APPENDIX 2 – EAST BIRMINGHAM QUIET ZONE ANALYSIS

1.1. Quiet Zones

The Federal Railroad Administration (FRA), an agency within the US Department of Transportation, issued a federal regulation in 2005 (49 CFR Part 222) requiring the sounding of locomotive horns at public highway-rail grade crossings for safety purposes. A railroad locomotive horn must be sounded 15 to 20 seconds in advance of the train’s reaching a crossing. The horn pattern must be repeated or prolonged until the lead locomotive or lead cab car occupies the grade crossing.

**How loud is loud?**

Federal regulations require train horns to be louder than 96 decibels (dbA) but not louder than 110 decibels 100 feet in front of the train. The FRA has modeled how the train horn sound travels and dissipates with distance from the track. This model shows that people who are located outdoors and closer than 1,500 feet from the track may have to shout to be heard when the horn is sounding. Outside conversations closer than 400 feet from the track usually have to cease until the train passes by.

*Figure A2-1: Railroad Horn Noise – Intensity vs Distance*

![Figure A2-1: Railroad Horn Noise – Intensity vs Distance](image_url)

The relative loudness of sound perceived by the human ear is expressed in A-weighted decibels, abbreviated dbA. The A-weighted decibel scale is adjusted for audio frequency because the human ear is less sensitive to low frequency and very high frequency sounds. **On the average, each A-weighted sound level increase of 10 decibels approximately doubles the perceived loudness.**

Normal conversation is affected when background noise exceeds 70 dbA. Noise of 90 dbA is typical of an emergency siren. A train horn at 100 dbA is twice as loud. Routine activities such as telephone conversation, watching television, or sleep can be disrupted by excessive noise.
What is a Quiet Zone?

A Quiet Zone is a federally designated section of a railroad line where trains do not need to blow their horns except in emergencies. Train horn warnings approaching crossings represent a trade-off between safety at rail/highway crossings and noise pollution imposed upon the neighborhood. FRA has created a process through which train horn blowing at crossings can stop if supplemental safety measures (SSM) are implemented at the rail/highway crossings to improve safety.

Why a Quiet Zone for East Birmingham?

(1) Rail traffic has increased to the point that the Norfolk Southern line through Woodlawn and Crestwood exceeds 60 trains a day and is projected to nearly double in the next 35 years. This segment of track is one of the busiest in the Southeastern United States.

(2) Train horn noise is a major intrusion to the lives of residents living by the tracks in Crestwood and Woodlawn. The tracks surround the Harris Homes community on Brussels Avenue. Some of the units in Harris Homes, as well as the single family homes along 5th Ave S. are located less than 150 feet away from the rail line.

(3) Train horn noise makes the adjacent neighborhoods less desirable places to live, work and walk.

(4) Two elementary schools (Irondale Community School and Oliver Elementary) are located near the tracks and train noise is disruptive to learning activities.

(5) Train horn noise imposes restrictions on use of federal funds for redevelopment near the rail/highway crossings. Noise above a certain threshold makes redevelopment of that land ineligible for federal funds. Redevelopment farther from the crossing requires added costs of soundproofing if federal funds are applied.

What are the steps to create a Quiet Zone?

(1) Notify the Railroad and the FRA of intent to create a quiet zone and identify zone limits.

(2) Conduct a diagnostic inspection to determine needs and solution choices.

(3) Identify a plan to provide Supplemental Safety Measures (SSM).

(4) Fund that plan and implement SSM.

(5) Update the Federal crossing records and notify the railroad to stop the horn blowing.

(6) Review and update Federal Crossing records every three years.

As of December 2014, the first two steps are complete. This report analyzes the effects of alternative SSMs to assist the City and the affected communities in selecting the preferred safety implementation plan.

The railroads and crossings

Trains run through the proposed quiet zone area on two Norfolk Southern routes, the East End and the Alabama Great Southern, which converge at Irondale and continue west into Birmingham.
The Alabama Great Southern (AGS) runs from Chattanooga, Tennessee to Meridian, Mississippi and New Orleans, Louisiana. Through the proposed quiet zone area the AGS has two tracks on the northern side of the rail corridor.

The East End runs from Austell, Georgia to Birmingham, Alabama. It connects major freight yards at Austell, Atlanta, and Irondale. The line is a FRA Class 3 Railroad. It is often used by Amtrak. The East End track is on the south side of the corridor through the proposed quiet zone area. It is adjacent to the two AGS tracks except for a section near Brussels Avenue where the East End track loops south away from the northern tracks and then back to rejoin the corridor.

Typical train speed over the crossings in this area ranges from 30 mph to 45 mph according to the US DOT Crossing Inventory.

As shown in Tables A2-1 and A2-2, two separate quiet zones are defined: Irondale Quiet Zone with three crossings and East Birmingham Quiet Zone with five crossings. The Irondale and East Birmingham Quiet Zones overlap at Brussels Avenue and Antwerp Avenue. On these streets the distance between tracks requires two separate grade crossings. Grade crossings of the southern track are part of the Irondale Quiet Zone and crossings of the northern two tracks are part of the East Birmingham Quiet Zone. All of the current crossings are two-way streets.

50th Street S. was initially considered for inclusion in the East Birmingham Quiet Zone but was removed because it is located in an industrial area.

<table>
<thead>
<tr>
<th>Table A2-1: Proposed Irondale Quiet Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crossing</td>
</tr>
<tr>
<td>20th Street, Irondale</td>
</tr>
<tr>
<td>Brussels Ave. South</td>
</tr>
<tr>
<td>Antwerp Ave./64th Pl. South</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table A2-2: Proposed East Birmingham Quiet Zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crossing</td>
</tr>
<tr>
<td>Brussels Ave. North</td>
</tr>
<tr>
<td>Antwerp Ave./64th Pl. North</td>
</tr>
<tr>
<td>59th Street</td>
</tr>
<tr>
<td>57th Street S. (56th Street)</td>
</tr>
<tr>
<td>56th Street S (55th Place)</td>
</tr>
</tbody>
</table>

1 US DOT Crossing Inventory Information. Other daily traffic volumes from 2014 road tube counts.

The proposed quiet zones and crossing locations are illustrated in Figure A2-2 below. All of the existing crossings have two-quadrant gates and flashers except for 56th Street/55th Place S, which has flashers only. FRA requires gates at all crossings in a quiet zone. Therefore 56th Street/55th Place S must be upgraded with gates if it is to remain open.
What Supplemental Safety Measures (SSM) may apply to the crossings?

A quiet zone can be established if other highway safety improvements can be made in lieu of train horns that compensate for the safety benefit lost by the horn not sounding. FRA-approved SSMs include:

- Closing the crossing – closing the street to eliminate the crossing reduces the risk at that crossing to zero. Traffic that is diverted to another crossing because of the street closure goes into calculation of the risk at that other crossing.
- Converting a two-way street to one-way with a gate that fully blocks the street – this reduces the traffic volume, and prevents drivers from going around the closed gate. This SSM requires either that the gate extend across the entire roadway or that a barrier be installed to confine traffic to the lane that is covered by the gate. Traffic that is diverted to another crossing because of the one-way conversion goes into calculation of the risk at the other crossing.
• Median barriers – Used on both approaches to a crossing on two-way streets to prevent traffic from going around the closed gate. Curb medians and channelizing devices qualify as an SSM only if they can be installed for 60’ minimum in advance of the railroad crossing gate. The application of this SSM is limited because most of the crossings have a street intersection within 50 feet.

• Four quadrant gates – Four quadrant gates have two arms on each side of the crossing to completely block all road lanes on both sides of the tracks. This prevents traffic from going around the closed gates. To prevent a slow moving vehicle from becoming trapped in the center area between gates, vehicle presence detectors are often used to keep the far side gates open until the track crossing is clear of vehicles. Four quadrant gates are far more expensive than other SSM options with similar safety benefits and only applied in the most expensive alternatives.

SSMs that are candidates for use in East Birmingham are shown in Table A2-3 along with their risk reduction factors. All of the measures reduce risk at a crossing by at least 75%.

<table>
<thead>
<tr>
<th>SSM Description</th>
<th>SSM Code</th>
<th>Reduction Factor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent Closure of a Public Highway-Rail Grade Crossing</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>One-Way Streets with Gates</td>
<td>14</td>
<td>0.18</td>
</tr>
<tr>
<td>Non-Traversable Curb Medians with or without Channelization Devices</td>
<td>13</td>
<td>0.20</td>
</tr>
<tr>
<td>Mountable medians with Reflective Traffic Channelization Devices</td>
<td>12</td>
<td>0.25</td>
</tr>
</tbody>
</table>

FRA provides a calculator tool that allows users to test proposed safety implementation plans and determine the feasibility of a quiet zone. In order to qualify, the calculated Quiet Zone Risk Index (QZRI) must be lower than the Risk Index with Horns (RIWH), or, lower than the national average risk at gated crossings with horns (Nationwide Significant Risk Threshold or NSRT).

**QZRI** (Quiet Zone Risk Index) – represents the average severity weighted collision risk for all public highway-rail grade crossings that are part of a quiet zone. It includes added risk caused by the lack of a train horn and risk reductions caused by the implementation of SSMs.

**RIWH** (Risk Index With Horns) – represents the level of risk that would exist if train horns were sounded at every public crossing in the proposed quiet zone.

**NSRT** (Nationwide Significant Risk Threshold) – represents the average severity weighted collision risk for all public highway-rail grade crossings equipped with lights and gates nationwide where train horns are routinely sounded. FRA developed the NSRT to serve as a threshold of permissible risk for quiet zones to meet.

1.2. Alternative SSMs for Irondale and East Birmingham crossings

20th Street in Irondale City is the busiest grade crossing with 3,530 vehicles daily. 20th Street is the only crossing of the tracks within the City’s downtown street grid, and one of only two crossings in the City (the other is an underpass at 16th Street). The small main street commercial area is at 20th Street. The City of Irondale wishes to keep the 20th Street crossing open as a two-way street. Intersections on 20th Street immediately north and south of the tracks prevent installation of a median barrier of the minimum 60-foot length. The risk index cannot be reduced with an approved SSM. The Irondale
Quiet Zone as a whole may still meet the requirements with improvements at other intersections in the zone.

**Brussels Avenue** has the next busiest crossings with about 1,650 vehicles daily. Brussels Avenue provides a direct connection north to a stop-controlled intersection with Georgia Road. Brussels Avenue continues north to 66th St. S. which leads to 1st Avenue S. and 1st Avenue N. To the south, a connection exists from Brussels Avenue to Crestwood Boulevard via other streets.

Bus Route 17 crosses the southern railroad track in both directions as it serves Harris Homes, and the proposed improved bus service will continue to travel on Brussels Avenue to serve this area. School bus routes to Oliver Elementary School use Brussels Avenue. It is not practical to either close Brussels Avenue or make it one-way because of circulation impacts. A median barrier solution for both of the Brussels Avenue crossings is the most appropriate safety measure.

The desirable length of a median is 100 feet in advance of the crossing, and the minimum length is 60 feet. Brussels Avenue has a T intersection with Athens Avenue about 50 feet north of the tracks. A median that qualifies as an SSM would prevent left turns into and out of Athens Avenue. Athens Avenue is an 18’-wide street that runs only from Brussels Avenue to Georgia Road. It serves one residence. Athens Avenue could become right in, right out at Brussels Avenue, and the left turn movements could still be made via Georgia Road. Therefore a raised median barrier SSM is proposed for Brussels Avenue, and it can be the desirable 100-foot length.

**Antwerp Avenue (64th Pl. S north of 5th Avenue S.)** This street connects the Crestwood neighborhood south of the tracks to Georgia Road. 64th Pl. S is stop sign-controlled at Georgia Road and the north and south legs are offset. 64th Pl. S. continues north to a stop-controlled intersection with 1st Avenue S. just east of its interchange with I-20 East. The daily traffic volume at the railroad crossing is 1,080 vehicles and the volume in both directions in any one hour totals 90 vehicles or fewer. The railroad crossing of Antwerp Avenue/64th Pl. S could be considered for a full closure or a conversion to one-way operation. Most of the traffic from either change would divert to Brussels Avenue, using Georgia Road north of the tracks and 6th Avenue S. south of the tracks.

**59th Street S.** 59th Street extends from 5th Avenue S. across the railroad to Georgia Road, 1st Avenue S. and 1st Avenue N. 59th Street is stop-controlled at Georgia Road and signalized at 1st Avenue S. and 1st Avenue N. 59th Street forms a T intersection at 5th Avenue S., and most traffic turns to and from the east. Traffic volume at the grade crossing is very low, under 500 vehicles per day and under 50 vehicles in the peak hour. The railroad crossing of 59th St. S. could be considered for a full closure or a conversion to one-way operation.

**57th Street S. (56th Street S. north of 5th Avenue S.)** The street extends from 1st Avenue S. to 6th Avenue S. 57th Street has the lowest volume grade crossing with only 260 vehicles per day and fewer than 20 vehicles in the peak hour. The railroad crossing of 57th Street could be considered for a full closure or a conversion to one-way operation.

**56th Street S. (55th Place S. north of 5th Avenue S.)** This street is a continuous street from 1st Avenue S. to US 78. 55th Pl. S is stop controlled at its T intersection with 1st Avenue S. Most 55th Pl. S. traffic turns to and from the north on 1st Avenue S. Traffic volume at
the grade crossing is 1,060 vehicles daily. Traffic volume on 56th Street south of 5th Avenue S. increases to 2,370 vehicles daily, because motorists from streets that do not continue through to US 78, such as 55th Street or 59th Street, turn south on 56th Street S. from 5th Avenue S. Over half the traffic travelling to and from the south on 56th Street S. is currently turning onto 5th Avenue S. rather than continuing north over the 55th Pl. S. grade crossing. In particular, traffic that is destined to 1st Avenue N. uses the adjacent street to the west (55th Street S) which has an underpass of the railroad as well as a signal at 1st Avenue S. and a signal at 1st Avenue N.

56th Street is designated as a planned street-based path, the “12th /56th Street Connector”, in the Red Rock Ridge and Valley Trail System Master Plan for Jefferson County (2010). This route extends from 1st Avenue S. along 55th Pl. S. and 56th St. S. to Crestwood Boulevard and continues along 56th St., 12th Ave. and Clairmont Ave. to connect with the existing Clairmont Trail.

The railroad grade crossing of 56th Street S./55th Pl S. is equipped with flashers and audible warning, but does not have gates. All crossings in a Quiet Zone must be equipped with gates, so the 56th Street crossing either must be closed or gates must be installed. The cost to the City of installing gates would be approximately $350,000. The construction would be performed by railroad forces.

55th Street S. 55th Street is grade-separated from the railroad. The street passes under two railroad bridges located between 1st Avenue S. and 5th Avenue S. Because of the grade separation, traffic on 55th Street is not affected by trains. The traffic volume at the underpass is 1,550 vehicles daily.

55th Street S. runs from 1st Avenue N. to 6th Avenue S. There are traffic signals at 1st Avenue N. and 1st Avenue S., and there is an All-Way Stop sign control at 5th Avenue S. The distance between the intersections on either side of the underpass is 240 feet, sufficient for 10 vehicles to queue in each direction. In the northbound direction at the 1st Avenue S. signal there are separate left and right turn lanes which provide more vehicle queue storage approaching the signal. Sidewalks are present on both sides of 55th Street S. through the underpass. They are protected by 12-inch vertical curb and fence.

### 1.3. East Birmingham Alternatives

Several alternatives were developed for each quiet zone that meet the risk reduction requirements so that the City may balance mobility across the tracks for adjoining neighborhoods with the net costs of establishing the quiet zones. When crossings are closed, the railroad saves maintenance costs and will make a payment to the local community as an incentive for closing the crossing. On November 11, 2014, Norfolk Southern estimated these payments at between $35,000 and $58,000 per crossing.

For the East Birmingham North Quiet Zone four “N” alternatives were evaluated including:

**N1** – Close all crossings except keep the 56th Street for pedestrians. Net savings to Birmingham $(47,000)
For the East Birmingham South – Irondale Quiet Zone the quiet zones overlap at Antwerp Avenue and the alternatives must be coordinated with the northern quiet zone alternatives where Antwerp is one-way northbound for alternatives N2 and N4 and closed for alternatives N1 and N3. For all of the alternatives, both Brussels Avenue crossings would have non-transversible median barriers with an estimated cost of $594,000. For the 20th Street crossing in Irondale, the crossing could be treated with either four quadrant gates at a cost of $350,000, one-way northbound at a cost of $233,000, or median barriers at a cost of $38,000. To qualify as a quiet zone the median barriers at 20th Street must be coupled with the supplemental safety measures at both Brussels and Antwerp.

The East Birmingham South – Irondale Quiet Zone alternatives are:

**S1** - Irondale 20th Street median barriers, Brussels South median barriers, and close Antwerp. Alternative S1 and N1 or N3 would be completed as a pair of quiet zones. The net savings to Birmingham from alternative S1 would be $$(25,000)$$ while the cost to Irondale would be $38,000.

**S2** - Irondale 20th Street one-way north, Brussels South median barriers, and close Antwerp. Alternative S2 and N2 would be completed as a pair of quiet zones. The net cost to Birmingham for alternative S2 would be $22,000 while the cost to Irondale would be $233,000.

**S4** - Irondale 20th Street median barriers, Brussels South median barriers, and Antwerp one-way south. Alternative S4 and N4 would be completed as a pair of quiet zones. The cost to Birmingham from alternative S4 would be $169,000 while the cost to Irondale would be $38,000.

Figure A2-3 combines all of the alternatives on a single page.
Appendix 2 - East Birmingham Quiet Zone Analysis

Figure A2-3: East Birmingham / Irondale Quiet Zone Alternatives
1.4. Quiet Zone Traffic Analysis

In order to determine whether railroad crossing closures or one-way restrictions would cause traffic backups or congestion, the traffic impact of Alternative N-1 was analyzed. Alternative N-1 closes all of the existing Woodlawn grade crossings except Brussels Avenue. As long as Alternative N-1 functions well, all of the other alternatives would also function well because they leave more of the crossings open and divert less traffic.

In Alternate N-1, all traffic from the 59th, 57th and 56th St S crossings would use the 55th Street S. underpass. Antwerp Avenue traffic would most likely use Brussels Avenue if that crossing is closed. However, in order to be very conservative, half of Antwerp Avenue traffic was assumed to use the 55th Street underpass.

The existing daily traffic volume on streets in the East Birmingham Quiet Zone analysis area are shown in Figure A2-4. ADT volumes were counted with road tubes near grade crossings on Brussels Avenue, Antwerp Avenue, 59th Street S., 56th Street S., 55th Place S. and at the underpass of the railroad on 55th Street S.

Intersection turning movement counts were conducted during the AM and PM peak hours at intersections on 55th, 56th, 57th, and 59th Streets north and south of the grade crossings (at 1st Avenue S. and at 5th Avenue S.) in order to be able to project traffic diversions from alternative changes to the grade crossings.

55th Street S. will receive additional traffic from any closure or one-way conversion of nearby streets. Northbound traffic on those streets would be added to the westbound 5th Ave S. right turn into 55th Street S. and to northbound 55th Street approaching the 1st Avenue S. signal. Southbound traffic would be added to the 1st Avenue S. westbound left turn into 55th Street S. and to southbound 55th Street S. approaching the All-Way Stop at 5th Avenue S.

The total combined diversions from closing all crossings except Brussels Avenue would approximately double the traffic volume using 55th Street S. as shown in Table A2-4.

Table A2-4: Diversions from Crossing Closures

<table>
<thead>
<tr>
<th>Time</th>
<th>Direction</th>
<th>Directional Traffic Volume 55th St between 1st Ave S and 5th Ave S (vehicles)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Existing</td>
</tr>
<tr>
<td>AM Peak Hour</td>
<td>Northbound</td>
<td>134</td>
</tr>
<tr>
<td></td>
<td>Southbound</td>
<td>115</td>
</tr>
<tr>
<td>PM Peak Hour</td>
<td>Northbound</td>
<td>58</td>
</tr>
<tr>
<td></td>
<td>Southbound</td>
<td>111</td>
</tr>
</tbody>
</table>

The operation of the 55th Street intersections was analyzed with Synchro software to determine the delays and queue lengths under existing conditions and with Quiet Zone Alternative N-1.

With Quiet Zone traffic diversions, Level of Service is B both at the All-Way Stop controlled intersection of 55th Street S. and 5th Avenue S. and at the traffic signal at 1st Avenue S. and 55th Street S.

The diversion of traffic from the closed crossings will not cause a storage problem in the 55th Street S. underpass. In the southbound direction, there would usually be no more than two vehicles waiting on 55th Street at the All Way Stop. In the northbound direction, the queue at the traffic signal may be five vehicles long, but there is
enough storage for ten vehicles. The storage distance in between the two intersections on 55th Street is 240 feet, sufficient for 10 vehicles in each direction. In addition, left and right turn lanes at the 1st Avenue S. signal provide more storage in the northbound direction approaching 1st Avenue S. The other alternatives divert less traffic to the underpass. Therefore, any of the alternatives will operate well. **The preferred alternative should be selected based on factors other than traffic.**

**Pedestrians**

The FRA regulations require pedestrian grade crossings located in new quiet zones to be evaluated by a diagnostic team and treated in accordance with the recommendations of the diagnostic team. In addition, the State agency responsible for grade crossing safety and all affected railroads must have the opportunity to participate in diagnostic team reviews of pedestrian grade crossings.

55th Street S. intersections at both ends of railroad underpass operate well with Alternative N-1 traffic diversion, which assumes that all traffic from 56th, 57th and 59th Streets plus half of Antwerp Avenue traffic would divert to 55th Street S.
The ability of Crestwood residents to walk to bus stops, schools and service/commercial destinations in Woodlawn should be preserved. If a street is converted to one-way, the crossing remains open to pedestrians. If the street is closed, consideration should be given to where pedestrians will be routed. If pedestrians are still allowed to cross, the quiet zone treatment needs to consider whether the gates and bells are left in place to provide warning of an approaching train. Other safety measures for pedestrians such as illustrated below are available to provide warning of the crossing, such as installing channelization that forces pedestrians to look at warning signs.

Pedestrians will generally take the shortest path between their origin and destination and are difficult to detour out of their way. It is relatively easy to walk around a traffic barricade. A street closure that is also closed to pedestrians should provide visual and physical discouragement, such as a berm or rip rap between the track and the street closure. Fencing the railroad right of way to prevent pedestrian crossings is probably not practical. A fence would need to extend all along both sides of the railroad between authorized crossings. The railroad would need to approve the fence and maintain it.

The streets in the East Birmingham Quiet Zone were examined for existing sidewalk connections. Antwerp Avenue and 59th Street do not have sidewalks along the street approaching or at the rail crossing. 57th Street and 56th Street do have sidewalks leading up to the crossing, and these streets connect to the commercial center of Woodlawn. As mentioned previously, the 55th Street S. underpass has sidewalks along both sides. As for walking to an adjacent street in order to cross the railroad, there is sidewalk along the south side of 5th Avenue S. from 55th Street to 57th Street, but no sidewalk further east. There is no street or walkway connection between streets on the north side of the tracks other than 1st Avenue S.

The streets in the East Birmingham Quiet Zone were examined for existing sidewalk connections. Antwerp Avenue and 59th Street do not have sidewalks along the street approaching or at the rail crossing. 57th Street and 56th Street do have sidewalks leading up to the crossing, and these streets connect to the commercial center of Woodlawn. As mentioned previously, the 55th Street S. underpass has sidewalks along both sides. As for walking to an adjacent street in order to cross the railroad, there is sidewalk along the south side of 5th Avenue S. from 55th Street to 57th Street, but no sidewalk further east. There is no street or walkway connection between streets on the north side of the tracks other than 1st Avenue S.

The distance between streets is approximately 500 feet. The greater the distance between pedestrian crossings, the more likely it is that people will find a shorter route across the tracks. Therefore it would be desirable to provide crossings that are no more than one block out of their way. This could be accomplished by leaving either 57th Street or 59th Street open to traffic in one direction. However, the local community is the best source for information on what routes would be best to keep open for pedestrians.

There is no history of crashes involving a pedestrian at any of the crossings.
Figure A2-4: Daily Traffic Data for Woodlawn Quiet Zone
1.5. Recommendations

In the East Birmingham communities of the Woodlawn and Crestwood and the City of Irondale, train noise is a serious problem that affects the community’s quality of life. Rail traffic has increased on these lines to the point that freight and passenger rail traffic through Irondale, Woodlawn and Crestwood exceeds 60 trains a day and is projected to nearly double during the next 35 years. This segment of track is one of the busiest in the Southeastern United States. As a result of eight rail crossings and the large number of trains, train horn noise is a major intrusion into the lives of residents. Tracks surround the Harris Homes public housing community on Brussels Avenue and some of the units in Harris Homes, as well as the single family homes along 5th Ave S. are located less than 150 feet away from the rail line. The train horn noise makes the adjacent neighborhoods less desirable places to live and two elementary schools (Oliver Elementary and Irondale Community School) are located near the tracks and train noise is disruptive to learning activities. In addition to the effects on current residents, the train horn noise imposes restrictions on the use of federal funds for redevelopment near the rail/highway crossings. Noise above a certain threshold makes redevelopment of that land ineligible for federal funds. Redevelopment farther from the crossing requires added costs of soundproofing if federal funds are applied.

Although there are clear benefits from establishing the quiet zones, the decision to implement the quiet zone rests with the Cities of Birmingham and Irondale. Funding for the improvements must compete with other resources.

In an attempt to fund the quiet zones, the City of Birmingham included $469,000 which represents the cost of implementing alternative N-3 and S1 in the Birmingham BRT – TIGER 2015 application which totaled $68 million including $33 million TIGER funding. Because the USDOT only awarded $20 million to the project, the City was unable to fund the quiet zones.

WRA recommends that to improve long term safety while establishing the quiet zones, the City of Birmingham should close redundant crossings by implementing alternatives N-1 and S-1. We recognize that this alternative would limit vehicular access between the Woodlawn and Crestwood neighborhoods to the 55th Street underpass and Brussels Avenue. However, the traffic analysis demonstrated that the 56th, 57th, 59th Street crossings and the Antwerp crossing can be closed with minimal traffic impacts. If the City were to agree to close all of these crossings as detailed, there would be a net savings of $25,000 to City of Birmingham and a cost of $38,000 for the City of Irondale. This alternative would also provide a section of track without crossings of approximately 8,000 feet or 1.5 miles between the 50th Street and Brussels Avenue crossings allowing the railroad to change crews and wait for yard access without requiring stopped trains to block the Brussels Street crossings.

In order to establish the quiet zones, the City of Birmingham should consider the following steps:

(1) Share this Quiet Zone Evaluation with the Woodlawn and Crestwood neighborhoods and solicit public comment.

(2) If an alternative other than N-1 or S-1 is chosen, the City should identify available funding in consultation with RPCGB and ALDOT.

(3) Once an alternative is formally decided upon by the City Council, the City should re-engage Norfolk Southern and the Federal Railroad Administration in the quiet zone review process. (Note that WRA as a project expense sent Norfolk Southern a check for $2,500 on two different occasions to initiate the quiet zone review process. However, neither check was cashed by the railroad and the funds were not expensed against the project.)