

CROSSING	Cost Estimate	
Hacienda Street	\$	40,400
E. Third Street	\$	20,400
SH 159 (Main Street)	\$	70,746
E. Glenn Street	\$	21,900
FM 1456		
N. Granville Street		
10% overrun	\$	15,347
TOTAL \$		168,793

Crossing

Hacienda Street

DOT#

022809J

Jurisdiction

Bellville

SAFETY MEASURES

Channelization Device

U of M

Units

Unit Cost

Extended Cost

West side Footage

100

Linear Ft.

100

\$ 40.00

\$ 4,000.00

East side Footage

80

Linear Ft.

80

\$ 40.00

\$ 3,200.00

Wayside Horn

Wayside Horn

EA

Interconnection

BNSF Work

EA

CROSSING IMPROVEMENTS

Crossing Panels

1

8' Panel

1

\$ 8,000.00

\$ 8,000.00

Relocation of Crossing Gate

STREET IMPROVEMENTS

Street Widening

West Side Footage

8' x 90'

Linear Ft.

720

\$ 10.00

\$ 7,200.00

East Side Footage

8 x 90'

Linear Ft.

720

\$ 10.00

\$ 7,200.00

Curbing

West Side Footage

180'

Linear Ft.

180

\$ 30.00

\$ 5,400.00

East Side Footage

180'

Linear Ft.

180

\$ 30.00

\$ 5,400.00

Culvert Extension

0

Linear Ft.

0

\$ -

\$ -

OTHER

Driveway Relocation

No

Total Cost:

\$

\$ 40,400.00

Crossing

E. Third Street

DOT#

022810D

Jurisdiction

Bellville

SAFETY MEASURES

Channelization Device

U of M

Units

Unit Cost

Extended Cost

West side Footage	30	Linear Ft.	30	\$	40.00	\$	1,200.00
East side Footage	30	Linear Ft.	30	\$	40.00	\$	1,200.00

Wayside Horn
 Interconnection BNSF Work EA EA

CROSSING IMPROVEMENTS

Crossing Panels	1	8' Panel	1	\$	8,000.00	\$	8,000.00
Relocation of Crossing Gate							

STREET IMPROVEMENTS

Street Widening

West Side Footage	4' x 50'	Linear Ft.	200	\$	10.00	\$	2,000.00
East Side Footage	4' x 50'	Linear Ft.	200	\$	10.00	\$	2,000.00

Curbing	West Side Footage	100'	Linear Ft.	100	\$	30.00	\$	3,000.00
	East Side Footage	100'	Linear Ft.	100	\$	30.00	\$	3,000.00
	Culvert Extension	0	Linear Ft.	0	\$	-	\$	-

OTHER

Driveway Relocation No

Total Cost: \$ 20,400.00

Crossing
DOT#

SH 159 (Main Street)
022811K

Jurisdiction		Bellville		U of M	Units	Unit Cost	Extended Cost
SAFETY MEASURES							
Channelization Device							
West side Footage	0	Linear Ft.	0	\$	-	\$	-
East side Footage	0	Linear Ft.	0	\$	-	\$	-
Wayside Horn							
Wayside Horn	1	EA	1	\$	48,461.36	\$	48,461.36
Interconnection	BNSF Work	EA	1	\$	-	\$	13,285.00
Installation	City Install	EA	1	\$	-	\$	-
Flagging	BNSF Flagger	Day	5	\$	1,800.00	\$	9,000.00
CROSSING IMPROVEMENTS							
Crossing Panels	0	8' Panel	0	\$	-	\$	-
Relocation of Crossing Gate							
STREET IMPROVEMENTS							
Street Widening							
West Side Footage	0	Linear Ft.	0	\$	-	\$	-
East Side Footage	0	Linear Ft.	0	\$	-	\$	-
Curbing							
West Side Footage	0	Linear Ft.	0	\$	-	\$	-
East Side Footage	0	Linear Ft.	0	\$	-	\$	-
Culvert Extension							
Culvert Extension	0	Linear Ft.	0	\$	-	\$	-
OTHER							
Driveway Relocation							
Driveway Relocation	No						
Total Cost:						\$	70,746.36

Crossing

E. Glenn Street

DOT#

022812S

Jurisdiction

Bellville

SAFETY MEASURES

Channelization Device

U of M

Units

Unit Cost

Extended Cost

East side Footage

0

Linear Ft.

0

\$

-

\$

-

West Side Footage

60

Linear Ft.

60

\$

40.00

\$

2,400.00

Wayside Horn

Wayside Horn

EA

0

\$

-

\$

-

Interconnection

BNSF Work

EA

0

\$

-

\$

-

CROSSING IMPROVEMENTS

Crossing Panels

1

8' Panel

1

\$ 8,000.00

\$

8,000.00

Relocation of Crossing Gate

STREET IMPROVEMENTS

Street Widening

West Side Footage

0

Linear Ft.

0

\$

-

\$

-

East Side Footage

5' x 100'

Linear Ft.

500

\$

10.00

\$

5,000.00

Curbing

West Side Footage

150

Linear Ft.

150

\$

30.00

\$

4,500.00

East Side Footage

0

Linear Ft.

0

\$

-

\$

-

Culvert Extension

10

Linear Ft.

10

\$

200.00

\$

2,000.00

OTHER

Driveway Relocation

No

Total Cost:

\$

21,900.00

Crossing

FM 1456

DOT#

022813Y

EXHIBIT B
 Railroad Signal Cost Estimate for
 SH 159 (Main St) - DOT No. 022811K
 10/19/2018

BNSF RAILWAY COMPANY
 FHPM ESTIMATE FOR
 CITY OF BELLVILLE

LOCATION NORTH BELLVILLE DETAILS OF ESTIMATE PLAN ITEM : 000292108 VERSION : 5

PURPOSE, JUSTIFICATION AND DESCRIPTION

SH 159 - BELLVILLE, TX; INSTALL PREEMPTION CIRCUIT; RED RIVER DIV; GALVESTON SUBDIV; LS 7500; MP 107.63; DOT# 022811K. SEQ. #68461.

MONTHLY POWER UTILITY COST CENTER : 61698.

THE MATERIAL LIST BELOW REFLECTS TYPICAL REPRESENTATIVE PACKAGES USED FOR ESTIMATING PURPOSES ONLY.

THIS ESTIMATE IS GOOD FOR 180 DAYS. THE ESTIMATE IS SUBJECT TO CHANGE IN COST FOR LABOR, MATERIAL, AND OVERHEAD.

CONTRACTS HAVE BEEN ESTABLISHED FOR PORTIONS OF SIGNAL WORK ON THE BNSF RAILROAD.

***** SIGNAL WORK ONLY *****

THE CITY OF BELLVILLE IS FUNDING 100% OF THIS PROJECT.

MAINTAIN PROPRIETARY CONFIDENTIALITY.

PRIMARY FUNDING SOURCE IS FHWA

** BUY AMERICA(N) APPLIES **

DESCRIPTION	QUANTITY U/M	COST	TOTAL \$

LABOR			

SIGNAL FIELD - REPLACE	56.0 MH	1,727	
PAYROLL ASSOCIATED COSTS		1,102	
DA OVERHEADS		1,784	
EQUIPMENT EXPENSES		354	
INSURANCE EXPENSES		290	
TOTAL LABOR COST		5,257	5,257

MATERIAL			

MISC WIRING	1.0 LS N	500	
PREEMPT JUNCTION BOX	1.0 EA N	291	
RELAY	1.0 EA N	750	
WIRE, CASE, #10	200.0 FT N	78	
USE TAX		135	
OFFLINE TRANSPORTATION		18	
TOTAL MATERIAL COST		1,772	1,772

OTHER			

CONTRACT ENGINEERING	1.0 LS	5,000	
TOTAL OTHER ITEMS COST		5,000	5,000
PROJECT SUBTOTAL			12,029
CONTINGENCIES			1,124
BILL PREPARATION FEE			132
GROSS PROJECT COST			13,285
LESS COST PAID BY BNSF			0
TOTAL BILLABLE COST			13,285

13,285

TO GALVESTON

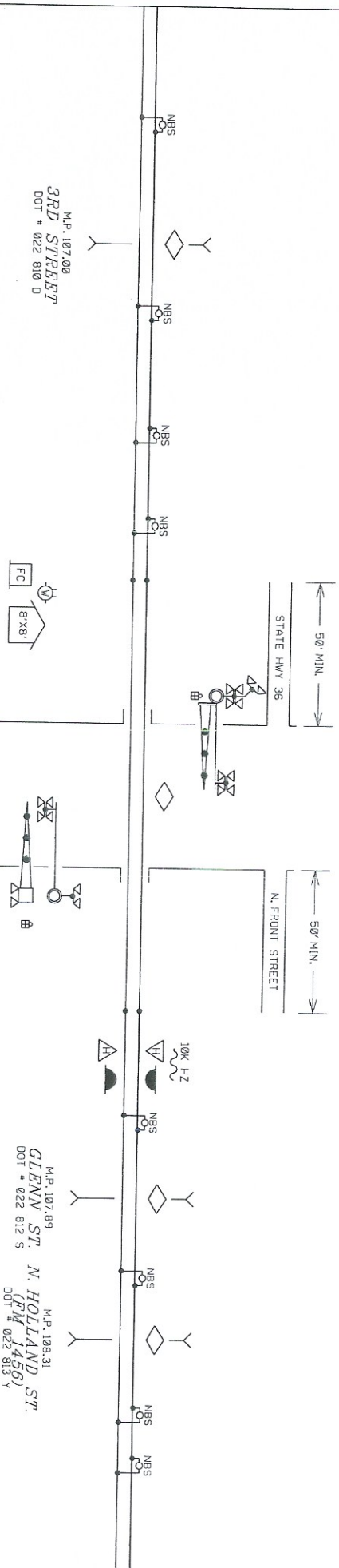
The Burlington Northern & Santa Fe Railway Company

TO TEMPLE

EASTWARD APPR. 4437'
55 MPH

120' MIN.

WESTWARD APPR. 4437'
55 MPH



REPLACE: FLASHERS, GATES & BUNGALOW
 CONTROL DEVICES: CONSTANT WARNING
 SALVAGE: NONE

RED = IN **YELLOW = OUT**

- INSTRUMENT HOUSE
- BELL
- METER
- CROSSING CONTROL CONNECTIONS
- BIDIRECTIONAL CROSSING CONTROL
- UNIDIRECTIONAL CROSSING CONTROL
- COUPLER OR TERMINATION
- GUARD RAIL

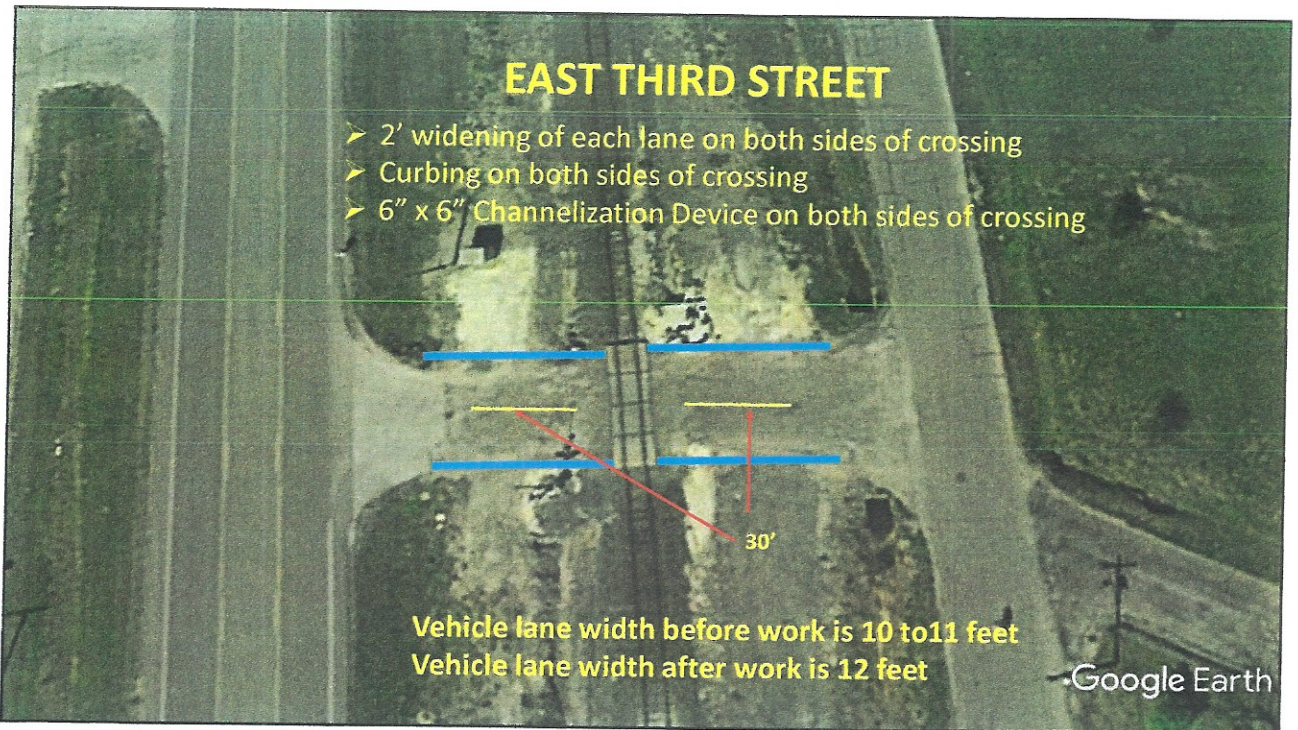
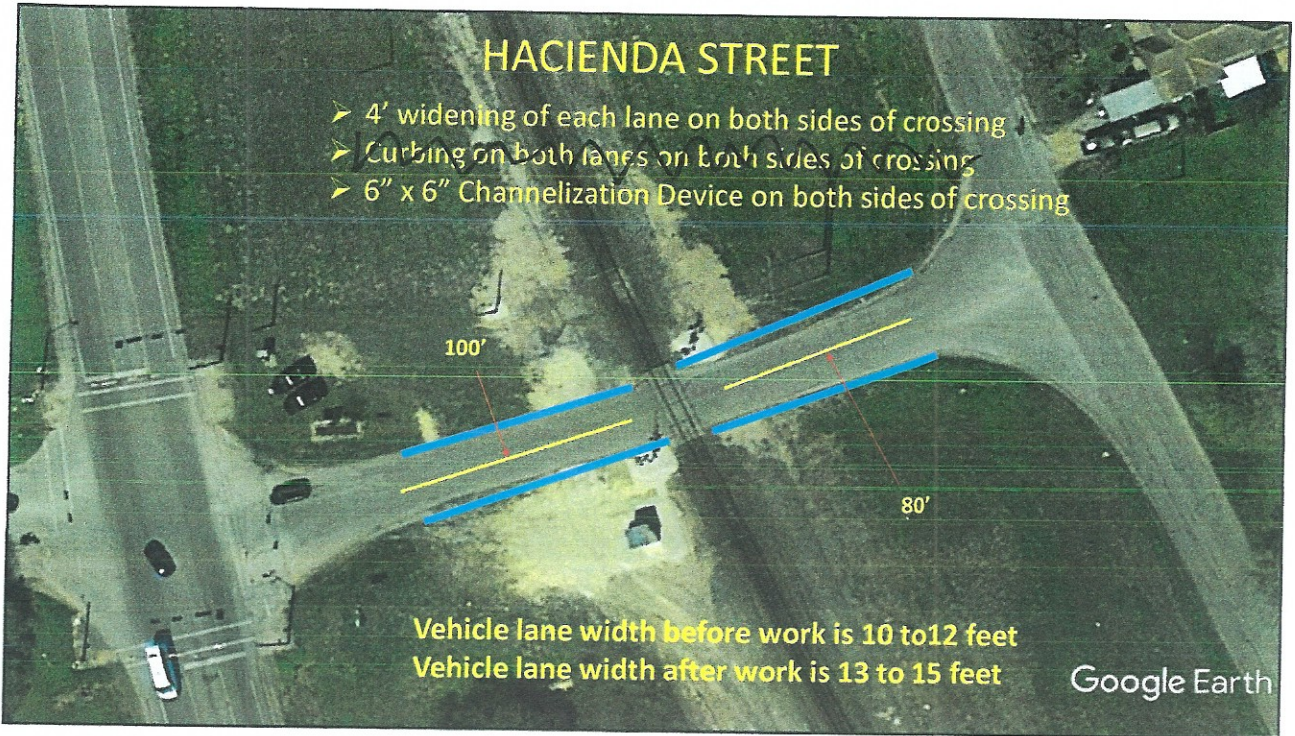
Warning device placement:

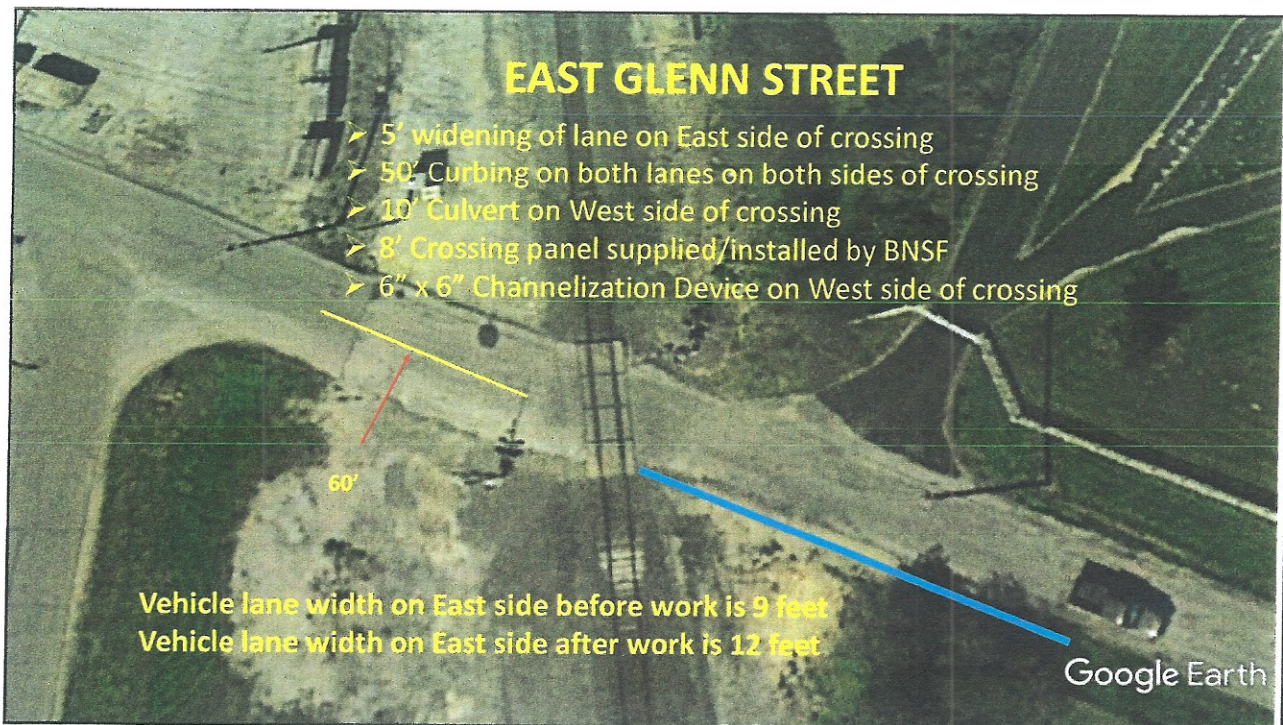
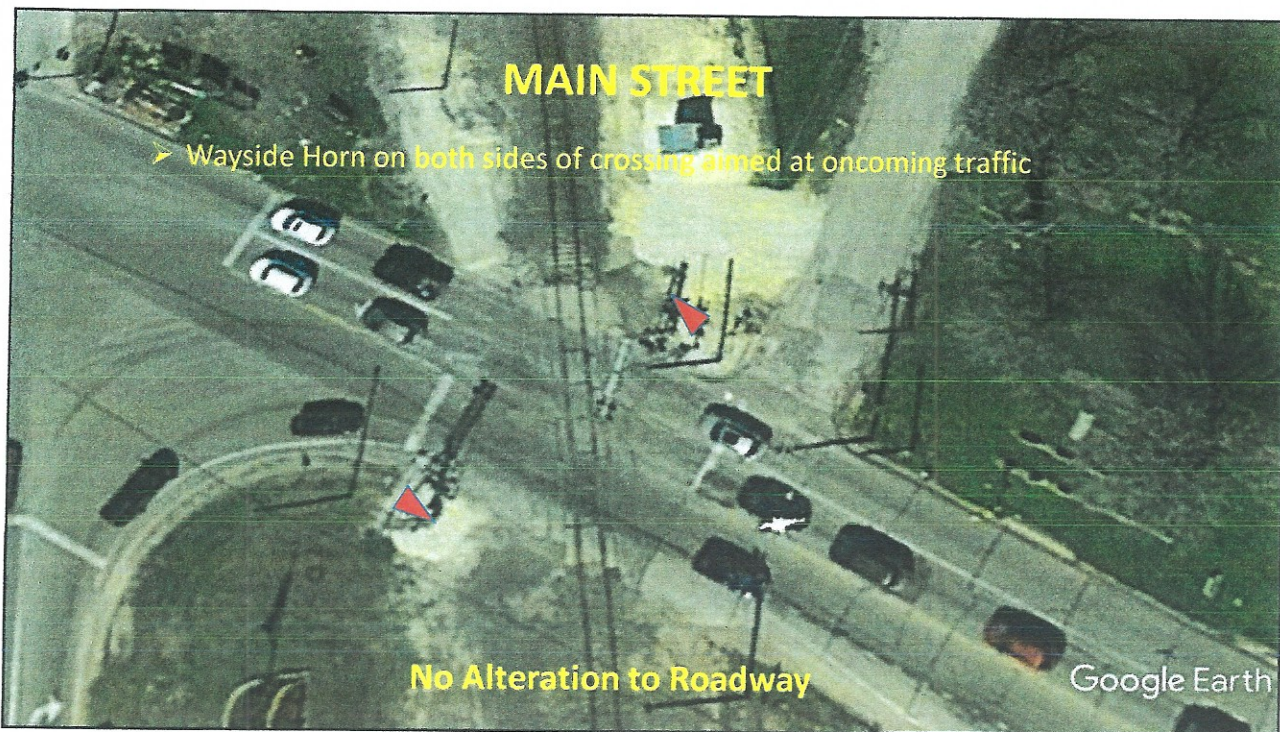
Clearance to C.L. Track = Min. 12'
 Edge of Road to C.L. Foundation:
 Min. 4'3" with curb,
 Min. 8'3" without curb,
 Max. 12'

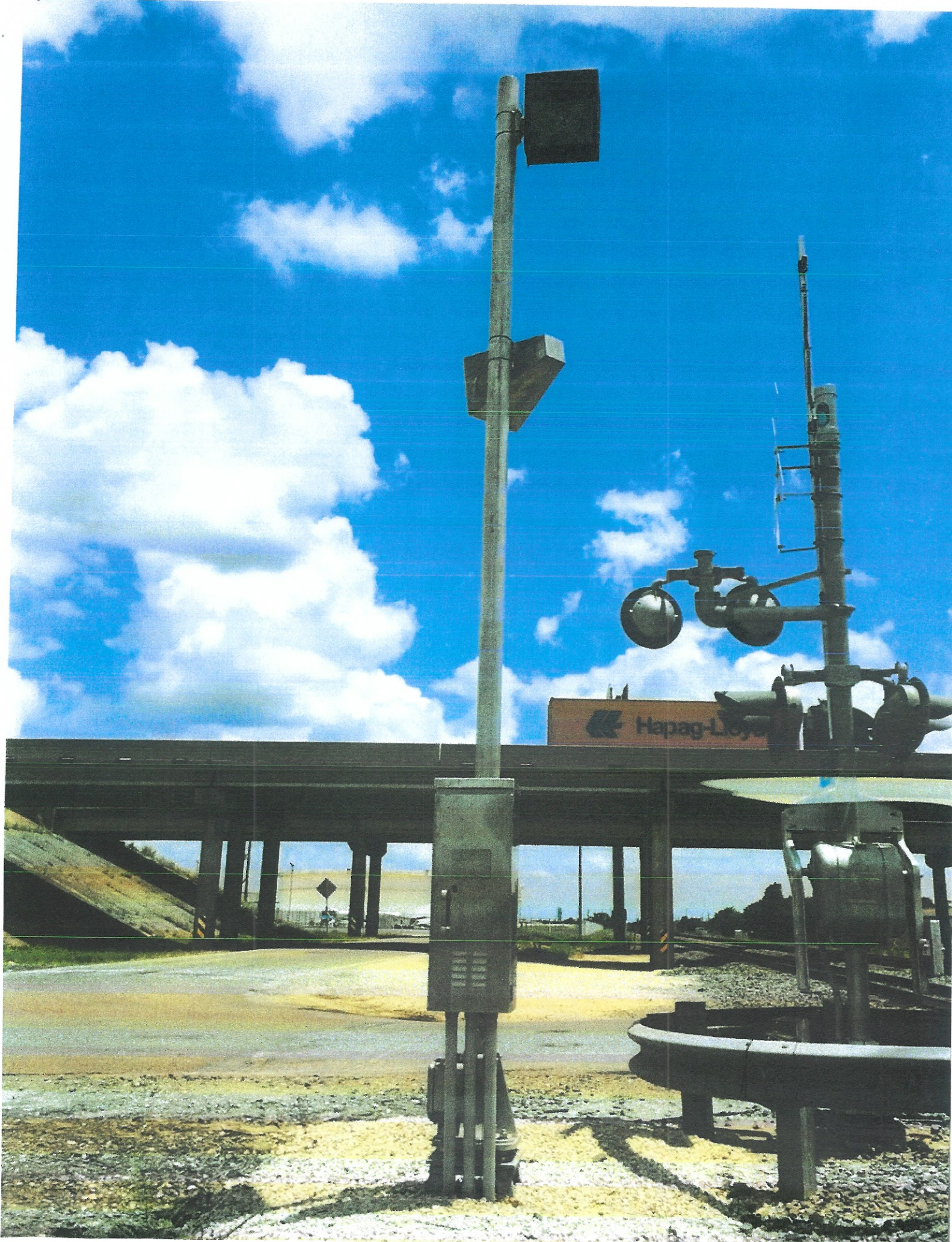
House Clearance:
 25' Min. to Near Rail
 30' Min. to Edge of Road
 ALL LIGHTS TO BE LED



BNSF RAILWAY CO.
 LOCATION: BELLVILLE, TX
 STREET: SH 0159
 LS: 7500
 MP 107.62
 DOT # 022 811 K
 DIVISION: RED RIVER
 SUBDIVISION: GALVESTON
 KANSAS CITY
 NO SCALE
 DATE: 06/29/2018
 FILE: 68461-STATESKETCH-.dgn
 AMW









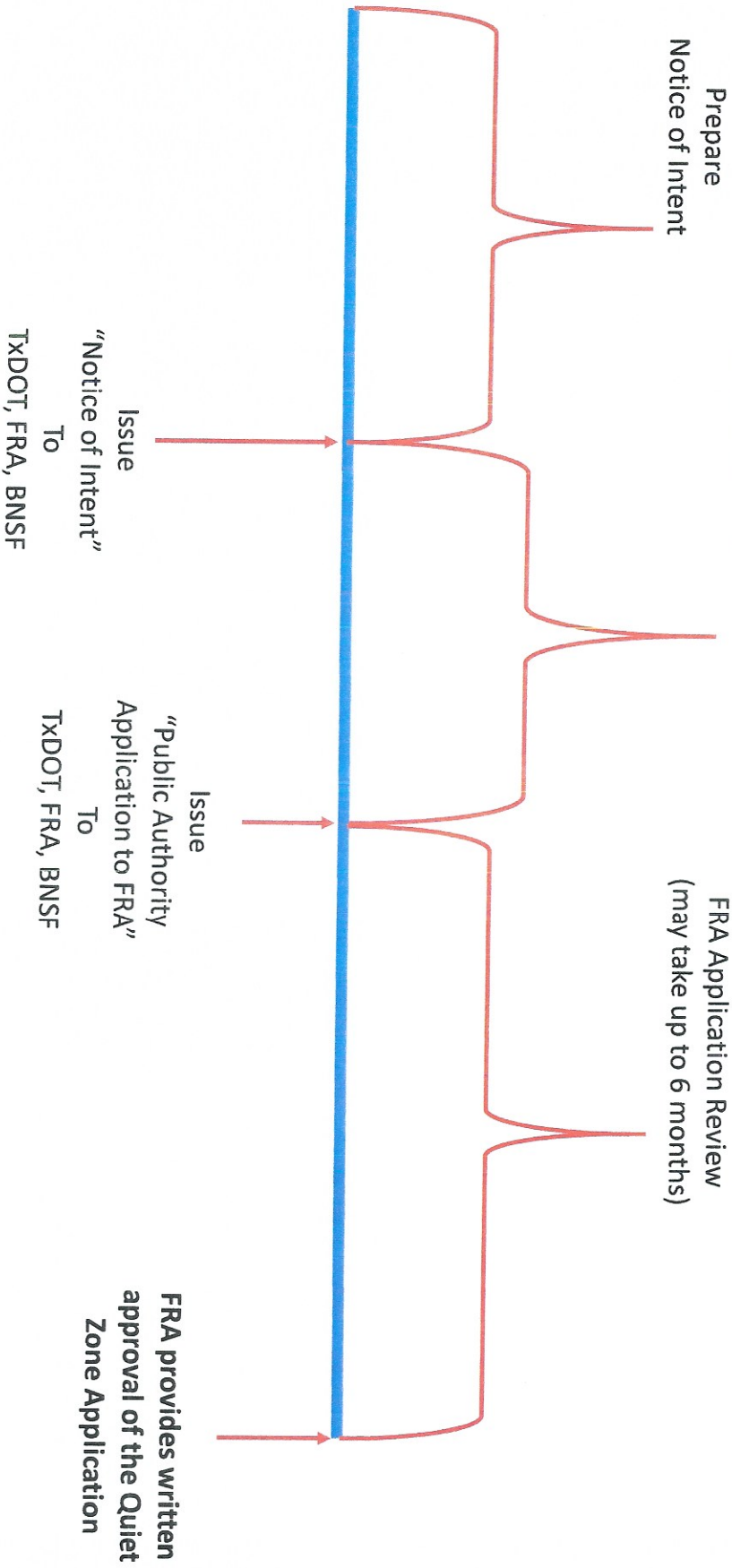
**BELLVILLE QUIET ZONE
IMPLEMENTATION SEQUENCE FOR PUBLIC AUTHORITY APPLICATION**

PHASE I & III of QZT Proposal

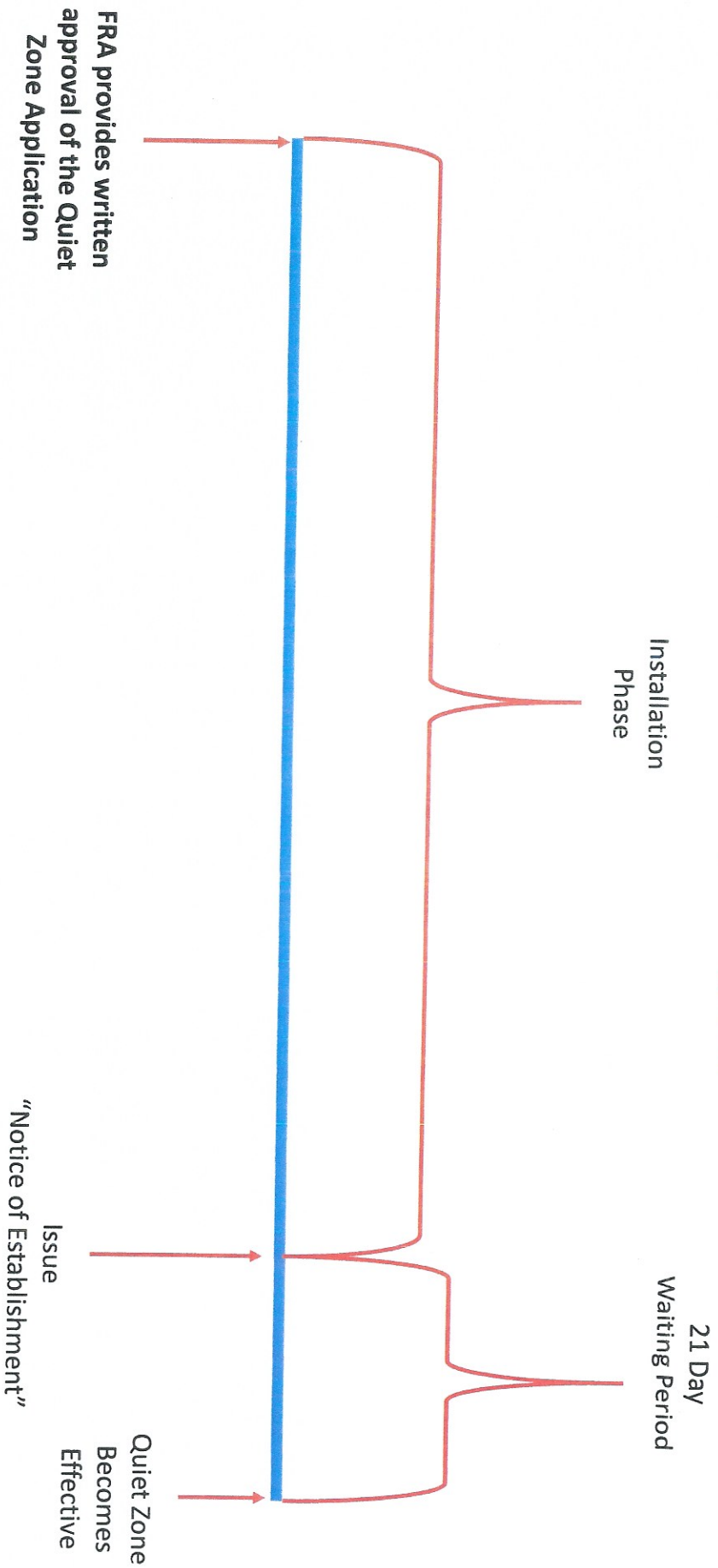
60 Day

Comment Period

FRA Application Review
(may take up to 6 months)



BELLVILLE QUIET ZONE
IMPLEMENTATION SEQUENCE FOR PUBLIC AUTHORITY APPLICATION
PHASE II of QZT Proposal



Estimate of Quiet Zone Risk Index

Channelization Device at Hacienda, ASM at 3rd, WH at Main Street and ASM at E. Glenn Street

Crossing	AADT	SSM		Wayside Horn Rate		Effectiveness		Risk Index With Train Horn (1)	Risk Index Without Train Horn	Risk Index with SSM, ASM or WH
		Yes	None	No	Yes	Rate †	Effectiveness			
Hacienda Street	2139	Yes	No	No	Yes	75%	0	21658.25	36125.95	9031.49
E. 3rd Street	991	None	No	No	Yes	0	0	19365.07	32300.94	20188.09
Main Street	4800	None	Yes	Yes	No	0	0	82648.13	137857.06	N/A
E. Glenn Street	685	None	No	No	No	0	38%	17701.83	29526.65	18454.16

Risk Index With Horns: 19575.05
 Quiet Zone Risk Index: 15891.24

Does QZ Qualify: **Yes**

(1) Effectiveness of Train Horn

40%

Notes:
 ASM for E. 3rd Street is proposed as installing 30' Channelization Devices on each roadway approach. ASM for E. Glenn Street is proposed as installing a 60' Channelization Device on the East Approach.

†: ASM effectiveness rates provided are estimates only, they are subject to change pending FRA Approval

CONCERNS ADDRESSED

1. Community Support
 - a. Over 400 signatures on Petition "I support the creation of a Railroad Quiet Zone in Bellville".
2. Safety
 - a. Mr. Ron Ries of the Federal Railroad Administration states "there was no statistical significance that would indicate the observed locations were less safe because of the establishment of the Quiet Zone".
 - b. 129 Quiet Zones in Texas, over 800 in the USA.
3. Cost Benefit
 - a. US Case Study concluded that property values decrease approximately 4% for every 10 db of added noise exposure.
 - b. Normal background is 50 db.
 - c. Conventional Train Horn is 110 db.
4. Health Concerns
 - a. Federal Railroad Administration report discusses the negative impacts of "Transportation Noise" on:
 - i. Sleep disturbance
 - ii. Speech Impairment
 - iii. Recreation
5. Cost of Implementation
 - a. The budgetary estimate to implement the Bellville Quiet Zone at 6 municipal area crossings is approximately \$260,000. With a contingency of 15%, the cost is approximately \$300,000.
6. **Other Texas Cities with Quiet Zone on SAME BNSF TRACK:**
Pearland, Rosenberg, Sealy, Brenham, Caldwell, Killeen, Ft. Worth and Others



ELSEVIER

Transportation Research Part D: Transport and Environment

Volume 11, Issue 4, July 2006, Pages 310-314



Notes and comments

The economic valuation of train horn noise: A US case study

William K. Bellinger. Author links open the author workspace.Opens the author workspaceOpens the author workspace

Dickinson College, Department of Economics, P.O. Box 1773, Carlisle, PA 17013-2896, United States

Show more

<https://doi.org/10.1016/j.trd.2006.06.002>Get rights and content

Abstract

This paper provides a property value-based estimate of the dollar cost of train horn noise in a residential neighborhood in a small town, Wormleysburg, Pennsylvania, US. Residential property values are found to decrease by about \$4800, or 4.1%, per 10 db of added noise exposure, for an aggregate total of \$4,088,799 in 2004 dollars. The primary study was supplemented with information from a neighborhood survey. Dollar value estimates of train horn costs could prove useful in facilitating balanced benefit-cost analyses of horn noise abatement policies such as quiet zones, wayside horns, underpasses, or street closures.

Silence is Golden: Railroad Noise Pollution and Property Values*

Jay K. Walker Department of Economics and Finance, Niagara University, USA

Abstract:

This paper uses a unique dataset containing property values and manually collected noise measurements in Memphis, Tennessee to estimate the impact of train noise pollution on commercial and residential property values.

Results show that a residential property exposed to 65 decibels or greater of railroad noise results in a 14 to 18 percent decrease in property value.

Once a 65 decibel measure is included, there is no additional impact on price of distance to the closest railroad crossing. For commercial property, neither crossing proximity nor noise level significantly affect property value.

The results provide evidence of a negative externality that is created by railroad noise for households and the need for more exact measures of noise levels. The findings are also consistent with previous literature suggesting firms have different ideas than individuals about desirable locational attributes. Keywords: property value, railway noise pollution, externalities JEL Codes: D6, D62, R32

Silence is Golden: Railroad Noise Pollution and Property Values

27 Pages Posted: 26 Jun 2015 Last revised: 25 Jan 2016

Jay K Walker

Old Dominion University - Economics

Date Written: January 17, 2016

Abstract

Using a unique cross sectional dataset of property values with manually collected noise measurements in Memphis, Tennessee, hedonic regression is used to estimate the impact of train noise pollution on commercial and residential property values. Results show a residential property being located within the 65 decibel contour from the railroad noise origin results in a decrease of 13 percent in assessed property value, although when accounting for property location when within the 65 decibel noise contour distance becomes insignificant. More exact measures of noise levels and utilizing GIS versus simple proximity may be a better approach for estimating impacts. Neither rail proximity nor noise level significantly affect commercial property values.

Keywords: property value, railway noise pollution, externalities

JEL Classification: D6, D62, R32

Suggested Citation:

Walker, Jay K, Silence is Golden: Railroad Noise Pollution and Property Values (January 17, 2016). Available at
SSRN: <https://ssrn.com/abstract=2622947> or <http://dx.doi.org/10.2139/ssrn.2622947>

PROPERTY TAX IMPACT of 1 SQUARE MILE INSIDE CITY LIMITS

City Total Property Tax	Sq. Miles in City	\$/Square Mile	4%	14%	18%
\$ 760,000	2.7	\$ 281,481	\$ 11,259	\$ 39,407	\$ 50,667



92047

25 years

taxes go up

↳