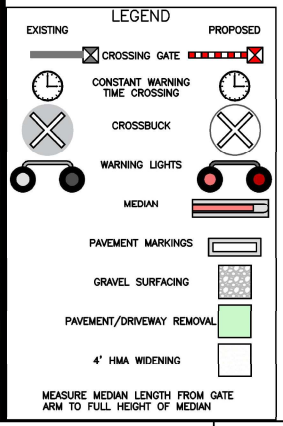




A SEE LEFT TYPICAL SECTION – NORTH APPROACH
N.T.S.



B SEE LEFT TYPICAL SECTION – SOUTH APPROACH
N.T.S.



NO.	REVISION DESCRIPTION	APPROVED	DATE

CLIENT: DMATS

ANDERSON BOGERT

DRAWN BY: JMS APPROVED BY: BJJ
DATE: JUNE 2023
PROJECT NO. 222053

FIGURE 47

CROSSING 27: 4TH STREET CONCEPT

TASK 14

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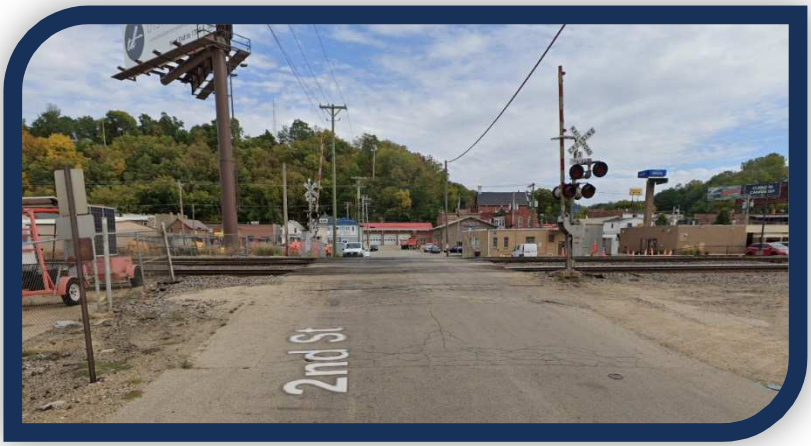
CROSSING 28: 2ND STREET

2nd Street is 34 feet wide and paved with asphalt. Despite its location in the downtown area of East Dubuque, there are no curbs on this roadway (see Figure 48). The asphalt pavement is in poor condition on both approaches. Any roadwork will likely require approach reconstruction and some abandoned track removal. The nearest commercial driveways are located at 60 feet (south approach) and closer than 30 feet (north approach) from the gate arms.

Figure 48 – 2nd Street Crossing



Diagnostic Review

The diagnostic team determined that the existing signal equipment was compliant with the minimum quiet zone requirements. Without a curb, the warning devices are technically closer to the pavement edge than provided by the MUTCD. Quiet zone improvements should include adding curbs so that signals are offset appropriately from the back of curb. This crossing is missing MUTCD required advanced signing which should be added as soon as feasible. This location does not appear to work with a median SSM due to adjacent USPS property access.

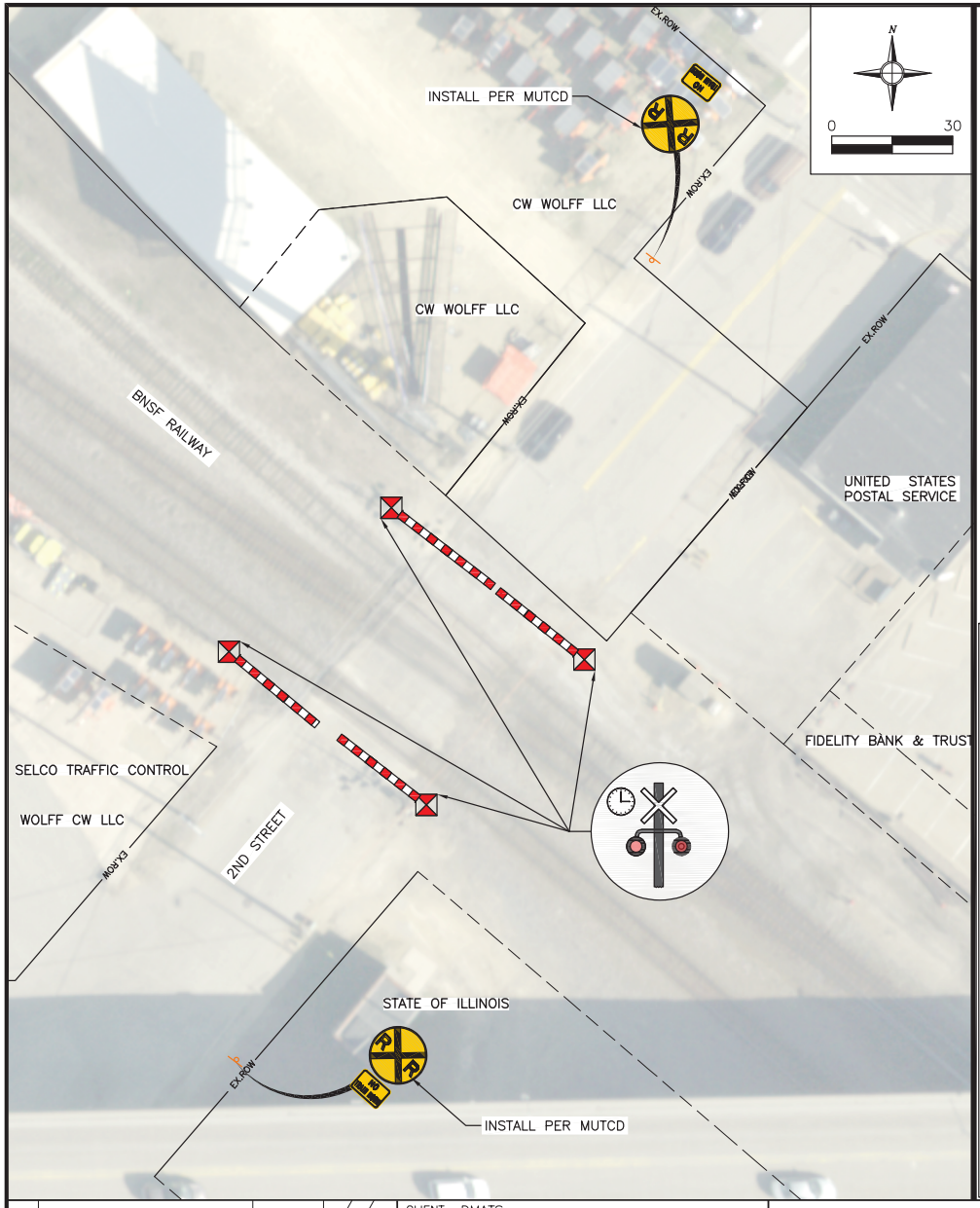
SSM: 4-Quadrant Gate System

Due to the location of adjacent properties and access points, a 4-quadrant upgrade is the preferred SSM option at this location. Roadway reconstruction/rehabilitation with curbs would still be required with a 4-quadrant install. The system would preserve the existing adjacent commercial access points. Additional coordination with the overhead electric utility may also be required.

SSM: 2-Quadrant Gate System

While the existing equipment meets minimum quiet zone requirements, adding medians would require removal and relocation of several adjacent commercial access points. The USPS office in the northeast quadrant would be particularly impacted since the only property access would be removed. Alternative access could only be provided through agreement with adjacent private property owners (see Figure 49).

Based on other crossings in the quiet zone, this location may be a candidate to be left as-is. If risk is reduced through improvements at the other crossings in this quiet zone, the crossing may not require any further action.



LEGEND

EXISTING		PROPOSED
	CROSSING GATE	
	CONSTANT WARNING TIME CROSSING	
	CROSSBUCK	
	WARNING LIGHTS	
	MEDIAN	
	PAVEMENT MARKINGS	
	GRAVEL SURFACING	
	PAVEMENT/DRIVEWAY REMOVAL	
	4' HMA WIDENING	

MEASURE MEDIAN LENGTH FROM GATE ARM TO FULL HEIGHT OF MEDIAN

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CLIENT: DMATS

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DATE: JUNE 2023
PROJECT NO. 222053

FIGURE 49

CROSSING 28: 2ND STREET CONCEPT

TASK 15

SSM: One-Way Conversion or Closure

2nd Street is one of only 3 public crossings to access the south half of East Dubuque. It serves as the primary access for several commercial businesses (utilizing heavy vehicles) and Mississippi River boat launch. Removal of this crossing would require heavy commercial and recreation vehicles to cross at 4th Street or 6th Street. This detour would require crossing a restricted width/weight bridge located on 3rd Street. This could trigger additional immediate improvements along the required detour route. The additional traffic will also be undesirable for residents living in the south half of East Dubuque.

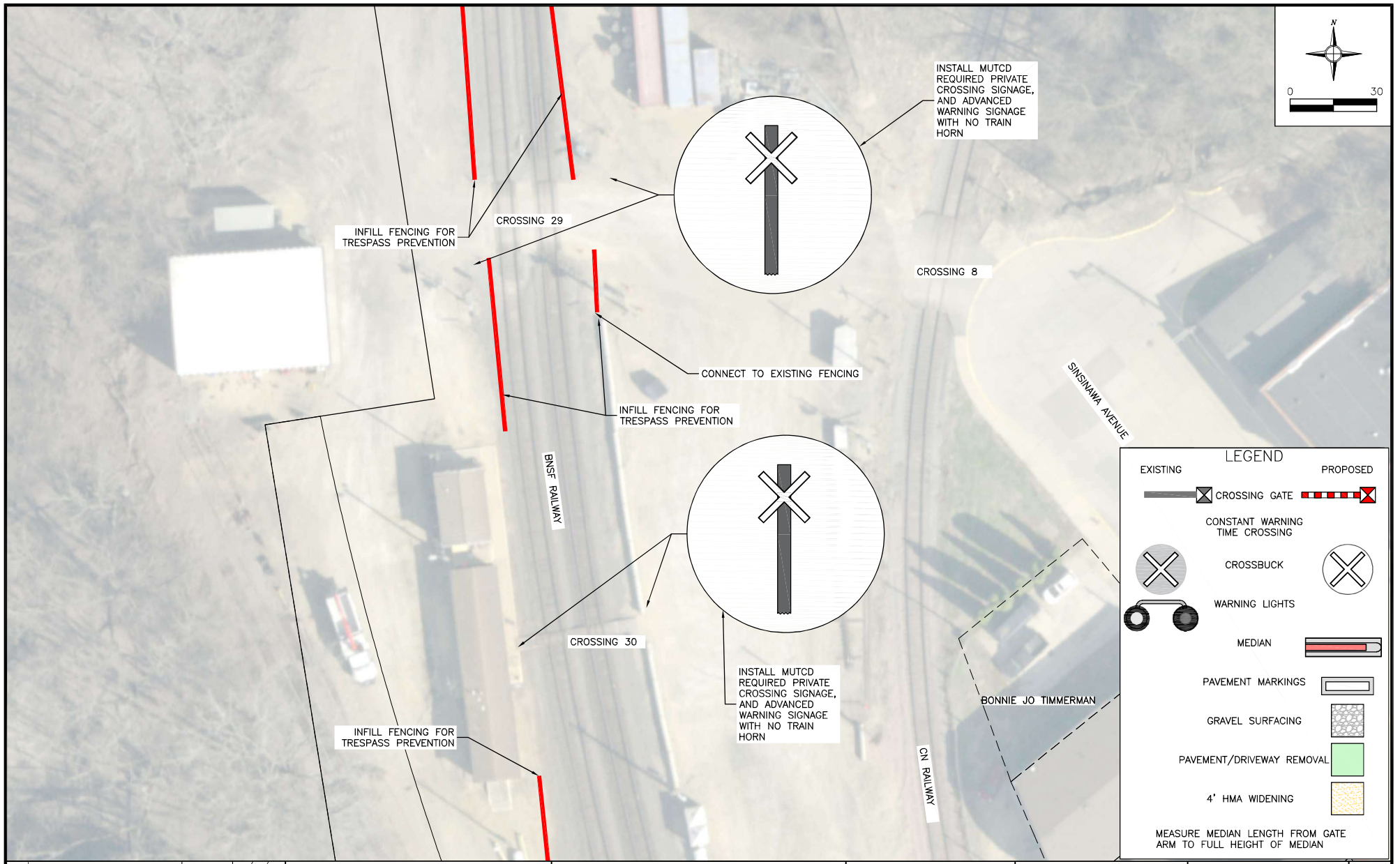
CROSSINGS 29 AND 30: BNSF YARD CROSSINGS

As private crossings, the City of East Dubuque and BNSF must comply with the findings of the diagnostic team. The crossings are located on BNSF property and are only accessed by BNSF staff. One location is a dual vehicle crossing, whereas the other is a pedestrian only crossing. The railroad does have barriers placed parallel to the tracks to force pedestrians to cross at the designated point (see Figure 50). Also shown in this figure towards the east is Crossing 8, which is located on a CN spur and was discussed previously in this report.

Diagnostic Review

The diagnostic team determined that BNSF trains do not routinely use their horns at this location. Additional signing stating "no trespassing" will be required at the end of Sinsinawa Avenue to further discourage use by the public. The team noted that fencing or barriers should be provided along both sides of the tracks in the vicinity crossings, at least several hundred feet to the north and south of each. The current site grading is relatively flat and does not provide an adequate natural barrier to discourage intermediate crossings within the BNSF yard.

BNSF also mentioned fencing be considered/added between the CN spur line and Sinsinawa Avenue. The fencing could connect to existing fencing in the rear of address 12 Sinsinawa Avenue and continue northward all the way to the CN tunnel. BNSF also needs to update crossbucks and warning signs at the crossings on their site to be compliant with MUTCD standards.



NO.	REVISION DESCRIPTION	APPROVED	DATE

CLIENT: DMATS

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DATE: JUNE 2023
PROJECT NO. 222053

FIGURE 50

CROSSINGS 29+30

TASK 16 & 17

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IV - QUIET ZONE DESIGNATION OPTIONS

This section discusses several options for the public entity to achieve each quiet zone under the federal regulations. Since there are many approved SSMs, there can be numerous "options" and combinations to achieve a quiet zone. This report can't directly cover every combination of improvements but has attempted to describe a representative selection for each quiet zone. Anderson-Bogert can provide additional scenarios with specific combinations as requested. Generally, the ballpark cost estimate provided represents a conceptual estimate of the initial construction cost in 2021. Public authorities should recognize the reoccurring maintenance costs are associated with each crossing system as well. Larger maintenance costs are associated with more robust active warning systems (such as a 4-quadrant gate system).

Each crossing has a risk number associated with it. Only some crossings in the project area were counted by the client, adjusted using DOT correction factors, and provided to Anderson-Bogert. Where counts were not provided, Anderson-Bogert utilized factored DOT turning movement diagrams adjacent to crossings, or the DOT interactive AADT map. Where the AADT map was utilized, 15% was added to the traffic counts due to the unverified accuracy of the map. Assuming that the minimum quiet zone improvements are in place at each crossing, Table 3 shows public crossing risk numbers within the study area at the time of this report.

Table 3 - DMATS Quiet Zone Assumed Base Risk Numbers

ID	FRA ID	Road	Policitcal Jursidiction	Operating Railroad	Baseline Risk Value**
1	306971L	Peosta (Main) Street	Peosta	CN	19,537.32
2	306970E	Cox Springs Road	Dubuque County	CN	6,848.34
3	306952G	Mines of Spain	City of Dubuque	CN	4,732.27
6	911770M	Jones Street	City of Dubuque	CN	8,808.57
11	376108Y	Massey Marina Lane	Dubuque County	CP	10,014.52
13	911776D	E 5th Street	City of Dubuque	CN	24,770.37
14	376119L	E 7th Street	City of Dubuque	CP	12,954.36
15	376121M	E 9th Street	City of Dubuque	CP	17,460.88
16	376122U	E 11th Street	City of Dubuque	CP	54,592.67
17	376123B	E 12th Street	City of Dubuque	CP	7,003.73
18	376125P	E 14th Street	City of Dubuque	CP	21,811.25
19	376126W	E 15th Street	City of Dubuque	CP	9,002.63
20	376127D	E 16th Street	City of Dubuque	CP	18,954.14
22	376131T	Hawthorne Street	City of Dubuque	CP	11,384.71
23	376132A	Lincoln Avenue	City of Dubuque	CP	12,933.55
24	376134N	Riverside Road	Dubuque County	CP	10,928.31
25	376136C	Golf Lake Road	Dubuque County	CP	3,635.65
26	306924D	6th Street	East Dubuque	BNSF	42,751.86
27	306926S	4th Street	East Dubuque	BNSF	17,615.00
28	306928F	2nd Street	East Dubuque	BNSF	16,099.99
**Baseline risk represents risk with minimum improvements, or existing conditions if already compliant.					

The risk number for an entire quiet zone (QZRI) is an average of all the public crossings within a particular quiet zone. Table 3 above helps to identify the critical crossings within the study area which have the highest associated risk. Making safety improvements at these high-risk crossings would have the largest impact on the overall average risk for a particular quiet zone. Based on the table above, the top five risk intersections within the study area are: E 11th Street (Dubuque), 6th Street (East Dubuque), E 5th Street (Dubuque), E 14th Street (Dubuque), and Peosta Street (Peosta).

Implementing an SSM at a crossing allows the public entity to apply a reduction to the risk number for that crossing (*baseline risk value* column in the table above). The preapproved risk reduction effectiveness values are listed within *Appendix A* of the federal regulations and described in greater detail previously in this report. For example, if an SSM with effectiveness factor of 0.8 is installed at E 5th Street, the risk number is reduced from 24,770 to about 4,954 when calculating the average risk for all crossings in the quiet zone.

If SSMs cannot be funded at every location, targeting the highest risk intersections could be a cost-effective way to achieve a new quiet zone. In all cases, we recommend the public entity consider some type of safety improvements at all locations where horns are silenced, even if no risk reduction credit is sought. For instance, a public entity may choose to install medians shorter than 60' or leave a commercial driveway in-place where full-length medians are installed without applying any risk reduction. This would still have safety benefit for the motoring public since horns have been silenced.

Another recommended practice is to reduce risk at all crossings which are the "easiest". For instance, if a crossing is not among the "most critical" in the quiet zone but contains adequate existing geometry to accommodate medians on both approaches, an 80% risk reduction could be achieved with minimal financial burden. Since risk within a quiet zone is the average of all public crossings, each reduction still helps lower the overall corridor average risk.

This section provides 4 options for each quiet zone. Due to the flexible nature of the regulations, many combinations are possible. It would not be feasible to discuss every possibility in this report. For this reason, additional scenarios could be analyzed upon request. The four typical options are described as follows:

- *Option A* is the most cost-prohibitive but durable option. This option places the most durable SSMs at each public crossing. This option could be considered an "ultimate long-term goal" for a quiet zone. Public entities may be able to designate the quiet zone sooner using cheaper methods. These crossings could then be upgraded to more durable/permanent improvements as funding becomes available.
- *Option B* involves installing SSM's at most, if not all crossings. Selected SSMs may involve channelizers which tend to require regular maintenance or replacement, and are less durable than medians which are typically presented in Option A.
- *Option C* represents a typical scenario where SSMs are installed at some, but not all the crossings. Enough SSMs have been implemented to a point where a buffer is present between calculated risk, and statistical risk benchmarks. This alternative generally involves completing minimum required improvements (2-Quadrant gates, etc.), and enough SSMs to "sufficiently" lower the QZRI below either the RIWH or NSRT. Anderson-Bogert cannot guarantee how far below the RIWH or the NSRT is "sufficient" to limit the chances of a quiet zone becoming noncompliant down the road. The only way to ensure that statistic benchmarks do not put a future quiet zone at risk is to install SSMs at all crossings and eliminate the need for comparison to these benchmarks.
- *Option D* is the cheapest and absolute minimum improvement required to designate a railroad quiet zone at the time of this report. This option does not necessarily provide any buffer or protection from the risk thresholds. It provides the quickest and cheapest option to achieve a quiet zone if implemented at the time of this report. Anderson-Bogert strongly advises against this option.

QUIET ZONE CN-1

The options for quiet zone CN-1 are summarized below in Table 4. Most of the costs associated with this quiet zone result from the required 2-quadrant gate upgrade at Cox Springs Road. Risk for the quiet zone is driven by Peosta Street which serves significantly more roadway traffic than Cox Springs Road. If SSMs were to be installed at a single location, Peosta Street should be targeted since it will provide maximum risk reduction.

Since both crossings are currently in separate political jurisdictions, they could be independently designated as quiet zones. However, this provides for the possibility of additional paperwork and coordination with the FRA in the future should Cox Springs Road be annexed into the City of Peosta. Since both crossings are located close to Peosta residential properties, we recommend that both locations be located within the same quiet zone rather than try to switch over with future annexation. Since these crossings are over ¼ mile apart, Peosta Street could be upgraded with medians in the near term and become a quiet zone. Cox Springs Road could be added in the future when adjacent development triggers roadway reconstruction improvements. The signals, crossing, and SSM medians could be added onto the Peosta quiet zone at that time.

Anderson-Bogert generally recommends *Option A* out of the 4 alternatives shown below.

Table 4 – CN-1 Options

Option	Number	Jurisdiction	Street	Type	FRA ID	Existing Safety Devices*	Upgrades**	SSM	Ballpark Cost	Calculated Risk
A	1	City of Peosta	Peosta (Main) Street	Public	306971L	2-Quad Gates, CWT	Medians	Yes	$ 60,000	3,907.46
	2	Dubuque County	Cox Springs Road	Public	306970E	Flashers/Signs	2-Quad with Median	Yes	$ 570,000	1,369.67
								Total Cost	$	630,000
								QZRI	2,638.57	OK, All SSMs
								NSRT	15,488.00	
								RIWH	7,909.37	
	*CWT - Constant Warning Time **In addition to MUTCD Signing									

Option	Number	Jurisdiction	Street	Type	FRA ID	Existing Safety Devices*	Upgrades**	SSM	Ballpark Cost	Calculated Risk
B	1	City of Peosta	Peosta (Main) Street	Public	306971L	2-Quad Gates, CWT	Channelizers	Yes	$ 30,000	4,884.33
	2	Dubuque County	Cox Springs Road	Public	306970E	Flashers/Signs	2-Quad with Channelizers	Yes	$ 530,000	1,712.09
								Total Cost	$	560,000
								QZRI	3,298.21	OK, All SSMs
								NSRT	15,488.00	
								RIWH	7,909.37	
	*CWT - Constant Warning Time **In addition to MUTCD Signing									

Option	Number	Jurisdiction	Street	Type	FRA ID	Existing Safety Devices*	Upgrades**	SSM	Ballpark Cost	Calculated Risk
C	1	City of Peosta	Peosta (Main) Street	Public	306971L	2-Quad Gates, CWT	Medians	Yes	$ 60,000	3,907.46
	2	Dubuque County	Cox Springs Road	Public	306970E	Flashers/Signs	2-Quad Gates	No	$ 500,000	6,848.34
								Total Cost	$	560,000
								QZRI	5,377.90	
								NSRT	15,488.00	OK, QZRI<NSRT
								RIWH	7,909.37	OK, QZRI<RIWH
	*CWT - Constant Warning Time **In addition to MUTCD Signing									

Option	Number	Jurisdiction	Street	Type	FRA ID	Existing Safety Devices*	Upgrades**	SSM	Ballpark Cost	Calculated Risk
D	1	City of Peosta	Peosta (Main) Street	Public	306971L	2-Quad Gates, CWT	None	No	$ -	19,537.32
	2	Dubuque County	Cox Springs Road	Public	306970E	Flashers/Signs	2-Quad Gates	No	$ 500,000	6,848.34
								Total Cost	$	500,000
								QZRI	13,192.83	
								NSRT	15,488.00	OK, QZRI<NSRT
								RIWH	7,909.37	
	*CWT - Constant Warning Time **In addition to MUTCD Signing									

QUIET ZONE CN-2

The options for CN-2 are provided in Table 5 below. This quiet zone has a little bit of flexibility in the combinations. E 5th Street has the largest calculated risk per the FRA calculator. Therefore, it has the highest potential for risk reduction. It also has the lowest cost to install an SSM. Table 5 below shows the quiet zone risks if all 5 crossings are included at the same time. If Mines of Spain Road is not included with the quiet zone, the table also shows corresponding impacts at the bottom of the "Upgrades" column. Note that Option D only works if Mines of Spain Road is part of the quiet zone.

Note that all options assume that Jones Street is programmed to be upgraded with constant warning time devices (minimum crossing requirement) as part of the IDOT Section 130 program. Mines of Spain Road serves a small amount of traffic and is isolated from dense commercial and residential areas. We feel that prioritizing other locations would be in the best interest of the public. CN Southern Yard is ineligible for inclusion in a quiet zone unless both Jones Street and Mines of Spain Road are included.

Anderson-Bogert generally recommends *Option C with or without future inclusion of Mines of Spain Road.*

Table 5 - CN-2 Options

Option	Number	Jurisdiction	Street	Type	FRA ID	Existing Safety Devices*	Upgrades	SSM	Ballpark Cost	Calculated Risk
A	3	City of Dubuque	Mines of Spain	Public	306952G	Signs	2-Quad w/Medians	Yes	$ 600,000	946.45
	4	City of Dubuque	CN Yard	Private	911771U	2-Quad, No CWT	Per Diagnostic	N/A	$ 2,000	
	6	City of Dubuque	Jones Street	Public	911770M	2-Quad, No CWT**	4-Quad	Yes	$ 550,000	2,025.97
	7	City of Dubuque	CN Yard	Private	908233J	Nothing	Per Diagnostic	N/A	$ -	
	13	City of Dubuque	E 5th Street	Public	911776D	2-Quad, CWT	Medians	Yes	$ 70,000	4,954.07
							Without #3	**Total Cost**	$	1,222,000
							3,490.02	QZRI	2,642.16	OK, All SSMs
							OK, QZRI<NSRT	NSRT	15,488.00	
							OK, QZRI<RIWH	RIWH	7,776.30	
	*CWT - Constant Warning Time **CWT Upgrade programmed through IDOT Section 130									

Option	Number	Jurisdiction	Street	Type	FRA ID	Existing Safety Devices*	Upgrades	SSM	Ballpark Cost	Calculated Risk
B	3	City of Dubuque	Mines of Spain	Public	306952G	Signs	2-Quad	No	$ 400,000	4,732.27
	4	City of Dubuque	CN Yard	Private	911771U	2-Quad, No CWT	Per Diagnostic	N/A	$ 2,000	
	6	City of Dubuque	Jones Street	Public	911770M	2-Quad, No CWT**	4-Quad upgrade from 2-Quad, presence detection	Yes	$ 550,000	2,025.97
	7	City of Dubuque	CN Yard	Private	908233J	Nothing	Per Diagnostic	N/A	$ -	
	13	City of Dubuque	E 5th Street	Public	911776D	2-Quad, CWT	Medians	Yes	$ 70,000	4,954.07
							Without #3	**Total Cost**	$	1,022,000
							3,490.02	QZRI	3,904.10	
							OK, QZRI<NSRT	NSRT	15,488.00	OK, QZRI<NSRT
							OK, QZRI<RIWH	RIWH	7,776.30	OK, QZRI<RIWH
	*CWT - Constant Warning Time									

Option	Number	Jurisdiction	Street	Type	FRA ID	Existing Safety Devices*	Upgrades	SSM	Ballpark Cost	Calculated Risk
C	3	City of Dubuque	Mines of Spain	Public	306952G	Signs	2-Quad	No	$ 400,000	4,732.27
	4	City of Dubuque	CN Yard	Private	911771U	2-Quad, No CWT	Per Diagnostic	N/A	$ 2,000	
	6	City of Dubuque	Jones Street	Public	911770M	2-Quad, No CWT**	Signs, CWT	No	$ 2,000	8,808.57
	7	City of Dubuque	CN Yard	Private	908233J	Nothing	Per Diagnostic	N/A	$ -	
	13	City of Dubuque	E 5th Street	Public	911776D	2-Quad, CWT	Medians	Yes	$ 70,000	4,954.07
							Without #3	**Total Cost**	$	474,000
							6,881.32	QZRI	6,164.97	
							OK, QZRI<NSRT	NSRT	15,488.00	OK, QZRI<NSRT
							OK, QZRI<RIWH	RIWH	7,776.30	OK, QZRI<RIWH
	*CWT - Constant Warning Time									

Option	Number	Jurisdiction	Street	Type	FRA ID	Existing Safety Devices*	Upgrades	SSM	Ballpark Cost	Calculated Risk
D	3	City of Dubuque	Mines of Spain	Public	306952G	Signs	2-Quad	No	$ 400,000	4,732.27
	4	City of Dubuque	CN Yard	Private	911771U	2-Quad, No CWT	Per Diagnostic	N/A	$ 2,000	
	6	City of Dubuque	Jones Street	Public	911770M	2-Quad, No CWT**	Signs, CWT	No	$ 2,000	8,808.57
	7	City of Dubuque	CN Yard	Private	908233J	Nothing	Per Diagnostic	N/A	$ -	
	13	City of Dubuque	E 5th Street	Public	911776D	2-Quad, CWT	Signs	No	$ 2,000	24,770.37
							Without #3	**Total Cost**	$	406,000
							16,789.47	QZRI	12,770.40	
								NSRT	15,488.00	OK, QZRI<NSRT
								RIWH	7,776.30	
	*CWT - Constant Warning Time									

QUIET ZONE CP-1

Only 3 options are provided for this quiet zone. Since this quiet zone will consist of a single public crossing, it is the only source of risk that can be quantified in the risk calculation. The top-end option for improvement is a 4-quadrant gate. This is also the least cost-efficient option. The most cost effective SSM utilizes a 2-quad system with medians or channelizers as discussed earlier in the report. With the relatively low daily traffic demand at this location (about 350 vehicles), this crossing qualifies for quiet zone status by installing the minimum requirement - 2-quadrant gates with no medians. The most cost-efficient alternative does not provide SSMs at each crossing but appears to reduce the risk index for this crossing to around 67% of the nationwide threshold based on 2022 crossing data.

Anderson-Bogert generally recommends *Option A in the future when train increase can be measured.*

Table 6 - CP-1 Options

Option	Number	Jurisdiction	Street	Type	FRA ID	Existing Safety Devices*	Upgrades	SSM	Ballpark Cost	Calculated Risk
A	11	Dubuque County	Massey Marina Lane	Public	376108Y	Signs	New 4-Quad Gates, presence detection	Yes	$ 700,000	2,303.34
	10	Dubuque County	Johnson Lane	Private	376109F	Signs	Per Diagnostic		$ 2,000	
								Total Cost	$	702,000
								QZRI	2,303.34	OK, All SSMs
								NSRT	15,488.00	
								RIWH	5,701.34	
	*CWT - Constant Warning Time									

Option	Number	Jurisdiction	Street	Type	FRA ID	Existing Safety Devices*	Upgrades	SSM	Ballpark Cost	Calculated Risk
B	11	Dubuque County	Massey Marina Lane	Public	376108Y	Signs	2-Quad Gates w/Medians	Yes	$ 650,000	2,002.90
	10	Dubuque County	Johnson Lane	Private	376109F	Signs	Per Diagnostic		$ 2,000	
								Total Cost	$	652,000
								QZRI	2,002.90	OK, All SSMs
								NSRT	15,488.00	
								RIWH	5,701.34	
	*CWT - Constant Warning Time									

Option	Number	Jurisdiction	Street	Type	FRA ID	Existing Safety Devices*	Upgrades	SSM	Ballpark Cost	Calculated Risk
C	11	Dubuque County	Massey Marina Lane	Public	376108Y	Signs	2-Quad Gates	No	$ 450,000	10,014.52
	10	Dubuque County	Johnson Lane	Private	376109F	Signs	Per Diagnostic		$ 2,000	
								Total Cost	$	452,000
								QZRI	10,014.52	
								NSRT	15,488.00	OK, QZRI<NSRT
								RIWH	5,701.34	
	*CWT - Constant Warning Time									

Option B requires medians to be constructed. Medians at Massey Marina Lane will involve a large amount of roadway reconstruction. The medians may not be effective in keeping local/residential traffic on the correct side of the roadway, especially between the railroad and Massey Station Road.

A 4-quadrant system presents a financial barrier especially compared to the few surrounding properties that would benefit from reduced noise. It also requires a larger annual maintenance agreement cost with the railroad.

Since train volumes are anticipated to increase, Option C may not provide adequate "buffer" to the mandated thresholds within a couple of years. A susceptibility analysis is provided later in this report. Based on the anticipated tripling of train volumes in the immediate future, it may not be adequate to install the minimum gate requirements as shown in Option C. A median SSM or 4-quadrant system may be required depending on what train volume increase is realized.

QUIET ZONE CP-2

CP-2 contains most of the geometrically constrained crossings in the area. All but Crossings 22 and 23 are located within ¼ mile of one another – requiring that the adjacent crossings be completed and placed into a quiet zone at the same time. Of course, placing 4-quadrant gates at each location would be possible, but the up-front and annual maintenance fees would likely be cost-prohibitive. Dubuque has already planned for closure of E 14th Street with an upcoming grade separation project. The costs associated with this project are not included within the following tables.

E 7th Street presents challenges to both 2-quadrant median and 4-quadrant SSMs, making closure the only feasible SSM at this location. For it to remain open, risk will need to be reduced elsewhere. Lower volume roads such as E 15th Street and Lincoln Avenue present possible opportunities for closure. With a future roadway connector between 7th Street and 9th Street, 7th Street may also be a candidate for closure to vehicular traffic. 4 possible options covering a broad financial commitment are provided below:

Anderson-Bogert generally recommends *Option B, with flexible addition of Hawthorne and Lincoln.*

Table 7 - CP-2 Options

Option	#	Location	Street	Type	FRA ID	Existing Safety Devices*	Upgrades	SSM	Ballpark Cost	Calculated Risk
A	14	City of Dubuque	E 7th	Public	376119L	2-Quad, No CWT	CLOSURE, Ped only Conversion?	Yes	$ 150,000	0.00
	15	City of Dubuque	E 9th	Public	376121M	2-Quad, CWT	4-Quad, CWT	Yes	$ 750,000	4,291.29
	16	City of Dubuque	E 11th	Public	376122U	2-Quad, CWT	Medians	Yes	$ 70,000	10,918.53
	17	City of Dubuque	E 12th	Public	376123B	Lights	2-Quad, CWT and Medians	Yes	$ 400,000	1,400.75
	18	City of Dubuque	E 14th	Public	376125P	Lights	GRADE SEPARATION	Yes	Funded Separately	0.00
	19	City of Dubuque	E 15th	Public	376126W	Lights	CLOSURE	Yes	$ 120,000	0.00
	20	City of Dubuque	E 16th	Public	376127D	Lights	4-Quad, CWT	Yes	$ 750,000	4,597.24
	21	City of Dubuque	CP Yard	Private	376128K	None	Per Diagnostic	N/A	$ -	
	22	City of Dubuque	Hawthorne	Public	376131T	2-Quad, CWT	Medians	Yes	$ 150,000	2,411.47
	23	City of Dubuque	Lincoln	Public	376132A	2-Quad, CWT	CLOSURE	Yes	$ 150,000	0.00
							Without 22-23	**Total Cost**	$	2,540,000
							3,029.69	QZRI	2,624.36	OK, All SSMs
							OK, QZRI<NSRT	NSRT	15,488.00	
								RIWH	10,702.41	
	*CWT - Constant Warning Time									

Option	#	Location	Street	Type	FRA ID	Existing Safety Devices*	Upgrades	SSM	Ballpark Cost	Calculated Risk
B	14	City of Dubuque	E 7th	Public	376119L	2-Quad, No CWT	Complete Signal Replacement 2-Quad, CWT	No	$ 400,000	12,954.36
	15	City of Dubuque	E 9th	Public	376121M	2-Quad, CWT	4-Quad, CWT	Yes	$ 750,000	4,016.00
	16	City of Dubuque	E 11th	Public	376122U	2-Quad, CWT	Medians	Yes	$ 70,000	10,918.53
	17	City of Dubuque	E 12th	Public	376123B	Lights	2-Quad with CWT	No	$ 400,000	7,003.73
	18	City of Dubuque	E 14th	Public	376125P	Lights	GRADE SEPARATION	Yes	Funded Separately	0.00
	19	City of Dubuque	E 15th	Public	376126W	Lights	CLOSURE	Yes	$ 120,000	0.00
	20	City of Dubuque	E 16th	Public	376127D	Lights	4-Quad, CWT	Yes	$ 750,000	4,597.24
	21	City of Dubuque	CP Yard	Private	376128K	None	Per Diagnostic	N/A	$ -	
	22	City of Dubuque	Hawthorne	Public	376131T	2-Quad, CWT	Signs	No	$ 2,000	11,384.71
	23	City of Dubuque	Lincoln	Public	376132A	2-Quad, CWT	Signs	No	$ 2,000	12,933.55
							Without 22-23	**Total Cost**	$	2,494,000
							5,641.41	QZRI	7,089.79	
							OK, QZRI<NSRT	NSRT	15,488.00	OK, QZRI<NSRT
								RIWH	10,702.41	OK, QZRI<RIWH
	*CWT - Constant Warning Time									

Option	#	Location	Street	Type	FRA ID	Existing Safety Devices*	Upgrades	SSM	Ballpark Cost	Calculated Risk
C	14	City of Dubuque	E 7th	Public	376119L	2-Quad, No CWT	2-Quad, CWT	No	$ 400,000	12,954.36
	15	City of Dubuque	E 9th	Public	376121M	2-Quad, CWT	Signs	No	$ 2,000	17,460.88
	16	City of Dubuque	E 11th	Public	376122U	2-Quad, CWT	Medians	Yes	$ 70,000	10,918.53
	17	City of Dubuque	E 12th	Public	376123B	Lights	2-Quad, CWT	No	$ 400,000	7,003.73
	18	City of Dubuque	E 14th	Public	376125P	Lights	GRADE SEPARATION	Yes		0.00
	19	City of Dubuque	E 15th	Public	376126W	Lights	CLOSURE	Yes	$ 120,000	0.00
	20	City of Dubuque	E 16th	Public	376127D	Lights	2-Quad, CWT	No	$ 400,000	19,987.99
	21	City of Dubuque	CP Yard	Private	376128K	None	Per Diagnostic	N/A	$ -	
	22	City of Dubuque	Hawthorne	Public	376131T	2-Quad, CWT	Medians	Yes	$ 150,000	2,276.94
	23	City of Dubuque	Lincoln	Public	376132A	2-Quad, CWT	Signs	No	$ 2,000	12,933.55
							Without 22-23	**Total Cost**	$	1,544,000
							9,760.78	QZRI	9,281.78	
							OK, QZRI<NSRT	NSRT	15,488.00	OK, QZRI<NSRT
								RIWH	10,702.41	OK, QZRI<RIWH
	*CWT - Constant Warning Time									

Option	#	Location	Street	Type	FRA ID	Existing Safety Devices*	Upgrades	SSM	Ballpark Cost	Calculated Risk
D	14	City of Dubuque	E 7th	Public	376119L	2-Quad, No CWT	2-Quad, CWT	No	$ 400,000	12,954.36
	15	City of Dubuque	E 9th	Public	376121M	2-Quad, CWT	Signs	No	$ 2,000	17,460.88
	16	City of Dubuque	E 11th	Public	376122U	2-Quad, CWT	Medians	Yes	$ 70,000	10,918.53
	17	City of Dubuque	E 12th	Public	376123B	Lights	2-Quad, CWT	No	$ 400,000	7,003.73
	18	City of Dubuque	E 14th	Public	376125P	Lights	GRADE SEPARATION	Yes		0.00
	19	City of Dubuque	E 15th	Public	376126W	Lights	2-Quad, CWT	No	$ 400,000	9,002.63
	20	City of Dubuque	E 16th	Public	376127D	Lights	2-Quad, CWT	No	$ 400,000	18,954.14
	21	City of Dubuque	CP Yard	Private	376128K	None	Per Diagnostic	N/A		
	22	City of Dubuque	Hawthorne	Public	376131T	2-Quad, CWT	Signs	No	$ 2,000	11,384.71
	23	City of Dubuque	Lincoln	Public	376132A	2-Quad, CWT	Signs	No	$ 2,000	12,933.55
							Without 22-23	**Total Cost**	$	1,676,000
							10,899.18	QZRI	11,179.17	
							OK, QZRI<NSRT	NSRT	15,488.00	OK, QZRI<NSRT
								RIWH	10,702.41	
	*CWT - Constant Warning Time									

QUIET ZONE CP-3

This quiet zone contains two crossings which serve a small amount of daily traffic. Neither crossing is located within a dense commercial or residential area. The crossings are also separated by several miles. So, one crossing could be a quiet zone on its own. Where both crossings are updated, they must be part of the same quiet zone since they are consecutive crossings within the same political jurisdiction.

Riverside Road provides a unique challenge with two separate active warning device systems located within the crossing. Based on diagnostic review, each system requires an upgrade to be minimally compliant. The siding track would likely be eligible for a constant warning time waiver from the FRA. Therefore, upgrading this location would be like upgrading two typical crossings. Golf Lake Road is located immediately adjacent to several residences and a park with regular camping. This location services a small amount of traffic and has a risk number less than 20% of the current national threshold if a new gate system is installed.

Anderson-Bogert recommends *excluding Riverside Road from consideration and installing a minimum of 2-quadrant gates at Golf Lake Road as a single crossing quiet zone.* We recommend considering additional improvements such as short medians to supplement the new gate system. Such medians could help improve crossing with silenced horns. Even without an SSM installed, Golf Lake Road as a stand-alone quiet zone would be well below the federal risk thresholds and not require the county to pursue full or partial risk reduction credits for the medians.

Table 8 - CP-3 Options

Option	Number	Jurisdiction	Street	Type	FRA ID	Existing Safety Devices*	Upgrades	SSM	Ballpark Cost	Calculated Risk
A	24	Dubuque County	Riverside Road	Public	376134N	Gates	4-Quad with presence detection	Yes	$ 1,500,000	2,513.51
	25	Dubuque County	Golf Lake Road	Public	376136C	Lights	2-Quad Medians	Yes	$ 600,000	727.13
								Total Cost	$	2,100,000
								QZRI	1,620.32	OK, All SSMs
								NSRT	15,488.00	
								RIWH	3,874.54	
	*CWT - Constant Warning Time									

Option	Number	Jurisdiction	Street	Type	FRA ID	Existing Safety Devices*	Upgrades	SSM	Ballpark Cost	Calculated Risk
B	24	Dubuque County	Riverside Road	Public	376134N	Gates	2-Quad Gates	No	$ 900,000	10,928.31
	25	Dubuque County	Golf Lake Road	Public	376136C	Lights	2-Quad Gates	No	$ 400,000	3,635.65
								Total Cost	$	1,300,000
								QZRI	7,281.98	
								NSRT	15,488.00	OK, QZRI<NSRT
								RIWH	3,874.54	
	*CWT - Constant Warning Time									

QUIET ZONE BNSF

The risk in this quiet zone is driven by the 6th Street crossing. With its 5 sets of tracks, any quiet zone will require upgrades at this location. While a 4-quadrant replacement is possible, with 5-tracks the system would likely be the most cost prohibitive upgrade option. The current gates have constant warning time on the through tracks, but not on the siding and yard tracks. An FRA constant warning time waiver would be needed for the siding and yard tracks within this quiet zone. The three public crossings provide a vital link to the south side of town which has no other means of access to the public highway system. As such, closure and one-way conversions are not recommended for potential implementation. Since the maximum distance between any crossings is less than ¼ mile, all crossings must be completed together before a quiet zone can be implemented.

Without a planned increase in vehicular or train traffic, we generally recommend *Option C.* The QZRI is still several thousand below the lowest NSRT recorded by the FRA. However, if funding for a 4-quadrant gate becomes available (from a previously submitted CRISI grant), Option A would eliminate the need to calculate or compare any risk numbers on a regular basis.

Table 9 - BNSF Options

Option	Number	Jurisdiction	Street	Type	FRA ID	Existing Safety Devices*	Upgrades	SSM	Ballpark Cost	Calculated Risk
A	26	East Dubuque	6th Street	Public	306924D	2-Quad, CWT	Medians	Yes	$ 300,000	8,550.37
	27	East Dubuque	4th Street	Public	306926S	2-Quad, CWT	Medians	Yes	$ 150,000	3,523.00
	28	East Dubuque	2nd Street	Public	306928F	2-Quad, CWT	4-Quad upgrade with presence detection	Yes	$ 850,000	3,703.00
	29	East Dubuque	BNSF Ped	Private	947331C	None	Per Diagnostic	No	$ 10,000	
	30	East Dubuque	Sinsinawa Ave	Private	069924Y	Signs	Per Diagnostic	No	$ 10,000	
								Total Cost	$	1,320,000
								QZRI	5,258.79	OK, All SSMs
								NSRT	15,488.00	
								RIWH	16,121.85	
	*CWT - Constant Warning Time									

Option	Number	Jurisdiction	Street	Type	FRA ID	Existing Safety Devices*	Upgrades	SSM	Ballpark Cost	Calculated Risk
B	26	East Dubuque	6th Street	Public	306924D	2-Quad, CWT	Channelizers	Yes	$ 260,000	10,687.97
	27	East Dubuque	4th Street	Public	306926S	2-Quad, CWT	Channelizers	Yes	$ 110,000	4,403.75
	28	East Dubuque	2nd Street	Public	306928F	2-Quad, CWT	4-Quad upgrade with presence detection	Yes	$ 850,000	3,703.00
	29	East Dubuque	BNSF Ped	Private	947331C	None	Per Diagnostic	N/A	$ 10,000	
	30	East Dubuque	Sinsinawa Ave	Private	069924Y	Signs	Per Diagnostic	N/A	$ 10,000	
								Total Cost	$	1,240,000
								QZRI	6,264.91	OK, All SSMs
								NSRT	15,488.00	
								RIWH	16,121.85	
	*CWT - Constant Warning Time									

Option	Number	Jurisdiction	Street	Type	FRA ID	Existing Safety Devices*	Upgrades	SSM	Ballpark Cost	Calculated Risk
C	26	East Dubuque	6th Street	Public	306924D	2-Quad, CWT	Medians	Yes	$ 300,000	8,550.37
	27	East Dubuque	4th Street	Public	306926S	2-Quad, CWT	Medians	Yes	$ 150,000	3,523.00
	28	East Dubuque	2nd Street	Public	306928F	2-Quad, CWT	Signs	No	$ -	16,099.99
	29	East Dubuque	BNSF Ped	Private	947331C	None	Per Diagnostic	No	$ 10,000	
	30	East Dubuque	Sinsinawa Ave	Private	069924Y	Signs	Per Diagnostic	No	$ 10,000	
								Total Cost	$	470,000
								QZRI	9,391.12	
								NSRT	15,488.00	OK, QZRI<NSRT
								RIWH	16,121.85	OK, QZRI<RIWH
	*CWT - Constant Warning Time									

Option	Number	Jurisdiction	Street	Type	FRA ID	Existing Safety Devices*	Upgrades	SSM	Ballpark Cost	Calculated Risk
D	26	East Dubuque	6th Street	Public	306924D	2-Quad, CWT	Medians	Yes	$ 300,000	8,550.37
	27	East Dubuque	4th Street	Public	306926S	2-Quad, CWT	Signs	No	$ 2,000	17,615.00
	28	East Dubuque	2nd Street	Public	306928F	2-Quad, CWT	Signs	No	$ 2,000	16,099.99
	29	East Dubuque	BNSF Ped	Private	947331C	None	Per Diagnostic	No	$ 10,000	
	30	East Dubuque	Sinsinawa Ave	Private	069924Y	Signs	Per Diagnostic	No	$ 10,000	
								Total Cost	$	324,000
								QZRI	14,088.45	
								NSRT	15,488.00	OK, QZRI<NSRT
								RIWH	16,121.85	OK, QZRI<RIWH
	*CWT - Constant Warning Time									

V - SENSITIVITY ANALYSIS

TRAIN AND VEHICULAR VOLUME INCREASES

As discussed previously, if the public authority cannot install a preapproved SSM at each public crossing, the quiet zone may be rescinded by FRA should the risk rise above both established thresholds. At the time of this report, the exact impact from the recent merger of the Canadian Pacific and Kansas City Southern railroad entities was not known. An increase in train volumes has not yet been seen. Anderson-Bogert discussed this with a representative from Canadian Pacific and the railroad additionally mentioned the possibility of seeing through train volumes triple in the future. While exact timeline and quantity increase is uncertain, the railroad estimates through trains may triple along their mainlines by 2027.

It will be essential for the public entities desiring to establish a quiet zone on Canadian Pacific rails to take into consideration the possibility of increased train traffic in the future. An increase in train traffic will result in an increase in the risk calculations for all affected crossings discussed in this report. Similarly, vehicular traffic also plays a key role in risk calculations.

The table below analyzes the estimated risk of each crossing with the minimum 2-quadrant system installed if BNSF and CN day/night through train volumes double or CP day/night trains triple, and if vehicular traffic increases by 30%.

Table 10 - Susceptibility Baseline Risk

ID	FRA ID	Road	Policitcal Jursidiction	Operating Railroad	Baseline Risk Value**	Additional Thru Trains	Traffic +30%	Sensitivity Analysis - Baseline Risk with Additional Trains and Traffic
1	306971L	Peosta (Main) Street	Peosta	CN	19,537.32	25,813.29	20,867.77	27,477.21
2	306970E	Cox Springs Road	Dubuque County	CN	6,848.34	10,046.72	7,547.37	11,067.78
3	306952G	Mines of Spain	City of Dubuque	CN	4,732.27	6,636.79	5,214.67	8,808.96
6	911770M	Jones Street	City of Dubuque	CN	8,808.57	11,471.26	9,443.34	11,061.31
11	376108Y	Massey Marina Lane	Dubuque County	CP	10,014.52	18,203.86	11,031.97	20,053.38
13	911776D	E 5th Street	City of Dubuque	CN	24,770.37	32,620.22	26,350.49	31,068.91
14	376119L	E 7th Street	City of Dubuque	CP	12,954.36	20,118.58	13,861.51	21,421.90
15	376121M	E 9th Street	City of Dubuque	CP	17,460.88	26,469.65	18,626.08	28,062.70
16	376122U	E 11th Street	City of Dubuque	CP	54,592.67	71,477.45	56,743.16	74,400.27
17	376123B	E 12th Street	City of Dubuque	CP	7,003.73	12,321.49	7,799.46	13,721.44
18	376125P	E 14th Street	City of Dubuque	CP	21,811.25	38,684.75	24,291.28	42,735.63
19	376126W	E 15th Street	City of Dubuque	CP	9,002.63	15,838.21	10,022.40	17,642.85
20	376127D	E 16th Street	City of Dubuque	CP	18,954.14	33,378.00	21,109.52	37,173.60
22	376131T	Hawthorne Street	City of Dubuque	CP	11,384.71	19,525.13	12,452.70	21,249.01
23	376132A	Lincoln Avenue	City of Dubuque	CP	12,933.55	20,301.80	13,854.26	21,650.16
24	376134N	Riverside Dr	Dubuque County	CP	10,928.31	17,280.73	11,717.54	No-Build Recommended
25	376136C	Golf Lake Road	Dubuque County	CP	3,635.65	6,600.65	4,006.11	7,341.87
26	306924D	6th Street	East Dubuque	BNSF	42,751.86	51,130.08	44,440.82	53,217.31
27	306926S	4th Street	East Dubuque	BNSF	17,615.00	23,093.99	18,760.43	24,496.35
28	306928F	2nd Street	East Dubuque	BNSF	16,099.99	21,292.56	17,174.40	22,699.48

**Baseline risk represents risk with minimum improvements, or existing conditions if already compliant.

Within a particular quiet zone, all crossings are on the same line. Within the study area, it follows that each rail line would experience the same corresponding increase/decrease in through train volumes. Based on the table above, a 200% increase (tripling) in train volumes corresponded with about a 65% increase in risk. A 100% increase (doubling) corresponded to about a 33% increase in risk. Therefore, for each 3% increase in train volumes, about 1% increase in crossing risk was observed.

The table above shows that for a 30% increase in traffic, risk increased about 8%. Therefore, for each 4% increase in traffic, the crossing risk increased about 1%. Therefore, the risk numbers appear to be more sensitive to changes in train traffic. Over the next 20 years, a steady annual vehicular traffic growth rate of 1% results in net traffic increase of about 22%.

Table 11 below summarizes the QZRI values for the recommended quiet zone alternatives when both additional trains and vehicle traffic are added. These numbers more-closely estimate a "worst-case scenario" if both trains and traffic increase. These numbers do not consider other risk factors such as changes in roadway/railroad speed, number of tracks, accident history, federal changes to the NSRT, etc.

Table 11 – Recommended Alternative Susceptibility

Quiet Zone	Alternative ID	Jurisdiction	Current QZRI	Sensitivity Analysis QZRI	Current NSRT	Sensitivity Analysis QZRI/NSRT Ratio
CN-1	A	Peosta/Dubuque County	2,638.57	3,854.50	15,488	25%
CN-2	C	Dubuque	6,164.97	8,694.68	15,488	56%
CN-2	C (Without #3)	Dubuque	6,881.32	8,592.55	15,488	55%
CP-1	A	Dubuque County	2,303.34	4,162.28	15,488	27%
CP-1	A (2-Quad Only Option)	Dubuque County	10,014.52	20,053.38	15,488	129%
CP-2	B	Dubuque	7,089.79	12,043.72	15,488	78%
CP-2	B (Without #22-#23)	Dubuque	5,641.41	9,356.33	15,488	60%
CP-3	B (Without #24)	Dubuque County	3,635.65	7,341.87	15,488	47%
BNSF		East Dubuque	9,391.12	12,747.20	15,488	82%

From this table, we can see that quiet zone CP-1 is the most susceptible quiet zone to train and traffic increases. This makes sense as there is only a single public crossing within the quiet zone. If a full SSM is not installed, the QZRI could exceed federal thresholds in the future.

The second most susceptible quiet zones are CP-2 through the heart of Dubuque, and BNSF in East Dubuque. Both estimated at over 75% of the current NSRT, which provides a buffer to the threshold. NSRT values have dipped as low as about 13,000 in the past. Such a reduction in NSRT would reduce that buffer.

VI – SUMMARY OF FINAL RECOMMENDATIONS

REGULAR ATTENTION TO CALCULATIONS AND CHANGES IN EXISTING CONDITIONS

In general, quiet zone creation and implementation is not a quick process. The planning, funding, construction, and establishment process can take several years, even for a quiet zone with only one or two crossings. It is essential that the public entities continually revisit the site conditions and regularly recalculate risk numbers if SSMs are not going to be provided at each public crossing. We recommend reconfirming the accuracy of railroad-provided crossing inventory data at least every 2 years until establishment. We similarly recommend acquiring new traffic data at each location at a similar interval until establishment. We also recommend updating calculations and data after major public works projects such as street closures or additions, capacity or realignment projects, and vulnerable user projects (trails, etc). These updates can reconfirm that the quiet zone stays in-line with the original notice of intent submitted by the public authority, and the federal regulations. If conditions change, the public authorities may have to make additional improvements, or perhaps may be able to eliminate some improvements over the course of time it takes to establish the quiet zone.

COORDINATE WITH FUTURE PROJECTS

Once a plan is in place, the public authority should review adjacent and future projects to ensure they conform with the quiet zone notice of intent and plan that was submitted by the authority. If new crossings are created, removed, or upgraded from the notice of intent, additional diagnostic reviews and/or notices may be required by federal law. Since establishment is a lengthy process, it is common for changes to occur to the original notice of intent. It is acceptable and common to submit amended notice of intents if changes must occur.

TABULATION OF RECOMMENDED IMPROVEMENTS

Table 12 - Tabulation of Recommended Improvements

Task #	FRA ID	Road	Political Jurisdiction	Type	Operating Railroad	Existing Devices	Recommended Improvement	Est. 2022 Const Cost	SSM Installation Priority (1 Low, 10 Essential, N/A)	Improvement Schedule (Initial, Future, Do Not Include)	Quiet Zone	Remarks
1	306971L	Peosta (Main) Street	Peosta	Public	CN	2-Quad, CWT	Medians	$ 60,000	10	Initial	CN-1 (Option A)	
2	306970E	Cox Springs Road	Dubuque County	Public	CN	Flashers	When roadway improved, 2-Quad with Medians	$ 570,000	5	Future		
3	306952G	Mines of Spain	City of Dubuque	Public	CN	Signs	2-Quad, CWT	$ 400,000	2	Initial or Future	CN-2 (Option C)	
4	908233J	CN Yard	City of Dubuque	Private	CN	2-Quad, No CWT	SIgns, Per Diagnostic	$ 2,000	N/A	Initial		
6	911770M	Jones Street	City of Dubuque	Public	CN	2-Quad, Scheduled for CWT Upgrade	Confirm CWT upgrade and/or FRA CWT Waiver	$ 2,000	4	Initial		
7	908233J	CN Yard	City of Dubuque	Private	CN	None	Signs, Per Diagnostic	$ -	N/A	Initial		
13	911776D	E 5th Street	City of Dubuque	Public	CN	2-Quad, CWT	Medians	$ 70,000	10	Initial		
5	306950T	Salina Street	City of Dubuque	Public	CN	*Ineligible*						
8	306929M	Sinsinawa Ave	East Dubuque	Private	CN	*Ineligible*						
9			*No Crossing Assigned #9*									
10	376109F	Johnson Lane	Dubuque County	Private	CP	Signs	Compliant Signs, Per Diagnostic	$ 2,000	N/A	Future	CP-1 (Option A)	
11	376108Y	Massey Marina Lane	Dubuque County	Public	CP	Signs	Wait for confirmation of train increase	$ 700,000	5 (dependent on train volume increase)	Future		
12	689583U	Julien Dubuque Dr	City of Dubuque	Private	CP	*Ineligible*						
14	376119L	E 7th Street	City of Dubuque	Public	CP	2-Quad, No CWT	New 2-Quad, CWT	$ 400,000	2	Initial	CP-2 (Option B)	
15	376121M	E 9th Street	City of Dubuque	Public	CP	2-Quad, CWT	4-Quad, CWT	$ 550,000	7	Initial		
16	376122U	E 11th Street	City of Dubuque	Public	CP	2-Quad, CWT	Medians	$ 70,000	10	Initial		
17	376123B	E 12th Street	City of Dubuque	Public	CP	Lights	2-Quad, CWT	$ 400,000	5	Initial		
18	376125P	E 14th Street	City of Dubuque	Public	CP	Lights	Grade Separation	Funded Separately	10	Initial		
19	376126W	E 15th Street	City of Dubuque	Public	CP	Lights	Closure	$ 120,000	7	Initial		
20	376127D	E 16th Street	City of Dubuque	Public	CP	Lights	4-Quad, CWT	$ 750,000	9	Initial		
21	376128K	CP Yard	City of Dubuque	Private	CP	None	None, Per Diagnostic	$ -	N/A	Initial		
22	376131T	Hawthorne Street	City of Dubuque	Public	CP	2-Quad, CWT	Signs	$ 2,000	4	Future		
23	376132A	Lincoln Avenue	City of Dubuque	Public	CP	2-Quad, CWT	Signs	$ 2,000	1	Future		
24	376134N	Riverside Road	Dubuque County	Public	CP	2-Quad, No CWT	*Do Not Include*					
25	376136C	Golf Lake Road	Dubuque County	Public	CP	Signs	2-Quad, CWT	$ 400,000	1	Initial	CP-3 (Option B)	
26	306924D	6th Street	East Dubuque	Public	BNSF	2-Quad, Partial CWT	Medians/Roadway	$ 300,000	10	Initial	BNSF (Option C)	
27	306926S	4th Street	East Dubuque	Public	BNSF	2-Quad, Partial CWT	Medians	$ 150,000	10	Initial		
28	306928F	2nd Street	East Dubuque	Public	BNSF	2-Quad, Partial CWT	Signs	$ 2,000	4	Initial		AB Recommends Signs only, City would like to pursue a 4-Quad if funding is available.
29	947331C	BNSF Ped	East Dubuque	Private	BNSF	Signs, Conc Barrier	Fencing, Per Diagnostic	$ 10,000	N/A	Initial		
30	069924Y	Sinsinawa Ave	East Dubuque	Private	BNSF	Signs, Conc Barrier	Fencing, Per Diagnostic	$ 10,000	N/A	Initial		

VII – PUBLIC OUTREACH

During the final stages of this project, Anderson-Bogert and the City of Dubuque completed preliminary public outreach for the project. The goals of this outreach were to gauge overall support for funding a quiet zone, and to also get feedback from properties at each crossing which could be geometrically affected by constructed improvements. Preliminary public perception played a role in both Peosta and Dubuque County refraining from participating in the CRISI grant application (discussed in the following section) and immediate pursuit of filing a Notice of Intent.

Individual letters were sent out by Anderson-Bogert to properties immediately adjacent to all the impacted crossings. The mailer included a press release, comment/questionnaire and conceptual exhibits. Anderson-Bogert received about 10 responses in the form of phone calls, returned comment forms, or email messages. Several press releases to the public were also posted. To protect respondent privacy, these individual responses are not available publicly or attached.

The City of Dubuque also created and posted a public interest survey for the general public to gain interest. A few of the key responses are summarized below from about 479 total respondents. A copy of this survey is attached in the appendix of this document.

- ***73%*** are bothered by train noise
- ***67%*** have perceived a negative impact to their quality of life.
- ***88%*** support creation of a new quiet zones in Dubuque
- ***85%*** believe that train noise devalues properties

VIII – PROJECT FUNDING

The following funding programs are three potential funding programs outside of local funding to help pay for the necessary safety improvements.

SECTION 130 (FEDERAL – ADMIN BY IOWA DOT)

Section 130 funds are a federal program administered by the Iowa DOT Rail Transportation Bureau. These funds are ***NOT Eligible*** for use on a quiet zone project. If a crossing is not listed within a Notice of Intent to create a quiet zone, these funds are typically used to upgrade signal equipment and active warning devices at railroad crossings.

RAILROAD CROSSING ELIMINATION GRANT PROGRAM (FEDERAL)

Funds are made available to railroads and public entities who wish to eliminate existing railroad crossings. A closure means no crossing remains, vehicular, bike, or pedestrian. States and Railroads often participate in funding of a proposed railroad closure. Railroad funds typically come in the form of an incentive payment. At the time of this report, CPKC has committed to an incentive payment to Dubuque for the closure of 15th Street.

CONSOLIDATED RAIL INFRASTRUCTURE AND SAFETY IMPROVEMENTS (FEDERAL)

The CRISI grant is a federal program which typically has billions of dollars available nationwide for large rail infrastructure improvement projects. At the time of this report, DMATS (on behalf of Dubuque and East Dubuque) has applied for this 80/20 match program for improvements located within quiet zones CN-2, CP-2 and BNSF. At the time of this report, results and awards had not yet been announced. DMATS and both cities have access to this application.

IX – APPENDIX

ATTACHED

FRA Calculator Outputs
Public Outreach Interest Survey
Diagnostic Review Meeting Notes

AVAILABLE UPON REQUEST BUT NOT ATTACHED

DMATS CRISI Grant Application

FRA CALCULATOR RESULTS BNSF

Federal Railroad Administration

Quiet Zone Designation Information

Name	Job Title	Organization	
Jacob Sprengeler	**Design Engineer**	**Anderson-Bogert**	
Address	City	State	Zip Code
4050 River Center Ct	**Cedar Rapids**	**IA**	**52402**
Phone	Fax	Email	
319-377-4629		**jsprengeler@anderson-bogert.com**	

306924D **6TH STREET**	Proposed Warning Device **Gates**	Estimated Cost **15,000.00**	Wayside Horn **No**	Risk Index **8,550.37**
Crossing Type **Public**	SSM **Non-Traversable Curb Medians with or without Channelization Devices**	Pre-Existing SSM **None**		

306926S **4TH STREET**	Proposed Warning Device **Gates**	Estimated Cost **15,000.00**	Wayside Horn **No**	Risk Index **3,523.00**
Crossing Type **Public**	SSM **Non-Traversable Curb Medians with or without Channelization Devices**	Pre-Existing SSM **None**		

306928F **2ND STREET**	Proposed Warning Device **Gates**	Estimated Cost **0.00**	Wayside Horn **No**	Risk Index **16,099.99**
Crossing Type **Public**	SSM **None**	Pre-Existing SSM **None**		

Note: If zone is a partial new quiet zone, gates are not required if the crossing is to be closed during partial quiet zone period, permanently closed, or grade separated.

Zone ID : **61249**			Scenario ID : **69326**	
Date : **8/6/2024 6:08:31 PM**				
Railroad **BNSF**	Pre Rule? **NO**	Partial? **NO**	Time of Partial Quiet Zone	Total Traffic **1,239**
Estimated Total Cost **$30,000.00**	Nationwide Significant Risk Threshold **15488**		Risk Index with Horns **15,281.15**	Quiet Zone Risk Index **9,391.12**

Basis for Establishment or Continuation of Quiet Zone

This quiet zone is being established in compliance with the following (check one)

☐ § 222.39(a)(1), implementation of SSMs at every public crossing in the New Quiet Zone or New Partial Quiet Zone;

☐ §222.39(a)(2)(i), the QZRI is at or below the NSRT without installation of any SSMs at the New Quiet Zone or New Partial Quiet Zone;

☐ §222.39(a)(2)(ii), SSMs were implemented at some crossings in the New Quiet Zone or New Partial Quiet Zone to bring the QZRI to a level at or below the NSRT;

☐ §222.39(a)(3), SSMs were implemented at some crossings in the New Quiet Zone or New Partial Quiet Zone to bring the QZRI to a level at or below the RIWH; or

☐ §222.39(b), public authority application to the FRA for a New Quiet Zone or New Partial Quiet Zone.

☐ § 222.41(a)(1)(i) Pre-Rule Quiet Zones that qualify for automatic approval because every crossing is equipped with an SSM,

☐ § 222.41(a)(1)(ii) Pre-Rule Quiet Zones that qualify for automatic approval because QZRI ≤ NSRT,

☐ § 222.41(a)(1)(iii) Pre-Rule Quiet Zones that qualify for automatic approval because NSRT < QZRI < 2* NSRT, and there have been no relevant collisions within the 5 years preceding April 27,2005

☐ § 222.41(a)(1)(iv) Pre-Rule Quiet Zones that qualify for automatic approval because NSRT < RIWH.

☐ § 222.41(b)(1)(i) Pre-Rule Partial Quiet Zones that qualify for automatic approval because every crossing is equipped with an SSM,

☐ § 222.41(b)(1)(ii) Pre-Rule Partial Quiet Zones that qualify for automatic approval because QZRI ≤ NSRT,

☐ § 222.41(b)(1)(iii) Pre-Rule Partial Quiet Zones that qualify for automatic approval because NSRT < QZRI < 2* NSRT, and there have been no relevant collisions within the 5 years preceding April 27,2005.

☐ § 222.41(b)(1)(iv) Pre-Rule Partial Quiet Zones that qualify for automatic approval because NSRT < RIWH.

☐ § 222.41(c) Pre-Rule Quiet Zones and Pre-Rule Partial Quiet Zones that do not qualify for automatic approval

☐ § 222.41(d) Pre-Rule Partial Quiet Zones that will be converted to 24-hour New Quiet Zones

☐ § 222.42(a) Intermediate Quiet Zones or Intermediate Partial Quiet Zones

☐ § 222.42(b) Intermediate Partial Quiet Zones that will be converted to 24-hour New Quiet Zones.

Applicant Signature _____ Date _____

Chief Executive Officer Statement.

I hereby certify that the information submitted in this notification is accurate and complete to the best of my knowledge and belief.

Signature _____ Date _____

Note: A copy of this report along with other required contents (see § 222.43(e)(2)) must be sent to all of the parties required in § 222.43(a)(4). FRA's notification should be mailed to:

Associate Administrator for Safety
Federal Railroad Administration 1200
New Jersey Avenue, SE, MS-25
Washington, DC 20590

Federal Railroad Administration

Quiet Zone Designation Information

Public At-grade Open Crossing Information

Crossing:	306924D	Urban(U)/Rural(R):	U.Collector
Warning Device:	Gates	Highway Paved:	yes
aadt:	400	Maximum Timetable Speed :	25
Total Trains:	30	Highway Lanes:	2
Day Through Trains:	15	No. of Accident Data Years:	5
Main Tracks:	2	No. of Accidents:	1
Other Tracks:	3	Total Switching Trains:	0

Crossing:	306926S	Urban(U)/Rural(R):	U.Collector
Warning Device:	Gates	Highway Paved:	yes
aadt:	550	Maximum Timetable Speed :	25
Total Trains:	30	Highway Lanes:	2
Day Through Trains:	15	No. of Accident Data Years:	5
Main Tracks:	2	No. of Accidents:	0
Other Tracks:	1	Total Switching Trains:	0

Crossing:	306928F	Urban(U)/Rural(R):	U.Collector
Warning Device:	Gates	Highway Paved:	yes
aadt:	289	Maximum Timetable Speed :	25
Total Trains:	30	Highway Lanes:	2
Day Through Trains:	15	No. of Accident Data Years:	5
Main Tracks:	2	No. of Accidents:	0
Other Tracks:	0	Total Switching Trains:	0

FRA CALCULATOR RESULTS CN-1

Federal Railroad Administration

Quiet Zone Designation Information

Name	Job Title	Organization	
Jacob Sprengeler	**Design Engineer**	**Anderson-Bogert**	
Address	City	State	Zip Code
4050 River Center Ct	**Cedar Rapids**	**IA**	**52402**
Phone	Fax	Email	
319-377-4629		**jsprengeler@anderson-bogert.com**	

306970E **COX SPRINGS RD**	Proposed Warning Device **Gates**	Estimated Cost **15,000.00**	Wayside Horn **No**	Risk Index **1,369.67**
Crossing Type **Public**	SSM **Non-Traversable Curb Medians with or without Channelization Devices**	Pre-Existing SSM **None**		

306971L **MAIN ST**	Proposed Warning Device **Gates**	Estimated Cost **15,000.00**	Wayside Horn **No**	Risk Index **3,907.46**
Crossing Type **Public**	SSM **Non-Traversable Curb Medians with or without Channelization Devices**	Pre-Existing SSM **None**		

Note: If zone is a partial new quiet zone, gates are not required if the crossing is to be closed during partial quiet zone period, permanently closed, or grade separated.

Zone ID : **61241**			Scenario ID : **69312**	
Date : **8/6/2024 5:49:14 PM**				
Railroad **CC**	Pre Rule? **NO**	Partial? **NO**	Time of Partial Quiet Zone	Total Traffic **4,675**
Estimated Total Cost **$30,000.00**	Nationwide Significant Risk Threshold **15488**	Risk Index with Horns **7,909.37**	Quiet Zone Risk Index **2,638.57**	

Basis for Establishment or Continuation of Quiet Zone

This quiet zone is being established in compliance with the following (check one)

☐ § 222.39(a)(1), implementation of SSMs at every public crossing in the New Quiet Zone or New Partial Quiet Zone;

☐ §222.39(a)(2)(i), the QZRI is at or below the NSRT without installation of any SSMs at the New Quiet Zone or New Partial Quiet Zone;

☐ §222.39(a)(2)(ii), SSMs were implemented at some crossings in the New Quiet Zone or New Partial Quiet Zone to bring the QZRI to a level at or below the NSRT;

☐ §222.39(a)(3), SSMs were implemented at some crossings in the New Quiet Zone or New Partial Quiet Zone to bring the QZRI to a level at or below the RIWH; or

☐ §222.39(b), public authority application to the FRA for a New Quiet Zone or New Partial Quiet Zone.

☐ § 222.41(a)(1)(i) Pre-Rule Quiet Zones that qualify for automatic approval because every crossing is equipped with an SSM,

☐ § 222.41(a)(1)(ii) Pre-Rule Quiet Zones that qualify for automatic approval because QZRI ≤ NSRT,

☐ § 222.41(a)(1)(iii) Pre-Rule Quiet Zones that qualify for automatic approval because NSRT < QZRI < 2* NSRT, and there have been no relevant collisions within the 5 years preceding April 27,2005

☐ § 222.41(a)(1)(iv) Pre-Rule Quiet Zones that qualify for automatic approval because NSRT < RIWH.

☐ § 222.41(b)(1)(i) Pre-Rule Partial Quiet Zones that qualify for automatic approval because every crossing is equipped with an SSM,

☐ § 222.41(b)(1)(ii) Pre-Rule Partial Quiet Zones that qualify for automatic approval because QZRI ≤ NSRT,

☐ § 222.41(b)(1)(iii) Pre-Rule Partial Quiet Zones that qualify for automatic approval because NSRT < QZRI < 2* NSRT, and there have been no relevant collisions within the 5 years preceding April 27,2005.

☐ § 222.41(b)(1)(iv) Pre-Rule Partial Quiet Zones that qualify for automatic approval because NSRT < RIWH.

☐ § 222.41(c) Pre-Rule Quiet Zones and Pre-Rule Partial Quiet Zones that do not qualify for automatic approval

☐ § 222.41(d) Pre-Rule Partial Quiet Zones that will be converted to 24-hour New Quiet Zones

☐ § 222.42(a) Intermediate Quiet Zones or Intermediate Partial Quiet Zones

☐ § 222.42(b) Intermediate Partial Quiet Zones that will be converted to 24-hour New Quiet Zones.

Applicant Signature _____ Date _____

Chief Executive Officer Statement.

I hereby certify that the information submitted in this notification is accurate and complete to the best of my knowledge and belief.

Signature _____ Date _____

Note: A copy of this report along with other required contents (see § 222.43(e)(2)) must be sent to all of the parties required in § 222.43(a)(4). FRA's notification should be mailed to:

Associate Administrator for Safety
Federal Railroad Administration 1200
New Jersey Avenue, SE, MS-25
Washington, DC 20590

Federal Railroad Administration

Quiet Zone Designation Information

Public At-grade Open Crossing Information

Crossing:	306970E	Urban(U)/Rural(R):	R.Local
Warning Device:	Gates	Highway Paved:	yes
aadt:	709	Maximum Timetable Speed :	25
Total Trains:	7	Highway Lanes:	2
Day Through Trains:	3	No. of Accident Data Years:	5
Main Tracks:	1	No. of Accidents:	0
Other Tracks:	0	Total Switching Trains:	0

Crossing:	306971L	Urban(U)/Rural(R):	R.Major Collector
Warning Device:	Gates	Highway Paved:	yes
aadt:	3966	Maximum Timetable Speed :	25
Total Trains:	7	Highway Lanes:	2
Day Through Trains:	3	No. of Accident Data Years:	5
Main Tracks:	1	No. of Accidents:	0
Other Tracks:	0	Total Switching Trains:	0

FRA CALCULATOR RESULTS CN-2

Federal Railroad Administration

Quiet Zone Designation Information

Name	Job Title	Organization	
Jacob Sprengeler	**Design Engineer**	**Anderson-Bogert**	
Address	City	State	Zip Code
4050 River Center Ct	**Cedar Rapids**	**IA**	**52402**
Phone	Fax	Email	
319-377-4629		**jsprengeler@anderson-bogert.com**	

306952G **MINES OF SPAIN**	Proposed Warning Device **Gates**	Estimated Cost **0.00**	Wayside Horn **No**	Risk Index **4,732.27**
Crossing Type **Public**	SSM **None**	Pre-Existing SSM **None**		

911770M **JONES ST**	Proposed Warning Device **Gates**	Estimated Cost **0.00**	Wayside Horn **No**	Risk Index **8,808.57**
Crossing Type **Public**	SSM **None**	Pre-Existing SSM **None**		

911776D **E 5TH ST**	Proposed Warning Device **Gates**	Estimated Cost **15,000.00**	Wayside Horn **No**	Risk Index **4,954.07**
Crossing Type **Public**	SSM **Non-Traversable Curb Medians with or without Channelization Devices**	Pre-Existing SSM **None**		

Note: If zone is a partial new quiet zone, gates are not required if the crossing is to be closed during partial quiet zone period, permanently closed, or grade separated.

Zone ID : **62708**			Scenario ID : **70875**	
Date : **8/6/2024 6:01:32 PM**				
Railroad **CC**	Pre Rule? **NO**	Partial? **NO**	Time of Partial Quiet Zone	Total Traffic **2,749**
Estimated Total Cost **$15,000.00**	Nationwide Significant Risk Threshold **15488**		Risk Index with Horns **7,656.12**	Quiet Zone Risk Index **6,164.97**

Basis for Establishment or Continuation of Quiet Zone

This quiet zone is being established in compliance with the following (check one)

☐ § 222.39(a)(1), implementation of SSMs at every public crossing in the New Quiet Zone or New Partial Quiet Zone;

☐ §222.39(a)(2)(i), the QZRI is at or below the NSRT without installation of any SSMs at the New Quiet Zone or New Partial Quiet Zone;

☐ §222.39(a)(2)(ii), SSMs were implemented at some crossings in the New Quiet Zone or New Partial Quiet Zone to bring the QZRI to a level at or below the NSRT;

☐ §222.39(a)(3), SSMs were implemented at some crossings in the New Quiet Zone or New Partial Quiet Zone to bring the QZRI to a level at or below the RIWH; or

☐ §222.39(b), public authority application to the FRA for a New Quiet Zone or New Partial Quiet Zone.

☐ § 222.41(a)(1)(i) Pre-Rule Quiet Zones that qualify for automatic approval because every crossing is equipped with an SSM,

☐ § 222.41(a)(1)(ii) Pre-Rule Quiet Zones that qualify for automatic approval because QZRI ≤ NSRT,

☐ § 222.41(a)(1)(iii) Pre-Rule Quiet Zones that qualify for automatic approval because NSRT < QZRI < 2* NSRT, and there have been no relevant collisions within the 5 years preceding April 27,2005

☐ § 222.41(a)(1)(iv) Pre-Rule Quiet Zones that qualify for automatic approval because NSRT < RIWH.

☐ § 222.41(b)(1)(i) Pre-Rule Partial Quiet Zones that qualify for automatic approval because every crossing is equipped with an SSM,

☐ § 222.41(b)(1)(ii) Pre-Rule Partial Quiet Zones that qualify for automatic approval because QZRI ≤ NSRT,

☐ § 222.41(b)(1)(iii) Pre-Rule Partial Quiet Zones that qualify for automatic approval because NSRT < QZRI < 2* NSRT, and there have been no relevant collisions within the 5 years preceding April 27,2005.

☐ § 222.41(b)(1)(iv) Pre-Rule Partial Quiet Zones that qualify for automatic approval because NSRT < RIWH.

☐ § 222.41(c) Pre-Rule Quiet Zones and Pre-Rule Partial Quiet Zones that do not qualify for automatic approval

☐ § 222.41(d) Pre-Rule Partial Quiet Zones that will be converted to 24-hour New Quiet Zones

☐ § 222.42(a) Intermediate Quiet Zones or Intermediate Partial Quiet Zones

☐ § 222.42(b) Intermediate Partial Quiet Zones that will be converted to 24-hour New Quiet Zones.

Applicant Signature _____ Date _____

Chief Executive Officer Statement.

I hereby certify that the information submitted in this notification is accurate and complete to the best of my knowledge and belief.

Signature _____ Date _____

Note: A copy of this report along with other required contents (see § 222.43(e)(2)) must be sent to all of the parties required in § 222.43(a)(4). FRA's notification should be mailed to:

Associate Administrator for Safety
Federal Railroad Administration 1200
New Jersey Avenue, SE, MS-25
Washington, DC 20590

Federal Railroad Administration

Quiet Zone Designation Information

Public At-grade Open Crossing Information

Crossing:	306952G	Urban(U)/Rural(R):	U.Local
Warning Device:	Gates	Highway Paved:	yes
aadt:	380	Maximum Timetable Speed :	25
Total Trains:	9	Highway Lanes:	2
Day Through Trains:	3	No. of Accident Data Years:	5
Main Tracks:	1	No. of Accidents:	0
Other Tracks:	0	Total Switching Trains:	2

Crossing:	911770M	Urban(U)/Rural(R):	U.Local
Warning Device:	Gates	Highway Paved:	yes
aadt:	430	Maximum Timetable Speed :	25
Total Trains:	37	Highway Lanes:	0
Day Through Trains:	3	No. of Accident Data Years:	5
Main Tracks:	1	No. of Accidents:	0
Other Tracks:	2	Total Switching Trains:	30

Crossing:	911776D	Urban(U)/Rural(R):	U.Collector
Warning Device:	Gates	Highway Paved:	yes
aadt:	1939	Maximum Timetable Speed :	50
Total Trains:	26	Highway Lanes:	2
Day Through Trains:	4	No. of Accident Data Years:	5
Main Tracks:	2	No. of Accidents:	0
Other Tracks:	0	Total Switching Trains:	18

FRA CALCULATOR RESULTS CP-1

Federal Railroad Administration

Quiet Zone Designation Information

Name	Job Title	Organization	
Jacob Sprengeler	**Design Engineer**	**Anderson-Bogert**	
Address	City	State	Zip Code
4050 River Center Ct	**Cedar Rapids**	**IA**	**52402**
Phone	Fax	Email	
319-377-4629		**jsprengeler@anderson-bogert.com**	

376108Y **massey marina lane**	Proposed Warning Device **Gates**	Estimated Cost **308,000.00**	Wayside Horn **No**	Risk Index **2,303.34**
Crossing Type **Public**	SSM **Four-Quadrant Gates New Installation with Vehicle Presence Detection**	Pre-Existing SSM **None**		

Note: If zone is a partial new quiet zone, gates are not required if the crossing is to be closed during partial quiet zone period, permanently closed, or grade separated.

Zone ID : **61245**			Scenario ID : **69320**	
Date : **8/6/2024 6:02:18 PM**				
Railroad **DME**	Pre Rule? **NO**	Partial? **NO**	Time of Partial Quiet Zone	Total Traffic **368**
Estimated Total Cost **$308,000.00**	Nationwide Significant Risk Threshold **15488**	Risk Index with Horns **6,003.91**	Quiet Zone Risk Index **2,303.34**	

Basis for Establishment or Continuation of Quiet Zone

This quiet zone is being established in compliance with the following (check one)

☐ § 222.39(a)(1), implementation of SSMs at every public crossing in the New Quiet Zone or New Partial Quiet Zone;

☐ §222.39(a)(2)(i), the QZRI is at or below the NSRT without installation of any SSMs at the New Quiet Zone or New Partial Quiet Zone;

☐ §222.39(a)(2)(ii), SSMs were implemented at some crossings in the New Quiet Zone or New Partial Quiet Zone to bring the QZRI to a level at or below the NSRT;

☐ §222.39(a)(3), SSMs were implemented at some crossings in the New Quiet Zone or New Partial Quiet Zone to bring the QZRI to a level at or below the RIWH; or

☐ §222.39(b), public authority application to the FRA for a New Quiet Zone or New Partial Quiet Zone.

☐ § 222.41(a)(1)(i) Pre-Rule Quiet Zones that qualify for automatic approval because every crossing is equipped with an SSM,

☐ § 222.41(a)(1)(ii) Pre-Rule Quiet Zones that qualify for automatic approval because QZRI ≤ NSRT,

☐ § 222.41(a)(1)(iii) Pre-Rule Quiet Zones that qualify for automatic approval because NSRT < QZRI < 2* NSRT, and there have been no relevant collisions within the 5 years preceding April 27,2005

☐ § 222.41(a)(1)(iv) Pre-Rule Quiet Zones that qualify for automatic approval because NSRT < RIWH.

☐ § 222.41(b)(1)(i) Pre-Rule Partial Quiet Zones that qualify for automatic approval because every crossing is equipped with an SSM,

☐ § 222.41(b)(1)(ii) Pre-Rule Partial Quiet Zones that qualify for automatic approval because QZRI ≤ NSRT,

☐ § 222.41(b)(1)(iii) Pre-Rule Partial Quiet Zones that qualify for automatic approval because NSRT < QZRI < 2* NSRT, and there have been no relevant collisions within the 5 years preceding April 27,2005.

☐ § 222.41(b)(1)(iv) Pre-Rule Partial Quiet Zones that qualify for automatic approval because NSRT < RIWH.

☐ § 222.41(c) Pre-Rule Quiet Zones and Pre-Rule Partial Quiet Zones that do not qualify for automatic approval

☐ § 222.41(d) Pre-Rule Partial Quiet Zones that will be converted to 24-hour New Quiet Zones

☐ § 222.42(a) Intermediate Quiet Zones or Intermediate Partial Quiet Zones

☐ § 222.42(b) Intermediate Partial Quiet Zones that will be converted to 24-hour New Quiet Zones.

Applicant Signature _____ Date _____

Chief Executive Officer Statement.

I hereby certify that the information submitted in this notification is accurate and complete to the best of my knowledge and belief.

Signature _____ Date _____

Note: A copy of this report along with other required contents (see § 222.43(e)(2)) must be sent to all of the parties required in § 222.43(a)(4). FRA's notification should be mailed to:

Associate Administrator for Safety
Federal Railroad Administration 1200
New Jersey Avenue, SE, MS-25
Washington, DC 20590

Federal Railroad Administration

Quiet Zone Designation Information

Public At-grade Open Crossing Information

Crossing:	376108Y	Urban(U)/Rural(R):	R.Local
Warning Device:	Gates	Highway Paved:	yes
aadt:	368	Maximum Timetable Speed :	40
Total Trains:	13	Highway Lanes:	2
Day Through Trains:	6	No. of Accident Data Years:	5
Main Tracks:	1	No. of Accidents:	0
Other Tracks:	0	Total Switching Trains:	1

FRA CALCULATOR RESULTS CP-2

Federal Railroad Administration

Quiet Zone Designation Information

Name	Job Title	Organization	
Jacob Sprengeler	**Design Engineer**	**Anderson-Bogert**	
Address	City	State	Zip Code
4050 River Center Ct	**Cedar Rapids**	**IA**	**52402**
Phone	Fax	Email	
319-377-4629		**jsprengeler@anderson-bogert.com**	

376119L **E 7TH ST**	Proposed Warning Device **Gates**	Estimated Cost **0.00**	Wayside Horn **No**	Risk Index **12,954.36**
Crossing Type **Public**	SSM **None**	Pre-Existing SSM **None**		

376121M **E 9TH ST**	Proposed Warning Device **Gates**	Estimated Cost **128,000.00**	Wayside Horn **No**	Risk Index **4,016.00**
Crossing Type **Public**	SSM **Four-Quadrant Gates Upgrade from Two Quadrant Gates, with Vehicle Presence Detection**	Pre-Existing SSM **None**		

376122U **E 11TH ST**	Proposed Warning Device **Gates**	Estimated Cost **15,000.00**	Wayside Horn **No**	Risk Index **10,918.53**
Crossing Type **Public**	SSM **Non-Traversable Curb Medians with or without Channelization Devices**	Pre-Existing SSM **None**		

376123B **E 12TH ST**	Proposed Warning Device **Gates**	Estimated Cost **0.00**	Wayside Horn **No**	Risk Index **7,003.73**
Crossing Type **Public**	SSM **None**	Pre-Existing SSM **None**		

376125P **E 14TH ST**	Proposed Warning Device **Gates**	Estimated Cost **4,000,000.00**	Wayside Horn **No**	Risk Index **0.00**
Crossing Type **Public**	SSM **Grade Seperation of a Public Highway-Rail Grade Crossing**		Pre-Existing SSM **None**	

376126W **E 15TH ST**	Proposed Warning Device **Gates**	Estimated Cost **5,000.00**	Wayside Horn **No**	Risk Index **0.00**
Crossing Type **Public**	SSM **Permanent Closure of a Public Highway-Rail Grade Crossing**		Pre-Existing SSM **None**	

376127D **e 16TH ST**	Proposed Warning Device **Gates**	Estimated Cost **308,000.00**	Wayside Horn **No**	Risk Index **4,597.24**
Crossing Type **Public**	SSM **Four-Quadrant Gates New Installation with Vehicle Presence Detection**		Pre-Existing SSM **None**	

376131T **HAWTHORNE ST**	Proposed Warning Device **Gates**	Estimated Cost **0.00**	Wayside Horn **No**	Risk Index **11,384.71**
Crossing Type **Public**	SSM **None**		Pre-Existing SSM **None**	

376132A **LINCOLN AVE**	Proposed Warning Device **Gates**	Estimated Cost **0.00**	Wayside Horn **No**	Risk Index **12,933.55**
Crossing Type **Public**	SSM **None**		Pre-Existing SSM **None**	

Note: If zone is a partial new quiet zone, gates are not required if the crossing is to be closed during partial quiet zone period, permanently closed, or grade separated.

Zone ID : **61246**			Scenario ID : **70647**	
Date : **8/6/2024 6:04:05 PM**				
Railroad **DME**	Pre Rule? **NO**	Partial? **NO**	Time of Partial Quiet Zone	Total Traffic **17,393**
Estimated Total Cost **$4,456,000.00**	Nationwide Significant Risk Threshold **15488**	Risk Index with Horns **11,064.34**	Quiet Zone Risk Index **7,089.79**	

Basis for Establishment or Continuation of Quiet Zone

This quiet zone is being established in compliance with the following (check one)

☐ § 222.39(a)(1), implementation of SSMs at every public crossing in the New Quiet Zone or New Partial Quiet Zone;

☐ §222.39(a)(2)(i), the QZRI is at or below the NSRT without installation of any SSMs at the New Quiet Zone or New Partial Quiet Zone;

☐ §222.39(a)(2)(ii), SSMs were implemented at some crossings in the New Quiet Zone or New Partial Quiet Zone to bring the QZRI to a level at or below the NSRT;

☐ §222.39(a)(3), SSMs were implemented at some crossings in the New Quiet Zone or New Partial Quiet Zone to bring the QZRI to a level at or below the RIWH; or

☐ §222.39(b), public authority application to the FRA for a New Quiet Zone or New Partial Quiet Zone.

☐ § 222.41(a)(1)(i) Pre-Rule Quiet Zones that qualify for automatic approval because every crossing is equipped with an SSM,

☐ § 222.41(a)(1)(ii) Pre-Rule Quiet Zones that qualify for automatic approval because QZRI ≤ NSRT,

☐ § 222.41(a)(1)(iii) Pre-Rule Quiet Zones that qualify for automatic approval because NSRT < QZRI < 2* NSRT, and there have been no relevant collisions within the 5 years preceding April 27,2005

☐ § 222.41(a)(1)(iv) Pre-Rule Quiet Zones that qualify for automatic approval because NSRT < RIWH.

☐ § 222.41(b)(1)(i) Pre-Rule Partial Quiet Zones that qualify for automatic approval because every crossing is equipped with an SSM,

☐ § 222.41(b)(1)(ii) Pre-Rule Partial Quiet Zones that qualify for automatic approval because QZRI ≤ NSRT,

☐ § 222.41(b)(1)(iii) Pre-Rule Partial Quiet Zones that qualify for automatic approval because NSRT < QZRI < 2* NSRT, and there have been no relevant collisions within the 5 years preceding April 27,2005.

☐ § 222.41(b)(1)(iv) Pre-Rule Partial Quiet Zones that qualify for automatic approval because NSRT < RIWH.

☐ § 222.41(c) Pre-Rule Quiet Zones and Pre-Rule Partial Quiet Zones that do not qualify for automatic approval

☐ § 222.41(d) Pre-Rule Partial Quiet Zones that will be converted to 24-hour New Quiet Zones

☐ § 222.42(a) Intermediate Quiet Zones or Intermediate Partial Quiet Zones

☐ § 222.42(b) Intermediate Partial Quiet Zones that will be converted to 24-hour New Quiet Zones.

Applicant Signature _____ Date _____

Chief Executive Officer Statement.

I hereby certify that the information submitted in this notification is accurate and complete to the best of my knowledge and belief.

Signature _____ Date _____

Note: A copy of this report along with other required contents (see § 222.43(e)(2)) must be sent to all of the parties required in § 222.43(a)(4). FRA's notification should be mailed to:

Associate Administrator for Safety
Federal Railroad Administration 1200
New Jersey Avenue, SE, MS-25
Washington, DC 20590

Quiet Zone Designation Information

Public At-grade Open Crossing Information

Crossing:	376119L	Urban(U)/Rural(R):	U.Local
Warning Device:	Gates	Highway Paved:	yes
aadt:	682	Maximum Timetable Speed :	25
Total Trains:	13	Highway Lanes:	2
Day Through Trains:	6	No. of Accident Data Years:	5
Main Tracks:	1	No. of Accidents:	0
Other Tracks:	0	Total Switching Trains:	1

Crossing:	376121M	Urban(U)/Rural(R):	U.Minor Arterial
Warning Device:	Gates	Highway Paved:	yes
aadt:	2208	Maximum Timetable Speed :	25
Total Trains:	13	Highway Lanes:	2
Day Through Trains:	6	No. of Accident Data Years:	5
Main Tracks:	1	No. of Accidents:	0
Other Tracks:	0	Total Switching Trains:	1

Crossing:	376122U	Urban(U)/Rural(R):	U.Minor Arterial
Warning Device:	Gates	Highway Paved:	yes
aadt:	2500	Maximum Timetable Speed :	25
Total Trains:	13	Highway Lanes:	2
Day Through Trains:	6	No. of Accident Data Years:	5
Main Tracks:	1	No. of Accidents:	1
Other Tracks:	0	Total Switching Trains:	1

Crossing:	376123B	Urban(U)/Rural(R):	U.Local
Warning Device:	Gates	Highway Paved:	yes
aadt:	287	Maximum Timetable Speed :	25
Total Trains:	13	Highway Lanes:	2
Day Through Trains:	6	No. of Accident Data Years:	5
Main Tracks:	1	No. of Accidents:	0
Other Tracks:	0	Total Switching Trains:	1

Crossing:	376125P	Urban(U)/Rural(R):	U.Minor Arterial
Warning Device:	Gates	Highway Paved:	yes
aadt:	4565	Maximum Timetable Speed :	25
Total Trains:	13	Highway Lanes:	2
Day Through Trains:	6	No. of Accident Data Years:	5
Main Tracks:	1	No. of Accidents:	1
Other Tracks:	0	Total Switching Trains:	1

Crossing:	376126W	Urban(U)/Rural(R):	U.Local
Warning Device:	Gates	Highway Paved:	yes
aadt:	0	Maximum Timetable Speed :	25
Total Trains:	13	Highway Lanes:	2
Day Through Trains:	6	No. of Accident Data Years:	5
Main Tracks:	1	No. of Accidents:	0
Other Tracks:	0	Total Switching Trains:	1

Crossing:	376127D	Urban(U)/Rural(R):	U.Local
Warning Device:	Gates	Highway Paved:	yes
aadt:	4360	Maximum Timetable Speed :	25
Total Trains:	13	Highway Lanes:	2
Day Through Trains:	6	No. of Accident Data Years:	5
Main Tracks:	1	No. of Accidents:	0
Other Tracks:	1	Total Switching Trains:	1

Crossing:	376131T	Urban(U)/Rural(R):	U.Minor Arterial
Warning Device:	Gates	Highway Paved:	yes
aadt:	2360	Maximum Timetable Speed :	35
Total Trains:	13	Highway Lanes:	2
Day Through Trains:	6	No. of Accident Data Years:	5
Main Tracks:	1	No. of Accidents:	0
Other Tracks:	0	Total Switching Trains:	1

Crossing:	376132A	Urban(U)/Rural(R):	U.Local
Warning Device:	Gates	Highway Paved:	yes
aadt:	431	Maximum Timetable Speed :	35
Total Trains:	13	Highway Lanes:	2
Day Through Trains:	6	No. of Accident Data Years:	5
Main Tracks:	1	No. of Accidents:	0
Other Tracks:	0	Total Switching Trains:	1

FRA CALCULATOR RESULTS CP-3

Federal Railroad Administration

Quiet Zone Designation Information

Name	Job Title	Organization	
Jacob Sprengeler	**Design Engineer**	**Anderson-Bogert**	
Address	City	State	Zip Code
4050 River Center Ct	**Cedar Rapids**	**IA**	**52402**
Phone	Fax	Email	
319-377-4629		**jsprengeler@anderson-bogert.com**	

376134N **RIVERSIDE DR**	Proposed Warning Device **Gates**	Estimated Cost **0.00**	Wayside Horn **No**	Risk Index **10,928.31**
Crossing Type **Public**	SSM **None**	Pre-Existing SSM **None**		

376136C **GOLF LAKE RD**	Proposed Warning Device **Gates**	Estimated Cost **0.00**	Wayside Horn **No**	Risk Index **3,635.65**
Crossing Type **Public**	SSM **None**	Pre-Existing SSM **None**		

Note: If zone is a partial new quiet zone, gates are not required if the crossing is to be closed during partial quiet zone period, permanently closed, or grade separated.

Zone ID : **61248**			Scenario ID : **69325**	
Date : **8/6/2024 6:05:38 PM**				
Railroad **DME**	Pre Rule? **NO**	Partial? **NO**	Time of Partial Quiet Zone	Total Traffic **320**
Estimated Total Cost **$0.00**	Nationwide Significant Risk Threshold **15488**	Risk Index with Horns **4,365.70**	Quiet Zone Risk Index **7,281.98**	

Basis for Establishment or Continuation of Quiet Zone

This quiet zone is being established in compliance with the following (check one)

☐ § 222.39(a)(1), implementation of SSMs at every public crossing in the New Quiet Zone or New Partial Quiet Zone;

☐ §222.39(a)(2)(i), the QZRI is at or below the NSRT without installation of any SSMs at the New Quiet Zone or New Partial Quiet Zone;

☐ §222.39(a)(2)(ii), SSMs were implemented at some crossings in the New Quiet Zone or New Partial Quiet Zone to bring the QZRI to a level at or below the NSRT;

☐ §222.39(a)(3), SSMs were implemented at some crossings in the New Quiet Zone or New Partial Quiet Zone to bring the QZRI to a level at or below the RIWH; or

☐ §222.39(b), public authority application to the FRA for a New Quiet Zone or New Partial Quiet Zone.

☐ § 222.41(a)(1)(i) Pre-Rule Quiet Zones that qualify for automatic approval because every crossing is equipped with an SSM,

☐ § 222.41(a)(1)(ii) Pre-Rule Quiet Zones that qualify for automatic approval because QZRI ≤ NSRT,

☐ § 222.41(a)(1)(iii) Pre-Rule Quiet Zones that qualify for automatic approval because NSRT < QZRI < 2* NSRT, and there have been no relevant collisions within the 5 years preceding April 27,2005

☐ § 222.41(a)(1)(iv) Pre-Rule Quiet Zones that qualify for automatic approval because NSRT < RIWH.

☐ § 222.41(b)(1)(i) Pre-Rule Partial Quiet Zones that qualify for automatic approval because every crossing is equipped with an SSM,

☐ § 222.41(b)(1)(ii) Pre-Rule Partial Quiet Zones that qualify for automatic approval because QZRI ≤ NSRT,

☐ § 222.41(b)(1)(iii) Pre-Rule Partial Quiet Zones that qualify for automatic approval because NSRT < QZRI < 2* NSRT, and there have been no relevant collisions within the 5 years preceding April 27,2005.

☐ § 222.41(b)(1)(iv) Pre-Rule Partial Quiet Zones that qualify for automatic approval because NSRT < RIWH.

☐ § 222.41(c) Pre-Rule Quiet Zones and Pre-Rule Partial Quiet Zones that do not qualify for automatic approval

☐ § 222.41(d) Pre-Rule Partial Quiet Zones that will be converted to 24-hour New Quiet Zones

☐ § 222.42(a) Intermediate Quiet Zones or Intermediate Partial Quiet Zones

☐ § 222.42(b) Intermediate Partial Quiet Zones that will be converted to 24-hour New Quiet Zones.

Applicant Signature _____ Date _____

Chief Executive Officer Statement.

I hereby certify that the information submitted in this notification is accurate and complete to the best of my knowledge and belief.

Signature _____ Date _____

Note: A copy of this report along with other required contents (see § 222.43(e)(2)) must be sent to all of the parties required in § 222.43(a)(4). FRA's notification should be mailed to:

Associate Administrator for Safety
Federal Railroad Administration 1200
New Jersey Avenue, SE, MS-25
Washington, DC 20590

Federal Railroad Administration

Quiet Zone Designation Information

Public At-grade Open Crossing Information

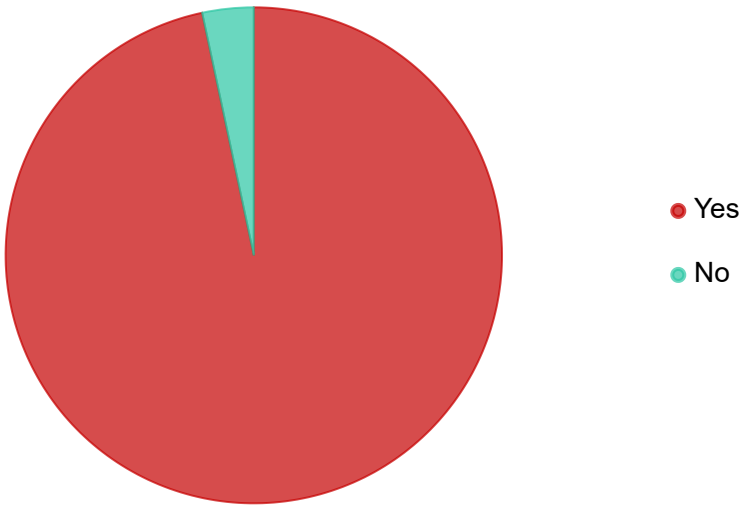
Crossing:	376134N	Urban(U)/Rural(R):	U.Local
Warning Device:	Gates	Highway Paved:	yes
aadt:	290	Maximum Timetable Speed :	35
Total Trains:	13	Highway Lanes:	2
Day Through Trains:	6	No. of Accident Data Years:	5
Main Tracks:	1	No. of Accidents:	0
Other Tracks:	1	Total Switching Trains:	1

Crossing:	376136C	Urban(U)/Rural(R):	R.Local
Warning Device:	Gates	Highway Paved:	yes
aadt:	30	Maximum Timetable Speed :	35
Total Trains:	13	Highway Lanes:	2
Day Through Trains:	6	No. of Accident Data Years:	5
Main Tracks:	1	No. of Accidents:	0
Other Tracks:	0	Total Switching Trains:	1

PUBLIC OUTREACH INTEREST SURVEY

Railroad Quiet Zone Interest Survey

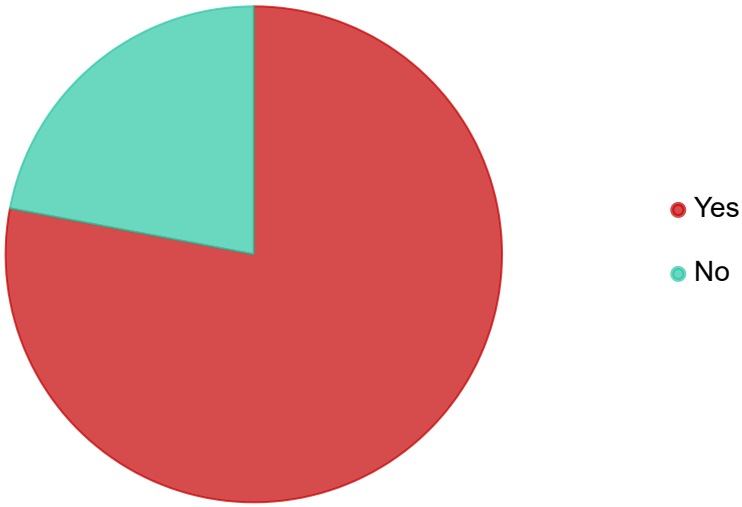
Do you live or work in the city limits of Dubuque? *



Answers	Count	Percentage
Yes	463	96.66%
No	16	3.34%

Answered: 479 Skipped: 0

Do you live or work near railroad tracks? *



Answers	Count	Percentage
Yes	361	75.37%
No	102	21.29%

Answered: 463 Skipped: 16

What is the address of your home or work near the railroad tracks?

Esri, USGS | Esri, FAO, NOAA, USGS Powered by Esri

Response	Count
333 E 10th St, Dubuque, IA, 52001, USA	13
1690 Elm St, Dubuque, IA, 52001, USA	10
40 Main St, Dubuque, IA, 52001, USA	4
50 W 13th St, Dubuque, IA, 52001, USA	3
40 main St	3
1000 Jackson St, Dubuque, IA, 52001, USA	3
Main St, Dubuque, IA, 52001, USA	2
955 Washington St, Dubuque, IA, 52001, USA	2
900 Jackson St, Dubuque, IA, 52001, USA	2
50 W 13TH ST, DUBUQUE, IA, 52001	2
40 Main St, Ste 100, Dubuque, IA, 52001, USA	2
39 Bluff St, Dubuque, IA, 52001, USA	2
351 E 15th St, Dubuque, IA, 52001, USA	2
350 E 3rd St, Dubuque, IA, 52001, USA	2
333 E 10th Street	2
263 Main St, Dubuque, IA, 52001, USA	2
243 W 11th St, Dubuque, IA, 52001, USA	2
2007 Rhomberg Ave, Dubuque, IA, 52001, USA	2
1631 Jackson St, Dubuque, IA, 52001, USA	2
1330 Garfield Ave, Dubuque, IA, 52001, USA	2
1040 Carmel Drive	2
Shiras Ave, Dubuque, IA, 52001, USA	1

Rockdale Rd, Dubuque, IA, 52003, USA	1
Parrot Dr, Peosta, IA, 52068, USA	1
N. Main Street	1
Main Street	1
Lincoln ave	1
Kerper Blvd, Dubuque, IA, 52001, USA	1
Jackson St	1
Garfield Ave, Dubuque, IA, 52001, USA	1
Garfield Ave	1
Garfield	1
Corner of Lincoln ave and Hawthorn street Dubuque Iowa	1
central ave.	1
Blue Sky Dr, Dubuque, IA, 52001, USA	1
995 Grove Ter, Dubuque, IA, 52001, USA	1
951 Iowa St, Dubuque, IA, 52001, USA	1
950 Elm St, Dubuque, IA, 52001, USA	1
949 Kerper Blvd, Dubuque, IA, 52001, USA	1
925 Rhomberg Ave, Dubuque, IA, 52001, USA	1
918 Lincoln ave	1
913 Merz St, Dubuque, IA, 52001, USA	1
905 Hiawatha Dr, East Dubuque, IL, 61025, USA	1
901 Lincoln Ave, Dubuque, IA, 52001, USA	1
90 Main St, Dubuque, IA, 52001, USA	1

875 Edison St, Dubuque, IA, 52001, USA	1
816 Rhomberg Ave, Dubuque, IA, 52001, USA	1
813 1/2 Lincoln Ave	1
800 White St, Dubuque, IA, 52001, USA	1
800 Mt. Carmel Rd.	1
7819 Commerce Park, Dubuque, IA, 52002, USA	1
770 Iowa St, Dubuque, IA, 52001, USA	1
714 Ries St, Dubuque, IA, 52001, USA	1
714 Rhomberg	1
672 Central Ave, Dubuque, IA, 52001, USA	1
657 Rush St, Dubuque, IA, 52003, USA	1
653 1/2 White St, Dubuque, IA, 52001, USA	1
619 Garfield Ave, Dubuque, IA, 52001, USA	1
610 Fenelon Pl, Dubuque, IA, 52001, USA	1
605 West 11th Street	1
600 Star Brewery Dr, Dubuque, IA, 52001, USA	1
600 Block of Iowa St, Dubuque, IA, 52001, USA	1
587 Clarke Dr, Dubuque, IA, 52001, USA	1
566 Saint George St, Dubuque, IA, 52003, USA	1
545 Cooper Pl, Dubuque, IA, 52001, USA	1
541 Fenelon Pl, Dubuque, IA, 52001, USA	1
501 Bell St, Dubuque, IA, 52001, USA	1
500 Laurel St	1

476 Central Ave, Dubuque, IA, 52001, USA	1
469 Emmett St, Dubuque, IA, 52001, USA	1
465 E 12th St, Dubuque, IA, 52001, USA	1
464 Central Ave, Dubuque, IA, 52001, USA	1
450 Villa St, Dubuque, IA, 52003, USA	1
420 Emmett St, Dubuque, IA, 52001, USA	1
400 Villa St, Dubuque, IA, 52003, USA	1
400 Ice Harbor Dr, Dubuque, IA, 52001, USA	1
40 Main Street	1
40 Main St.	1
390 Moore Hts, Dubuque, IA, 52003, USA	1
385 Bell St, Dubuque, IA, 52001, USA	1
365 Doe Ct	1
360 E 16th St, Dubuque, IA, 52001, USA	1
3561 Crescent Ridge	1
350 W 6th St Dubuque IA	1
350 East 3rd St	1
35 Lindberg Ter, Dubuque, IA, 52001, USA	1
330 River Ridge St, Dubuque, IA, 52003, USA	1
330 Jones St, Dubuque, IA, 52001, USA	1
3120 Eagle Point Dr, Dubuque, IA, 52001, USA	1
305 Doe Ct, Dubuque, IA, 52003, USA	1
301 Bell St, Dubuque, IA, 52001, USA	1

2nd Street	1
299 Main St, Dubuque, IA, 52001, USA	1
2936 Thornwood Ct, Dubuque, IA, 52003, USA	1
293 Roland St, Dubuque, IA, 52001, USA	1
2750 Burden Ave, Dubuque, IA, 52001, USA	1
2701 Rhomberg Ave, Dubuque, IA, 52001, USA	1
2685 Queen St, Dubuque, IA, 52001, USA	1
265 Pear St, Dubuque, IA, 52003, USA	1
2613 Jackson St, Dubuque, IA, 52001, USA	1
2595 Rhomberg Ave	1
258 Bluff Street	1
2555 Rhomberg Ave, Dubuque, IA, 52001, USA	1
2555 Rhomberg Ave	1
2555 Lincoln Ave, Dubuque, IA, 52001, USA	1
255 Villa St, Dubuque, IA, 52003, USA	1
250w6	1
2506 Lincoln Ave, Dubuque, IA, 52001, USA	1
2503 Central Ave, Dubuque, IA, 52001, USA	1
2473 Jackson St, Dubuque, IA, 52001, USA	1
2460 Kerper Blvd, Dubuque, IA, 52001, USA	1
2422 White St, Dubuque, IA, 52001, USA	1
2400 Block of Rhomberg Ave, Dubuque, IA, 52001, USA	1
2387 Garfield Ave, Dubuque, IA, 52001, USA	1

2352 Washington St, Dubuque, IA, 52001, USA	1
234 E 14th St, Dubuque, IA, 52001, USA	1
233 Main St, Dubuque, IA, 52001, USA	1
2217 Rhomberg Ave, Dubuque, IA, 52001, USA	1
2217 rhomberg	1
2216 White Street	1
2215 Rhomberg Ave, Dubuque, IA, 52001, USA	1
2190 Roosevelt St, Dubuque, IA, 52001, USA	1
2155 N Main St, Dubuque, IA, 52001, USA	1
2086 Garfield Ave, Dubuque, IA, 52001, USA	1
2086 Garfield Ave	1
2060 Decatur St, Dubuque, IA, 52001, USA	1
206 Southgate Drive	1
205 Bluff St, Dubuque, IA, 52001, USA	1
2046 Washington St, Dubuque, IA, 52001, USA	1
2044 Jackson St	1
204 Bluff	1
2020 S Grandview Ave, Dubuque, IA, 52003, USA	1
2010 Shelby St, Dubuque, IA, 52001, USA	1
2002 Rhomberg	1
2001 Rhomberg Ave, Dubuque, IA, 52001, USA	1
200 Railroad Ave. Dub	1
200 Railroad Ave	1

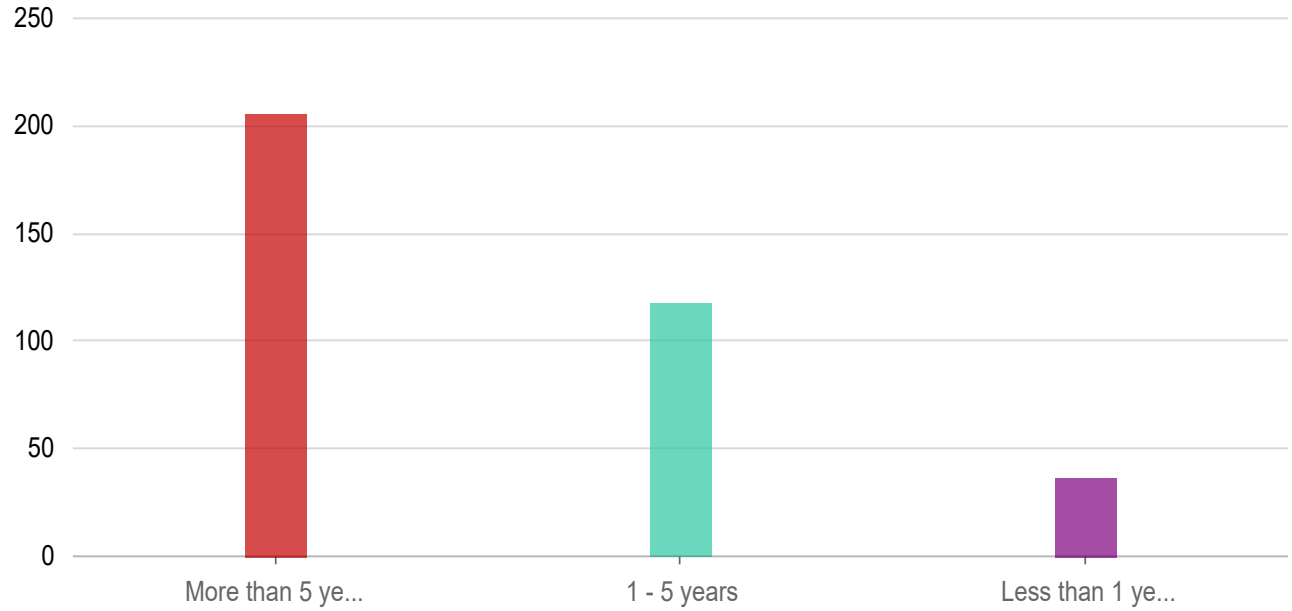
1920 Shelby St, Dubuque, IA, 52001, USA	1
1913 Johnson St, Dubuque, IA, 52001, USA	1
1905 Rhomberg	1
1901 Johnson St, Apt 3, Dubuque, IA, 52001, USA	1
1848Jackson	1
1840 Cannon St, Dubuque, IA, 52003, USA	1
1820 Amelia Dr, Dubuque, IA, 52001, USA	1
1801 Lincoln Ave. Dubuque Iowa	1
1798 Washington Street	1
1798 washington st dubuque	1
1785 Washington St, Dubuque, IA, 52001, USA	1
1759 S Grandview Ave	1
1710 Jackson Street, Dubuque	1
1690 Elm St	1
1690 Elm S	1
1669 Washington St. Du	1
1665 Glen Oak St, Dubuque, IA, 52001, USA	1
1645 S Grandview Ave, Dubuque, IA, 52003, USA	1
1645 Elm St, Dubuque, IA, 52001, USA	1
1640 born	1
1629 Washington St, Dubuque, IA, 52001, USA	1
1625 Prescott St	1
1614 Rhomberg Ave, Dubuque, IA, 52001, USA	1

1591 White St, Dubuque, IA, 52001, USA	1
156 Bluff St, Dubuque, IA, 52001, USA	1
155 Fremont	1
1527 Lincoln Ave, Dubuque, IA, 52001, USA	1
14th and Elm St.	1
1494 Elm St, Dubuque, IA, 52001, USA	1
1465 Sycamore St	1
1461 Jackson St, Dubuque, IA, 52001, USA	1
1449 Jackson St, Dubuque, IA, 52001, USA	1
1443 Maple St, Dubuque, IA, 52001, USA	1
1430 Jackson St, Dubuque, IA, 52001, USA	1
1429 Elm St, Dubuque, IA, 52001, USA	1
1404 Jackson St, Dubuque, IA, 52001, USA	1
1398 Elm St, Dubuque, IA, 52001, USA	1
1376 Elm St, Dubuque, IA, 52001, USA	1
1364 Jackson St, Dubuque, IA, 52001, USA	1
1356 Elm St, Dubuque, IA, 52001, USA	1
1355 Washington St. Dubuque	1
135 W 17th St, Dubuque, IA, 52001, USA	1
1323 Rhomberg Av	1
1320 Rhomberg (Home) 1494 Elm (Work)	1
1307 Garfield Ave	1
1306 Elm St, Dubuque, IA, 52001, USA	1

1236 Washington St, Dubuque, IA, 52001, USA	1
11th and Main St	1
1192 Locust St, Dubuque, IA, 52001, USA	1
1150 Tressa st	1
1141 Rosedale Ave	1
1127 High Bluff St, Dubuque, IA, 52001, USA	1
1124 High Bluff St.	1
1120 Main St, Dubuque, IA, 52001, USA	1
1114 Garfield Ave, Dubuque, IA, 52001, USA	1
1108 Althauser Ave, Dubuque, IA, 52001, USA	1
1100 Rhomberg Ave, Dubuque, IA, 52001, USA	1
1090 Grove Ter, Dubuque, IA, 52001, USA	1
1040 Carmel Dr, Dubuque, IA, 52003, USA	1
104 1st Ave NE, Epworth, IA, 52045, USA	1
10394 Emberwood Dr, Dubuque, IA, 52001, USA	1
1019 Garfield ave	1
1016 Rhomberg Ave, Dubuque, IA, 52001, USA	1
1016 Garfield Ave, Dubuque, IA, 52001, USA	1
1000 Rhomberg Ave, Dubuque, IA, 52001, USA	1
1000 Jackson Street	1

Answered: 248 Skipped: 231

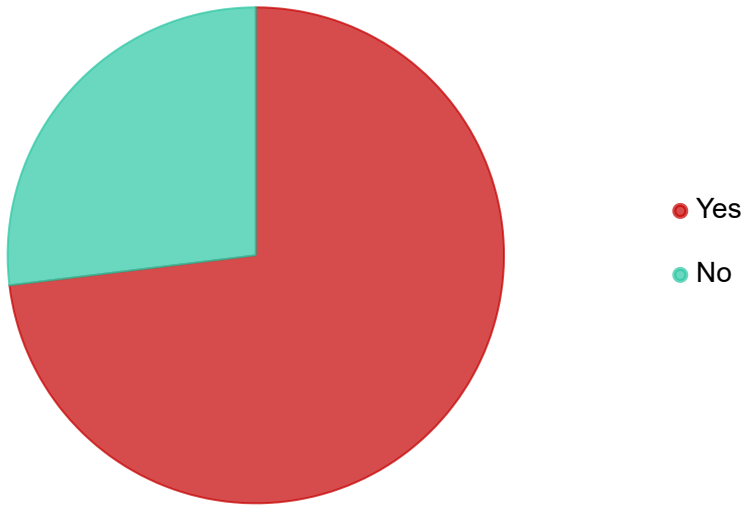
How many years have you lived or worked near the railroad tracks? *



Answers	Count	Percentage
More than 5 years	206	43.01%
1 - 5 years	118	24.63%
Less than 1 year	37	7.72%

Answered: 361 Skipped: 118

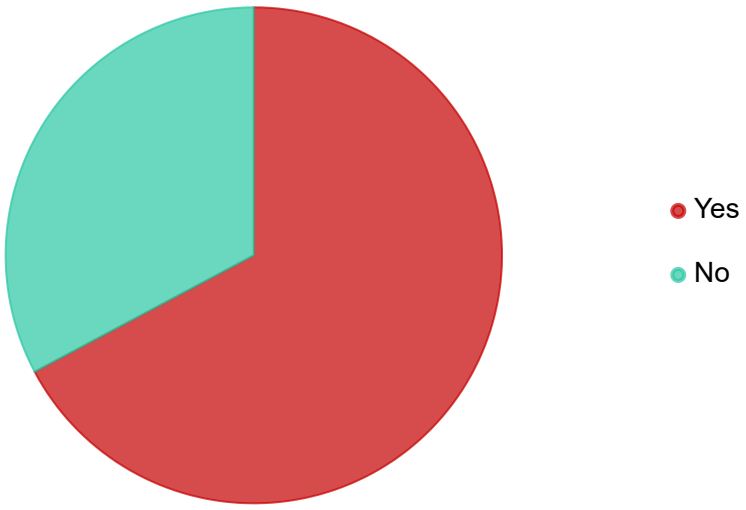
Does train noise bother you? *



Answers	Count	Percentage
Yes	350	73.07%
No	129	26.93%

Answered: 479 Skipped: 0

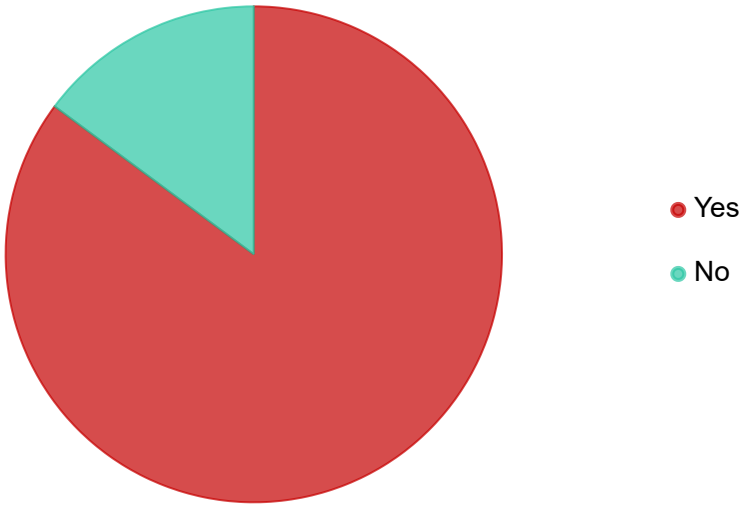
Has train noise ever negatively impacted your quality of life? *



Answers	Count	Percentage
Yes	322	67.22%
No	157	32.78%

Answered: 479 Skipped: 0

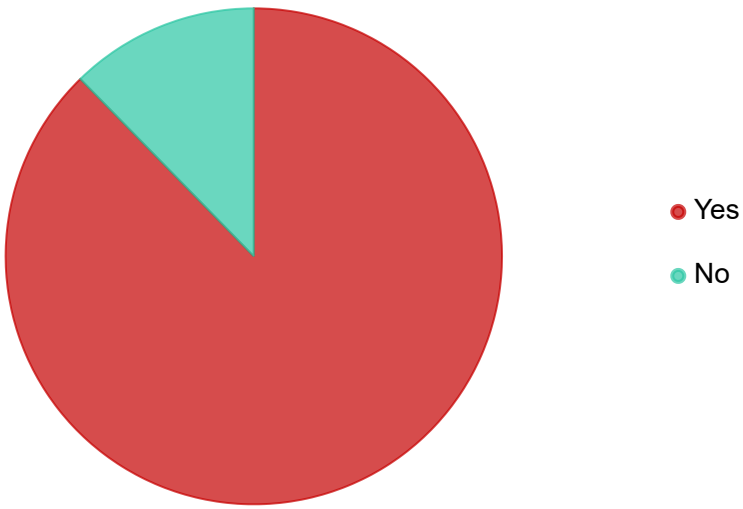
Do you believe that train noise can devalue a home or property? *



Answers	Count	Percentage
Yes	408	85.18%
No	71	14.82%

Answered: 479 Skipped: 0

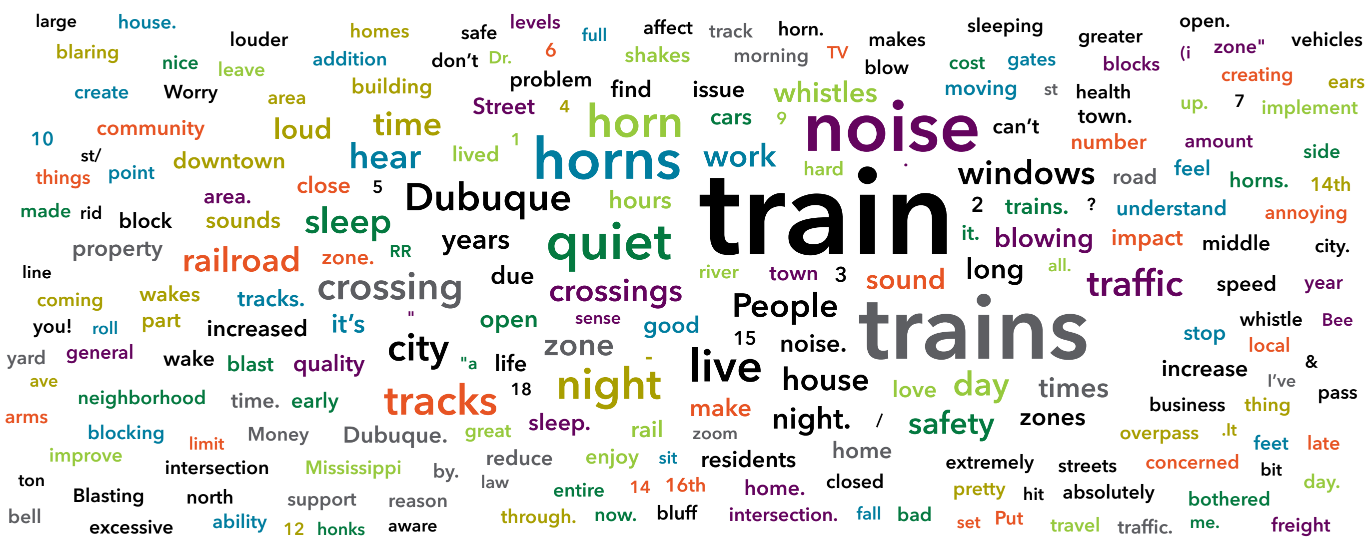
Do you support creating a quiet zone(s) in the City of Dubuque? *



Answers	Count	Percentage
Yes	420	87.68%
No	59	12.32%

Answered: 479 Skipped: 0

If you have any further comments, please list them here:



Response	Count
You get used to it within a few days. It sounds like home now.	1
You cannot keep your windows open during the day, every time a train comes I have to close my wind ows to reduce the noise along with muting my computer if I am on a call. It makes it hard to communic ate to TEAMS and Zoom calls. Thank you!	1
With the coming increase in traffic, a quiet zone would improve overall life in the downtown area.	1
While it doesn't impact my quality of life in the traditional sense such as loss of sleep, it is extremely a nnoying to have to keep windows closed in order to hear people in the same house as me when a trai n is going through. I live directly across from a set of tracks with no barrier to the sound such as trees or other houses. Even with the windows closed we have to pause what we are watching and pause a ny conversation as the train goes through. A quiet zone on Rhomberg near Hawthorne would be unbel ievably appreciated.	1

What next then we put Sound Suppressor on Jack Hammer and even Rubber tips.. Common on STO P Wasting the Dubuque CITIZENS HARD EARN MONEY IF THEY DON'T LIKE TRAIN NOISE THEN MOVE.	1
We understand that there will be train noise when you live near the tracks. BUT When the train comes in from the north by the Dairy Queen, especially in the very early am, they blow the horn full blast and many times. Also, one Sunday, a train blew it's horn two short honks, continuously all day?????. Som etimes in the very early morning I can hear the train coming in from the south. Blasting it's horn at eve ry intersection. I find it comforting, since it's far away from me and it reminds me of taking the train wh en I was a kid, but I wouldn't want to live near there. Also there's the banging of the trains in the trainy ard They just send the train cars rolling in the train yard and they BANG together. Earth shaking and e ar shattering. Thanks for this, the railroad doesn't listen to regular people.	1
We moved last year due to the noise from train horns (in addition to noise from the outdoor Q concert s) interfering with our sleep, even when our windows were shut. We did not live particularly close to th e tracks (or the casino) but the noise carries quite a distance. We are privileged in our ability to relocat e to a neighborhood that is further from the sound. Not to say we can’t still hear it sometimes. It seem s unavoidable in Dubuque. Regardless, many people are not so privileged and it is extremely unfair to them to continue having these unnecessary noises that disrupt sleep and serenity.	1
We live on the bluff with Dubuque being our backdrop. We have train tracks that go along the Mississi ppi right outside our house, and then the train tracks in Dubuque. The tracks along the Mississippi do not use a "horn" and are relatively unnoticeable, whereas the trains in Dubuque are quite the opposit e. It would be nice to find a way to reduce noise to reduce noise pollution and increase the amount of sleep.	1
We have lived here for nearly 30 years and during that time the trains have become louder and more obtrusive due to both the increased speed which they travel through this neighborhood and the increa sed amount of horn blaring that has occurred during this time (some engineers have taken to pretty m uch non-stop horn blowing between the 2 crossings in our neighborhood). The COVID pandemic forc ed the shutdown of my local office and I have had to work from home since then. The train horns ofte n interrupt my work, especially if I am in a meeting with someone. My wife and I have worried ever sin ce this merger was first proposed that the 2-3x increase in train traffic will mean that we will never get a good night's sleep again and will never be able to sell our house for anything near what it is worth.	1
We didn't notice the train noise much when we first moved in, but over the last year it's gotten worse a nd wakes us up throughout the night. I'm surprised there are only six trains a day because it feels like way more.	1
We are actually a business at this location. We are an outpatient therapy clinic and the train horn defi nitely affects our patients and their progress during our sessions.	1

We are a welding supply business and cannot hear on the telephone or have a conversation when the trains pass. Business comes to a halt. Very concerned that the number of trains will increase.	1
We also worry about the speed of trains that pass in the night. Our house shakes and we are awaken ed nearly every night. We bought our house twenty years ago, not realizing the impact of the trains an d clearly see that it has taken an impact on our property. While we have grown used to the noise over the year, I was sickened when I became aware that this would become an even greater problem with t he influx of train traffic. A "quiet zone" would be some small measure of comfort for those of us who ch oose to live in the Point Area.	1
We all know safety is important, but should it be at the cost of the long-term chronic health of resident s who live and work near train tracks? Trains should only sound their horns in emergency situations. Crossings should have active lights/blockades for incoming trains. This is safety that makes sense. N ot blowing a 120 decibel horn relentlessly at every crossing.	1
Understanding that train noise is an issue for some people, if we are to see an increase traffic level of trains, the safety of continuing to sound horns seems really really important. I personally like hearing t he train whistles and it is part of Dubuque’s unique culture. I work less than 50 feet from a train track a nd I live five blocks from a train track and the train whistles have never bothered me at all. However, if the decision is to dampen sounds after 10 PM and before 6 AM, that might be something to consider if other residents are having trouble sleeping due to train whistles. Thanks for asking for our input, Dubu que is a great city, and I am happy to live here.	1
Trains need to stop blocking intersections. Riverside Rd is frequently block and there is no other road to go around. This is a safety issue	1
Trains have been using the same rails for generations. When you buy homes close to railroads you h ave made a choice and have accepted the conditions that trains create. What gives anyone the right t o take away the railroad’s right to use their own tracks. The City Council has already limited truck traffi c on Central Ave, now they’re going after trains. I suppose they will try to limit or control the use of car s next. Oh wait, their speed cameras got nixed by the state. Maybe we should hit the brakes on our lo cal government’s overreach.	1
Trains during normal daytime hours is perfectly reasonable, several trains a day in those hours is reas onable. A train every hour from 5am-10pm IS NUTS it's too much and your community members are s uffering	1
Train traffic has long been a part of Dubuque's extensive history in Iowa. The train horns themselves a re used to communicate to drivers and other trains of oncoming obstacles or stops, and are a necess ary part of having trains through the area. Trains themselves are a vital part of the economic system a nd flow of goods though the country. Also, the noise of the trains on the tracks adds to the ambience o f the river walks and downtown area in Dubuque.	1

Train noise during late night and early morning is the worst. Many sleepless nights.	1
Train noise (especially the excessive and extended blowing of diesel train whistles - up to 12 seconds at a time - yes! We've clocked them!), and vibrations from mega trains have are impacting our quality of life and property values in the Washington Neighborhood. Add to that the time lost and fuel needles sly expended every time a train is parked blocking users of the 16th Street corridor. It's infuriating!	1
Train horns play a huge role in safety in our community. I see too many people walking on the train tra cks and without train horns railroad fatalities and injuries will increase. Train horns are a must have in large populated areas. Certain towns only limit train horn use to daylight hours only and have a quiet period at night. I think that would be a better option than getting rid of train horns all together. Train ho rns not only protect people but animals as well by scaring them away from the tracks while the train a pproaches.	1
Train horn will wake me up at 3 am, seems like they sound off for about 15 minutes or so.	1
Train crossings should also have safe pedestrian accommodations. Crossings such as 9th and 11th a re lacking them.	1
Traffic noise on White Street is also brutal and impossible to get used to. Much of this is made by mot orcycles and vehicles that have been modified with aftermarket parts to be louder.	1
To me there is no question here. Quiet a quiet zone for the residents, workers and growth of the city.	1
To be kind ? Have the noise only during day hours. It’s ridiculous to have it all night long and wailing r epeatedly. We are in a valley and it sounds terrible. If the dot would put road traffic “ABOVE” the rail li ne that would help and allow the train to continue without sounding. Dubuque has a DOT road proble m with their interchanges! We are the only town on the river that allows noise!	1
Though I am on the bluff above the tracks, the trains are so loud I can’t leave windows open at night. I’ve considered moving because of the noise.	1
This is silly.	1
This is a very costly change. My brother in law is a railroad superintendent that grew up on Garfield, a nd he explained the costs involved. The trains blow their horns for safety reasons and I don’t think rin ging a bell as crossings is adequate for safety, especially with kids crossing by the pool and Dairy Qu een. Additionally, I live on the north end and find the distant train horns peaceful at night	1
This is a test. - Kristin	1

This is a safety issue and whoever the brainiac is that sought to make this an issue should probably st op and re-consider. If you want to eliminate the "whistle announcement" when the trains make an at g rade crossing the permanent solution is to make an overpass for the cars so the trains don't need to a nnounce their coming. Plus for all those in City government who want us "going green," we ought to e ncourage a greater volume of freight transportation on the rails rather than on 18 wheelers on the high way. It's much cheaper and environmentally more friendly (less fuel per ton of freight - by far). Eliminat e the whistles and surely someone(s) will be killed with a train/vehicle accident(s). This is a ridiculous i dea. For most people that live near a train for any amount of time, they don't even realize the trains ar e going by. Your brain just builds in into your sense of "normal." I know this to be the case.	1
This is a long overdue quality-of-life issue for Dubuque. In fact, addressing noise related issues in gen eral would go a long way in helping to bring Dubuque into the modern age, especially if our employers hope to recruit and retain professionals from elsewhere. I would even suggest that quiet zones should be part of a comprehensive plan that looks at all sources of noise that negatively impact our health an d quality of life: things like the noise generated by outdoor concerts and engine braking by semi truck s, to name just a couple examples.	1
This improvement would make residents happy!	1
They're only required to sound the horn 3 times at an intersection but some of them hang on the horn all the way through town. Some honk up to 10 times per intersection.	1
They should also slow down through the city limits. I live 3 streets away and can tell how fast they're g oing by how stuff rattles in my house. My house is old, brick, and very solid. If things are rattling/vibrati ng badly they are going way too fast. Not to mention potential damage to houses from all the shaking.	1
There should be a railroad crossing with Gates and lights going to the Massey Marina campgrounds f or all the vehicles with campers and the people that live down there. The road at the intersection of th e railroad tracks is dangerous as it is now. Please make sure that this is addressed. as it is a safety co ncern. Thank you.	1
There is no need for trains to blow their horns as often as they do, especially between 10-11pm to 6a m when traffic is almost non-existent It goes on and on for about 10-20 minutes several times a night, definitely interrupting sleep. The next day you are dragging at work due to constantly being awaken b y trains. They have become specially loud since the Bee Branch houses and trees have been remove d. They did help as a sound barrier but now there is no sound buffer. Stop the madness. Thank you	1
There is a far more greater number of train vs pedestrian/ cars in Quiet Zones than with crossings wit h horn activation. You guys are setting yourselves up for a greater danger to the general public doing so.	1

There have been issues for years on the lower north side with trains blasting their horn and laying on it for a minute straight multiple times around 10-12pm. The increase would cause major frustration to residents and families. Spring and fall are the worst with windows open.	1
There has already been an uptick of trains in town. For Dubuque to say there's an average of only 9 a day is almost comical. There's already at least 15 trains happening per day. The horns are so obnoxious and unnecessary late at night while citizens who pay taxes are attempting to sleep. PLEASE DO SOMETHING ABOUT THIS	1
There are too many trains nowadays in Dubuque. Why did the city sell out and ruin quality of life for so many people? It's tough to sleep through the night with the windows open, or even closed, now. Trains are louder than ever. And it appears that this problem will only get worse. Why, why, why was this done? There is no good reason for it. The city should do whatever it can to reduce the number of trains coming through.	1
There are railroad tracks behind our house. The noise sometimes wakes me up in the middle of the night.	1
The worse is the banging and switching of train cars behind the house!	1
The trains wake me up every day I want to move out over downtown dubuque badly	1
The trains traveling on the track are not a problem but the blowing of their horns is. Sometimes the blasts last for a very long time and are answered by horns from other trains. We believe a quiet zone is beneficial to residents and guests (hotels in the area) and will make the city a more attractive and peaceful place to stay.	1
The trains throughout the day and night impacts our stress levels, our pets, our ability to work from home, and most of all, sleep quality. It's hard to host people and show what we love about our neighborhood when you can't have a discussion without screaming, have to interrupt activities to plug your ears, or go inside because the train horn and the screeching sounds are deafening, for an indefinite amount of time. It makes it difficult to enjoy the Bee branch. To grow and improve the neighborhood is ideal, but the environment is becoming aversive, and there's low motivation to start a family. In addition, the house shakes, a lot. Growing up in Seattle, I know earthquakes well. My mother visited and was confused why we were having an earthquake in Iowa. We knew there were trains by our house when we purchased it. The last year or so, noise has increased, become prolonged, and everything shakes, regardless of the speed.	1
The trains shake our house and wake up our entire family every single day. If this is not resolved we will be moving out of Dubuque.	1

The trains run next to the waterway, which make any potential derailment a serious environmental hazard for Catfish Creek, the Mississippi River, and the birds and wildlife habitat around us, not to mention our drinking water.	1
The trains lay on their horns for upwards of 10-15 seconds. My employees often can't hear the person on the other end of the phone. PLEASE create a quiet zone--otherwise we will need to relocate when our lease expires.	1
The trains have been in the same location for many years, long before most residents. Leave the trains alone. People moved into the areas knowing the trains were there. Leave the trains alone.	1
The trains are crumbling the walls of our building - albeit slowly. Twice a month we have to clean up the brick pieces that fall due to trains passing by.	1
The train whistle sounds really echo in the valley created by the bluffs. I'm a heavy sleeper but it took a LONG time before I could sleep through the trains we have now, and when I have guests they struggle to sleep. If there are going to be 3x more trains it will be 3x worse. When I'm on the phone or a Zoom with the windows open, the other person can hear the trains. That said, how is safety impacted by a quiet zone?	1
The train rounds the curve below my property very fast and shakes my home. This combined with the horn blowing wakes me up.	1
The train noise now is impossible to deal with somedays. When I am on the phone with clients (which is many times per day during the weekdays), clients can't hear me, and I can't hear them - resulting is a bad experience and risking business to go elsewhere. The traffic noise near the building doesn't help either - so please reconsider this. All of the other businesses and apartment tenant in our building feel the same way.	1
The train noise in our neighborhood has dramatically increased in the last two years. We have grown accustom to it but the horns and whistles can be annoying at time. Especially in the summer when you are trying to sit outside and enjoy the evening. Realizing that trains are a backbone of this country in shipping cargo, I totally understand the need, but if there is a way to quiet this, it would benefit everyone. Safety first!	1
The train noise has made sleeping and life downtown very difficult for me. If there is ANY way that the city of Dubuque could mitigate this noise, it would be excellent!	1
the train is so loud that it sounds like it is coming down the hallway of the building. It happens all hours of the night. I am regularly not getting a full night of sleep due to the noise.	1

The train horns between 10 pm and 6 am are a real nuisance. Especially when you are in a good soli d sleep. Sometimes can hear the horn with the windows closed.	1
The train disrupts sleep and would love a quiet zone that includes 14th and Elm!	1
The traffic we have now doesn't bother me so much, but I do wish they wouldn't blow their horns unle ss it was absolutely necessary, especially at night.	1
The railroad tracks predate the owners of the vast majority of the affected homes. The properties wer e purchased at decreased prices because of the known issue of train noise. It is not up to the taxpaye rs of Dubuque to provide a remedy to this solution	1
The permanent honking at any time of the day and night along the 32 streets crossing the RR is absol utely unbearable. I cannot understand that it is even allowed! Most cities in the developed world have at least electric barriers to prevent the highly sound polluted whistle echoing on the bluff!!! Please DO SOMETHING THAT STOPS EFFICIENTLY AND FOREVER THAT NUISANCE!!!	1
The number of crossings in close proximity means the horns are near constant from 14th through Ha wthorn. Based on my location it can be heard with the windows closed, and very loud when open.	1
The noise is absurd. It prevents me from enjoying my yard and being outside. Having windows open. Having conversations on the phone or outside while a train is passing. It often wakes me up. I work fr om home and the horn regularly interferes with zoom meetings. My concern is my home being purcha sed under imminent domain due to the proposed 14th st overpass. I desperately want the quiet zone t o enjoy my little house and its walkability fully, but worry i have to give up my house and lifestyle to do so (i own my house outright. It’s unlikely I could pay for one in full should i have to move.). Perfect iron y. But in general, the trains are holding Dubuque back. Beyond the noise of the horns. But let’s at leas t do what we can about those horns.	1
The noise echoes up so loud it wakes us up.	1
The noise and the faster trains all through the night very load. Two crossings within 1-2 blocks of our home. Blaring whistles, difficulty sleeping.	1
The merger is set to create 18 trains a day between the Kansas City and Sabula, IA section of the lin e, not through Dubuque. As of now, the average train count on the CPKC through Dubuque is about 7 per day, with projected traffic levels peaking at about 14 a day, effectively *doubling* traffic, not tripling like this survey says. Please represent your data more accurately.	1
The hum of trains going over the tracks and the blare of the horns AT ALL TIMES OF THE DAY distur b our sleep and cause I'll effects on our quality of life	1
The horn blowing interrupts my sleep and keeps me awake!!!!!!	1

The fact that Cedar Rapids has a quiet zones but the self-claimed Masterpiece on the Mississippi doesn't have a quiet zone is an absolute joke. These train operators roll into the city absolutely dragging on their train horns with each horn blare lasting up to as long as 15 seconds. They love to repeatedly blast the train horn at all hours of the day for as long as possible like it's some kind of fun game. There are many time when the train is not even at the crossing and the crossing is clear and free but they'll drag those train horns anyway. Implement the quiet zone. Do better.	1
The current situation is already a nuisance and promises to get worse. It would be irresponsible of state and local authorities to ignore this vital initiative.	1
The current level of train noise is only annoying, but with train traffic expected to more than double I worry about being able to get sleep any night of the week.	1
The current amount of noise does not bother me, but the anticipated increases could become excessive.	1
The cost and impact of the changes need to be strongly considered and see if the large cost and impact will be worth the noise reduction as trains are still loud without a horn blowing, I believe in a quiet zone being a good thing but just not sure it's worth the cost and displacement to those in the community	1
The building I work in thankfully has some pretty good noise cancellation. Even with that, on same days we can even feel the building rumbling. Creating a quiet zone would at least mitigate a little bit of the noise for the increased number of trains coming through the area. Please let it be known that I am not against trains, and would greatly love a passenger rain service coming back to the city. I am simply stating that train horns greatly reduce quality of life, especially at night.	1
The biggest part is the middle of the night excessively long horn, let alone the vibration from all the trains.	1
The area I live in has several crossings so train signals/horns are a constant noise for sometimes several minutes (which is a long time considering the loudness). The issue of disruption comes when being outside, having the windows open- it becomes painful to hear. When indoors and windows closed, it's more manageable because it is drowned out a bit.	1
Thanks for doing this!	1
Thank you for doing this! One thing that does need to happen is improvements to the crossings if the trains will not be blowing their horns. Double Gating the crossing works well for this. Also with double the rail traffic the city will need to look into the at-grade crossings and determine if it's physically possible or financially feasible to create viaducts.	1

TEST - KRISTIN	1
SOOO many other things to be worrying about. This is ridiculous....What is next? I know, let's petition to stop churches from ringing their bells !!!! how about stopping the noise from gunfire at Comiskey Pa rk ? leave the damn trains alone !!	1
Some weekends I hear trains sounding there horns at 5am. Don’t mind it during the day, but that is to o early	1
Sleepless night because of train horns honking at night!	1
Since all of the housing has been replaced by Dutrac CU on 13th Elm and Washington Streets the trai n whistles are especially loud. In the night and early morning (especially between 3 and 6 A.M.) I swe ar the conductor figures if he can't sleep then no one will. They don't just toot their horn - they lay on it pretty much through town. Is their any reason there couldn't be the crossing arms that come down alo ng with speed bumps on both sides of the tracks (to slow down and make aware of the impending trac ks those on their phones while driving) installed at every rail track/intersection the city. Then the trains could be mandated to have Dubuque "a quiet zone" while in the city limits. This issue really does affec t every aspect of our lives. Moving is not an option. Thank you!	1
Seven days a week with 3:00 AM train horns blaring is not acceptable.	1
Sell the houses to people who are deaf or hard of hearing!	1
Rumbling/shaking of building is more distracting then the noise	1
Regardless of what safety measures can be put in place in a quiet zone it’s still safer to have the train s identify themselves. There are more important things to use there and resources in in our city	1
Raising a family is our main reason for moving. The train continues to wake our young daughter even with sound measures.	1
Rail yard is close to my home. They slam the cars around so loudly which wakes me from my sleep.	1
Quiet zones would be perfect because I can’t even open my windows up because the train horn is so l oud, causes me to wake up in the middle of the night.	1
Quiet zones are fine but not for down town Dubuque. It’s a nisesity for the noise the railroad crossings definitely need improvement before this happens! Those tracks where they cross 14th street are horri ble with no arms the other night it was storming so visiblity was low the light on the crossing sign were n’t on yet and the train was still driving less than a block away! Nose might be a newsance but safety i s 100% more important regardless. Quite bitching about the dam noise those whistles fucking save liv es! Put tugboat horns on those trains just as a reminder that Dubuque is keeping your safety in mind.	1

Quiet zone... While maintaining safety would really improve the east side of Dubuque	1
Please police the TERRIBLE banging noise from the trains at all hours as they move passed Garfield Ave! It is so loud and it violently shakes the whole Point Neighborhood!Things are falling off shelves fr om them slamming their brakes so hard! It is a very serious issue!	1
Please include all RR crossings in the City of DBQ, especially in the Point Area.	1
Perhaps in lieu of quiet zones there might be a lower volume shorter duration horn blowing. If it canno t be done quietly, at least keep the noise local to the crossing. And at those crossings on private railro ad property should not require any audible signal beyond the crossing gates. In many places where tr ains approach crossings at speed , eg the coast passenger trains in California, the audible signal is , appropriately, only at the crossing	1
Per KWWL train yards will still have noise. That’s very disappointing for those of us trying to get a nigh t of undisrupted sleep. Why can’t we just have quiet all the time?	1
People say that you get used to it. As someone who has had to endure the noise of train whistles for many years I would wholeheartedly disagree. We have friends who live as far away from the tracks as 5 miles who tell us they too are bothered by the train whistles because of the many valleys and hills th at funnel the noise to their neighborhood. I am overjoyed that the city is finally looking into improving t his situation, train whistles at 12am, 2am, 4am very negatively affect my quality of life. Thank you for y our efforts in moving this project forward.	1
Overall, I do not mind the whistles, they just seem to be louder lately.	1
Over the last few years trains are going faster and we can hear the train whistles blowing loudly for tw o train crossings. Difficult sleeping secondary to noise.	1
our building rattles and dust and debris fall from the ceiling. the picture frames shake. It is genuinely s o loud my ears hurt when the horn is being blown. It doesnt allow me to talk on the phone during certa in times or meet with customers	1
Of all the things to worry about... I find the train peaceful and a remembrence of times past. Worry ab out shots fired and fights at the new comiskry park	1
Not worth the money to do this	1
Not unusual for trains to wake us up in the middle of the night. We don't understand why they have to blast their horns at 3 AM.	1

Not only is the train noise disruptive to employees, but it is also traumatic for many of our patients. We have a dental office here, brain health and Medical - it is challenging to try to keep patients calm with t he incessant noise.	1
None. Just really want this to happen!	1
Noise Level & number of trains have increased substantially. Can't imagine how many more trains an d more noise throughout the night. Sleep is affected and the echoing of the trains against the bluff is g etting louder as well as trains blowing their horns continuously is annoying!	1
My previous survey was not complete. I am also very concerned about how the excessive slamming o f cars vibrates my brick house so much that I am seeing my home crack up. I would think that is havin g the same effect on the Fengler overpass as well as the City Publicwoks My neighbors and I have co mplained to the railroad numerous times about this issue and many others, such as leaving the engin es that aren't hooked up, parked running, spewing diesel smoke into our homes. The yard is a 6 block s down. I feel like the railroad needs to show more respect to the neighborhoods in which they travel t rough. I see them throw garbage out their windows even. I grew up with the trains that didn't disrupt li ke they do now.	1
My previous home was affected by regular train noise, and I've seen its effects on property valuations.	1
My house actually shakes when trains go through. Additionally with the windows open we can hear co ntinual blaring of horns at night. Increase in train traffic will mean more noise and more shaking. I kno w a quiet zone won't stop that but peaceful sleep would be good	1
My hometown, Galesburg, IL, has had quiet zones at all crossings for many years. Train horns are not allowed in the city limits except for emergencies. It was easy to implement (at 15 crossings) and relati vely inexpensive.	1
My front door is about 60 feet from tracks and about 200 feet from an intersection. General train noise is a given and I'm sure doesn't bother many very much. But as they pull into and out of town they are slow to get moving so while going through the intersections it's upwards of 15 seconds of constant hor n. Making it impossible to be outside during. General train noise is fine. Horns are the worst thing eve r.	1
My friend who has stage 4 cancer,lives on the 8th floor and hates the noise,can't enjoy fresh window air ,too loud.	1
Most concerned with who pays for these improvements and the havoc the additional trains will cause l ocal traffic. This survey misses the points that matter to the entire community.	1
Maybe this is because we gave away the Riverside property River front property!! Brilliant!!	1

Maybe instead of zones just hours would work okay for most, like weekdays only horns being sounde d from 5/6am-8pm? Just my take.	1
Mandates use of train horns is intended to save lives by alerting people of approaching trains to inters ections. Less than one train per hour is not significant. In my opinion lives will be lost if train horns are silenced. You would think people would realize you can be hit by a train only when you are on the trac ks and stay off the tracks.	1
Mandate directional horns. Horn doesn't need to sound everywhere for miles, it only needs in front of engine.	1
love the trains.	1
Love the sound	1
Look, seriously, if you buy/rent a home near a railroad track, you should realize that there will be train noise. It's your own fault that you choose to live near the tracks. Learn to deal with the noise, or move. It's that simple.	1
Living on the bluffs above the tracks we hear them most of the time. But actually what is worse and ha ppens more often is the Jake brakes on the semis. I wish they would also inforce the laws that they ha ve for No Jake Braking on the highway. The truckers all know that it’s not. Thank you	1
Like the sound of trains.	1
Last night four trains went by between 2 AM and 4AM, blowing the whistle with gusto! The train noise has always been a problem in the 36 yrs we have lived here. One never gets used to it. Windows ope n or closed, doesn't matter. I can't image how interrupted our sleep will be with the increase in train tra ffic. I support rail transportation, but am grateful the city is looking into a quieter policy. Thank you!	1
Kids especially are negatively effected by the noise. And pets	1
I've very in favor of rail in general, and a huge supporter of trying to revive passenger rail locally, but i ncreased freight rail needs to be moderated so it doesn't get out of hand.	1
It's the trains that lay on the horn the entire duration of the city, all hours of the day. I don't live right on the tracks but on the bluff where I can hear all train traffic, windows opened or closed. I have to detour my work route 3 miles because of trains. I fear of leaving work on my lunch breaks that there will be a train sitting across Kerper that has NO lights NO arms, just dead stopped traffic.	1
It's not the noise that's the problem. It's when they block off streets when stopped or slow moving for l arge chunks of time.	1

It's not the noise that's the problem. It's how long streets are blocked off, especially if there's going to be an increase to 18 trains a day!	1
It's not only the noise, but also the shaking of my house several times a day is a real nuisance.	1
It's hard to sleep with the train horns all night long.	1
Its bad enough to have them constantly blocking intersections, at least have them be somewhat quiet for the people who have to live closest to them.	1
It’s crazy annoying	1
It makes it hard to sleep at night. Seems like they like to blow the horn All the way. Through town.	1
It isn't only the "noise" that the trains make (only due to FEDERAL requirements). It's HOW the trains will BLOCK multiple crossings during some of the busy times of the day (like close to 5 PM). Plus, wh en they block the 7th street crossing, there is NO way for big truck traffic to avoid it. It needs to be not ed that the railroad is impeding interstate commerce.	1
It is sheer idiocy that there cannot be a common sense solution to train horns blowing through town e very few hours. People are not stupid. The crossing gates work and they have red lights flashing. Hor ns are not needed. For an unprotected crossing without a crossing arm, they are needed. See. Easy. Fix the stupid.	1
It is more of a bother when it's nap time or bed time at our home.	1
in our community train noise disproportionally effects those that live in low-income census tracts and h as a detrimental impact on their quality of life.	1
In addition to the train noise, the stopped trains blocking roads/crossings for extended periods of time has become excessive.	1
I'm a City of Dubuque employee. Our Federal funding through HUD for homeowner rehabilitation proj ects requires a noise assessment and attenuation measures for homes within 3,000 feet of a railroad. The number of at-grade crossings that require whistles, as well as the noise generated by the train alr eady makes it difficult to achieve compliance with noise regulations in some areas of town, without inc reased costs for attenuation. I support creating a quiet zone, it's a healthier environment for everyone!	1

If you add gates and more equipment. More people will just drive around them and ignore the precauti ons to save some time. Resources need to be focused on Railroad Safety and Education. According t o the FRA, a quiet zone is little to no safer than a crossing with horn. The safest at-grade railroad cros sing is a crossing that doesn't exist. Closing crossings such as 14th and 15th street would be a great start and relatively easy to do. The city along with CPKC should invest in an overpass/tunnel similar to what the city of Waterloo completed a few years ago. 16th Street would be a great place for a tunnel/o verpass. CPKC has more than enough money to play ball when it comes to building infrastructure. Th ank you for your time.	1
If the intersections are made safe, so that there can be no collisions by overpasses, there would be n o need to control noise pollution. A better use of money would be to make overpasses. Overpasses w ould be better for traffic control and safety. Because of a line up of cars, many people turn around and go to the overpass on Fenlon street. Another advantage would be for emergency vehicles, such as fir e trucks and ambulances. When we have been stuck in traffic, I do not remember the whistle soundin g. Even the clicking of the cars is less. Money can be allocated in a better manner. We live up on the hill and actually enjoy the sound of the train. As a child my husband knew that when the train went by i t was time for bed.	1
If my window is open, the trains that go by will trigger my watch's decibel warning for hearing damage.	1
If it’s for safety maybe upgrade railroad crossing system to have arms that go down and activate to en sure our safety so the train doesn’t need to use its horn as much.	1
If I lived near the railroad tracks, in any city anywhere, I would not want all the noise of trains going by. Restrict the time, the number of trains, and the noise of trains going through Dubuque!	1
I worked with a client that lived near the railroad tracks and she would often say the train disrupted he r sleep. Sometimes we’d be having a conversation and the whistle would blow and everything came t o a stop. You can clearly see the area has only businesses as new construction in the area. I guess th at’s not bad but more trains may have an impact there as well.	1
I work right next to the tracks and frequently walk my dog nearby. I am literally never bothered by the noise, and I am a fairly noise sensitive person overall. I am annoyed with how often the train is stoppe d on the tracks and wish a schedule would be published to the public so we know when to avoid the a rea. That being said, I support creating quiet zones if those who live nearby are bothered	1
I work at Crescent Community Health Center. The trains shake our projectors and monitors significant ly as they pass. The horns are very disruptive to our meeting spaces, participants on the calls ask us t o repeat ourselves quite often as a train passes by. Any reduction during business hours would be fan tastic! Thank you for this opportunity!	1

I will be moving and having to live near train tracks. I have very serious insomnia, and having increased train traffic and no quiet zones would be devastating. Please take this action and more!	1
I was raised in the flats. I enjoy the sounds of trains.personally. I understand you take into consideration noise levels for establishing affordable housing. Find a solution that doesn't interfere with trains and their ability to positively transport. More than noise levels, we have needed a bridge over the tracks for the last 100 years and no one ever addressed it. Find something that works for everyone. It would be nice to find out your solutions and then receive comments after we see what you are planning to do.	1
I usually hear the trains more in the summer when our windows are open. I don’t hear a whistle but do hear the chugging of the trains as they are going by.	1
I understand the necessity of the trains making themselves known, but the noise is so loud you cannot hear anything at all. It happens quite a few times a day and is very disruptive even with the windows shut and music playing.	1
I think this is an awesome idea! I also love that safety enhancements have to be made to railroad crossings.	1
I think the night time train horns are the worst. They disturb our sleep, waking us 2-3 times a night, almost every night	1
I think the increase in train traffic will definitely impact the quality of life for a lot of property owners and renters. I would encourage a quiet zone.	1
I think in addition to the noise ordinan e, the trains should not be allowed to stop and block traffic during busy travel times (morning and afternoon rush hours).	1
I think if the people who are directly impacted by it want it, then by all means we should have a quiet zone. I visit Bellevue frequently and the entire town is a quiet zone and they seem to like it quite a bit. Property values next to train tracks are still pretty good. I also agree that we should have good quality crossing gates that are regularly checked, because people are dumb.	1
I strongly agree with the idea of additional overpasses. Traffic gets too backed up at the various intersections and it causes additional concerns. I do fear with increased train traffic I will hear them more and it will keep me up. When I stayed at my grandmother's house right next to the tracks on Roosevelt the trains always disturbed me.	1
I personally like hearing the train in the morning or during the evening, but I know the vast majority dislike the noise. It would better serve this community if there were quiet zones here in town.	1

I own rental property near Millwork District. The train horn blowing at every intersection is just plain to o much. Now with double the trains, alternatives must be considered.	1
I may not live right near the tracks, but it travels up Loras horribly. I've been woken up out of a dead sl eep numerous times due to these trains constantly laying on their horns at all hours. It's super annoyi ng and overly drawn out. I don't notice it much during the day, but you can definitely hear the noise of the train on the tracks in the evening and night when it is more quiet out.	1
I lived on Garfield on the track side, the switching of the trains is very noisy. Esp when compared to ye ars ago. The train whistles can be very loud and long. I have to cross train tracks to get to/from work d aily. I also have concerns about the train crossing on Hawthorne Street with the pool opening soon, pr imarily regarding children.	1
I live within 2 miles of the train tracks in Peosta.	1
I live up on the bluff of East Dubuque. The horns from the trains in Dubuque are OBNOXIOUS! I'm not sure why it is necessary to blast them for the durations they do. In today's age of age of technology (a utomation, artificial intelligence, stereo cameras, radar, lidar, etc) there is absolutely no reason why m ajor train organizations have to use 150+-year-old technology (horns) to create a safe environment to operate within. -Dennis Reiter, 1103 Hiawatha Dr., East Dubuque, IL 61025	1
I live on the bluffs next to loras blvd. The noise is trapped in between the bluffs. Sometimes it's sound s like it just a block away. Jim C.	1
I live on Sarah St. in Dubuque - probably a mile or more away from railroad activity. Yet the night-time train blasts are heard clearly and do awake me from sleep.	1
I live on Grandview Ave which is quite distance from the railroad tracks. Now with the windows open b ecause of warmer weather, we hear the consistent train whistles during the night and are extremely irr itating.	1
I live near the Lincoln ave and Hawthorn Ave. intersection.	1
I live in Dubuque, but work near the tracks. I hate, hate the noise. Its literally hurts my ears every time i am outside. There is no reason for the train horns anyway, in my opinion. Just look both ways, pretty obvious. Please, please implement this quiet zone.	1
I live in Dubuque County next to the Mississippi River. The trains are at all hours of the day and night sounding their horns for long periods of time and also blocking the crossing for 20 to 45 minutes. Wha t really is disturbing is the train stops before the crossing and lets the engine running sometimes betw een 2 to 6 hours at night which can be heard inside the home	1

I live in a house for thirty years that I bought and remodeled .It may be the house closest to a RR cros sing in the City. I 100 % support the idea of a quiet zone. If train traffic increases not only will the nois e from the whistles be unbearable but will depreciate the value of our property even more. Talking to my neighbors without exception they agree with us. I have never heard of a train /vehicle accident in Dubuque. A quiet zone will help the neighborhood. A speed limit for loaded trains heading south would also be desirable as the faster they go with a heavy train the more it feels like a earthquake at three o'clock in the morning . I can show you stress cracks in my plaster from this heavy speeding trains. Th ank you your time. Earl S. Brimeyer	1
I live a mere stones throw from a railroad crossing on 16th Street. After 15 years occupancy at this ad dress I have adapted to the train horns during the day. They sometimes interfere with TV programs an d I counter by increasing the volume. But trying to sleep at night has always been a problem as the ho rns can be quite disturbing. And, with the merger, it will get drastically worse. I'm 74 years old and wo uld like to live my remaining years at my current address but am concerned that the increased night tr ain traffic might affect my health.	1
I like the soft sounds of trains blowing the horn that I can hear at night, however if it were closer and lo ud I would probably find it disturbing as I’m sure those living nearer would.	1
I kind of like the sounds of the trains, but I'm a bit farther from the tracks. It might be different if I lived r ight next to them	1
I just wish they wouldn't sound the horn at night.	1
I hope at some point at least a pedestrian overpass will be considered at 5th st/ bell st. This is access for people in the downtown and millwork areas to enjoy the north harbor/ river walk area and will be o bstructed by this train schedule.	1
I have family and co workers that live by the dubuque railroad tracks. The quiet zone should stretch th rough the city, not just in downtown, near the casino. Not many homeowners live near the tracks dow ntown by the casino.	1
I have been wakened by train whistles at night, you don’t have to live close to the tracks to hear the n oise. I	1
I grew up and still live in the Point area so I am accustomed to some levels of train noise. I feel the ho rn honks themselves are very inconsistent as to when, where and how loud and how long it needs to sound. There isn't a crossing behind my house, but yet some, not all engineers still feel the need to bl ast their horns . This was not happening until probably the last 10 Not only are the loud horns an issu e, but the fact that they seem to think its OK to slam t he cars together when starting, stopping and re connecting to the point where my whole house	1

I find the train horns blowing relaxing. Granted, I don't live right on top of them.	1
I don't think $100,000 is not enough $$ to permanently close 15th street. The railroad can afford to pay more than that.	1
I don’t live real close to the train tracks but I am still woken up during the middle of the night by the train blowing its horn.	1
I do not support creating a quiet zone in the city of Dubuque due to the safety concerns that could arise from the lack of the train horn. the horn is there for safety purposes, and we should not mess with those rules.	1
I cannot sleep with my windows open because of all the train horns. I would love a quiet time during the nights.	1
I cannot have my windows open to enjoy fresh air due to the train noise and dust it creates in my home.	1
I can’t hear the trains all that well from my house, but I take walks to the river and visit the Dairy Queen where the trains pass by. The horns are very stress-inducing and I can’t imagine what it’s like to live even closer to the tracks.	1
I believe if the horns hunk is 2 hunks to Make sure the crossing is safe for cars and residenteds but more then 2 is unnecessary and it’s so annoying and u can’t hear well after the fact and it leave your ears ringing for alittle bit .	1
I answer yes with the caveat that my true answer would be based on the cost to make the changes necessary to secure the quiet zone.	1
I am woken by the train every single night. My entire house shakes. I can’t keep my windows open in the summer because of the noise. Quiet at night is the least Dubuque can do for those of us who live here	1
I am in favor of creating quiet zones to ensure that our city is doing what it can to reduce the negative effects of noise pollution. While it does not affect me personally, I want everyone in our community to live and work in a city that does everything it can to reduce negative environmental impacts on our people and wildlife. Thank you!	1
I am even more worried about the time spent sitting at crossings. The time I've spent stuck at the 9th, 11th, and 16th Street crossings is extremely disruptive to my life. The need to go all the way to the Fengler Bridge to access Schmitt Island, Kerper Blvd, or the Wisconsin Bridge is unacceptable. A passover bridge at 14th, 15th, or 16th needs to be a top priority for the City and work should start on it immediately, prior to the increase of train traffic that will compound the situation two-fold.	1

I am a very light sleeper and even though I am a few blocks from the train tracks if I have the windows open the horns can wake me up. Would love a quite zone!	1
I also work at the Dubuque Residential Facilty and the train runs right behind it. It disrupts the resident s sleeping and is a nuisance.	1
I also lived in a beach community for 50 years in California (Encinitas/Leucadia); and we voted to impl ement train noise quiet zones which were extremely effective.	1
I absolutely love trains and they’re part of the charm of this city for me personally. However, my young children and I often lose sleep due to their noise at night. I would be incredibly happy if Dubuque woul d receive the designation of a quiet zone. It would only improve the quality of life for Dubuque resident s and workers.	1
How would this quiet zone affect road crossing safety?	1
Hi!	1
Having seeing "quiet zone" in other city over the years, all most all hasn't work out well. The city takes all responsibility for grade crossing accidents and after a few incident and / or fatalities city have ende d the program. Not to mention the millions in lawsuits. This I say with 35+ yeas as a Conductor on the Railroad. Yours Truly .	1
Having previously lived in close proximity of trains I have first hand knowledge. Even though people s ay you get used to the noise, it's not true. The train noise disrupts the deep restorative sleep that peop le need. Without that sleep, people are more prone to many health problems. Imagine not being able t o open your windows at night because a train will come blasting through! People should not be driven out of their homes to get a good nights sleep!	1
Good idea. It seems that each train operator uses the horn differently. Some to excess, that is the pro blem.	1
Generally sleep through the train, but the 3am horns can be really annoying. I don't mind the 8-10pm ones we hear	1
From My Address I Hear Train Traffic As Early As 4:30 A.M.	1
For years neighbors have felt vibration from trains in our vicinity have caused cracks in foundations an d walls. We feel the vibrations constantly.	1

Excessive horns almost every evening 10:00pm and again 4:00am. I feel the gates at crossroads notifies traffic fine. The excessive loud horns are a tradition that’s nothing but a nuisance. Knowing now how bad the problem is I wouldn’t have purchased a home on this end of town. Other than the trains I love it. Access to the park and everything downtown is so convenient. I think the city leaders understand that a thriving safe downtown sets the vibe of a city. Please keep up the good work. But please do something about the horns.	1
even though we don't live near a train the blast of the train horn wakes me up at night. It is so looud and carries on too long. The sound travels a great distance.	1
Dubuque trains travel fast shaking homes which hurts foundation. It would be ideal for Dubuque to create strict laws in regards to trains and amount we have pass thru town.	1
Doubling (or more) rail traffic will harm my ability to work from home, in addition to adversely affecting our sleep and day to day life in this neighborhood. I reside just steps from the 16th Street intersection. The deafening train horns blare day and night, with multiple long and repeated horn blasts. Also thinking of the health clinic at that intersection, and the wildlife at Bee Branch and residents who use that area for exercise and well-being. A reduction in train horn frequency and duration of the horns is very much needed. Not a fan of the lengthy periods of loud train idling and vibration each day, but the horns by far the biggest problem. A quiet zone is necessary.	1
Do something bout loud motorcycles an stereos. Sorry, forgot there’s no backbone in city government	1
CP trains going two blocks from my house will blast the horn over and over or for extended time, even at 2am and they move with such speed it shakes my house. The loudness wakes me up at night and or gets my dogs upset who then bark or howl. A couple of short blasts is one thing but there are some who are just ignorant in its usage. Having ptsd, in the middle of the night is the worst.	1
Blasting the horn all the way through the city in the middle of the night and day is totally uncalled for, a couple of honks before an intersection is enough.	1
Before moving to Dubuque, we stayed in a hotel downtown. We were awakened several times during the night to train horns. I was amazed at that time that Dubuque didn’t have a quiet zone. I know it has to effect tourists that would choose not to stay in Dubuque hotels do to the train noise while trying to sleep at night or even the daytime.	1
At night time they go by like every hour, shake the entire house, and make noise all hours of the night. Sometimes at like 2am.	1

As a railroad worker myself, with the implementation of QZ's is only a bonus for all citizens. It is a higher upfront cost for all the crossings but also should minimize vehicles going through the crossing gates. For all of what 10-12 crossings in the city. This along with hopefully East Dubuque doing the same thing would be a huge benefit to everyone	1
Are the upgraded rail road crossing gates built to prevent pedestrians from crossing too? In any case, I welcome a quiet zone in Dubuque, I am only 1 block from a crossing, and I'm sure it would lower my stress level. I live and work at home.	1
An overpass would be great. There have been times during road construction that we have literally been stuck and unable to get to the other side of the tracks, because access to kerper has been blocked, and this has happend for upwards of 2 hours while the trains sit idle.	1
after working on the railroad 35+ years, towns that had a "quiet zone" didn't last long after a few grade crossing accidents , I think not sounding the horn and bell is a bad idea . As it stands it a federal law to sound horn and bell for each crossing. when a town implement a "quite zone " all responsible is on the town and not in the RR.	1
A quiet zone would be nice, but everyone who lives near the train tracks gets used to the noise eventually and it's something you're aware of when purchasing a home.	1
A quiet zone would be nice for late at night and early in the morning from the freight trains - If there were some way that trains wouldn't need to blast their horns when they pass *every* road, that would be awesome - I do understand that safety is paramount though.	1
A big difference between outbound and inbound trains	1
"Train noise" as referred to above does not include horns/whistles, only steel wheels on tracks noise. These are not a problem at this distance from the tracks.	1
We hear these train horns in the middle of the night. They honk them continuously and they are loud even by my house. I have to be up at 5 am my husband at 4 am. Sometimes we get woke up at 1 am and cannot go back to sleep. I'm sure there is not that much traffic out that late at night that they have to keep on sounding their horn. Then we can go all day long and not hear a horn honk at all. Its getting old.	1

Answered: 222 Skipped: 257

CN DIAGNOSTIC REVIEW MINUTES

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DMATS Diagnostic Review – CN Rail Agenda

Who: Dubuque County, City of Dubuque, CN Rail, CP Rail, IaDOT
What: Quiet Zone Diagnostic Review
When: Thursday, April 6th, 2023 – 8:00am-12:30pm (or until complete)
Meeting Place: Peosta Street, Peosta, IA – Public At-Grade Crossing – FRA ID 306971L

Name	Entity/Company	Phone	Email	Signature
MERLE AMBROSY	DUBUQUE COUNTY			
Kurt Rojemann	Dubuque County			
Bryan Janssen	Anderson Bogert			
Ed Engle	Iowa DOT			
Annette Ernst	Peosta			

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DMATS Diagnostic Review – CN Rail Minutes

Action Item Color Code
Anderson-Bogert
City/County
FRA
Railroad
State

Who: Dubuque County, City of Dubuque, CN Rail, CP Rail, IaDOT
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Name	Entity/Company	Phone	Email	Signature
Bryan Janssen	Anderson-Bogert			
Jacob Sprengeler	Anderson-Bogert			
Merle Ambrosy	Dubuque County			
Kurt Rojemann	Dubuque County			
Ed Engle	IaDOT			
Annette Ernst	Peosta			
Steve Brown	City of Dubuque			
Nick Burwell	CN Rail			
Robert Schiesl	City of Dubuque			

Nick Burwell, Robert Schiesl, and Steve Brown were present for the meeting even though signatures were not obtained on the attached sign-in pdf. Public entities listed above attended for the respective crossings. The FRA was invited to participate in the review but were unable to attend.

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DIAGNOSTIC REVIEW PLAN:

QUIET ZONE CN-1 (CITY OF PEOSTA AND DUBUQUE COUNTY):

- Peosta Street, Peosta, IA – Public At-Grade – FRA ID 306971L
  - Current signal system is compliant with minimum requirements
  - Approximately 7 trains at around 25 mph
  - Existing sidewalk on west side of crossing – Peosta plans new crossing on east side as well
    - Crossing should go behind existing gate with clearance to counterweight
    - Crossing shall be generally parallel to the road and within the ROW
    - Crossing considered part of the roadway crossing, no concerns from team
  - Add roadway and pedestrian signs
  - "Slam dunk" for medians – Peosta has project programmed here for resurfacing next year. Consider adding cut in medians and SW work to scope
  - Median opening for crosswalk should be limited to 6' per FRA
  - W10-1 and pavement markings are located far away from the crossing. They should be relocated in compliance with current MUTCD standards ASAP
    - MUTCD marking standard – required at all paved approaches where signals or automatic gates are installed, or where speed limit is 40mph or greater
  - Annette has been working with Jeff Pierce at CN
  - Carwash driveway access will need to be partially removed outside of 60' from the gate arm. The access is already wider than recommended in current DOT/SUDAS design standards
- Cox Springs Road, Dubuque County, IA – Public At-Grade – FRA ID 306970E
  - Minimum requires new 2-quad gate system
  - City/County line is more-or-less directly splitting the crossing, but current maintenance responsibility is on the County
  - N approach is very steep, uphill toward the crossing. S approach is fairly steep coming down to the crossing
  - Existing pavement is only about 24 feet wide – any median addition would require roadway widening. Existing steep ditches on either side, grading impact may not be so easy
  - Visibility down the tracks is OK here, but sight lines on roadway approaches are limited
  - County should consider interconnected advanced warning flashers on the roadway approaches (controlled by signal bungalow)
  - Currently wooden crossing, may be an opportunity to upgrade this material as well if railroad crew is on-site
  - No current pedestrian traffic
  - Peosta may possibly annex north of current limits through this crossing – County/Peosta should review any existing plans for future roadway reconstruction/reconfiguration, trails, etc. A new signal system should attempt to accommodate any near-term improvements (such as roadway widening to a 3-lane, etc which may be associated with northward Peosta development). Gates can be placed closer to the road if there is curb, without curb setback is larger
  - CN signals are running upwards above $400,000 currently
  - OHE may possibly conflict with new gates

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QUIET ZONE CN-2 (CITY OF DUBUQUE):

- Mines of Spain Road, Dubuque, IA – Public At-Grade – FRA ID 306952G
  - No active warning devices in existing circumstance
  - IaDOT noted that there are no residences in the immediate vicinity of the crossing
  - Marjo Hills Road is parallel, and will require relocation outside of 60' from gate arms (if installed and made into a median SSM) - +- 10-20' shift away from the crossing compared to existing
  - Waiting on traffic counts from Dubuque
  - No existing lighting – City should consider adding lighting with any upgrades at this location
  - SW corner near well appears to be a steep slope with guardrail
  - Widening likely be required if medians are to be installed, needs to accommodate adequate roadway with for recreational vehicles
  - City to confirm existing hose on site from the plant, and confirm no one is driving parallel to rail tracks – this should be discouraged by installing curb
- CN South Dubuque Yard, Dubuque, IA – Private At-Grade – FRA ID 911771U
  - Crossing equipped with 2-quadrant gates with flashers and bell
  - Flashers and bell were malfunctioning during team review – CN signal tech was en route to fix. Signal flashers and bells were inadvertently activating for 1-2 seconds about 2 times per minute
  - 3 tracks are all siding tracks – constant warning time upgrade not really feasible. Diagnostic team decided constant warning time not necessary
  - Crossing is a fair distance along gravel Salina Street around the bridge abutment – well shielded from the general public
  - Recommend installing new "Private Property" no trespassing signs at the entrance near S Main Street that are much more conspicuous
  - Recommend W10-1 and no train horn sign on both approaches
- Jones Street, Dubuque, IA – Public At-Grade – FRA ID 911770M
  - Existing 130 project in the works for equipment upgrade, including possibly constant warning time
    - Railroad to confirm which (if any) tracks are constant warning time, or capable of this
    - Lots of switching trains here – depending on track CWT waiver may be required
    - Railroad to confirm existing equipment and capability to reuse existing gates and add 2 more quadrants to existing – if new equipment is required, can the system/upgrades scheduled with 130 project be used in a "modular" system that could be converted to a 4-quad system for the quiet zone?
    - Can IaDOT discuss possible options for existing 130 project and/or possibility of accommodating a future 4-quadrant modular upgrade (or complete gate replacement)? We hate to make current 130 improvements and then have to redo all them again in a few years to install a new 4-quad system or partial system upgrade by adding 2 quadrants?
    - RR to discuss options with IaDOT. May need a meeting to discuss with City of Dubuque
    - City should paint RR pavement marking on southbound approach. Markings on 151 or EB approach may not be appropriate due to adequate other warning devices/active traffic signal preemption capability
    - "Do not stop on tracks" signs should be used here
    - City could consider the addition of blank-out illuminated signs activated through RR preemption for lane prohibited movements (optional)
- CN Dubuque Yard, Dubuque, IA – Private At-Grade – FRA ID 908233J
  - Possible set-on location, not really a crossing in this yard – only access is inside railroad property fence
  - Due to isolated nature and restive access to this location, dead end of the rail segment adjacent to "crossing", the diagnostic team finds no further action required at this location

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- E 5th Street, Dubuque, IA – Public At-Grade – FRA ID 911776D
  - CN to work with CP to change this crossing to a CN crossing as primary railroad in the inventory form, the blue ID sign on site lists CN and appears to be accurate. See diagnostic review notes from CP review
  - Pavement markings and W10-1 appear compliant
  - "Slam dunk" for addition of medians
  - Current equipment is compliant with minimum requirements
  - Ped crossing should be limited to 6' median opening width

QUIET ZONE CN-3 (CITY OF DUBUQUE):

- Salina Street, Dubuque, IA – Public At-Grade – FRA ID 306950T
  - Requires FRA input – crossing is not typical, runs down a public street which is in use by regular traffic
  - No active warning devices present
  - Crossing surface on S Main Street requires replacement – very rough
  - City and railroad estimate about 3 weekly trains of about 5-10 cars pulled and dropped at the bakery
  - City and railroad not sure what the current standard horn pattern in-use at this location is
  - Speed on track less than 10 mph, would require a CWT waiver – not sure how active warning devices would be installed and would apply since it's a continuous crossing along the road
  - City mentioned that if a ton of work/improvement is required, 3 trains a week may not be enough to justify pursuing improvements – they will determine this if we can determine what it may take
  - Action on this spur line has no bearing on quiet zone along the mainline – its completely independent on its own
  - Track is slightly aligned towards one side of the road – suggested that Salina Street could possibly be converted to 1-way traffic
  - Diagnostic team witnessed several delivery vehicles using docks/bays oriented toward the tracks through this area. Trucks regularly back across the tracks to the dock/dumpsters and sit for several seconds/minutes before clearing the tracks – fencing or closing off the tracks is likely not a possible without removing business accesses
  - City should paint MUTCD pavement marking at the W10-1 signs to be compliant

-Not really economically feasible

TIME PERMITTING:

- Sinsinawa Avenue, East Dubuque, IL – Private At-Grade – FRA ID 306929M
  - Nick (CN) believes there may possibly regulations (or Railroad practices) relating to using horns into/out of tunnels.
  - Railroad and AB in general agreement that horns are in the best interest of safety at Sinsinawa outside the tunnel entrance, and should not be silenced at this location

CP DIAGNOSTIC REVIEW MINUTES

ANDERSON BOGERT

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DMATS Diagnostic Review – CP Rail Agenda

Who: Dubuque County, City of Dubuque, CN Rail, CP Rail, IaDOT
What: Quiet Zone Diagnostic Review
When: Tuesday, March 28th, 2023 – 8:00am-5:00pm (or until complete)
Meeting Place: E 5th Street, Dubuque, IA – Public At-Grade Crossing – FRA ID 911776D

Name	Entity/Company	Phone	Email	Signature
Steve Brown	City of Dubuque - Engr. Dept			
Ryan Pickard	CP St C Manager			
Matt Miller	CP Manager of PW			
Ed Engle	Iowa DOT			
Tom Dawes	FRA			
Bryan Jansen	Anderson Bogert			
Jacob Sprengeler	Anderson Bogert			
Russell Weber	Dub. County			

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DMATS Diagnostic Review – CP Rail Minutes

CP Action Item
City or County Action Item
Anderson-Bogert Action Item
FRA Action Item
State DOT Action Item

Who: Dubuque County, City of Dubuque, CN Rail, CP Rail, IaDOT
What: Quiet Zone Diagnostic Review
When: Tuesday, March 28th, 2023 – 8:00am-4:00pm
Meeting Place: E 5th Street, Dubuque, IA – Public At-Grade Crossing – FRA ID 911776D

Name	Entity/Company	Phone	Email
Steve Brown	City of Dubuque – Engineering		sbrown@cityofdubuque.org
Ryan Pickard	CP Signal Crossing Manager		pic0067@cpr.ca
Matt Miller	CP Manager of Public Works		Matthew_Miller@cpr.ca
Ed Engle	Iowa DOT		Edward.engle@iowadot.us
Tom Domres	Federal Rail Administration		Thomas.domres@dot.gov
Bryan Janssen	Anderson-Bogert		bjanssen@anderson-bogert.com
Jacob Sprengeler	Anderson-Bogert	319-200-8323	jsprengeler@anderson-bogert.com
Russell Weber	Dubuque County Engineer		Russell.Weber@dubuquecountyiowa.gov

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DIAGNOSTIC REVIEW PLAN:

QUIET ZONE CP-2 (CITY OF DUBUQUE):

- E 5th Street, Dubuque, IA – Public At-Grade – FRA ID 911776D
  - Crossing meets minimum requirements (2-quad CWT)
  - Railroads estimated that CP train volumes could increase in the coming weeks – 6 day and 6 night currently, possibility of 18 in the future.
  - Crossing is listed as a CP Responsible crossing (DME) in the inventory. On-site blue emergency signs list CN (Central) as the responsible railroad. Matt Miller will confirm with CN and get this switched on the inventory
  - Crossing should be moved from CP quiet zone to the CN quiet zone
  - Sensitivity to train speed should be evaluated and impact on risk analyzed
  - Matt Miller will confirm maximum timetable speed with CN – 50 mph seems too high
  - Fra is currently auditing all quiet zones on a 3-year basis
  - Flashing lights and 2-quad gates are the minimum requirement for public crossings, with constant warning time
  - 2-Quad systems could run between $360K - $500K per Ryan P. at CP
  - 4-quad gates typically have a maximum life expectancy of up to 20 years
  - For changes to an existing quiet zone, an amended NOE is typically submitted to describe changes (i.e. temporary channelizers are replaced by permanent median, 2-quads are upgrade to 4-quads, medians are added where none existed, etc)
  - Sloped noses do not count towards 100' length requirement, must have full height. Exceeding 6" height is STRONGLY recommended. Exceeding minimum length of medians is also recommended
  - IaDOT and FRA do not typically see a need for pedestrian gates on ped crossings that are part of a street crossing
  - Usually recommend pedestrian train and no horn warning signs
  - No train horn signs should be installed the day zone becomes effective, or covered until zone is effective
  - No ped improvements necessary at this location per FRA to designate an SSM.
  - Limit pedestrian crossing openings in a median to 5-6 feet (FRA) so cars are not encouraged to try and traverse the median
  - Additional development expected to the east of the crossing. City estimates increase in ped traffic may be likely.
  - Consider removal or further pedestrian deterrent on the north side of crossing – pedestrian crossing currently only on the south side of crossing.
  - Crossing should be reviewed with CN
- E 7th Street, Dubuque, IA – Public At-Grade – FRA ID 376119L
  - Currently motion detected, upgrading to CWT will require a completely new system and bungalow
  - Per City – future plans for a complete street. Heavy truck use during fertilizer hauling season.
  - Per City – closure is not an option – need the direct link for vehicles and peds/bikes between downtown district and properties to the east
  - Anderson-Bogert – out of all studied crossings, this is one of three crossings identified by Anderson-Bogert as having the highest potential for closure, provided the 7th – 9th connector (Pine Street extension) is in place. The 7th-9th connector would provide equivalent or better access to US-151 for heavy-grain haul semis via Kerper Blvd at the 9th/11th Street interchange, or even up to the Riverview Park/16th Street interchange to the north.
  - Anderson-Bogert – per highway rail crossing handbook third edition chapter 3, closure should be considered when adjacent crossings provide acceptable alternative vehicular and ped access, AADT is less than 1,000, acceptable alternate access exists within 1 mile along the track, median trip length normally made with crossing would not increase by more than 2.5 miles

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- If the need for a vehicular crossing can be effectively eliminated through a 7th-9th connector, pedestrians/cyclists may still attempt to cross here. If so, a safe spot for pedestrians to cross legally should be strongly considered, or complete closure with barriers/fencing would be needed to prevent unwanted pedestrian crossing.
  - Per the diagnostic team – a pedestrian crossing "maze" could be considered. Per TRCP 69, a channelized "z" maze crossing may not be sufficient for all locations where a heavy pedestrian presence is anticipated (such as a park with over 60 peds over any 2-hour period in a day for LRT which is different from freight rail). Consideration should be given to providing active warning flashers and bells for areas of high ped activity or possible inattentiveness like a park
  - FRA and State will reanalyze the crossing to determine if passive "z" maze crossing would be acceptable, or if additional active devices would be required.YES – recommend diagnostic review
  - If crossing is closed to vehicular traffic, but not ped traffic, confirm that crossing would not be eligible for any closure incentive funding
- Concerns that any 2-quad and especially 4-quad gates would get regularly hit by trucks. 4-quad gate likely conflicts with highway abutment or bridge deck. 4-Quadrant not feasible.
- Median SSM not possible due to adjacent access on the SW corner. Medians would cut this access off completely
- Per City – Will send current concepts/plans for this roadway work/reconstruct to Anderson-Bogert
- Location may be a candidate for possible state funding relating to crossing surface or possibly signal upgrade funding 130 (per rail)
- At minimum, crossing will require a 2-quadrant system replace with sign improvements
- Location will either need to be equipped with minimum gate/active warning devices and signs, or an additional ASM (shorter medians, 3-Quad gate, etc)

- E 9th Street (Kerper Blvd), Dubuque, IA – Public At-Grade – FRA ID 376121M
  - Future City connector planned between 7th and 9th approximately through/near existing substation
  - Existing Pine Street will be realigned outside of 100' from the crossing, to line up with the connector
  - Location in consideration for a bike trail crossing
  - Diagnostic team recommends that any future pedestrian crossings be located generally within a public street crossing, and not a new dedicated crossing. Such a dedicated crossing would require another diagnostic review. See additional comments relating to this under 11th Street
  - The existing equipment is regularly hit by large trucks
  - Gates equipped with constant warning time in-place
  - With proximity to exit ramp, a median SSM is not going to be practical here. A 3-quad ASM or 4-quad would need to be considered
  - A new gate system replacement should consider relocation of gate pole next to the exit ramp to further reduce instances of trucks hitting the active warning system
- E 11th Street, Dubuque, IA – Public At-Grade – FRA ID 376122U
  - Location being considered for a trail crossing. Diagnostic team recommended that this location is more desirable than 9th Street – sight line, roadway geometrics, and overall traffic conditions are safer for bikes and peds at this location.
  - "Slam dunk" location for a Median SSM. Pavement recently reconstructed on the approaches
  - 31' B-B so a cut-in median will generally fit without additional changes to the roadway cross section
  - Equipped with CWT
  - A trail crossing would require an extension of existing crossing pad. (10' cross tie extensions). Possible railroad surfacing grant opportunity per CP representative
  - Add "do not stop on tracks" signs relating to Elm queues. Diagnostic team not recommending interconnect with signal.
- E 12th Street, Dubuque, IA – Public At-Grade – FRA ID 376123B
  - Minimum – new gate system with CWT required

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  - A median SSM could work here, but would require the addition of curb on the outside with 60' of the crossing on all sides. Closure of the access points on the east side of the crossing are fairly straightforward
  - Parking lot on the southwest side would require reconfiguration and closure. This is possible to configure remaining entrance as 2-way
  - Property on NW corner would have gated access removed. Would need to reconfigure access out to 13th Street
    - City of Dubuque will need to confirm if 13th Street ROW was vacated. Dubuque County GIS appears to show ROW all the way up to the tracks of the "Pine Street ROW"
    - Fencing is strongly recommended along both sides of the tracks between 11th-12th and 12th-14th where none currently exist. There is not enough grade/slopes present t o deter pedestrians from crossing at unanticipated locations
    - Crossing surface should be replaced
    - Crossing would be ideal for closure, except access to Steel Mart could not be maintained. City would need to consider buyout of the property on the SE corner if access was being removed
- E 14th Street, Dubuque, IA – Public At-Grade – FRA ID 376125P
  - Existing 130 project to be cancelled. Grade separation under design
  - Any grade separation should completely remove all possibility of access/crossing at this location. Fencing strongly recommended along both sides of tracks where they are not currently present between 12th and 15th.
  - Not economically feasible to modify active warning devices to make the crossing compliant with minimum requirements and then have it followed up with the grade separation project. If quiet zone is desired sooner than the completion of grade separation, city should consider early and complete CLOSURE of this crossing until the overpass is completed.
- E 15th Street, Dubuque, IA – Public At-Grade – FRA ID 376126W
  - 15th is one of the best candidates for CLOSURE. Traffic volumes are pretty small, and adjacent property accesses will prohibit a 2-quad median SSM (SW corner Juvenile Detention Center)
  - SSM option of allowing 1-way traffic, or a 4-quadrant gate would also be acceptable options
  - City has future plans for rezoning/park at this location. With the redevelopment, pedestrian crossing at this location will be desirable. For a complete closure, fencing would be required along the tracks on both sides between 14th – 16th.
  - Existing building and driveway on the NE corner will be demolished with the project
  - City could consider a possible pedestrian overpass, or diagnostic team reviewed the location for implementation of a "z" maze crossing
    - State/FRA should review this location and determine if channelizer fencing and passive warning devices would be adequate, or if active warning devices would be required, and what type of active warning device (i.e., flashers and bells were discussed by the diagnostic team)
    - Would crossing be eligible for any incentive funding from railroad or state if its converted to a ped only crossing instead of full closure?
    - City should provide a brief explanation of the current development plans and what type of pedestrian traffic and access is desirable and expected at this point.
    - City should consider if current park plans can consider allowing this crossing to be CLOSED completely and blocked with fencing at 15th, and funnel pedestrians to cross at 16th adjacent to a roadway crossing (preferred)

- E 16th Street, Dubuque, IA – Public At-Grade – FRA ID 376127D
  - 4-quadrant system is the most realistic SSM alternative per City Engineering PM
  - Property on the NW corner is local health center, and City desires to avoid impacts/reconfiguration of access to this property. 2-quad SSM would require closure of the NW corner access since 60' from the gate arm is approximately at the face of building
  - Sidewalks will need adjusting away from the curb in order to accommodate new gate system

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- Fencing along both sides of tracks required. Closure of Pine Street may not generally be required with a 4-quad system, but recommended to remove this access regardless and install fencing/curb
- Drop curb for bungalow access on the NE corner is acceptable

- CP Northern Dubuque Yard, Dubuque, IA – Private At-Grade – 376128K
  - Any "formal crossing" is no longer present within the yard. Several set-on locations exist. Diagnostic team determined that "private property" signs should be prominent on-site, and postings related to quiet-zone be in place at the office. Trains will still be required to use horns when switching in the yard per federal regulation
  - New trail crossing (under yard) needs to be assigned a crossing ID number and inventory created
- Hawthorne Street, Dubuque, IA – Public At-Grade – FRA ID 376131T
  - Hawthorne equipped with gates and CWT. Minimum requirement met
  - NW corner has a secured and gated occasional equipment access gate (not the main entrance). Its 44' from the gate arm. This driveway is generally used less frequently than a private residence access which are permitted within 60' feet. There is not opportunity for a vehicle to access or turn around at the driveway since the access is gated and secured – so medians still have great affect. The medians would remain unbroken within 100 feet, and the entrance would be right-in-right-out only.
    - City will check with water department to confirm that right-in-right-out does not pose operational issues for the plant servicing equipment using the gated access
    - FRA will confirm that this secured and gated access can remain within 60' of the railroad gate since it acts more like a private driveway than a commercial driveway - classified as a "commercial entrance"
- Lincoln Avenue, Dubuque, IA – Public At-Grade – FRA ID 376132A
  - Known bike traffic at this location
  - Equipped with gates and CWT – meets minimum requirements
  - Crossing is a strong candidate for closure. Access meets general criteria for closure consideration per railroad crossing handbook. Not a large number of properties being served by this crossing – grades are not suitable for large/low clearance equipment to cross
  - Closure would not generally provide a significant increase/delay/inconvenience to surrounding businesses. Inconvenience may be perceived, but properties to the east side still have access to arterial street Kerper Boulevard, and crossing the tracks down at Hawthorne where grades are much more suitable
  - Properties on the NW and SE quadrants are owned by the same entity. Appears the crossing is being regularly traversed by power equipment for daily operations of the crossing
  - 2-Quad median SSM is not possible here
  - 1-way conversion would not be cost effective, and also hard to enforce – with the NW/SE properties sharing an owner, compliance with roadway signs likely to be poor
- (Time Permitting) Julien Dubuque Drive extension, Dubuque, IA – Private At-Grade – FRA ID 689583U
  - City will work with CP to silence horns and possibly gain crossing rights at this location to access City water treatment facilities along the riverbank. No major concerns relating to silencing horns. Property not generally accessible to public

QUIET ZONE CP-1 (DUBUQUE COUNTY):

- Johnson Lane, Dubuque County, IA – Private At-Grade – FRA ID 376109F
  - Property owner concern at 9144 – previous derailment in 2017
  - RAILROAD will determine who owns the crossing
  - Property owner concern about possible buried drainage culverts and drainage issues – responsibility of crossing owner to take care of, or railroad, whoever owns the property
  - Needs updated passive warning signs – CP will handle
  - Crossing owner(s) or easement holders will need to receive NOI documents and be allowed to comment
  - Railroad would prefer to close the crossing if there is adequate access elsewhere

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    - It appears property owner at 9170 constructed structures over a road easement – Johnson Lane is only point of crossing/access for many residences and must remain open
- Massey Marina Lane, Dubuque County, IA – Public At-Grade – FRA ID 376110A
    - 376110A is the correct number – Blue INS signs need to be corrected here and at River Ln (376108Y)
    - No existing active warning devices. Needs 2-quad and CWT at minimum.
    - Pavement in poor condition
    - If installing a median SSM, relocate gravel access points over 60 feet away on the east side of crossing. Provide either curb or other grade deterrents (dips, ditch etc) so traffic does not "cut the corner" and does not access the roadway within 60 feet of the crossing. Relocate mailboxes outside 60 feet from gates and medians
    - While medians provide an effect in the "calculations" per the regulation, low volume of traffic and short distance may lead to poor adherence, and even people ignoring/driving on the wrong side of the medians. Medians may create more safety problems than is solves in the FRA calculator at this location. Any work aside of the gates generally will likely need to include pavement reconstruction on both sides
    - Medians on west approach will be very inconvenient for property owners between railroad and Massey Station Road. Possibility of poor compliance

QUIET ZONE CP-3 (DUBUQUE COUNTY):

- Riverside Road, Dubuque County, IA – Public At-Grade – FRA ID 376134N
    - System requires complete replacement. Minimum requirements would be 2-quad on both crossings. Mainline required CWT, the siding is not practical for CWT due to trains with speeds below 10mph. FRA will assist in acquiring a CWT waiver at this location if quiet zone is pursued
    - Concerns about existing state of crossing pad at this location. County should consider a project to replace the crossing materials as soon as feasible due to poor conditions.
    - Gates on mainline don't drop if train is on siding
    - Waste piles on side of Riverside should be removed in order to provide escape and eliminate a vehicle trap. Medians could be installed to create fully compliant SSM, but private accesses on the river side may lead to poor compliance and more safety issues than solved. Volumes are low enough that its possible risk may be below thresholds with the need for SSMs.
    - Not very many places on Riverside Road that allow turnarounds, especially for trucks or recreational vehicles
- Golf Lake Road, Dubuque County, IA – Public At-Grade – FRA ID 376136C
    - No reported existing issues with grades and recreational vehicles
    - Requires new gate system and signing.
    - Medians possible, 100' with park driveway relocation on east side

BNSF DIAGNOSTIC REVIEW MINUTES

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DMATS Diagnostic – BNSF Rail Agenda

Who: City of East Dubuque, BNSF Rail, CN Rail, ILDOT + ICC
What: Quiet Zone Diagnostic Review
When: Tuesday, April 4th, 2023 – 10:00am-2:00pm (or until complete)
Meeting Place: West end of Sinsinawa Avenue, BNSF Office, East Dubuque, IL – FRA ID 069924Y

Name	Entity/Company	Phone	Email	Signature
Bryan Janssen	Anderson Bogert			
Bill Pearsall	IDOT - BSPE			
Jake Rzewnicki	BNSF			
Andrew Kalkman	BNSF			
Todd Bell	BNSF			
Tim Oster	Benesch			
Greg Herzog	City of East Dubuque			

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DMATS Diagnostic – BNSF Rail Minutes

Who: City of East Dubuque, BNSF Rail, CN Rail, ILDOT + ICC
What: Quiet Zone Diagnostic Review
When: Tuesday, April 4th, 2023 – 10:00am-2:00pm (or until complete)
Meeting Place: West end of Sinsinawa Avenue, BNSF Office, East Dubuque, IL – FRA ID 069924Y

Action Item Color Code:
Anderson-Bogert
City of East Dubuque
BNSF Railroad
FRA

Name	Entity/Company	Phone	Email	Signature
Bryan Janssen	Anderson Bogert		bjanssen@anderson-bogert.com	
Bill Pearsall	ILDOT-BSPE		William.pearsall@illinois.gov	
Jake Rzewnicki	BNSF		Jacob.Rzewnicki@bnsf.com	
Andrew Kalkman	BNSF		Andrew.kalkman@bnsf.com	
Todd Belt	BNSF		Todd.belt@bnsf.com	
Tim Oster	Benesch		toster@bensch.com	
Loras Herrig	City of East Dubuque		lherrig@cityofeast-dubuque.com	

Chris Murauski with Illinois Commerce Commission was invited to participate in the diagnostic review. The ICC did not participate in the group review due unforeseen circumstances outside the workplace.

The FRA was invited to participate in the group review. Tom Domres, Howard Gillespie and Levi Tompkins were unable to attend due to unforeseen schedule changes the week of this review.

The ICC and FRA have reviewed copies of these minutes, and were encouraged to review the crossings outside of the diagnostic review in order to provide them an opportunity to provide comments. Input received from ICC and FRA has been retroactively included in these minutes.

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DIAGNOSTIC REVIEW PLAN:

QUIET ZONE BNSF (CITY OF EAST DUBUQUE):

- Sinsinawa Avenue, East Dubuque, IL – Private At-Grade – FRA ID 069924Y and BNSF Office, East Dubuque, IL – Private At-Grade – FRA ID 974331C
    - Confirmed and witnessed that BNSF trains do not currently signal with horn at these crossings
    - Crossing will require MUTCD no train horn compliant signing, and additional "private property, no trespassing" signs at the entrance to the adjacent CN crossing
    - CN does currently use horns at the adjacent crossing outside the tunnel entrance
    - The existing inventory appears to be generally accurate – about 35 trains per day
    - Crossing requires full-size crossbucks at this crossing (BNSF should have these in existing condition at both private crossings here
    - Concrete barriers (existing) and/or fencing should be provided along the BNSF tracks both sides of the crossing
    - Fencing should be added along the Sinsinawa side of the CN spur – from existing property fence to the CN private crossing, and then up to the tunnel
    - Diagnostic team recommended that CN continue to use horns at adjacent private spur crossing for the safety of BNSF personnel and possible trespassing people/animals in the tunnel. Sight distance is very short into and out of the tunnel

- 2nd Street, East Dubuque, IL – Public At-Grade – FRA ID 306928F
    - Currently equipped with constant warning time on all tracks and 2-quadrant gates/lights. The equipment itself meets technical requirements of Part 222 provided a CWT waiver is obtained for the siding track the diagnostic team generally concurred that CWT on the remaining track was not ideal due to speed at which typical trains pass over the siding track – discussion of equipment geometrics with respect to roadway in following bullet point
        - Warning devices appear to be too close to the edge of traveled way. Since there is no curb, signals are currently too close to comply with MUTCD. If roadway approaches are reconstructed with curb, its possible that 2' clearance could be achieved (possible slight reduction of roadway width) – therefore either signal upgrades or roadway upgrades are generally required to be compliant
        - BNSF did not permit measurement of offsets in the field due to track safety. BNSF requested to supply these measurements at their earliest convenience (nothing received to-date as of 5.20.24)
        - BNSF mentioned bell on one side only – could not locate specific MUTCD, rail-crossing handbook, or Part 222 requirement requiring auditory warning devices aside of the train horn to be used at this crossing – *per the regulation, a crossing with an existing bell needs to maintain that existing bell. Crossings/approaches without bells are not required to add bells per the quiet zone regulations.*
    - Per railroad, existing equipment is outdated and no longer supported by manufacturer. Although not a requirement of Part 222, railroad recommends that equipment should be completely replaced.
    - No guardrail – need an escape route for vehicles
    - Would recommend removing existing abandoned/covered track siding, and install fencing along tracks
    - Sight distance appears to be okay
    - Railroad recommended considering additional lighting fixtures above the roadway – not a requirement for a quiet zone, just an additional safety comment.
    - No current or future desire for dedicated pedestrian facilities at this crossing

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- 2-quadrant gate/median SSM not feasible at this location without removing access to USPS. Other access points to Selco and City well can be relocated/removed
- A new police station will go up between Sinsinawa and Wall Street
- Medians should extend to within about 10' of the center of nearest tracks. No rounding, square them off
- City needs compliant warning signs and pavement marking ASAP regardless of quiet zone status
- Letter of the law is CWT signs and gates – if we have this, its acceptable.

- 4th Street, East Dubuque, IL – Public At-Grade – FRA ID 306926S
  - There is an existing pedestrian crossing facility on the east side of the crossing pad. Crossing uses asphalt between wood panels
  - This is the ONLY crossing where city desired to encourage pedestrian traffic – the other crossings at 2nd and 6th do not see ped access. This crossing is closest and easiest for the residents to use
  - Team recommended having at least one crossing in town with an ADA compliant pedestrian crossing. The diagnostic team discussed any future pedestrian path improvement remain on the east side of the crossing as existing. This location makes the most sense to promote pedestrian crossing. It is located closest to largest amount of residential housing.
  - The team recommended path improvements to bring the ped path into ADA compliance on the south side, and also fixing crossing geometry on the NW side which currently spits out into a gas utility with no receiving ramp. Geometry should be adjusted to promote pedestrian use of the designated crossing on the east side and bringing it into compliance with ADA. The team did not list pedestrian gates as a requirement, but recommended dedicated pedestrian warning signs as a minimum recommendation.
  - If ped crossing is relocated to the other side, will need to petition ICC
  - Crossing needs MUTCD warning signs and pavement markings ASAP
  - Maximum possible gate arms are 32', and not typically recommended
  - Outside tracks are constant warning time, but middle track is a "siding" and is not constant warning timed. Railroad will confirm typical speed of trains on this track, and provide opinion on the effectiveness of constant warning time – the city may be able to petition FRA for waiver on constant warning time if its impractical.
  - Railroad will confirm if track can be upgraded to constant warning time without replacing entire existing system/bungalow – FRA suggests waiver will be okay here
  - FRA may need to be petitioned for constant warning time waiver on middle track
  - If a waiver is obtained for the center siding track, the active warning devices would meet minimum gate CWT requirements in Part 222. Additional curb and gutter may need to be added between the gate pedestals and the roadway to meet MUTCD setback requirements. Technically, Part 222 requires gate equipment to comply with all provisions of the MUTCD which require a larger setback when no curb and gutter is present. East Dubuque is an "urban" area but does not have curb and gutter on some approaches to the tracks. The signals are currently installed with an offset typical of an urban curb and gutter section - BNSF signal team in KC will confirm siding operational characteristics for CWT applicability.
  - DOT owns houses and green space northeast side of tracks. Future US 20 project in the works –
  - Anderson-Bogert will receive DOT contact info from Loras and will try to touch base with IaDOT regarding possible future bridge project and any impact/relocation/closure that would be required at this crossing before any improvements are made or suggested
  - Current property in NE quadrant is leased to a commercial dentist business – side gravel road contains traffic signs and is generally considered to be a commercial access. Will need to be closed/relocated on both sides. Alternative access is available for these gravel access roads from 5th Street and 3rd Street.
  - Fencing should generally be strongly considered for installation between 2nd and 6th on the north side of the tracks
  - Jake R will confirm ownership/general limits of RR property and where the ILDOT takes over

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- Sidewalk on the north side of 4th should be removed/terminated sooner or directed across 4th. Crossing should occur at the stop sign at wall street and sidewalk removed between wall street and tracks.
- Curb and gutter should be added so the signal equipment complies with MUTCD setback requirements
- At minimum, pedestrian W10-1 and no train horn signs should also be added on sidewalk approaches. Crossing is wide (3 track) and roadway is wide – on the NE corner there are no gates or warning devices to otherwise warn pedestrians
- Consider the addition of lighting over the crossing with any upgrades that may be completed
- Both gravel access drives on the north side will need to be removed and cut-off for a median SSM.
- FRA suggests trimming SE quad tree on private property

- 6th Street, East Dubuque, IL – Public At-Grade – FRA ID 306924D
  - Needs MUTCD warning signs and pavement markings ASAP
  - No plans or desire for a pedestrian crossing at this location. No existing pedestrian facilities located at this crossing
  - Crossing services 2-marinas. Fair amount of recreational vehicles/trailers
  - Signal equipment is compliant with minimum Part 222 requirements – curbs should be added on all approaches
  - Gate on south side is close to the road due to overhead electric, but is compliant provided a curb is added to the road
  - 2 outside tracks are stop and wait crossings – these siding tracks are not practical for constant warning time. A waiver will need to be acquired and documented with FRA.
  - Commercial access on north side will both need to be removed, and Minominee roadway will need to be relocated outside of 60' from the gate on the south side. Drop curb can be provided/allowed for railroad bungalow access. City has no immediate concern with removing the commercial access – in his opinion it is poor access management and does not currently comply with typical access management principles (Illinois equivalent of the IaDOT design manual and SUDAS design manual in Iowa)
  - 4th Street and 6th Street are the City's easiest options for implementing median SSMs and reducing overall quiet zone risk.
  - Fencing should be seriously considered along the tracks from behind Warren auto building through 2nd Street crossing on the north side of the tracks. Provide along tracks on the south side at least 100 feet to the east of this crossing
  - Anderson-Bogert will provide information regarding W10-1 and W10-2 through 4 signs and pavement markings to East Dubuque
  - Gravel access road will need to be cut off, private auto rental access will need to be cut off.
  - Locked gate at set on west of crossing

- General Comments:
  - 4-Quad systems typically run 750k - $1 million with annual maintenance fees upwards of 10k-20k.
  - ICC recommends "Do Not Stop on Tracks" for all northbound movements since northbound traffic is required to stop prior to entering Wall Street. Especially at 6th Street, long vehicles with boat trailers may queue back to the crossing.
  - South of the tracks through town, the SB movements appear to be "free-flow". East Dubuque has not mentioned any desire to change the traffic control devices for southbound traffic, and therefore does not expect southbound traffic queuing to the tracks to be an issue.

ANDERSON BOGERT

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EXISTING RISK

Crossing	Street	Traffic	Warning Device	Pre-SSM	SSM	Risk	
306924D	**6TH STREET**	**400**	**Gates**	0	0	44,778.84	MODIFY
306926S	**4TH STREET**	**550**	**Gates**	0	0	18,944.27	MODIFY
306928F	**2ND STREET**	**289**	**Gates**	0	0	16,950.62	MODIFY

* Only Public At Grade Crossings are listed.

Click for Supplementary Safety Measures [SSM]

Click for ASM spreadsheet: **ASM** * Note:The use of ASMs requires an application to and approval from the FRA.

Summary	
Proposed Quiet Zone:	BNSF - East Dubuque
Type:	New 24-hour QZ
Scenario:	BNSF - EAS_67922
Estimated Total Cost:	$0.00
Nationwide Significant Risk Threshold:	15488 .00
Risk Index with Horns:	16121.85
Quiet Zone Risk Index:	26891.25

MEDIANS AT 6TH

Cancel Change Scenario: BNSF - Eas_68173 **Continue**

Crossing	Street	Traffic	Warning Device	Pre-SSM	SSM	Risk	
306924D	**6TH STREET**	**400**	**Gates**	0	13	8,955.77	MODIFY
306926S	**4TH STREET**	**550**	**Gates**	0	0	18,944.27	MODIFY
306928F	**2ND STREET**	**289**	**Gates**	0	0	16,950.62	MODIFY

* Only Public At Grade Crossings are listed.

Click for Supplementary Safety Measures [SSM]

Click for ASM spreadsheet: **ASM** * Note:The use of ASMs requires an application to and approval from the FRA.

Summary	
Proposed Quiet Zone:	BNSF - East Dubuque
Type:	New 24-hour QZ
Scenario:	BNSF - Eas_68173
Estimated Total Cost:	$15,000.00
Nationwide Significant Risk Threshold:	15488 .00
Risk Index with Horns:	16121.85
Quiet Zone Risk Index:	**14950.22**

Select

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MEDIANS AT 6TH AND 4TH

Crossing	Street	Traffic	Warning Device	Pre-SSM	SSM	Risk	
306924D	**6TH STREET**	**400**	**Gates**	0	13	8,955.77	MODIFY
306926S	**4TH STREET**	**550**	**Gates**	0	13	3,788.85	MODIFY
306928F	**2ND STREET**	**289**	**Gates**	0	0	16,950.62	MODIFY

* Only Public At Grade Crossings are listed.

Click for Supplementary Safety Measures [SSM]

Click for ASM spreadsheet: **ASM** * Note:The use of ASMs requires an application to and approval from the FRA.

Summary	
Proposed Quiet Zone:	BNSF - East Dubuque
Type:	New 24-hour QZ
Scenario:	BNSF - Eas_68174
Estimated Total Cost:	$30,000.00
Nationwide Significant Risk Threshold:	15488 .00
Risk Index with Horns:	16121.85
Quiet Zone Risk Index:	**9898.41**

Select

ALL SSM – 4-QUAD AT 2ND

Crossing	Street	Traffic	Warning Device	Pre-SSM	SSM	Risk	
306924D	**6TH STREET**	**400**	**Gates**	0	13	8,955.77	MODIFY
306926S	**4TH STREET**	**550**	**Gates**	0	13	3,788.85	MODIFY
306928F	**2ND STREET**	**289**	**Gates**	0	4	3,051.11	MODIFY

* Only Public At Grade Crossings are listed.

Click for Supplementary Safety Measures [SSM]

Click for ASM spreadsheet: **ASM** * Note:The use of ASMs requires an application to and approval from the FRA.

Summary	
Proposed Quiet Zone:	BNSF - East Dubuque
Type:	New 24-hour QZ
Scenario:	BNSF - Eas_68175
Estimated Total Cost:	$130,000.00
Nationwide Significant Risk Threshold:	15488 .00
Risk Index with Horns:	16121.85
Quiet Zone Risk Index:	**5265.24**

Select