

August 18, 2022

NOISE ANALYSIS REPORT
FRA-161-15.80
PID 116322



Prepared for:

Ohio Department of Transportation
District 6
400 East William Street
Delaware, OH 43015

Prepared by:

Lawhon & Associates, Inc.
1441 King Avenue
Columbus, Ohio 43212
614-481-8600 (office)



EXECUTIVE SUMMARY

The noise analysis prepared for this project was conducted in accordance with the Code of Federal Regulations (CFR), Title 23, Part 772, and the U.S. Department of Transportation, FHWA, *Highway Traffic Noise Analysis and Abatement Policy and Guidance* (FHWA, 2011). The project was further conducted in accordance with the ODOT noise policy pertaining to *Standard Procedure for Analysis and Abatement of Highway Traffic Noise* (ODOT, 2015) and the changes, clarifications and additions incorporated into ODOT's Highway Traffic Noise Analysis manual dated April 2015. The Existing Year 2025 noise levels and noise levels for the Design Year 2045. Build alternative was modeled using the FHWA Traffic Noise Model (TNM) Version 2.5 (FHWA, 1998).

The FRA-161-15.80 (116322) project is located in Franklin County, Ohio near the city of New Albany. The project location and the study area are shown on Figure 1. The study area includes a section of interstate (I)-270 that extends from the I-270/State Route (SR) 3 interchange to the I-270 interchange at SR 161. From this interchange, the project continues east along SR 161 to a point approximately one mile east of the SR 161 interchange at United States (US) Route 62. The study area also includes the ramps to and from SR 161 at Sunbury Road, Hamilton Road, New Albany Road and Johnstown Road (US 62). Within the study area, SR 161 is a divided, controlled access highway and I-270 is a six-lane facility in the northbound direction. The proposed project involves the addition of one new through travel lane in the eastbound and westbound directions of SR 161. The travel lanes will be added within the existing SR 161 median. In some locations, minor widening (1-3 feet) will occur along the outside shoulder. The widening of northbound I-270, the addition of one travel lane will take place along the outside shoulder.

The study area has been divided into one noise sensitive area (NSA), Wilder School on the east side of I-270, and 15 NSAs along SR 161. All of the NSAs have been modeled for the Existing Year 2025 and Design Year 2045 using certified traffic data provided by ODOT. NSAs with no design year traffic noise impact include NSA 2, NSA 5, NSA 13 and NSA 14. Receivers in NSA 2, the Fairway Lakes Apartments, are situated about 400 feet north of SR 161 with a wide grassy fairway separating the receivers from the roadway. Noise attenuates at a rate that no noise impact occurs. NSA 5 is the Ohio State Outpatient Care New Albany facility. There are no obvious areas for outdoor use in NSA 5 and the interior noise level does not exceed NAC interior level of 52 dBA. NSA 13 is the Wexner Community Park that is situated about 450 feet south of SR 161. The distance from SR 161, dense vegetation and elevation change helps attenuate noise at a rate that no impact occurs at NSA 13. NSA 12 is the New Albany Schools soccer field. The soccer field is shielded from traffic noise by dense vegetation to the west and by a soil berm between the field and SR 161. The features attenuate noise to where there is no impact at NSA 14.

Noise barrier walls were evaluated as a noise abatement measure at all other NSAs that were predicted to experience noise impact as a result of the proposed project. The results of the noise barrier wall evaluations are shown on the following Noise Barrier Evaluation Summary table. Noise barriers that were found to be both a feasible and a reasonable noise abatement measure are highlighted in green. Noise barrier locations shown in the second table, Recommended Noise Barrier Walls, summarizes all of the noise barriers that are recommended for inclusion in the project as noise abatement measures.

Noise Barrier Evaluation Summary

| Barrier | Barrier Length (feet) | Barrier Height (feet) | Square Footage of Barrier | Maximum Insertion Loss ^a (dB) | Impacted Receptors | Benefitted Receptors ^b | Barrier Cost ^c | Cost per benefited receptor | Effectiveness | | Barrier Location ^f | Barrier Recommended ^g |
|-------------------|-----------------------|-----------------------|---------------------------|--|--------------------|-----------------------------------|---------------------------|-----------------------------|-----------------------|-------------------------|-------------------------------|----------------------------------|
| | | | | | | | | | Feasible ^d | Reasonable ^e | | |
| Wilder School | 606 | 11 | 6,666 | 5.4 | 1 | 1 | \$203,273 | \$203,273 | No | No | EOS | No |
| NSA 1 | 1,232 | 16 | 19,712 | 6.9 | 10 | 6 | \$591,560 | \$98,593 | No | No | EOS | No |
| NSA 2 | No Noise Impact | | | | | | | | | | | |
| NSA 3 | 1,304 | 14 | 18,256 | 9.3 | 19 | 21 | \$547,680 | \$28,253 | Yes | Yes | Clear zone and EOS | Yes |
| NSA 4 | 1,078 | 14 | 15,092 | 7.1 | 34 | 28 | \$452,625 | \$16,165 | Yes | Yes | EOS | Yes |
| NSA 5 | No Noise Impact | | | | | | | | | | | |
| NSA 6 | 1,049 | 14 | 14,686 | 6.4 | 12 | 12 | \$440,507 | \$36,708 | Yes | Yes | White Fence Line | Yes |
| NSA 7 | No Noise Impact | | | | | | | | | | | |
| NSA 8 | 2,510 | 14 | 35,140 | 13.1 | 124 | 132 | \$1,054,098 | \$7,985 | Yes | Yes | White Fence Line / ROW | Yes |
| NSA 9 and NSA 10 | 2,890 | 14 | 40,460 | 9.6 | 52 | 84 | \$1,213,647 | \$14,448 | Yes | Yes | White Fence Line and EOS | Yes |
| NSA 11 and NSA 12 | 3,176 | 14 | 44,464 | 12.8 | 107 | 116 | \$1,333,545 | \$11,460 | Yes | Yes | White Fence Line and EOS | Yes |
| NSA 13 | No Noise Impact | | | | | | | | | | | |
| NSA 14 | No Noise Impact | | | | | | | | | | | |
| NSA 15 | 2,090 | 14 | 29,260 | 11.6 | 13 | 21 | \$877,800 | \$41,800 | Yes | Yes | ROW | Yes |

Recommended Noise Barrier Walls

| Barrier | Barrier Length (feet) | Barrier Height (feet) | Square Footage of Barrier | Maximum Insertion Loss ^a (dB) | Impacted Receptors | Benefitted Receptors ^b | Barrier Cost ^c | Cost per benefitted receptor | Effectiveness | | Barrier Location ^f | Barrier Recommended ^g |
|-------------------|-----------------------|-----------------------|---------------------------|--|--------------------|-----------------------------------|---------------------------|------------------------------|-----------------------|-------------------------|-------------------------------|----------------------------------|
| | | | | | | | | | Feasible ^d | Reasonable ^e | | |
| NSA 3 | 1,304 | 14 | 18,256 | 9.3 | 19 | 21 | \$547,680 | \$26,080 | Yes | Yes | Clear zone and EOS | Yes |
| NSA 4 | 1,078 | 14 | 15,092 | 7.1 | 34 | 28 | \$452,625 | \$16,165 | Yes | Yes | EOS | Yes |
| NSA 6 | 1,049 | 14 | 14,686 | 6.4 | 12 | 12 | \$440,507 | \$36,708 | Yes | Yes | White Fence Line | Yes |
| NSA 8 | 2,510 | 14 | 35,140 | 13.1 | 124 | 132 | \$1,054,098 | \$7,985 | Yes | Yes | White Fence Line / ROW | Yes |
| NSA 9 and NSA 10 | 2,890 | 14 | 40,460 | 9.6 | 52 | 84 | \$1,213,647 | \$14,448 | Yes | Yes | White Fence Line and EOS | Yes |
| NSA 11 and NSA 12 | 3,176 | 14 | 44,464 | 12.8 | 107 | 116 | \$1,333,545 | \$11,460 | Yes | Yes | White Fence Line and EOS | Yes |
| NSA 15 | 2,090 | 14 | 29,260 | 11.6 | 13 | 21 | \$877,800 | \$41,800 | Yes | Yes | ROW | Yes |

^a Insertion Loss (IL) is the maximum noise reduction provided by the noise barrier.

^b A receptor is considered benefitted by the noise barrier if the IL is 5dB or greater.

^c Cost is based on \$30 per square foot of noise barrier constructed on ground and \$100 per square foot constructed on bridge structure or on retaining wall.

^d A noise barrier is considered feasible if it can provide a substantial noise reduction of at least 7dB at one receptor location.

^e A noise barrier is considered cost reasonable if the cost per benefitted receptor is less than \$42,000.

^f The location of the noise barrier wall: ROW=noise barrier is located along the right of way line; EOS=noise barrier is located along the edge of shoulder.

^g Noise barrier recommendation is based on the number of benefitted receptors and the relative cost per benefitted receptor.

Noise Analysis Report
FRA-161-15.80
PID 116322

TABLE OF CONTENTS

| <u>SECTION</u> | <u>PAGE</u> |
|---|--------------------|
| 1.0 Introduction | 1 |
| Project Description | 1 |
| Existing Land Use | 1 |
| 2.0 Noise Analysis | 3 |
| Applicability..... | 3 |
| Analysis Objectives | 3 |
| Noise Descriptors..... | 3 |
| Land Use Activity Categories..... | 3 |
| Noise Sensitive Areas | 4 |
| Traffic | 9 |
| Ambient Noise Measurements | 10 |
| Noise Model Validation | 11 |
| 3.0 Noise Modeling | 12 |
| Existing Condition 2025 | 12 |
| Design Year 2045 Build Alternative..... | 12 |
| 4.0 Impact Assessment | 13 |
| Impact Assessment Summary | 13 |
| 5.0 Evaluation of Noise Abatement Measures | 27 |
| Noise Barrier Analysis | 28 |
| 6.0 Construction Noise | 50 |
| 7.0 Conclusion and Recommendation | 51 |
| 8.0 References | 56 |

TABLES

| | |
|---|----|
| Table 1 - Noise Abatement Criteria (NAC)..... | 4 |
| Table 2 – Peak Hour Traffic Volume..... | 9 |
| Table 3 – Ambient Noise Measurements..... | 10 |
| Table 4 – Comparison of Measured and Modeled Noise Levels | 11 |
| Table 5 – Noise Barrier Evaluation Summary | 49 |
| Table 6 –Recommended Noise Barrier Walls | 50 |

APPENDICES

- Appendix A – Traffic Data
- Appendix B –Field Noise measurements
- Appendix C – TNM Input and Output Spreadsheets
- Appendix D – Noise Barrier Design Tables
- Appendix D –Names and Addresses for Public Involvement

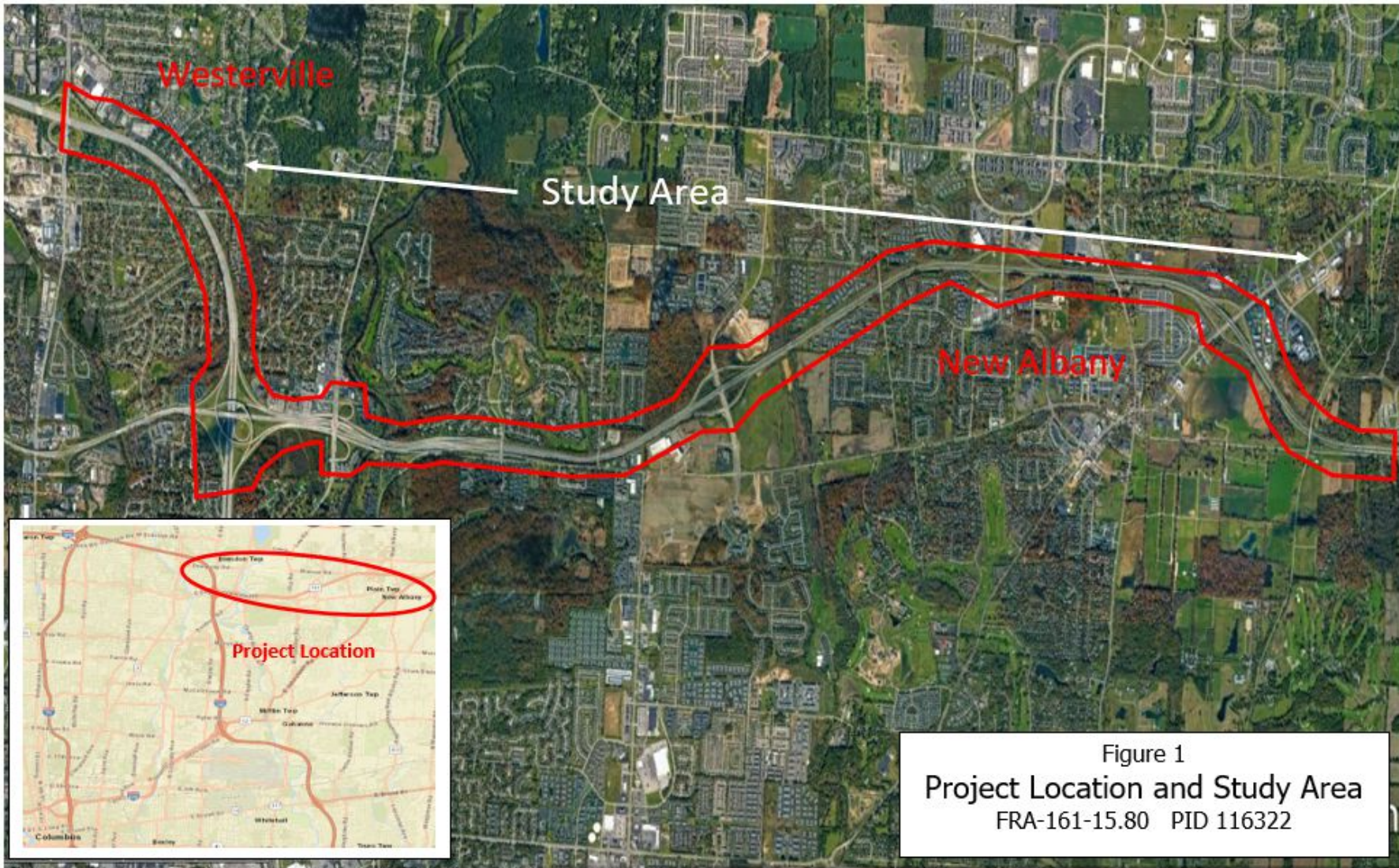
Section 1.0 INTRODUCTION

Project Description

The FRA-161-15.80 (116322) project is located in Franklin County, Ohio near the city of New Albany. The project location and the study area are shown on Figure 1. The study area includes a section of interstate (I)-270 that extends from the I-270/State Route (SR) 3 interchange to the I-270 interchange at SR 161. From this interchange, the project continues east along SR 161 to a point approximately one mile east of the SR 161 interchange at United States (US) Route 62. The study area also includes the ramps to and from SR 161 at Sunbury Road, Hamilton Road, New Albany Road and Johnstown Road (US 62). Within the study area, SR 161 is a divided, controlled access highway and I-270 is a six-lane facility in the northbound direction. The proposed project involves the addition of one new through travel lane in the eastbound and westbound directions of SR 161. The travel lanes will be mostly added within the existing SR 161 median. In some locations, minor widening (1-3 feet) will occur along the outside shoulder. The widening of northbound I-270, the addition of one travel lane will take place along the outside shoulder. A noise analysis was prepared for all noise sensitive receivers located within 500 feet of the existing driving lanes and entrance/exit ramps to/from SR 161.

Existing Land Use

Within the study area, SR 161 passes through predominantly residential land use mostly high-density style condominiums and apartment communities. There are several single-family residential developments and they too are high-density style developments. Commercial development is the predominant land use near the major interchanges along SR 161 including Sunbury Road, Hamilton Road, New Albany Road and Johnstown Road. According to the Franklin County Auditors Office, any large tracts of undeveloped land are owned by park boards or the city of Columbus. The project area is essentially fully developed.



Section 2.0 NOISE ANALYSIS

The noise analysis prepared for this project was conducted in accordance with the Code of Federal Regulations (CFR), Title 23, Part 772, and the U.S. Department of Transportation, FHWA, *Highway Traffic Noise Analysis and Abatement Policy and Guidance* (FHWA, 2011). The project was further conducted in accordance with the ODOT noise policy pertaining to *Standard Procedure for Analysis and Abatement of Highway Traffic Noise* (ODOT, 2015) and the changes, clarifications and additions incorporated into ODOT's Highway Traffic Noise Analysis manual dated April 2015. The Existing Year 2025 noise levels and noise levels for the Design Year 2045. Build alternative was modeled using the FHWA Traffic Noise Model (TNM) Version 2.5 (FHWA, 1998). Specific data and assumptions used in this analysis are described as follows:

Applicability

This noise analysis has been performed in accordance with the policy that applies to Type I projects. A Type I project as described by the ODOT Standard Procedures for Analysis and Abatement of Highway Traffic noise document is a federal aid highway project for the construction of highway on new location or the physical alteration of an existing highway which significantly changes either the horizontal or vertical alignment or increases the number of through traffic lanes (ODOT, 2015). The project involves the addition of one travel lane in each of the eastbound and westbound directions on SR 161 and the addition of a travel lane in the northbound direction on I-270. This project will not modify any of the existing access points along SR 161.

Analysis Objectives

The objectives of this noise analysis include: (1) identification of existing and future noise sensitive areas in the vicinity of the proposed roadway improvement; (2) characterization of the existing noise levels for the Existing Year 2025 environment through computer modeling; (3) prediction of future year noise levels for the Design Year 2045 Build alternative through computer modeling, (4) comparison of existing year noise levels against future, design year noise levels to identify noise impact within the project area; (5) evaluation of reasonable and feasible noise abatement measures for reducing noise levels where noise impacts are identified; and, (6) communication of the results to the public and local officials.

Noise Descriptors

Noise descriptors are used to describe the time varying nature of noise. In this report, noise levels will be described as hourly A weighted equivalent sound level in decibels, or **dBA L_{eq(h)}**. Noise is defined as unwanted sound, which is produced by the vibration of sound pressure waves. Sound pressure levels are used to measure the intensity of sound and are described in terms of decibels (**dB**). Decibels are a logarithmic unit, which expresses the ratio of sound pressure level to a standard reference scale. The decibel scale has a range of 0-120 and is used to show the amount of sound pressure at a given location from the general environment of specific sources. An increase or decrease of 10 dB is perceived as doubling or halving of the sound intensity since the decibel scale is logarithmic. In general, the average person cannot detect an increase or decrease in sound pressure level of less than 3 dB. A change in sound pressure level of 5 dB is readily perceptible by most people.

Sound is composed of various frequencies which are measured in cycles per second or Hertz (Hz). The human ear can detect a wide range of frequencies from 20 to 20,000 Hz, but is most sensitive to sounds over a frequency range of 200 to 5,000 Hz. The human ear does not respond in a uniform manner to different

frequency sounds. A sound pressure level of 70 dB will be perceived as much louder at 1,000 Hz than at 100 Hz. To account for this, various weighting methods have been developed to reflect human sensitivity to noise. The purpose of a weighting method is to de-emphasize the frequency ranges in which the human ear is less sensitive. The most commonly used measure of noise level is the A-weighted sound level (**dBA**). The dBA sound level is widely used for transportation related noise measurements and specifications for community noise ordinances and standards. The dBA has been shown to be highly correlated to human response to noise.

In addition to noise fluctuating in frequency, environmental noise will fluctuate in intensity from moment to moment. Over a period of time there will be quiet moments and peak levels resulting from noisy, identifiable sources (trucks, aircraft, etc.). Because of these fluctuations, it is common practice to average these noise level fluctuations over a specified period of time. The equivalent sound level over a given period of interest, L_{eq} , is widely accepted as a valid measure of community noise. The L_{eq} is equal to the equivalent steady state noise level which, in a stated time period, would contain the same acoustical energy as the time varying noise levels that actually occurred during the same time period. The hourly value of L_{eq} , based upon the peak hour percentage of the annual average daily traffic, is referred to as $L_{eq}(h)$. Surveys have shown that L_{eq} properly predicts annoyance, and this descriptor is commonly used for noise measurement, prediction, and impact assessment.

Noise Sensitive Areas (NSA)

The FHWA has established seven Activity Categories that must be considered for Noise Abatement Criteria (NAC). The Activity Categories are described in Table 1.

| Activity Category | $L_{eq}(h)$ | L10(h) | Description of Activity Category |
|-------------------|---------------|---------------|--|
| A | 57 (Exterior) | 60 (Exterior) | Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. |
| B | 67 | 70 | Residential |
| C | 67 (Exterior) | 70 (Exterior) | Active sports areas, amphitheaters, auditoriums, campgrounds, cemeteries, daycare centers, hospitals, libraries, medical facilities, parks picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreational areas, Section 4(f) sites, television studios, trails and trail crossings. |
| D | 52 (Interior) | 55 (Interior) | Auditoriums, daycare centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recording studios, schools and television studios. |
| E | 72 (Exterior) | 75 (Exterior) | Hotels, motels, offices, restaurant/bars, and other developed lands properties or activities not included in A-D, or F. |
| F | N/A | N/A | Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical) and warehousing. |
| G | N/A | N/A | Undeveloped lands that are not permitted. |

Noise Sensitive Areas

Noise sensitive areas (NSA) are areas of similar land use that would be sensitive to an increase in noise levels. The study area has been divided into one noise sensitive area, Wilder School on the east side of I-270, and 16 NSAs along the SR 161 corridor. All of the NSAs have been modeled for the Existing Year 2025 and Design Year 2045 using certified traffic data provided by ODOT. The NSAs for this project are described below and are shown in Figure 2.

East side of I-270 - Wilder School

A new travel lane is proposed for construction on the northbound section of I-270 between the existing I-270/SR 161 interchange and the I-270/SR 3 interchange. Wilder School is located on the east side of I-270 about ½ mile north of the I-270/SR 161 interchange. Noise barrier walls line almost the entire length of I-270 on both the northbound and southbound sides of I-270 in this area. There is a gap of about 520 feet in the noise wall on the east side of I-270. Wilder School is located just east of this opening in the noise barrier wall and the school is not shielded from traffic noise on I-270. The analysis will evaluate closing this gap with new noise barrier and determine if Wilder School would be benefited by a new noise barrier.

NSA 1

NSA 1 is located on the south side of SR 161 just east of the SR 161 eastbound loop ramp exiting traffic to Sunbury Road. To the east of NSA 1 is Big Walnut Creek where elevation drops steeply into the drainage way.

NSA 1 is comprised of the Reserve at Walnut Creek, an apartment community consisting of about 40 residential dwelling units. The entire apartment community is situated approximately 20 feet higher than SR 161 and most of the exit ramp to Sunbury Road. Receivers in NSA 1 are all Activity Category B having an FHWA noise abatement criterion (NCA) of 67 dBA.

NSA 2

NSA 2 is located on the north side of SR 161 just west of the Ulry Road overpass of SR 161. NSA 2 is a residential community called the Fairway Lakes Apartments and is comprised of about 42 residential dwelling units situated within 500 feet of SR 161. The apartment buildings in NSA 2 are separated from traffic on SR 161 by a golf fairway of about 350 feet in width. The receivers in NSA 2 are situated at an elevation of about 20 feet higher than SR 161. Receivers in NSA 2 are all Activity Category B having an FHWA noise abatement criterion (NCA) of 67 dBA.

NSA 3

NSA 3 is located on the north side of SR 161 just east of Ulry Road overpass of SR 161. NSA 3 is a residential community known as Preston Commons and is comprised of about 28 single-family residential dwelling units located within 500 feet of SR 161. Receivers in NSA 3 are all situated at a similar elevation as SR 161 and are all Activity Category B having an FHWA noise abatement criterion (NCA) of 67 dBA.

NSA 4

NSA 4 is located in the northeast quadrant of the SR 161/Hamilton Road interchange. NSA 4 is an apartment community called HQ Flats Apartments. Eight three-story apartment structures are located within 500 feet of US 161 having about 46 individual dwelling units on the ground floor. Receivers in NSA 4 are situated at a similar elevation to SR 161 and all are Activity Category B having an FHWA noise abatement criterion (NCA) of 67 dBA.

NSA 5

NSA 5 is located in the southeast quadrant of SR 161/Hamilton Road interchange. NSA 5 is comprised of the Ohio State Outpatient Care New Albany facility. The NSA was still under construction at the time of the analysis however a completed structure closest to SR 161 was analyzed for potential noise impact. The care facility in NSA 5 is considered an Activity Category D having an FHWA noise abatement criterion (NCA) of 52 dBA (interior).

NSA 6

NSA 6 is located on the north side of SR 161 situated about mid-point between the Hamilton Road interchange and the Harlem Road overpass of SR 161. NSA 6 is known as the Rocky Fork Condominiums. About eight of the condominium buildings lie within 500 feet of SR 161. Each building is comprised of four dwelling units. The 32 dwelling units in NSA 6 are all Activity Category B having an FHWA noise abatement criterion (NCA) of 67 dBA.

NSA 7

NSA 7 is located on the north side of SR 161 just west of the Harlem Road overpass of SR 161. NSA 7 is called the Albany Commons Apartments. About 12 of the apartment buildings are located within 500 feet of SR 161. Each building is comprised of eight dwelling units. The 96 dwelling units are all Activity Category B having an FHWA noise abatement criterion (NCA) of 67 dBA.

NSA 8

NSA 8 is located on the south side of SR 161 just west of the Harlem Road overpass of SR 161. NSA 8 is a residential development known as the Albany Woods Apartments. About 20 of the apartment buildings lie within 500 feet of SR 161. Each building is comprised of eight dwelling units. The 160 dwelling units are all Activity Category B having an FHWA noise abatement criterion (NCA) of 67 dBA.

NSA 9

NSA 9 is located on the north side of SR 161 just east of the Harlem Road overpass of SR 161. NSA 9 is a residential community called the Rocky Ridge Condominiums. About 10 of the condominium buildings lie within 500 feet of SR 161. Each building is comprised of four dwelling units. There is also one single-family dwelling unit having driveway access via Harlem Road. The 40 condominium dwelling units and the one single-family residence on Harlem Road are all Activity Category B having an FHWA noise abatement criterion (NCA) of 67 dBA.

NSA 10

NSA 10 is located on the north side of SR 161 just east of the Rocky Ridge Condominiums. NSA 10 is comprised of both multi-family apartment buildings and single-family residential structures. Four of the apartment buildings having 36 individual dwelling units on the ground floor are located within 500 of SR 161. The single-family structures are in the Woods at Sugar Run condominium development and 12 of the buildings are located within 500 feet of SR 161. The 36 apartment dwelling units and the 12 single-family dwelling units are all Activity Category B having an FHWA noise abatement criterion (NCA) of 67 dBA.

NSA 11

NSA 11 is located on the south side of SR 161 just east of Harlem Road. NSA 11 is comprised of single-family residential structures located on the east side of Harlem Road and at the north end of Hanover Close,

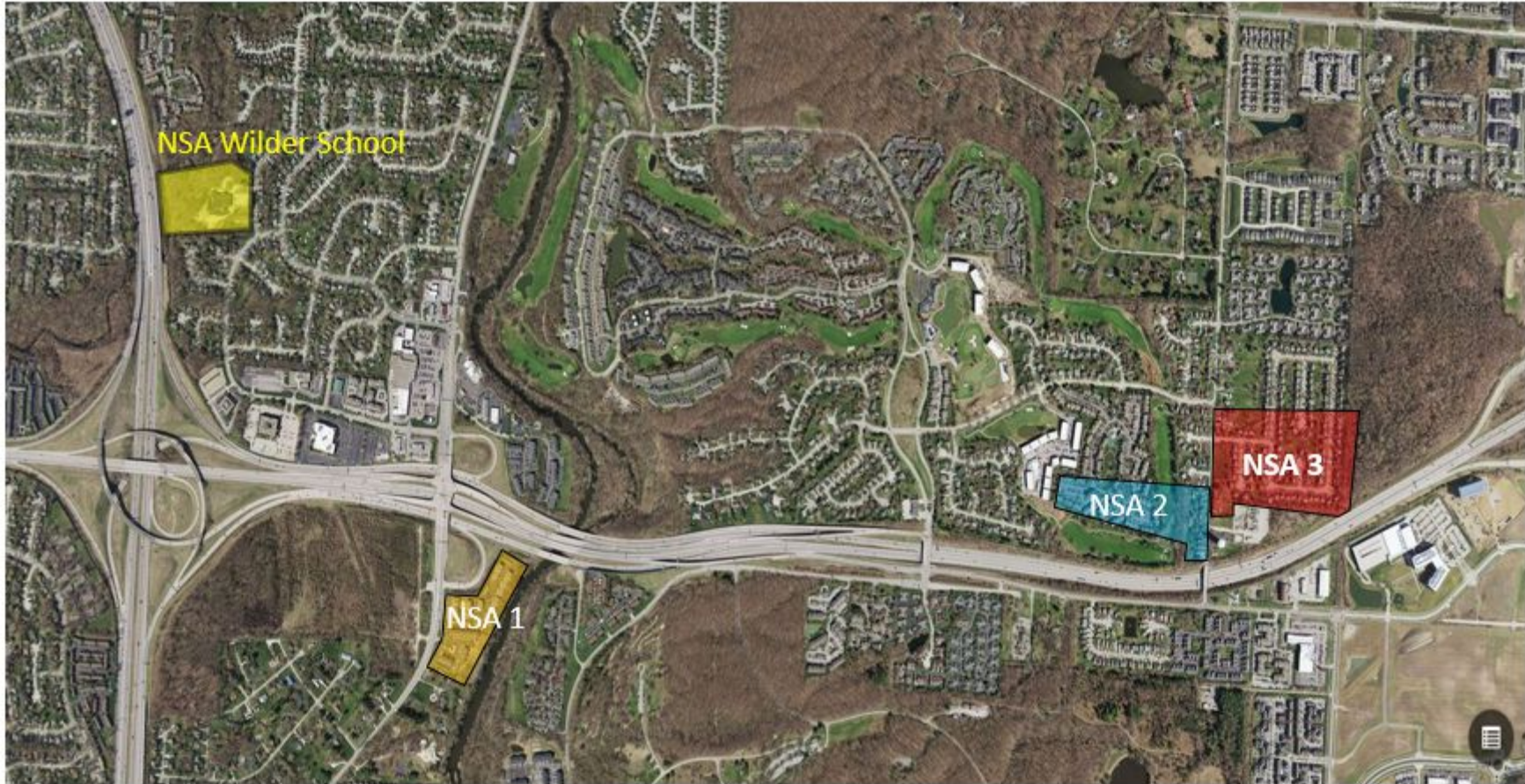


Figure 2a
Noise Sensitive Areas (NSA)
FRA-161-15.80 PID 116322



Figure 2b
Noise Sensitive Areas (NSA)
FRA-161-15.80 PID 116322

Settlement Drive and Connaught Drive. The 51 single-family dwelling units are all Activity Category B having an FHWA noise abatement criterion (NCA) of 67 dBA.

NSA 12

NSA 12 is located on the south side of SR 161 just west of the commercial development off of New Albany Road. NSA 12 is an apartment complex with buildings on Turnbridge Drive and Sulgrave Drive. Twelve of the apartment buildings, each having six dwelling units are located within 500 feet of SR 161. The 72 single-family dwelling units are all Activity Category B having an FHWA noise abatement criterion (NCA) of 67 dBA.

NSA 13

NSA 13 is located on the south side of SR 161 about 1,200 feet east of New Albany Road. NSA 13 is comprised of the Wexner Community Park and also includes the Plain Township Aquatic Center. NSA 13 falls under Activity Category C having an FHWA noise abatement criterion (NCA) of 67 dBA (exterior).

NSA 14

NSA 14 is located on the south side of SR 161 west of New Albany Condit Road. NSA 14 is comprised of the New Albany School Soccer field and also includes three single-family residential structures on the west side of New Albany Condit Road. The soccer field falls under Activity Category C having an FHWA noise abatement criterion (NCA) of 67 dBA (exterior) and the dwelling units are all Activity Category B having an FHWA noise abatement criterion (NCA) of 67 dBA.

NSA 15

NSA 15 is located on the south side of SR 161 just east of New Albany Condit Road. NSA 15 is comprised of single-family residential dwelling units south of Butterworth Green Drive. Sixty-three of the dwelling units are located within 500 feet of SR 161. The 63 single-family dwelling units are all Activity Category B having an FHWA noise abatement criterion (NCA) of 67 dBA.

NSA 16

NSA 16 is located on the south side of SR 161 just west of the SR 161 eastbound exit ramp to US 62 / Johnstown Road. NSA 16 is comprised of the Marburn Academy, an independent day school. The academy has soil berms created around the northern and eastern edges of the property that were likely constructed in an effort to reduce traffic noise levels. The academy is considered an Activity Category C having an outdoor FHWA noise abatement criterion (NCA) of 67 dBA.

Traffic

Traffic volumes used in this noise analysis were provided by the ODOT Office of Statewide Planning & Research Modeling and Forecasting Section. The traffic data includes average daily traffic volumes for the Existing Year 2025 and Design Year 2045. The ODOT Traffic Monitoring Management System (TMMS) was used for the K-value to calculate peak hour traffic volume and to determine the percentage of trucks. Three (3) vehicle types were used in the noise model, automobiles, heavy trucks and medium trucks. The truck traffic volume was further broken down to 70% heavy truck and 30% medium truck traffic. The same percentages were used in the existing year and design year noise models. Traffic data used in the analysis are shown in the following table and provided in Appendix A.

| Roadway Section | Direction | Existing Year 2025 | Design Year 2045 | % Trucks Existing Year | % Trucks Design Year |
|--|--------------|--------------------|------------------|------------------------|----------------------|
| I-270 North of the SR 161 interchange | NB Peak Hour | 8,116 | 9,276 | 8 | 8 |
| | SB Peak Hour | 7,486 | 8,506 | 8 | 8 |
| SR 161 east of the I-270 Interchange | EB Peak Hour | 1,180 | 1,800 | 3 | 3 |
| | WB Peak Hour | 1,784 | 2,221 | 3 | 3 |
| SR 161 east of Sunbury Road | EB Peak Hour | 4,491 | 5,524 | 5 | 5 |
| | WB Peak Hour | 5,127 | 5,814 | 5 | 5 |
| SR 161 east of Hamilton Road | EB Peak Hour | 4,887 | 5,564 | 8 | 8 |
| | WB Peak Hour | 4,868 | 5,247 | 8 | 8 |
| SR 161 east of New Albany Road | EB Peak Hour | 3,296 | 3,652 | 8 | 8 |
| | WB Peak Hour | 3,704 | 4,142 | 8 | 8 |

Ambient Noise Measurements and Noise Model Validation

A field visit was conducted in the project area on May 9, 2022 and May 13, 2022 to measure the existing noise environment at representative locations. Noise measurements were performed in accordance with the FHWA Report Number FHWA-PD-96-046, *Measurement of Highway Related Noise* (May, 1996). Measurements were taken at representative receptor sites for 15-minute intervals. The noise meter was tripod mounted with the microphone at a distance of approximately 4.9 feet above ground level and angled toward the dominate noise source. A foam windscreen was used for all noise measurements. Noise measurements were recorded with a Quest 2900 Type 2 Data Logging SLM. Ambient noise levels recorded at representative receptor sites are listed in the following table and also provided with much detail in Appendix B.

| Location | Location Description | Measured Noise Level Leq |
|-------------|--|--------------------------|
| Location 1 | NSA 1 – Near the outdoor pool at the Reserve at Walnut Creek | 56.3 |
| Location 2 | NSA 2 – north side of fairway at Fairway Lake Apartments | 61.1 |
| Location 3 | NSA 3 – Back yard of home at 5394 Bullfinch Drive | 70.4 |
| Location 4 | NSA 4 – Near the pool at HQ Flats Apartments | 67.6 |
| Location 5 | NSA 4 – HQ Flats Apartments corner of Walton Breck Way | 71.2 |
| Location 6 | NSA 6 – Side yard at 6477 Peppermill Drive | 67.7 |
| Location 7 | NSA 7 – Back sidewalk at 5621 Warner Park Drive | 62.4 |
| Location 8 | NSA 8 - Back lawn at 6706 Albany Woods Blvd. | 66.6 |
| Location 9 | NSA 9 – Back yard at 5693 Ridge Rock Drive | 67.6 |
| Location 10 | NSA 10 – Side lawn area at 5352 Santorini Drive | 65.7 |
| Location 11 | NSA 11 – Back yard at 5281 Settlement Drive | 69.8 |
| Location 12 | NSA 12 – Back yard area at 7258 Tunbridge Drive | 65.2 |
| Location 13 | NSA 13 – Wexner Park north of swimming pool | 61.2 |
| Location 14 | NSA 14 – New Albany School Soccer Field | 59.9 |
| Location 15 | NSA 15 – Northeast corner of house at 5117 Hearthstone Park Dr | 67.9 |

The noise meter continuously measures and records the ambient noise level and integrates these values into a L_{eq} for the duration of the reading.

Noise Model Validation

During each of the ambient noise measurement periods described previously, simultaneous data including traffic volume, speed, and vehicle composition were collected. During most of the measurement periods, traffic could be observed on both sides SR 161. These traffic volumes were input into TNM V2.5 to validate the measured noise level with the modeled noise level at each representative site. The following table presents the TNM predicted noise levels based on the observed traffic data. The table also presents a comparison of the measured levels to the modeled levels at each representative receptor site.

| Number | Measured Noise Level (L_{eq} in dBA) | Modeled Noise Level (L_{eq} in dBA) | Comparison of Modeled Level to Measured Level (dB) |
|-------------|--|---|---|
| Location 1 | 56.3 | 61.0 | +4.3 |
| Location 2 | 61.1 | 56.5 | -4.6 |
| Location 3 | 70.4 | 71.7 | +1.3 |
| Location 4 | 67.6 | 67.9 | +0.3 |
| Location 5 | 71.2 | 72.6 | +1.4 |
| Location 6 | 67.7 | 68.8 | +1.1 |
| Location 7 | 62.4 | 62.8 | +0.4 |
| Location 8 | 66.6 | 67.7 | +1.1 |
| Location 9 | 67.6 | 69.7 | +2.1 |
| Location 10 | 65.7 | 64.4 | -1.3 |
| Location 11 | 69.8 | 71.4 | +1.6 |
| Location 12 | 65.2 | 67.9 | +2.7 |
| Location 13 | 61.2 | 63.1 | +1.9 |
| Location 14 | 59.9 | 59.1 | -0.8 |
| Location 15 | 67.9 | 68.7 | +0.8 |

As shown by the comparison, TNM's ability to accurately predict traffic noise levels was confirmed. All of the ambient measurement sites are within ± 3 dB of the TNM predicted noise levels except for locations 1 and 2. In some locations, field measured noise levels will be higher than the modeled noise levels at the same receptor point because the modeled noise level is based solely on noise levels from traffic. It does not take into account ambient noise such as birds, light gusts of wind and other non-traffic noise sources. The TNM Sound Level Results as well as mapping indicating the location of field measurement sites are provided in Appendix B.

Section 3.0 NOISE MODELING

Existing Condition 2025

The most dominant noise source within the project area is traffic noise generated by traffic on ISR 161. The FHWA Transportation Noise Model (TNM) Version 2.5 was used to determine the existing noise levels at sensitive receptor sites. Traffic noise levels for Existing Year 2025 condition were predicted for the peak hour condition using 2025 traffic volume and the existing roadway configuration.

Design Year 2045 Build

The Build Alternative is described as construction of the project as proposed under the build condition. TNM was used to predict future year noise levels for the peak hour build condition 2045 as if the project were constructed as in the project description. Noise levels for the build alternative were predicted for the peak hour using the proposed roadway alignment and projected Design Year 2045 traffic volumes.

Section 4.0

IMPACT ASSESSMENT

To evaluate the significance of the changes in the predicted noise levels, the FHWA has established NAC, as shown in Table 1, for various categories of land use and represents the upper limits of acceptable traffic generated noise emissions. According to FHWA guidance, a project may have a traffic noise impact if either or both of the following conditions exist under the design year conditions:

- The predicted noise levels associated with the Build Alternative approach, meet, or exceed the applicable NAC. According to ODOT, noise levels "approach" the NAC when they are within 1 dB of the applicable NAC.
- A substantial increase occurs in predicted noise levels between the future year Build Alternative and the existing year noise level, even though the applicable NAC may not be approached or exceeded. A substantial increase is considered to be a 10 dB or greater increase, representing a doubling or more of the perceived existing noise level.

The sensitive noise receptor sites modeled in this analysis fall under the NAC Activity Category B having an applicable outdoor NAC of 67 dBA [$L_{eq(h)}$], Activity Category C (outdoor) having an applicable NAC of 67 dBA [$L_{eq(h)}$] and Activity Category C having an applicable interior NAC of 52 dBA [$L_{eq(h)}$]. As an example, under Activity Category B, a predicted noise level of 66 dBA would approach the NAC and would be considered a noise impact.

Impact Assessment Summary

The peak traffic hour was used to represent the worst-case traffic condition and is used for impact assessment for all of the NSAs in this analysis. The TNM-generated peak hour noise levels for the existing condition provides a baseline for a comparison to TNM-generated peak hour noise levels for the design year build condition to determine the predicted increase in noise level and the extent of noise impact, if any. The impact assessment for each of the 15 NSAs is described as follows:

NSA 1

A total of ten noise sensitive receiver sites representing 38 individual residential dwelling units and the apartment community pool were analyzed for potential noise impact. As shown in the following table, the predicted Existing Year 2025 noise levels range between 61 and 70dBA. The predicted Design Year 2045 noise levels range from 63 to 72 dBA. The highest increase in noise level from the existing year to the design year condition was predicted to be 1.9 dB at receptor sites NSA1-1 and NSA1-2. Therefore, none of the receptor sites are predicted to experience a substantial increase (>10dB increase) in noise level under the design year condition. **Three receiver sites representing 14 residential dwelling units in NSA 1 were predicted to experience traffic noise levels that would exceed the Activity Category B NAC under the design year 2045 build alternative.** Due to the predicted design year noise impact, noise abatement measures were considered for all receptor sites in NSA 1. TNM output data sheets for the Existing Year 2025 and the Design Year 2045 model runs are provided in Appendix C. The existing year and design year noise levels for all receptors in NSA 1 are summarized in the following table:

| NSA 1 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|--------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dBA | dBA | dB | | dB | dBA | |
| NSA1-1 | 6 | 70.1 | 72.0 | 1.9 | B | 10 | 66 | Yes |
| NSA1-2 | 4 | 67.7 | 69.6 | 1.9 | B | 10 | 66 | Yes |
| NSA1-3 | 4 | 64.0 | 65.6 | 1.6 | B | 10 | 66 | Yes |
| NSA1-4 | 4 | 62.5 | 64.0 | 1.5 | B | 10 | 66 | No |
| NSA1-5 | 4 | 61.1 | 62.6 | 1.5 | B | 10 | 66 | No |
| NSA1-6 | 4 | 62.7 | 64.4 | 1.7 | B | 10 | 66 | No |
| NSA1-7 | 4 | 63.6 | 65.4 | 1.8 | B | 10 | 66 | No |
| NSA1-8 | 4 | 63.3 | 65.1 | 1.8 | B | 10 | 66 | No |
| NSA1-9 | 1 | 63.0 | 64.6 | 1.6 | B | 10 | 66 | No |
| NSA1-10 | 4 | 61.0 | 62.5 | 1.5 | B | 10 | 66 | No |
| | 39 | | | | | | Impacted Receivers | 14 |

NSA 2

A total of 12 noise sensitive receiver sites representing 42 individual residential dwelling units were analyzed for potential noise impact. As shown in the following table, the predicted Existing Year 2025 noise levels range between 56 and 62 dBA. The predicted Design Year 2045 noise levels range from 55 to 63 dBA. The highest increase in noise level from the existing year to the design year condition was predicted to be 1.8 dB at receptor site NSA2-11. None of the receptor sites are predicted to experience a substantial increase (>10dB increase) in noise level under the design year condition. **None of the 42 residential dwelling units in NSA 2 were predicted to experience traffic noise levels that would exceed the Activity Category B NAC under the design year 2045 build alternative.** Having no design year noise impacts, noise abatement measures were not considered for the receivers in NSA 2. TNM output data sheets for the Existing Year 2025 and the Design Year 2045 model runs are provided in Appendix C. The existing year and design year noise levels for all receptors in NSA 2 are summarized in the following table:

| NSA 2 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|--------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dBA | dBA | dB | | dB | dBA | |
| NSA2-1 | 6 | 56.2 | 56.9 | 0.7 | B | 10 | 66 | No |
| NSA2-2 | 6 | 55.9 | 56.6 | 0.7 | B | 10 | 66 | No |
| NSA2-3 | 6 | 55.7 | 56.3 | 0.6 | B | 10 | 66 | No |
| NSA2-4 | 6 | 56.1 | 56.7 | 0.6 | B | 10 | 66 | No |
| NSA2-5 | 6 | 54.5 | 55.1 | 0.6 | B | 10 | 66 | No |

| NSA 2 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|--------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dBA | dBA | dB | | dB | dBA | |
| NSA2-6 | 6 | 54.1 | 54.9 | 0.8 | B | 10 | 66 | No |
| NSA2-7 | 1 | 54.2 | 54.8 | 0.6 | B | 10 | 66 | No |
| NSA2-8 | 1 | 61.6 | 62.7 | 1.1 | B | 10 | 66 | No |
| NSA2-9 | 1 | 62.0 | 63.5 | 1.5 | B | 10 | 66 | No |
| NSA2-10 | 1 | 60.7 | 62.4 | 1.7 | B | 10 | 66 | No |
| NSA2-11 | 1 | 60.2 | 62.0 | 1.8 | B | 10 | 66 | No |
| NSA2-12 | 1 | 59.8 | 61.5 | 1.7 | B | 10 | 66 | No |
| | 42 | | | | | | Impacted Receivers | 0 |

NSA 3

A total of 25 noise sensitive receiver sites representing 28 individual residential dwelling units were analyzed for potential noise impact. As shown in the following table, the predicted Existing Year 2025 noise levels range between 56 and 74 dBA. The predicted Design Year 2045 noise levels range from 60 to 75 dBA. The highest increase in noise level from the existing year to the design year condition was predicted to be 3.7 dB at receptor site NSA3-24. **Sixteen receiver sites representing 19 residential dwelling units in NSA 3 were predicted to experience traffic noise levels that would exceed the Activity Category B NAC under the design year 2045 build alternative.** Due to the predicted design year noise impacts, noise abatement measures were considered for all receptor sites in NSA 3. TNM output data sheets for the Existing Year 2025 and the Design Year 2045 model runs are provided in Appendix C. The existing year and design year noise levels for all receptors in NSA 3 are summarized in the following table:

| NSA 3 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|--------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dBA | dBA | dB | | dB | dBA | |
| NSA3-1 | 1 | 74.2 | 75.5 | 1.3 | B | 10 | 66 | Yes |
| NSA3-2 | 1 | 74.0 | 75.3 | 1.3 | B | 10 | 66 | Yes |
| NSA3-3 | 1 | 73.0 | 74.3 | 1.3 | B | 10 | 66 | Yes |
| NSA3-4 | 2 | 70.7 | 72.3 | 1.6 | B | 10 | 66 | Yes |
| NSA3-5 | 1 | 69.3 | 71.1 | 1.8 | B | 10 | 66 | Yes |
| NSA3-6 | 2 | 67.3 | 69.4 | 2.1 | B | 10 | 66 | Yes |
| NSA3-7 | 2 | 64.8 | 67.1 | 2.3 | B | 10 | 66 | Yes |
| NSA3-8 | 1 | 64.6 | 66.5 | 1.9 | B | 10 | 66 | Yes |
| NSA3-9 | 1 | 64.1 | 66.1 | 2.0 | B | 10 | 66 | Yes |
| NSA3-10 | 1 | 61.4 | 63.7 | 2.3 | B | 10 | 66 | No |
| NSA3-11 | 1 | 60.3 | 62.6 | 2.3 | B | 10 | 66 | No |
| NSA3-12 | 1 | 58.1 | 60.9 | 2.8 | B | 10 | 66 | No |
| NSA3-13 | 1 | 59.1 | 61.1 | 2.0 | B | 10 | 66 | No |

| NSA 3 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|------------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dBA | dBA | dB | | dB | dBA | |
| NSA3-14 | 1 | 57.8 | 60.3 | 2.5 | B | 10 | 66 | No |
| NSA3-15 | 1 | 71.4 | 73.0 | 1.6 | B | 10 | 66 | Yes |
| NSA3-16 | 1 | 58.8 | 61.1 | 3.1 | B | 10 | 66 | No |
| NSA3-17 | 1 | 58.8 | 61.5 | 2.7 | B | 10 | 66 | No |
| NSA3-18 | 1 | 56.4 | 59.6 | 3.2 | B | 10 | 66 | No |
| NSA3-19 | 1 | 69.2 | 71.5 | 2.3 | B | 10 | 66 | Yes |
| NSA3-20 | 1 | 64.5 | 67.3 | 2.8 | B | 10 | 66 | Yes |
| NSA3-21 | 1 | 64.3 | 67.0 | 2.7 | B | 10 | 66 | Yes |
| NSA3-22 | 1 | 61.6 | 64.6 | 3.0 | B | 10 | 66 | No |
| NSA3-23 | 1 | 67.2 | 70.2 | 3.0 | B | 10 | 66 | Yes |
| NSA3-24 | 1 | 65.4 | 69.1 | 3.7 | B | 10 | 66 | Yes |
| NSA3-25 | 1 | 63.8 | 66.9 | 3.1 | B | 10 | 66 | Yes |
| | 28 | | | | | | Impacted Receivers | 19 |

NSA 4

A total of nine noise sensitive receiver sites representing 46 individual residential dwelling units and the apartment community pool were analyzed for potential noise impact. As shown in the following table, the predicted Existing Year 2025 noise levels range between 62 and 67 dBA. The predicted Design Year 2045 noise levels range from 63 to 67 dBA. The highest increase in noise level from the existing year to the design year condition was predicted to be 1.3 dB at receptor site NSA4-7. None of the receptor sites are predicted to experience a substantial increase (>10dB increase) in noise level under the design year condition. **Six receiver sites representing 29 residential dwelling units in NSA 4 were predicted to experience traffic noise levels that would exceed the Activity Category B NAC under the design year 2045 build alternative.** Due to the predicted design year noise impacts, noise abatement measures were considered for all receptor sites in NSA 4. TNM output data sheets for the Existing Year 2025 and the Design Year 2045 model runs are provided in Appendix C. The existing year and design year noise levels for all receptors in NSA 4 are summarized in the following table:

| NSA 4 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|------------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dBA | dBA | dB | | dB | dBA | |
| NSA4-1 | 6 | 66.9 | 67.1 | 0.2 | B | 10 | 66 | Yes |
| NSA4-2 | 6 | 68.2 | 67.7 | 0.5 | B | 10 | 66 | Yes |
| NSA4-3 | 4 | 67.2 | 66.9 | 0.3 | B | 10 | 66 | Yes |
| NSA4-4 | 6 | 68.0 | 68.1 | 0.1 | B | 10 | 66 | Yes |
| NSA4-5 | 6 | 64.9 | 66.6 | 1.7 | B | 10 | 66 | Yes |

| NSA 4 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|--------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dBA | dBA | dB | | dB | dBA | |
| NSA4-6 | 6 | 65.8 | 65.3 | 0.5 | B | 10 | 66 | Yes |
| NSA4-7 | 1 | 64.6 | 65.9 | 1.3 | B | 10 | 66 | Yes |
| NSA4-8 | 6 | 62.9 | 63.4 | 0.5 | B | 10 | 66 | Yes |
| NSA4-9 | 6 | 61.5 | 62.8 | 1.3 | B | 10 | 66 | No |
| | 47 | Impacted Receivers | | | | | | 29 |

NSA 5

One noise sensitive receiver site representing the Ohio State Outpatient Care New Albany facility was analyzed for potential noise impact. The care facility is currently under construction and it was determined that the prediction of an interior noise level to determine potential noise impact was most appropriate for the facility at this time. The facility is considered an Activity Category D having an FHWA noise abatement criterion (NAC) of 52 dBA (interior). A design year noise level of 64.1 dBA was predicted for the facility. According to the FHWA Building Noise Reduction Factors, a masonry building with closed windows would provide a minimum interior noise reduction of 25 dB. A 64.1 dB exterior noise level would be reduced to 39.1 dB interior. **There would be no exceedance of the NAC** and consideration of noise abatement is not necessary for NSA 5.

NSA 6

A total of 15 noise sensitive receiver sites representing 29 individual residential dwelling units were analyzed for potential noise impact. As shown in the following table, the predicted Existing Year 2025 noise levels range between 58 and 69 dBA. The predicted Design Year 2045 noise levels range from 60 to 71 dBA. The highest increase in noise level from the existing year to the design year condition was predicted to be 2.4 dB at receptor sites NSA6-1 and NSA 6-7. None of the receptor sites are predicted to experience a substantial increase (>10dB increase) in noise level under the design year condition. **Seven receiver sites representing 14 residential dwelling units in NSA 6 were predicted to experience traffic noise levels that would exceed the Activity Category B NAC under the design year 2045 build alternative.** Due to the predicted design year noise impacts, noise abatement measures were considered for all receptor sites in NSA 6. TNM output data sheets for the Existing Year 2025 and the Design Year 2045 model runs are provided in Appendix C. The existing year and design year noise levels for all receptors in NSA 6 are summarized in the following table:

| NSA 6 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|--------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dBA | dBA | dB | | dB | dBA | |
| NSA6-1 | 2 | 68.8 | 71.3 | 2.5 | B | 10 | 66 | Yes |
| NSA6-2 | 2 | 64.1 | 66.4 | 2.3 | B | 10 | 66 | Yes |
| NSA6-3 | 2 | 64.3 | 66.7 | 2.4 | B | 10 | 66 | Yes |

| NSA 6 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|--------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dB | dB | dB | | dB | dB | |
| NSA6-4 | 2 | 61.3 | 63.5 | 2.2 | B | 10 | 66 | No |
| NSA6-5 | 2 | 67.8 | 70.2 | 2.4 | B | 10 | 66 | Yes |
| NSA6-6 | 2 | 63.5 | 65.7 | 2.2 | B | 10 | 66 | Yes |
| NSA6-7 | 2 | 65.5 | 67.9 | 2.4 | B | 10 | 66 | Yes |
| NSA6-8 | 2 | 60.9 | 62.8 | 1.9 | B | 10 | 66 | No |
| NSA6-9 | 2 | 63.9 | 66.2 | 2.3 | B | 10 | 66 | Yes |
| NSA6-10 | 2 | 60.3 | 62.1 | 1.8 | B | 10 | 66 | No |
| NSA6-11 | 2 | 61.6 | 64.1 | 2.5 | B | 10 | 66 | No |
| NSA6-12 | 2 | 62.4 | 64.7 | 2.3 | B | 10 | 66 | No |
| NSA6-13 | 2 | 61.4 | 63.3 | 1.9 | B | 10 | 66 | No |
| NSA6-14 | 2 | 58.3 | 60.0 | 1.7 | B | 10 | 66 | No |
| NSA6-15 | 1 | 58.5 | 60.5 | 2.0 | B | 10 | 66 | No |
| | 29 | | | | | | Impacted Receivers | 14 |

NSA 7

A total of 13 noise sensitive receiver sites representing 97 individual residential dwelling units were analyzed for potential noise impact. As shown in the following table, the predicted Existing Year 2025 noise levels range between 58 and 63 dBA. The predicted Design Year 2045 noise levels range from 59 to 64 dBA. The highest increase in noise level from the existing year to the design year condition was predicted to be 1.5 dB at receptor sites NSA7-13. None of the receptor sites are predicted to experience a substantial increase (>10dB increase) in noise level under the design year condition. **None of the 97 residential dwelling units in NSA 7 were predicted to experience traffic noise levels that would exceed the Activity Category B NAC under the design year 2045 build alternative.** Having no design year noise impacts, noise abatement measures were not considered for the receivers in NSA 7. TNM output data sheets for the Existing Year 2025 and the Design Year 2045 model runs are provided in Appendix C. The existing year and design year noise levels for all receptors in NSA 7 are summarized in the following table:

| NSA 7 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|--------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dB | dB | dB | | dB | dB | |
| NSA7-1 | 8 | 62.1 | 63.5 | 1.4 | B | 10 | 66 | No |
| NSA7-2 | 8 | 60.2 | 61.5 | 1.3 | B | 10 | 66 | No |
| NSA7-3 | 8 | 60.6 | 61.8 | 1.2 | B | 10 | 66 | No |
| NSA7-4 | 8 | 61.0 | 62.3 | 1.3 | B | 10 | 66 | No |
| NSA7-5 | 8 | 61.5 | 61.7 | 0.2 | B | 10 | 66 | No |

| NSA 7 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|--------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dBA | dBA | dB | | dB | dBA | |
| NSA7-6 | 8 | 60.6 | 61.0 | 0.4 | B | 10 | 66 | No |
| NSA7-7 | 8 | 62.8 | 62.6 | 0.2 | B | 10 | 66 | No |
| NSA7-8 | 8 | 61.6 | 62.4 | 0.8 | B | 10 | 66 | No |
| NSA7-9 | 8 | 59.4 | 60.2 | 0.8 | B | 10 | 66 | No |
| NSA7-10 | 8 | 58.6 | 59.3 | 0.7 | B | 10 | 66 | No |
| NSA7-11 | 8 | 58.3 | 58.9 | 0.6 | B | 10 | 66 | No |
| NSA7-12 | 8 | 57.9 | 58.6 | 0.7 | B | 10 | 66 | No |
| NSA7-13 | 1 | 59.8 | 61.3 | 1.5 | B | 10 | 66 | No |
| | 97 | Impacted Receivers | | | | | | 0 |

NSA 8

A total of 20 noise sensitive receiver sites representing 146 individual residential dwelling units were analyzed for potential noise impact. As shown in the following table, the predicted Existing Year 2025 noise levels range between 62 and 76 dBA. The predicted Design Year 2045 noise levels range from 65 to 78 dBA. The highest increase in noise level from the existing year to the design year condition was predicted to be 4.8 dB at receptor site NSA8-11. None of the receptor sites are predicted to experience a substantial increase (>10dB increase) in noise level under the design year condition. **Eighteen receiver sites representing 130 residential dwelling units in NSA 8 were predicted to experience traffic noise levels that would exceed the Activity Category B NAC under the design year 2045 build alternative.** Due to the predicted design year noise impacts, noise abatement measures were considered for all receptor sites in NSA 8. TNM output data sheets for the Existing Year 2025 and the Design Year 2045 model runs are provided in Appendix C. The existing year and design year noise levels for all receptors in NSA 8 are summarized in the following table:

| NSA 8 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|--------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dBA | dBA | dB | | dB | dBA | |
| NSA8-1 | 6 | 74.8 | 75.6 | 0.8 | B | 10 | 66 | Yes |
| NSA8-2 | 6 | 75.3 | 76.2 | 0.9 | B | 10 | 66 | Yes |
| NSA8-3 | 8 | 74.8 | 75.6 | 0.8 | B | 10 | 66 | Yes |
| NSA8-4 | 8 | 70.4 | 71.7 | 1.3 | B | 10 | 66 | Yes |
| NSA8-5 | 8 | 75.9 | 78.4 | 2.5 | B | 10 | 66 | Yes |
| NSA8-6 | 6 | 75.8 | 78.7 | 2.9 | B | 10 | 66 | Yes |
| NSA8-7 | 8 | 74.3 | 77.3 | 3.0 | B | 10 | 66 | Yes |
| NSA8-8 | 6 | 74.2 | 77.5 | 3.3 | B | 10 | 66 | Yes |
| NSA8-9 | 8 | 72.0 | 76.0 | 4.0 | B | 10 | 66 | Yes |

| NSA 8 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|--------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dBA | dBA | dB | | dB | dBA | |
| NSA8-10 | 6 | 74.0 | 77.9 | 3.9 | B | 10 | 66 | Yes |
| NSA8-11 | 8 | 67.2 | 72.0 | 4.8 | B | 10 | 66 | Yes |
| NSA8-12 | 6 | 69.1 | 70.4 | 1.3 | B | 10 | 66 | Yes |
| NSA8-13 | 8 | 65.3 | 67.3 | 2.0 | B | 10 | 66 | Yes |
| NSA8-14 | 8 | 65.5 | 67.5 | 2.0 | B | 10 | 66 | Yes |
| NSA8-15 | 8 | 64.5 | 66.5 | 2.0 | B | 10 | 66 | Yes |
| NSA8-16 | 8 | 62.8 | 65.2 | 2.4 | B | 10 | 66 | No |
| NSA8-17 | 6 | 63.0 | 65.7 | 2.7 | B | 10 | 66 | No |
| NSA8-18 | 8 | 64.4 | 67.9 | 3.5 | B | 10 | 66 | Yes |
| NSA8-19 | 8 | 64.6 | 68.8 | 4.2 | B | 10 | 66 | Yes |
| NSA8-20 | 8 | 62.2 | 65.7 | 3.5 | B | 10 | 66 | Yes |
| | 146 | | | | | | Impacted Receivers | 130 |

NSA 9 and NSA 10

A total of 11 noise sensitive receiver sites representing 41 individual residential dwelling units were analyzed for potential noise impact. As shown in the following table, the predicted Existing Year 2025 noise levels range between 59 and 70 dBA. The predicted Design Year 2045 noise levels range from 61 to 74 dBA. The highest increase in noise level from the existing year to the design year condition was predicted to be 3.9 dB at receptor site NSA9-5. None of the receptor sites are predicted to experience a substantial increase (>10dB increase) in noise level under the design year condition. **Six receiver sites representing 24 residential dwelling units in NSA 9 were predicted to experience traffic noise levels that would exceed the Activity Category B NAC under the design year 2045 build alternative.** Due to the predicted design year noise impacts, noise abatement measures were considered for all receptor sites in NSA9. TNM output data sheets for the Existing Year 2025 and the Design Year 2045 model runs are provided in Appendix C. The existing year and design year noise levels for all receptors in NSA 9 are summarized in the following table:

| NSA 9 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|--------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dBA | dBA | dB | | dB | dBA | |
| NSA9-1 | 1 | 62.4 | 63.4 | 1.0 | B | 10 | 66 | No |
| NSA9-2 | 4 | 62.2 | 63.7 | 1.5 | B | 10 | 66 | No |
| NSA9-3 | 4 | 63.1 | 66.0 | 2.2 | B | 10 | 66 | Yes |
| NSA9-4 | 4 | 65.1 | 68.2 | 3.1 | B | 10 | 66 | Yes |
| NSA9-5 | 4 | 67.1 | 71.0 | 3.9 | B | 10 | 66 | Yes |
| NSA9-6 | 4 | 69.7 | 73.5 | 3.8 | B | 10 | 66 | Yes |
| NSA9-7 | 4 | 58.8 | 60.6 | 1.8 | B | 10 | 66 | No |
| NSA9-8 | 4 | 62.7 | 66.2 | 3.5 | B | 10 | 66 | Yes |

| NSA 9 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|------------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dBA | dBA | dB | | dB | dBA | |
| NSA9-9 | 4 | 65.0 | 68.9 | 3.9 | B | 10 | 66 | Yes |
| NSA9-10 | 4 | 61.1 | 64.3 | 3.2 | B | 10 | 66 | No |
| NSA9-11 | 4 | 62.1 | 65.5 | 3.4 | B | 10 | 66 | No |
| | 41 | Impacted Receivers | | | | | | 24 |

NSA 10

A total of 18 noise sensitive receiver sites representing 47 individual residential dwelling units were analyzed for potential noise impact. As shown in the following table, the predicted Existing Year 2025 noise levels range between 62 and 65 dBA. The predicted Design Year 2045 noise levels range from 65 to 69 dBA. The highest increase in noise level from the existing year to the design year condition was predicted to be 4.2 dB at receptor site NSA10-10. None of the receptor sites are predicted to experience a substantial increase (>10dB increase) in noise level under the design year condition. **Sixteen receiver sites representing 45 residential dwelling units in NSA 10 were predicted to experience traffic noise levels that would exceed the Activity Category B NAC under the design year 2045 build alternative.** Due to the predicted design year noise impacts, noise abatement measures were considered for all receptor sites in NSA10. TNM output data sheets for the Existing Year 2025 and the Design Year 2045 model runs are provided in Appendix C. The existing year and design year noise levels for all receptors in NSA 10 are summarized in the following table:

| NSA 10 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|------------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dBA | dBA | dB | | dB | dBA | |
| NSA10-1 | 6 | 63.5 | 66.9 | 3.4 | B | 10 | 66 | Yes |
| NSA10-2 | 6 | 62.1 | 65.6 | 3.5 | B | 10 | 66 | Yes |
| NSA10-3 | 8 | 64.9 | 68.2 | 3.3 | B | 10 | 66 | Yes |
| NSA10-4 | 8 | 62.4 | 65.5 | 3.4 | B | 10 | 66 | Yes |
| NSA10-5 | 3 | 64.4 | 68.3 | 3.9 | B | 10 | 66 | Yes |
| NSA10-6 | 4 | 62.7 | 66.3 | 3.6 | B | 10 | 66 | Yes |
| NSA10-7 | 1 | 61.3 | 64.7 | 3.4 | B | 10 | 66 | Yes |
| NSA10-8 | 1 | 62.0 | 65.5 | 3.5 | B | 10 | 66 | Yes |
| NSA10-9 | 1 | 62.6 | 66.5 | 3.9 | B | 10 | 66 | Yes |
| NSA10-10 | 1 | 63.4 | 67.5 | 4.1 | B | 10 | 66 | Yes |
| NSA10-11 | 1 | 64.2 | 68.2 | 4.0 | B | 10 | 66 | Yes |
| NSA10-12 | 1 | 64.4 | 68.0 | 3.6 | B | 10 | 66 | Yes |
| NSA10-13 | 1 | 64.9 | 68.6 | 3.7 | B | 10 | 66 | Yes |
| NSA10-14 | 1 | 62.2 | 65.8 | 3.5 | B | 10 | 66 | Yes |
| NSA10-15 | 1 | 62.6 | 66.3 | 3.7 | B | 10 | 66 | Yes |
| NSA10-16 | 1 | 63.1 | 67.0 | 3.9 | B | 10 | 66 | Yes |

| NSA 10 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|-----------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dBA | dBA | dB | | dB | dBA | |
| NSA10-17 | 1 | 62.2 | 65.7 | 3.5 | B | 10 | 66 | No |
| NSA10-18 | 1 | 61.4 | 64.8 | 3.4 | B | 10 | 66 | No |
| | 47 | Impacted Receivers | | | | | | 45 |

NSA 11

A total of 50 noise sensitive receiver sites representing 50 individual residential dwelling units were analyzed for potential noise impact. As shown in the following table, the predicted Existing Year 2025 noise levels range between 61 and 75 dBA. The predicted Design Year 2045 noise levels range from 62 to 78 dBA. The highest increase in noise level from the existing year to the design year condition was predicted to be 4.5 dB at receptor site NSA11-38. None of the receptor sites are predicted to experience a substantial increase (>10dB increase) in noise level under the design year condition. **Thirty-eight receiver sites representing 38 residential dwelling units in NSA 11 were predicted to experience traffic noise levels that would exceed the Activity Category B NAC under the design year 2045 build alternative.** Due to the predicted design year noise impacts, noise abatement measures were considered for all receptor sites in NSA11. TNM output data sheets for the Existing Year 2025 and the Design Year 2045 model runs are provided in Appendix C. The existing year and design year noise levels for all receptors in NSA 11 are summarized in the following table:

| NSA 11 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|------------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dBA | dBA | dB | | dB | dBA | |
| NSA11-1 | 1 | 65.5 | 66.8 | 1.3 | B | 10 | 66 | Yes |
| NSA11-2 | 1 | 62.3 | 63.6 | 1.3 | B | 10 | 66 | No |
| NSA11-3 | 1 | 59.9 | 61.4 | 1.5 | B | 10 | 66 | No |
| NSA11-4 | 1 | 73.3 | 75.6 | 2.3 | B | 10 | 66 | Yes |
| NSA11-5 | 1 | 70.9 | 72.0 | 1.1 | B | 10 | 66 | Yes |
| NSA11-6 | 1 | 67.2 | 68.7 | 1.5 | B | 10 | 66 | Yes |
| NSA11-7 | 1 | 65.7 | 67.0 | 1.3 | B | 10 | 66 | Yes |
| NSA11-8 | 1 | 63.2 | 64.3 | 1.1 | B | 10 | 66 | No |
| NSA11-9 | 1 | 61.8 | 63.1 | 1.3 | B | 10 | 66 | No |
| NSA11-10 | 1 | 60.7 | 62.2 | 1.5 | B | 10 | 66 | No |
| NSA11-11 | 1 | 75.1 | 76.6 | 1.5 | B | 10 | 66 | Yes |
| NSA11-12 | 1 | 68.1 | 69.3 | 1.2 | B | 10 | 66 | Yes |
| NSA11-13 | 1 | 65.9 | 66.4 | 0.5 | B | 10 | 66 | Yes |
| NSA11-14 | 1 | 63.9 | 64.9 | 1.0 | B | 10 | 66 | No |
| NSA11-15 | 1 | 62.8 | 64.0 | 1.2 | B | 10 | 66 | No |
| NSA11-16 | 1 | 61.3 | 62.6 | 1.3 | B | 10 | 66 | No |
| NSA11-17 | 1 | 75.8 | 77.4 | 1.6 | B | 10 | 66 | Yes |

| NSA 11 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|--------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dB | dB | dB | | dB | dB | |
| NSA11-18 | 1 | 73.5 | 73.6 | 0.1 | B | 10 | 66 | Yes |
| NSA11-19 | 1 | 69.9 | 71.3 | 1.4 | B | 10 | 66 | Yes |
| NSA11-20 | 1 | 67.7 | 69.3 | 1.6 | B | 10 | 66 | Yes |
| NSA11-21 | 1 | 65.3 | 66.1 | 0.8 | B | 10 | 66 | Yes |
| NSA11-22 | 1 | 64.0 | 64.9 | 0.9 | B | 10 | 66 | No |
| NSA11-23 | 1 | 62.4 | 63.7 | 1.3 | B | 10 | 66 | No |
| NSA11-24 | 1 | 74.2 | 76.6 | 2.4 | B | 10 | 66 | Yes |
| NSA11-25 | 1 | 68.7 | 69.9 | 1.2 | B | 10 | 66 | Yes |
| NSA11-26 | 1 | 65.7 | 66.9 | 1.2 | B | 10 | 66 | Yes |
| NSA11-27 | 1 | 64.2 | 65.6 | 1.4 | B | 10 | 66 | Yes |
| NSA11-28 | 1 | 63.2 | 64.9 | 1.7 | B | 10 | 66 | No |
| NSA11-29 | 1 | 61.8 | 63.5 | 1.7 | B | 10 | 66 | No |
| NSA11-30 | 1 | 71.7 | 74.1 | 2.4 | B | 10 | 66 | Yes |
| NSA11-31 | 1 | 67.7 | 69.3 | 1.6 | B | 10 | 66 | Yes |
| NSA11-32 | 1 | 66.0 | 67.7 | 1.7 | B | 10 | 66 | Yes |
| NSA11-33 | 1 | 64.3 | 66.0 | 1.7 | B | 10 | 66 | Yes |
| NSA11-34 | 1 | 74.3 | 77.0 | 2.7 | B | 10 | 66 | Yes |
| NSA11-35 | 1 | 73.5 | 76.2 | 2.7 | B | 10 | 66 | Yes |
| NSA11-36 | 1 | 72.8 | 75.7 | 2.9 | B | 10 | 66 | Yes |
| NSA11-38 | 1 | 70.5 | 74.8 | 4.3 | B | 10 | 66 | Yes |
| NSA11-39 | 1 | 71.7 | 73.2 | 1.5 | B | 10 | 66 | Yes |
| NSA11-40 | 1 | 71.4 | 72.5 | 1.1 | B | 10 | 66 | Yes |
| NSA11-41 | 1 | 70.0 | 72.4 | 2.4 | B | 10 | 66 | Yes |
| NSA11-42 | 1 | 70.7 | 74.0 | 3.3 | B | 10 | 66 | Yes |
| NSA11-43 | 1 | 68.9 | 73.4 | 4.5 | B | 10 | 66 | Yes |
| NSA11-44 | 1 | 65.8 | 68.6 | 2.8 | B | 10 | 66 | Yes |
| NSA11-45 | 1 | 63.9 | 65.9 | 2.0 | B | 10 | 66 | Yes |
| NSA11-46 | 1 | 66.4 | 68.6 | 2.2 | B | 10 | 66 | Yes |
| NSA11-47 | 1 | 64.5 | 66.5 | 2.0 | B | 10 | 66 | Yes |
| NSA11-48 | 1 | 64.3 | 66.7 | 2.4 | B | 10 | 66 | Yes |
| NSA11-49 | 1 | 63.4 | 66.4 | 3.0 | B | 10 | 66 | Yes |
| NSA11-50 | 1 | 63.8 | 67.0 | 3.2 | B | 10 | 66 | Yes |
| NSA11-51 | 1 | 64.0 | 65.8 | 1.8 | B | 10 | 66 | Yes |
| | 50 | | | | | | Impacted Receivers | 38 |

NSA 12

A total of 12 noise sensitive receiver sites representing 72 individual residential dwelling units were analyzed for potential noise impact. As shown in the following table, the predicted Existing Year 2025 noise levels range between 61 and 75 dBA. The predicted Design Year 2045 noise levels range from 62 to 78 dBA. The highest increase in noise level from the existing year to the design year condition was predicted to be 4.5 dB at receptor site NSA11-38. None of the receptor sites are predicted to experience a substantial increase (>10dB increase) in noise level under the design year condition. **Twelve receiver sites representing 72 residential dwelling**

units in NSA 12 were predicted to experience traffic noise levels that would exceed the Activity Category B NAC under the design year 2045 build alternative. Due to the predicted design year noise impacts, noise abatement measures were considered for all receptor sites in NSA11. TNM output data sheets for the Existing Year 2025 and the Design Year 2045 model runs are provided in Appendix C. The existing year and design year noise levels for all receptors in NSA 12 are summarized in the following table:

| NSA 12 Existing and Design Year Noise Levels | | | | | | | | |
|---|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|------------|
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dBA | dBA | dB | | dB | dBA | |
| NSA 12-1 | 6 | 68.9 | 73.1 | 4.2 | B | 10 | 66 | Yes |
| NSA 12-2 | 6 | 70.8 | 73.7 | 2.9 | B | 10 | 66 | Yes |
| NSA 12-3 | 6 | 69.4 | 73.0 | 3.6 | B | 10 | 66 | Yes |
| NSA 12-4 | 6 | 70.3 | 72.0 | 1.7 | B | 10 | 66 | Yes |
| NSA 12-5 | 6 | 64.9 | 69.4 | 4.5 | B | 10 | 66 | Yes |
| NSA 12-6 | 6 | 64.4 | 67.6 | 3.2 | B | 10 | 66 | Yes |
| NSA 12-7 | 6 | 64.8 | 67.8 | 3.0 | B | 10 | 66 | Yes |
| NSA 12-8 | 6 | 65.3 | 67.2 | 1.9 | B | 10 | 66 | Yes |
| NSA 12-9 | 6 | 63.6 | 67.4 | 3.8 | B | 10 | 66 | Yes |
| NSA 12-10 | 6 | 62.5 | 66.7 | 4.2 | B | 10 | 66 | Yes |
| NSA 12-11 | 6 | 63.6 | 67.3 | 3.7 | B | 10 | 66 | Yes |
| NSA12-12 | 6 | 64.0 | 67.4 | 3.4 | B | 10 | 66 | Yes |
| | 72 | | | | | | Impacted Receivers | 72 |

NSA 13

NSA 13 is the Wexner Community Park located on the south side of SR 161. The NSA also includes the Plain Township Aquatic Center. The outdoor areas of frequent use are located around 400 feet south of SR 161. Due to the distance separation, **no noise impacts were identified** in NSA 13 under the design year 2045 build condition.

NSA 14

NSA 14 is located on the south side of SR 161 west of New Albany Condit Road. The NSA is currently used as a soccer field by New Albany Schools. The northernmost area of the NSA that could be utilized as part of the soccer field is located 270 feet south of SR 161. There is also a landscaped soil berm located between the soccer field and SR 161. The berm rises to a height of 18 feet above the roadway and about 10 feet higher than the soccer field. The soil berm, combined with the distance of the soccer field from SR 161, reduce traffic noise levels to the point where **no noise impacts were identified** in NSA 14 under the design year 2045 build condition.

NSA 15

A total of 39 noise sensitive receiver sites representing 65 individual residential dwelling units were analyzed for potential noise impact. As shown in Table 16, the predicted Existing Year 2025 noise levels range between 57 and 70 dBA. The predicted Design Year 2045 noise levels range from 58 to 74 dBA. The highest increase in noise level from the existing year to the design year condition was predicted to be 3.8 dB at receptor site NSA

15-1. None of the receptor sites are predicted to experience a substantial increase (>10dB increase) in noise level under the design year condition. **Nine receiver sites representing 15 residential dwelling units in NSA 15 were predicted to experience traffic noise levels that would exceed the Activity Category B NAC under the design year 2045 build alternative.** Due to the predicted design year noise impacts, noise abatement measures were considered for all receptor sites in NSA11. TNM output data sheets for the Existing Year 2025 and the Design Year 2045 model runs are provided in Appendix C. The existing year and design year noise levels for all receptors in NSA 15 are summarized in the following table:

| NSA 15 | | | | | | | | |
|--|----------------|---------------------------|-------------------|------------------------------|------------------------|----------------------|-----------------------|------------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dBA | dBA | dB | | dB | dBA | |
| NSA 15-1 | 1 | 70.3 | 74.1 | | B | 10 | 66 | Yes |
| NSA 15-2 | 1 | 70.4 | 73.3 | | B | 10 | 66 | Yes |
| NSA 15-3 | 1 | 61.2 | 63.0 | | B | 10 | 66 | No |
| NSA 15-4 | 1 | 63.1 | 64.4 | | B | 10 | 66 | No |
| NSA 15-5 | 1 | 59.7 | 61.0 | | B | 10 | 66 | No |
| NSA 15-6 | 1 | 60.5 | 61.7 | | B | 10 | 66 | No |
| NSA 15-7 | 1 | 69.1 | 72.3 | | B | 10 | 66 | Yes |
| NSA 15-8 | 1 | 64.3 | 65.9 | | B | 10 | 66 | Yes |
| NSA 15-9 | 1 | 60.8 | 62.2 | | B | 10 | 66 | No |
| NSA 15-10 | 2 | 63.9 | 65.4 | | B | 10 | 66 | No |
| NSA 15-11 | 2 | 63.9 | 65.4 | | B | 10 | 66 | No |
| NSA 15-12 | 2 | 64.2 | 66.0 | | B | 10 | 66 | Yes |
| NSA 15-13 | 2 | 64.3 | 66.0 | | B | 10 | 66 | Yes |
| NSA 15-14 | 2 | 64.7 | 66.8 | | B | 10 | 66 | Yes |
| NSA 15-15 | 1 | 66.2 | 68.4 | | B | 10 | 66 | Yes |
| NSA 15-16 | 2 | 62.4 | 63.7 | | B | 10 | 66 | No |
| NSA 15-17 | 2 | 62.4 | 63.7 | | B | 10 | 66 | No |
| NSA 15-18 | 2 | 62.6 | 64.1 | | B | 10 | 66 | No |
| NSA 15-19 | 2 | 63.1 | 64.6 | | B | 10 | 66 | No |
| NSA 15-20 | 1 | 63.1 | 64.9 | | B | 10 | 66 | No |
| NSA 15-21 | 2 | 63.8 | 65.6 | | B | 10 | 66 | Yes |
| NSA 15-22 | 2 | 65.0 | 67.1 | | B | 10 | 66 | No |
| NSA 15-23 | 1 | 59.7 | 60.9 | | B | 10 | 66 | No |
| NSA 15-24 | 1 | 58.2 | 59.5 | | B | 10 | 66 | No |
| NSA 15-25 | 1 | 57.2 | 58.4 | | B | 10 | 66 | No |
| NSA 15-26 | 2 | 59.2 | 60.7 | | B | 10 | 66 | No |
| NSA 15-27 | 2 | 59.4 | 60.6 | | B | 10 | 66 | No |
| NSA 15-28 | 2 | 59.5 | 60.9 | | B | 10 | 66 | No |
| NSA 15-29 | 2 | 59.5 | 60.8 | | B | 10 | 66 | No |
| NSA 15-30 | 1 | 59.5 | 61.0 | | B | 10 | 66 | No |
| NSA 15-31 | 2 | 62.7 | 64.4 | | B | 10 | 66 | No |
| NSA 15-32 | 2 | 61.5 | 63.2 | | B | 10 | 66 | No |
| NSA 15-33 | 2 | 60.6 | 62.1 | | B | 10 | 66 | No |
| NSA 15-34 | 2 | 60.0 | 61.5 | | B | 10 | 66 | No |

| NSA 15 | | | | | | | | |
|---------------------------------------|----------------|--------------------|-------------------|------------------------------|-----------------------|----------------------|-----------------------|------------|
| Existing and Design Year Noise Levels | | | | | | | | |
| Receptor | | 2025 Existing Year | 2045 Build | | Impact Criteria | | | |
| Site | Dwelling Units | Calculated LAeq1h | Calculated LAeq1h | Increase Build over Existing | NAC Activity Category | Substantial Increase | Sound Level Criterion | Impact |
| | | dBA | dBA | dB | | dB | dBA | |
| NSA 15-35 | 2 | 64.5 | 66.6 | | B | 10 | 66 | Yes |
| NSA 15-36 | 2 | 63.1 | 65.1 | | B | 10 | 66 | No |
| NSA 15-37 | 2 | 62.3 | 64.2 | | B | 10 | 66 | No |
| NSA 15-38 | 2 | 61.5 | 63.4 | | B | 10 | 66 | No |
| NSA 15-39 | 2 | 60.9 | 62.8 | | B | 10 | 66 | No |
| | 65 | Impacted Receivers | | | | | | 15 |

NSA 16 – Marburn Academy

NSA 16 is located on the south side of SR 161 just west of the SR 161 eastbound exit ramp to Johnstown Road/US 62. NSA 16 is the Marburn Academy private day school. The Academy has fairly high soil berms located on the north side of the property shielding the academy from traffic noise on SR 161 and also has a soil berm on the east side of the property shielding the academy grounds from traffic noise on the SR 161 exit ramp to US 62. The soil berms provide a substantial level of noise reduction. **No noise impacts** were identified in NSA 16 under the design year 2045 build condition

Section 5.0

EVALUATION OF NOISE ABATEMENT MEASURES

In accordance with 23 CFR Part 772, noise abatement measures were considered for sites which were predicted to either approach, meet, or exceed the applicable FHWA NAC. Abatement measures that were considered include traffic management, modifications to the vertical and horizontal roadway alignments, noise insulation, and construction of permanent noise barriers within or adjacent to the right-of-way. In order to be considered for implementation, a potential mitigation measure must be determined to be both feasible and reasonable. Feasibility includes such considerations as effectiveness of the measure in attaining specified reductions in predicted noise levels, the cost of the measure, and the number of receptors that will benefit. Reasonableness considerations can include overall environmental effects and whether the affected community would desire an abatement measure

Traffic management measures: Traffic management measures, which can include restrictions on access to specific motor vehicle types, travel speed, traffic volumes, and/or time of operation, are sometimes used as noise abatement measures. A reduction in speed limit, while possibly generating some beneficial effects on noise level reduction, would affect the ability of the roadway to accommodate anticipated traffic volumes and reduce the capacity of the proposed facility. Limiting truck traffic and/or time of truck traffic operation is not a feasible option to reduce noise impacts due to the lack of nearby routes capable of handling the existing capacity. Limiting truck traffic may further result in economic impact that time use limitations may have on commercial traffic and businesses both within and beyond the project locale. Traffic management measures would not be a feasible noise abatement measure; therefore, it is not considered as an option for this project.

Alteration of horizontal and vertical alignments: Alignment modifications generally involve orienting and/or siting the roadway a sufficient distance from noise sensitive areas to minimize noise impact. Vertical alignment is dictated by the existing roadway elevations at existing intersections. Altering the proposed vertical alignment of SR 161 would result in an additional project cost and is not a feasible option. Further altering the horizontal alignment in this populated area would result in additional project cost due to acquisition of new permanent right-of-way, economic and social impact due to additional residential and commercial relocations. Vertical and/or horizontal alignment modifications to the proposed alignment were considered and are not feasible and reasonable noise abatement measures.

Acquisition of real property or interests therein to serve as a buffer zone: Buffer zones are undeveloped, open spaces which border a highway and are created when a highway agency purchases land or development rights, in addition to the normal right-of-way, so that future dwellings cannot be constructed next to the highway. Following ODOT guidelines, the amount of public funds considered reasonable for noise abatement purposes is \$42,000 per benefited noise sensitive receptor. A property acquisition program to provide a noise buffer zone adjacent to the existing route is not a reasonable noise abatement measure because the land and numerous impacted residential properties adjacent to the project corridor are likely to be of a considerably higher value. Creating a buffer zone is not considered to be a reasonable or feasible abatement measure for this project.

Noise insulation of public use or nonprofit institutional structures: This mitigation measure applies only to public use structures. No public use structures in the project area were impacted by noise. Noise insulation is not considered for the residential structures impacted by the proposed project.

Noise Barrier Construction: Noise barriers are generally the abatement measure most often associated with noise abatement on highway lane addition projects. Noise barriers reduce noise levels by blocking the sound path between the noise source and noise sensitive receptors. To be effective, noise barriers must be long, continuous, and sufficiently high to break the line of sight from the highway to the receptor. When designing a noise barrier wall, every attempt should be made to obtain a substantial noise reduction of 7 dB for at least one receptor. Noise barriers are generally designed to provide a minimum reduction of 7 dB for receptor sites located closest to the roadway. Noise levels must be reduced by a minimum of 4.5 dB at any sensitive receptor site for that site to be considered a benefited receptor. The construction of a noise barrier is considered a feasible mitigation measure if 40% of the impacted dwelling units receive at least a 4.5 dB noise reduction. The construction of a noise barrier is considered a reasonable mitigation measure if the construction cost is less than \$42,000 per benefited receptor. The cost per square foot of noise barrier wall construction, provided by ODOT is \$30. Reasonableness also includes the desires of the affected property owners to have a noise barrier constructed adjacent to their property.

Noise Barrier Analysis

Noise Barrier NSA1

Several noise barrier scenarios along the proposed edge of shoulder (EOS) of SR 161 and along the EOS of the exit ramp from SR 161 eastbound to Sunbury Road were evaluated for NSA 1. A noise barrier running along the SR 161 EOS at a length of 657 feet was evaluated at various heights. At the maximum height of 20 feet, the noise barrier could not reduce noise levels to benefit any of the receivers. A second noise barrier alignment utilized the noise barrier along the SR 161 EOS and extending over to also run along the SR 161 loop exit ramp at a length of 1,232 feet. In this configuration, the noise barrier could benefit one receiver (representing six dwelling units). However, the noise barrier would not be a feasible and reasonable noise abatement measure even at a maximum height of 20 feet. The noise barrier evaluation for NSA 1 is shown on Figure 3, Page 29. **A noise barrier wall is not recommended for NSA 1.**

| Noise Barrier NSA1 Located along SR 161 EOS and exit ramp EOS | | | | | |
|---|------------------|------------------------------------|--------------------|--------------------|-----------|
| Receiver | # Dwelling Units | Calculated Design Year Noise Level | | Noise Reduction dB | Benefited |
| | | No Barrier (dBA) | With Barrier (dBA) | | |
| NSA 1-1 | 6 | 72.0 | 65.1 | 6.9 | Yes |
| NSA 1-2 | 4 | 69.6 | 65.3 | 4.3 | No |
| NSA 1-3 | 4 | 65.6 | 63.4 | 2.2 | No |
| NSA 1-4 | 4 | 64.0 | 62.4 | 1.6 | No |
| NSA 1-5 | 4 | 62.6 | 61.3 | 1.3 | No |
| NSA 1-6 | 4 | 64.4 | 61.7 | 2.7 | No |
| NSA 1-7 | 4 | 65.4 | 63.1 | 2.3 | No |
| NSA 1-8 | 4 | 64.1 | 64.1 | 1.0 | No |
| NSA 1-9 | 1 | 64.6 | 63.4 | 1.2 | No |
| NSA 1-10 | 4 | 62.5 | 61.9 | 0.6 | No |
| Benefited Receivers | | | | | 6 |

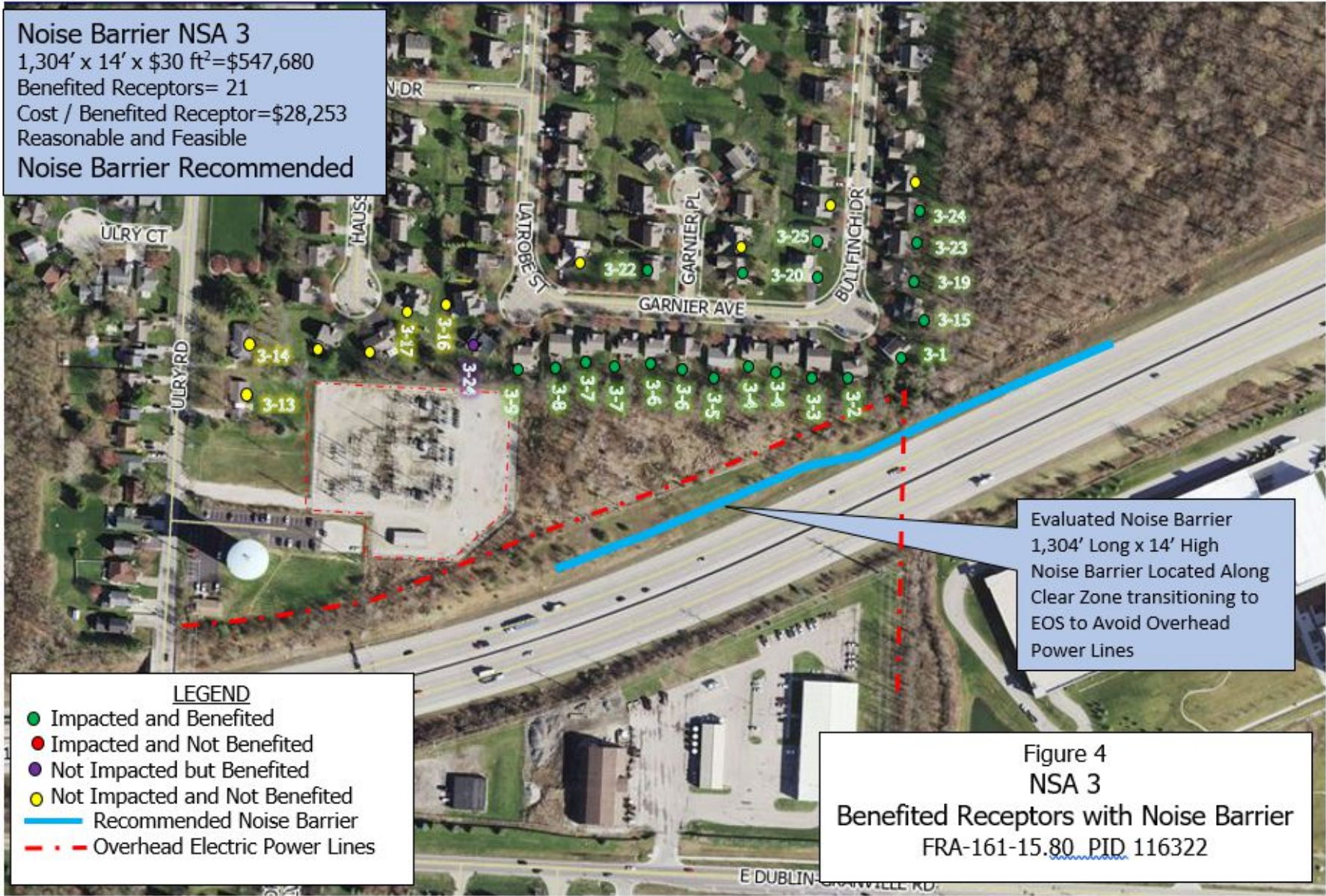


Noise Barrier NSA3

NSA 3 is located on the north side of SR 161 just east of Urly Road. NSA 3 is comprised of 28 residential dwelling units located within 500 feet of SR 161. All of the residential dwelling units were modeled as Activity Category B having a NAC of 67 dBA. A noise barrier for NSA 3 was evaluated along the roadway clear zone which is located 30 feet north of the of SR 161 outside lane. The noise barrier transitions toward the EOS below the overhead power lines to increase the distance between the top of the noise barrier and the power lines. The noise barrier was evaluated at a cost of \$30 per square foot. Noise barrier NSA 3 at a height of 14 feet benefits the most receivers at the lowest cost per benefited receiver. The noise barrier is located on a 10-foot offset from the ROW line due to the presence of overhead power lines located along the ROW. Offsetting the noise barrier this distance should not conflict with the power lines during construction. The noise barrier evaluation for NSA 3 is shown on Figure 4, Page 30. **Noise barrier wall NSA3 at a height of 14 feet is recommended as a noise abatement measure for NSA 3.**

| Noise Barrier NSA3 Located along ROW transitioning to EOS | | | | | |
|---|------------------|------------------------------------|--------------------|--------------------|-----------|
| Receiver | # Dwelling Units | Calculated Design Year Noise Level | | Noise Reduction dB | Benefited |
| | | No Barrier (dBA) | With Barrier (dBA) | | |
| NSA3-1 | 1 | 75.5 | 66.1 | 9.4 | Yes |
| NSA3-2 | 1 | 75.3 | 65.7 | 9.6 | Yes |
| NSA3-3 | 1 | 74.3 | 64.8 | 9.5 | Yes |
| NSA3-4 | 2 | 72.3 | 63.1 | 9.1 | Yes |
| NSA3-5 | 1 | 71.1 | 62.7 | 8.4 | Yes |
| NSA3-6 | 2 | 69.4 | 61.4 | 7.9 | Yes |
| NSA3-7 | 2 | 67.1 | 60.1 | 7.0 | Yes |
| NSA3-8 | 1 | 66.5 | 60.6 | 6.0 | Yes |
| NSA3-9 | 1 | 66.1 | 60.6 | 5.5 | Yes |
| NSA3-10 | 1 | 63.7 | 58.7 | 5.0 | Yes |
| NSA3-11 | 1 | 62.6 | 58.5 | 4.0 | No |
| NSA3-12 | 1 | 60.9 | 57.6 | 3.3 | No |
| NSA3-13 | 1 | 61.1 | 58.5 | 2.6 | No |
| NSA3-14 | 1 | 60.3 | 57.5 | 2.8 | No |
| NSA3-15 | 1 | 73.0 | 65.7 | 7.3 | Yes |
| NSA3-16 | 1 | 61.1 | 57.5 | 3.6 | No |
| NSA3-17 | 1 | 61.5 | 57.8 | 3.7 | No |
| NSA3-18 | 1 | 59.6 | 56.5 | 3.1 | No |
| NSA3-19 | 1 | 71.5 | 65.8 | 5.7 | Yes |
| NSA3-20 | 1 | 67.3 | 62.3 | 5.0 | Yes |
| NSA3-21 | 1 | 67.0 | 61.8 | 5.2 | Yes |
| NSA3-22 | 1 | 64.6 | 59.9 | 4.8 | Yes |
| NSA3-23 | 1 | 70.2 | 65.0 | 5.2 | Yes |
| NSA3-24 | 1 | 69.1 | 64.7 | 4.4 | No |
| NSA3-25 | 1 | 66.9 | 62.2 | 4.6 | Yes |
| Benefited Receivers | | | | | 21 |

Noise Barrier NSA 3
 1,304' x 14' x \$30 ft²=\$547,680
 Benefited Receptors= 21
 Cost / Benefited Receptor=\$28,253
 Reasonable and Feasible
Noise Barrier Recommended



Evaluated Noise Barrier
 1,304' Long x 14' High
 Noise Barrier Located Along
 Clear Zone transitioning to
 EOS to Avoid Overhead
 Power Lines

LEGEND
 ● Impacted and Benefited
 ● Impacted and Not Benefited
 ● Not Impacted but Benefited
 ● Not Impacted and Not Benefited
 — Recommended Noise Barrier
 - - - Overhead Electric Power Lines

Figure 4
 NSA 3
 Benefited Receptors with Noise Barrier
 FRA-161-15.80 PID 116322

Noise Barrier NSA4

NSA 4 is located on the north side of SR 161 just east of Hamilton Road. NSA 4 is the HQ Flats Apartment community and is comprised of 46 residential dwelling units located within 500 feet of SR 161. All of the residential dwelling units were modeled as Activity Category B having a NAC of 67 dBA. Of the 46 dwelling units located in NSA 4, 34 were predicted to experience noise levels above the Activity Category B NAC in the Design Year 2045. Noise barrier NSA4 was evaluated along the EOS of SR 161 and following along the exit ramp from SR 161 westbound to Hamilton Road at a length of 1,078 feet. The noise barrier was evaluated at a cost of \$30 per square foot. Results of the noise barrier evaluation are shown in the following table and on Figure 7. **Noise barrier wall NSA4 at a height of 14 feet is recommended as a noise abatement measure for NSA 4.**

| Noise Barrier NSA4 Located along SR 161 EOS and exit ramp EOS | | | | | |
|---|------------------|------------------------------------|--------------------|--------------------|-----------|
| Receiver | # Dwelling Units | Calculated Design Year Noise Level | | Noise Reduction dB | Benefited |
| | | No Barrier (dBA) | With Barrier (dBA) | | |
| NSA4-1 | 6 | 69.9 | 63.8 | 6.1 | Yes |
| NSA4-2 | 6 | 70.8 | 63.4 | 7.4 | Yes |
| NSA4-3 | 4 | 69.6 | 63.1 | 6.5 | Yes |
| NSA4-4 | 6 | 70.2 | 64.6 | 5.3 | Yes |
| NSA4-5 | 6 | 67.8 | 64.8 | 3.0 | No |
| NSA4-6 | 6 | 68.2 | 61.9 | 6.3 | Yes |
| NSA4-7 | 1 | 67.9 | 62.6 | 5.3 | Yes |
| NSA4-8 | 6 | 65.7 | 61.8 | 3.9 | No |
| NSA4-9 | 6 | 64.7 | 60.4 | 4.3 | No |
| Benefited Receivers | | | | | 28 |



Noise Barrier NSA6

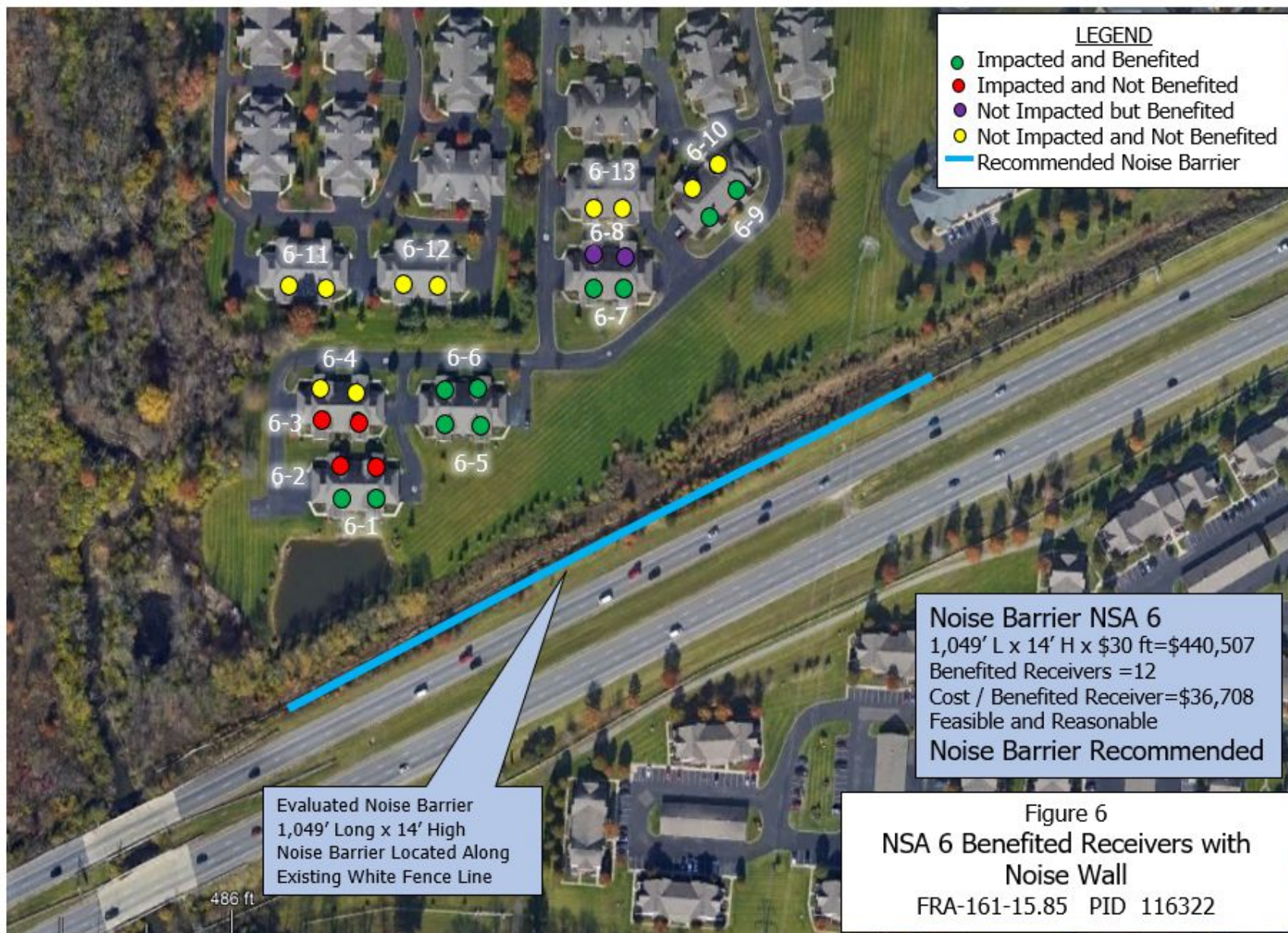
NSA 6 is located on the north side of SR 161 just east of Hamilton Road. NSA 6 is the Rocky Fork Condominium community and is comprised of 28 residential dwelling units located within 500 feet of SR 161. All of the residential dwelling units were modeled as Activity Category B having a NAC of 67 dBA. Of the 28 dwelling units located in NSA 6, 12 were predicted to experience noise levels above the Activity Category B NAC in the Design Year 2045. A noise barrier for NSA 6 was evaluated along the ROW of SR 161 at a length of 1,049 feet at a cost of \$30 per square foot. Results of the noise barrier evaluation are shown in the following table and on Figure 6.

| Noise Barrier NSA6 Located along SR 161 ROW | | | | | |
|---|------------------|------------------------------------|--------------------|--------------------|-----------|
| Receiver | # Dwelling Units | Calculated Design Year Noise Level | | Noise Reduction dB | Benefited |
| | | No Barrier (dBA) | With Barrier (dBA) | | |
| NSA6-1 | 2 | 71.3 | 66.1 | 5.2 | Yes |
| NSA6-2 | 2 | 66.4 | 64.7 | 1.7 | No |
| NSA6-3 | 2 | 66.7 | 62.5 | 4.2 | No |
| NSA6-4 | 2 | 63.5 | 62.3 | 1.2 | No |
| NSA6-5 | 2 | 70.2 | 63.5 | 6.7 | Yes |
| NSA6-6 | 2 | 65.7 | 59.6 | 6.2 | Yes |
| NSA6-7 | 2 | 67.9 | 61.7 | 6.3 | Yes |
| NSA6-8 | 2 | 64.7 | 59.8 | 4.9 | Yes |
| NSA6-9 | 2 | 66.2 | 60.9 | 5.4 | Yes |
| NSA6-10 | 2 | 62.1 | 62.0 | 0.1 | No |
| NSA6-11 | 2 | 64.1 | 60.9 | 3.1 | No |
| NSA6-12 | 2 | 62.8 | 59.7 | 3.1 | No |
| NSA6-13 | 2 | 62.3 | 58.0 | 4.3 | No |
| NSA6-14 | 2 | 60.0 | 56.8 | 3.2 | No |
| NSA6-15 | 1 | 60.5 | 56.9 | 3.6 | No |
| Benefited Receivers | | | | | 12 |

Noise barrier wall NSA6 at a length of 1,049 feet and a height of 14 feet was found to be both a feasible and reasonable noise abatement measure and is recommended as a noise abatement measure for NSA 6.

NSA 7 Albany Commons

No noise impacts were identified in NSA 7 under the design year 2045 build condition. Even though the receivers are located just over 200 feet from the edge of the nearest travel lane, the local topography and the construction of soil berms along the Albany Commons south property line shields the receivers from much of the traffic noise. Additional noise studies were conducted for the receivers in NSA 7 to further quantify that existing year and design year noise levels do not exceed the federal criteria or the state noise policy. The Albany Commons apartment complex has 20 buildings with each building comprised of eight individual dwelling units. All, or part of 13 buildings are located within 500 feet of the proposed design year driving lanes of SR 161 and were evaluated for potential noise impact as a result of the proposed improvements.

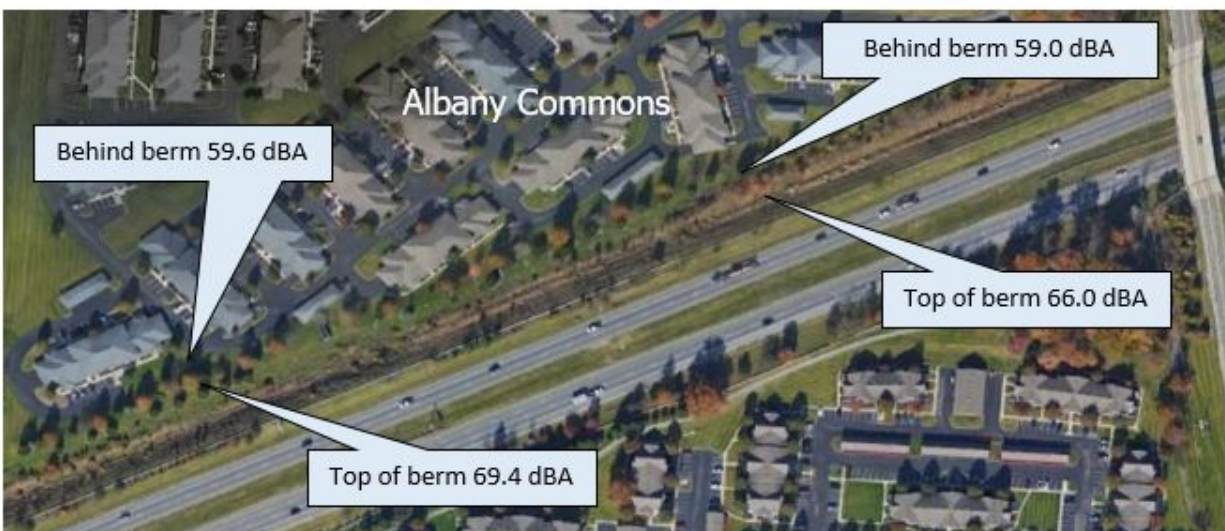


There is an existing soil berm located along the apartment complexes' south property line and is situated between the apartment buildings and SR 161. It is assumed that the soil berm was built along with the apartment buildings during original construction with the purpose of partially screening the buildings from SR 161 and to provide a substantial level of noise reduction for the residents.

As part of this noise analysis, it was determined through noise modeling that the soil berm does provide a substantial level of noise reduction for the apartment community. The largest increase in noise level from the existing year 2025 to the design year 2045 was predicted to be 1.5 decibels (dB) and the highest predicted design year noise level was 63.5 dBA. In the design year, none of the receivers in NSA 7 would experience either a substantial increase (≥ 10 dB increase) in noise level or exceed the FHWA Category B Noise Abatement Criteria (residential) noise level of 66 dBA. With no identified noise impact, the consideration of noise abatement for NSA 7 is not warranted. However, additional noise evaluation was conducted to ensure that dwelling units at New Albany Commons would, indeed, not be impacted by design year noise levels.

Noise measurements at Albany Commons

As part of all noise analyses, field noise measurements are taken at every NSA at a location that would be representative of the entire NSA. During the field measurements, traffic volume and vehicle mix are recorded. A noise model is then run using the field collected traffic volumes and a receiver point at the field measured location. The field measured level is then compared to modeled level to ensure that model has been set to correctly predict noise levels based on actual field conditions. A field noise measurement was taken on May 9, 2022 and the 15-minute equivalent noise level was 62.4 dBA. The modeled noise level was 62.8 dBA. When compared, the results are almost identical and shows that the noise model is accurately predicting actual site conditions. As shown in the figure below, noise measurements performed by ODOT OES found that the soil berm is reducing noise by 7 to 9 dB between top of berm and behind the berm at the toe of slope. During their site visit, ODOT identified two potentially noise sensitive receivers (a dog park and a community garden space) in an area not shielded by the soil berm and asked for a noise barrier analysis for this area at the eastern edge of the NSA. An analysis using a noise barrier 300-feet-long by 14-feet-high was completed. In this configuration the noise barrier could not provide a level of noise reduction (-5 dB) that would benefit either receiver height and was not recommended.



Noise level reduction provided by the existing soil berm

A noise analysis using the design year traffic volume was run to estimate the levels of noise reduction the existing soil berm is currently providing the receivers. In the first run of the analysis, the existing soil berm was removed from the noise model. The model was then run to predict noise levels that would occur **without** the existing soil berm. **Without** the existing soil berm, eight noise receivers (NSA7-1 through NSA7-8) would be impacted by traffic noise as shown in the second column of the table below. In the second run of the analysis, the existing soil berm was inserted back into the noise model, and the model was run to predict the noise levels that would occur in the design year with the existing soil berm in place. The last column in the table below shows the noise reduction that the soil berm provides the dwelling units. The soil berm is shown to provide the level of noise reduction that benefits eleven of the receivers (all receivers except NSA7-7 and NSA7-12). The existing noise barrier is providing a high level of noise reduction for all the receivers.

| Noise Reduction provided by the Existing Soil Berm | | | |
|---|---|--|---|
| Receiver | Design Year Noise levels without the soil berm (dBA) (Baseline) | Design Year Noise levels with the soil berm (dBA) | Noise Reduction provided by the existing soil berm (dB) |
| NSA7-1 | 72.0 | 63.5 | 8.5 |
| NSA7-2 | 68.4 | 61.5 | 6.9 |
| NSA7-3 | 67.9 | 61.8 | 6.1 |
| NSA7-4 | 69.1 | 62.3 | 6.8 |
| NSA7-5 | 66.7 | 61.7 | 5.0 |
| NSA7-6 | 65.5 | 61.0 | 4.5 |
| NSA7-7 | 66.7 | 62.6 | 4.1 |
| NSA7-8 | 67.2 | 62.4 | 4.8 |
| NSA7-9 | 65.1 | 60.2 | 4.9 |
| NSA7-10 | 64.2 | 59.3 | 4.9 |
| NSA7-11 | 63.4 | 58.9 | 4.5 |
| NSA7-12 | 62.7 | 58.6 | 4.1 |
| NSA7-13 | 64.8 | 59.8 | 5.0 |

Receivers impacted **without** the existing soil berm

Receivers benefited **with** the existing soil berm

Noise level reduction provided by a 14-foot-high noise barrier without the soil berm

A noise analysis was also conducted to estimate the levels of noise reduction a 14-foot-high noise barrier could provide the dwelling units if the soil berm was not constructed is shown in the table below. In this analysis, there is no soil berm. **Without** the soil berm, eight noise receivers (NSA7-1 through NSA7-8) would be impacted by traffic noise, as shown in the second column. A noise barrier wall at a height of 14 feet and a length of 1,500 feet running along the existing white fence line was inserted into the noise model. With the 14-foot-high noise barrier, none of the receivers in NSA 7 would be impacted by traffic noise as shown in the third column. The last column of the table shows the levels of noise reduction the noise barrier would provide would ranging from 4.4 dB to 8.9 dB and would benefit all but one (NSA7-12) of the receivers in NSA 7. The levels of noise reduction the existing soil berm currently provides the noise receivers as compared to the levels of noise reduction a 14' high noise barrier could provide if there were not a soil berm in place. The levels of noise reduction with a berm and with a noise barrier are very comparable. A noise barrier wall could provide a slightly higher level of noise reduction than the soil berm, but the difference on average is only about 0.5 dB, an imperceptible noise level.

The analyses show that the existing soil berm is providing a comparable level of noise reduction that a 14' high noise barrier wall could provide. The modeling of NSA 7 appears to confirm that the existing soil berm does and will continue to provide a substantial level of noise abatement even with the additional traffic of the proposed project. Additional noise abatement is not warranted at NSA 7.

| Evaluating a 14' High Noise Barrier in lieu of the Existing Soil Berm | | | |
|--|---|--|---|
| Receiver | Design Year Noise levels without the soil berm (dBA) (Baseline) | Design Year Noise levels with a 14' high noise barrier (dBA) | Noise Reduction provided by a noise barrier (dB) |
| NSA7-1 | 72.0 | 63.1 | 8.9 |
| NSA7-2 | 68.4 | 61.4 | 7.0 |
| NSA7-3 | 67.9 | 61.2 | 6.7 |
| NSA7-4 | 69.1 | 61.9 | 7.2 |
| NSA7-5 | 66.7 | 61.1 | 5.6 |
| NSA7-6 | 65.5 | 60.5 | 5.0 |
| NSA7-7 | 66.7 | 61.6 | 5.1 |
| NSA7-8 | 67.2 | 60.9 | 6.3 |
| NSA7-9 | 65.1 | 59.7 | 5.4 |
| NSA7-10 | 64.2 | 59.2 | 5.0 |
| NSA7-11 | 63.4 | 58.7 | 4.7 |
| NSA7-12 | 62.7 | 58.3 | 4.4 |
| NSA7-13 | 64.8 | 58.8 | 5.9 |

Receiver impacted **without** the existing soil berm

Receiver benefited **with** a noise barrier wall

Noise Barrier NSA8

NSA 8 is located on the south side of SR 161 just west of Harlem Road. NSA 8 is the Albany Woods Apartment community and is comprised of 146 residential dwelling units located within 500 feet of SR 161. All of the residential dwelling units were modeled as Activity Category B having a NAC of 67 dBA. Of the 146 dwelling units located in NSA 8, 124 were predicted to experience noise levels above the Activity Category B NAC in the Design Year 2045. Noise barrier NSA8 was evaluated along the south ROW of SR 161 beginning about 140 feet west of Harlem Road and extending a distance of 2,510 feet west. The noise barrier was evaluated at a cost of \$30 per square foot. Results of the noise barrier evaluation are shown in the following table and on Figure 7. **Noise barrier wall NSA8 at a length of 2,510 feet and a height of 14 feet was found to be both a feasible and reasonable noise abatement measure and is recommended as a noise abatement measure for NSA 8.**

| Noise Barrier NSA8 Located along SR 161 ROW | | | | | |
|--|------------------|------------------------------------|--------------------|--------------------|-----------|
| Receiver | # Dwelling Units | Calculated Design Year Noise Level | | Noise Reduction dB | Benefited |
| | | No Barrier (dBA) | With Barrier (dBA) | | |
| NSA8-1 | 6 | 75.6 | 69.5 | 6.1 | Yes |
| NSA8-2 | 6 | 76.2 | 67.7 | 8.5 | Yes |
| NSA8-3 | 8 | 75.6 | 66.0 | 9.6 | Yes |
| NSA8-4 | 8 | 71.7 | 63.8 | 7.9 | Yes |
| NSA8-5 | 6 | 78.4 | 65.6 | 12.8 | Yes |
| NSA8-6 | 8 | 78.7 | 65.6 | 13.1 | Yes |
| NSA8-7 | 6 | 77.3 | 65.3 | 12.0 | Yes |
| NSA8-8 | 8 | 77.5 | 65.4 | 12.1 | Yes |
| NSA8-9 | 8 | 76.0 | 65.2 | 10.8 | Yes |
| NSA8-10 | 6 | 77.9 | 66.2 | 11.7 | Yes |
| NSA8-11 | 8 | 72.0 | 64.9 | 7.1 | Yes |
| NSA8-12 | 6 | 70.4 | 66.7 | 3.7 | No |

| | | | | | |
|---------|-----|----------------------------|------|-----|------------|
| NSA8-13 | 8 | 67.3 | 63.3 | 4.0 | No |
| NSA8-14 | 8 | 67.5 | 62.8 | 4.7 | Yes |
| NSA8-15 | 8 | 66.5 | 61.7 | 4.8 | Yes |
| NSA8-16 | 8 | 65.2 | 59.7 | 5.5 | Yes |
| NSA8-17 | 6 | 65.7 | 59.7 | 6.0 | Yes |
| NSA8-18 | 8 | 67.9 | 60.6 | 7.3 | Yes |
| NSA8-19 | 8 | 68.8 | 61.8 | 7.0 | Yes |
| NSA8-20 | 8 | 65.7 | 60.6 | 5.1 | Yes |
| | 146 | Benefited Receivers | | | 132 |



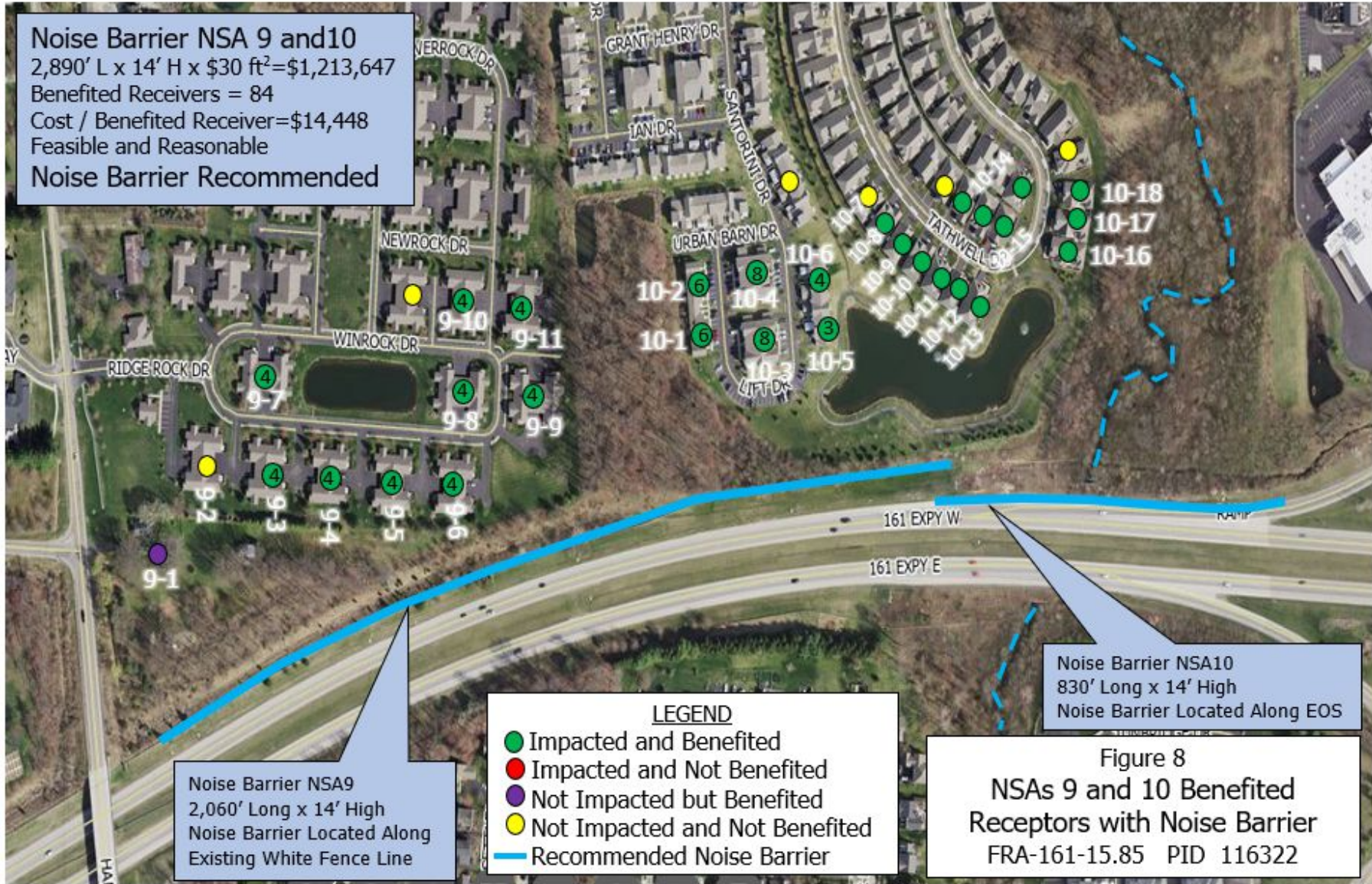
Noise Barriers NSA9 and NSA10

NSA 9 is located on the north side of SR 161 just east of Harlem Road. NSA 9 is called the Rocky Ridge Condominiums community and is comprised of 41 residential dwelling units located within 500 feet of SR 161. NSA 9 also includes a single-family residential structure having access via Harlem Road. NSA 10 is located on the north side of SR 161 just west of the New Albany Road westbound entrance ramp to SR 161. NSA 10 is comprised of single-family stand-alone condominiums called Grammercy at New Albany and is comprised of 35 residential dwelling units located within 500 feet of SR 161. The condominium community has 11 dwelling units located within 500 feet of SR 161. All of the residential dwelling units were modeled as Activity Category B having a NAC of 67 dBA. Of the 41 dwelling units located in NSA 9, 28 were predicted to experience noise levels above the Activity Category B NAC in the Design Year 2045. Of the 47 dwelling units located in NSA 10, 28 were predicted to experience noise levels above the Activity Category B NAC in the Design Year 2045. Noise barrier NSA 9 and noise barrier NSA10 were evaluated for potential noise abatement. Noise barrier NSA9 is located along the north ROW beginning about 80 feet east of Harlem Road and extending east a distance of 2,060 feet. Noise barrier NSA10 is located along the EOS, overlapping noise barrier NSA9 by about 150 feet and extending east a distance of 830 feet ending along the entrance ramp EOS. Both noise barriers were evaluated at a cost of \$30 per square foot. Results of the noise barrier evaluation are shown in the following table and on Figure 7.

| Noise Barriers NSA9 and 10 Located along SR 161 ROW and EOS | | | | | |
|---|------------------|------------------------------------|--------------------|----------------------|-----------|
| Receiver | # Dwelling Units | Calculated Design Year Noise Level | | Noise Reduction (dB) | Benefited |
| | | No Barrier (dBA) | With Barrier (dBA) | | |
| NSA9-1 | 1 | 63.4 | 58.9 | 4.5 | Yes |
| NSA9-2 | 4 | 63.7 | 59.3 | 4.4 | No |
| NSA9-3 | 4 | 66.0 | 60.6 | 5.4 | Yes |
| NSA9-4 | 4 | 68.2 | 61.6 | 6.6 | Yes |
| NSA9-5 | 4 | 71.0 | 62.7 | 8.3 | Yes |
| NSA9-6 | 4 | 73.5 | 63.9 | 9.6 | Yes |
| NSA9-7 | 4 | 60.6 | 56.1 | 4.4 | No |
| NSA9-8 | 4 | 66.2 | 60.0 | 6.2 | Yes |
| NSA9-9 | 4 | 68.9 | 61.8 | 7.1 | Yes |
| NSA9-10 | 4 | 64.3 | 59.2 | 5.1 | Yes |
| NSA9-11 | 4 | 65.5 | 60.3 | 5.2 | Yes |
| NSA10-1 | 6 | 66.9 | 61.2 | 5.7 | Yes |
| NSA10-2 | 6 | 65.6 | 60.4 | 5.2 | Yes |
| NSA10-3 | 8 | 68.2 | 61.8 | 6.4 | Yes |
| NSA10-4 | 8 | 65.8 | 60.5 | 5.3 | Yes |
| NSA10-5 | 3 | 68.3 | 61.9 | 6.4 | Yes |
| NSA10-6 | 4 | 66.3 | 60.9 | 5.4 | Yes |
| NSA10-7 | 1 | 64.7 | 59.8 | 4.9 | Yes |
| NSA10-8 | 1 | 65.5 | 60.4 | 5.1 | Yes |
| NSA10-9 | 1 | 66.5 | 60.8 | 5.7 | Yes |
| NSA10-10 | 1 | 67.5 | 61.4 | 6.1 | Yes |
| NSA10-11 | 1 | 68.1 | 61.6 | 6.5 | Yes |
| NSA10-12 | 1 | 67.9 | 61.5 | 6.4 | Yes |
| NSA10-13 | 1 | 68.6 | 61.9 | 6.7 | Yes |

| Noise Barriers NSA9 and 10 Located along SR 161 ROW and EOS | | | | | |
|---|------------------|------------------------------------|--------------------|----------------------|-----------|
| Receiver | # Dwelling Units | Calculated Design Year Noise Level | | Noise Reduction (dB) | Benefited |
| | | No Barrier (dBA) | With Barrier (dBA) | | |
| NSA10-14 | 1 | 65.6 | 60.2 | 5.4 | Yes |
| NSA10-15 | 1 | 66.3 | 60.7 | 5.6 | Yes |
| NSA10-16 | 1 | 67.0 | 61.5 | 5.5 | Yes |
| NSA10-17 | 1 | 65.7 | 60.8 | 4.9 | Yes |
| NSA10-18 | 1 | 64.8 | 60.2 | 4.6 | Yes |
| | 88 | Benefited Receivers | | | 84 |

Noise barrier wall NSA9 at a length of 2,060 feet and a height of 14 and noise barrier NSA10 at a length of 830 feet and height of 14 feet were found to be both a feasible and reasonable noise abatement measure and are recommended as a noise abatement measure for NSAs 9 and 10.



Noise Barrier NSA11 and Noise Barrier NSA12

NSAs 11 and 12 are located on the south side of SR 161 and run along the entire length of SR 161 from Harlem Road to the east bound exit ramp from SR 161 to New Albany Road. NSA 11 is comprised of closely spaced single-family homes in a development called Hampsted Village. There is a total of 51 residential dwelling units located within 500 feet of SR 161. NSA 12 an apartment community called Berkley Park at New Albany and is comprised of 72 residential dwelling units located within 500 feet of SR 161. Of the 123 dwelling units located in NSAs 11 and 12, 114 were predicted to experience noise levels above the Activity Category B NAC in the Design Year 2045. All of the residential dwelling units were modeled as Activity Category B having a NAC of 67 dBA.

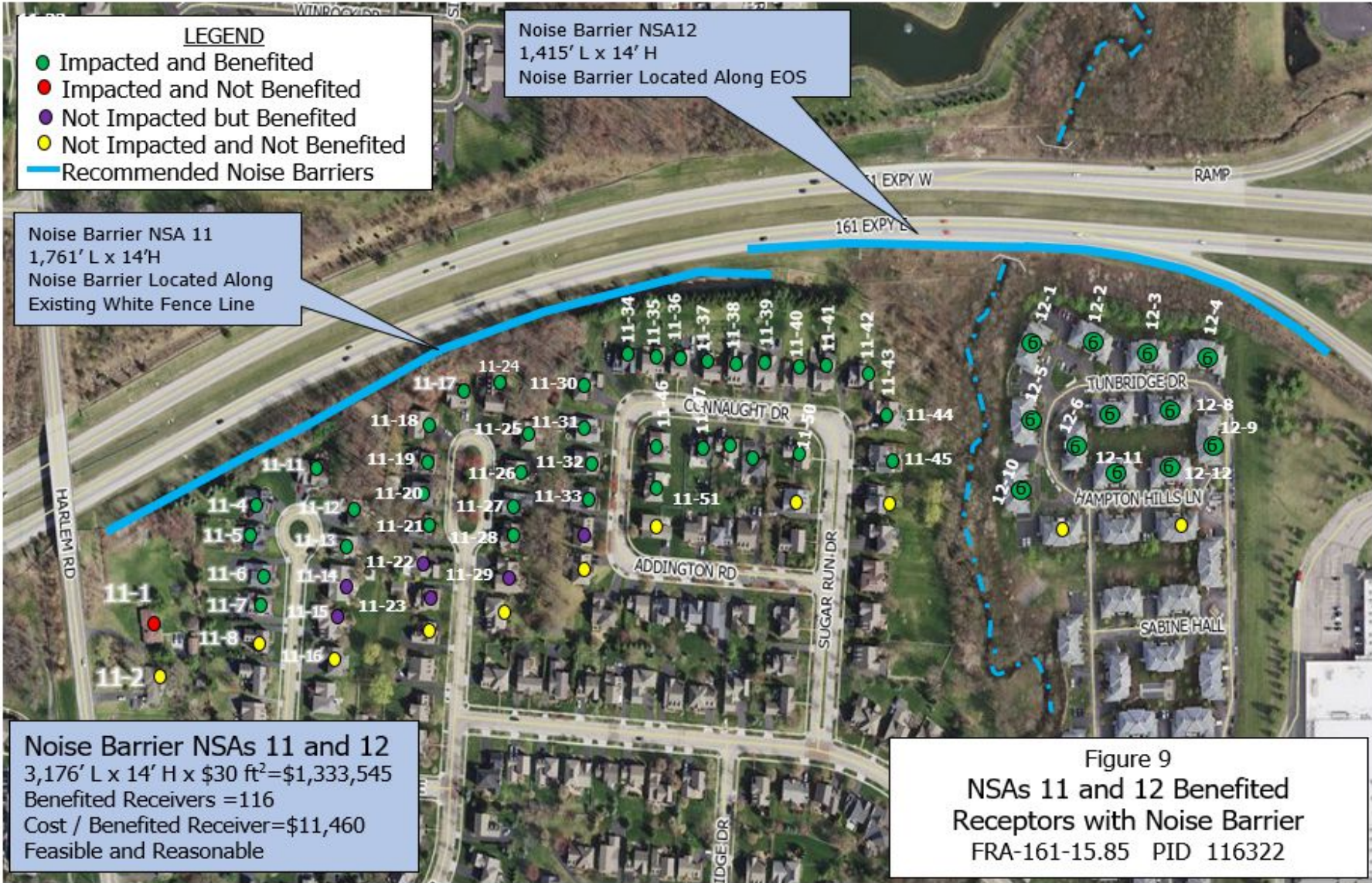
Noise barrier NSA11 was evaluated along the south ROW of SR 161 beginning about 50 feet east of the Harlem Road overpass and extending east 1,761 feet. Noise barrier NSA12, located along the EOS, overlaps noise barrier about 150 feet and extends east a distance of 1,415 feet. The noise barrier was evaluated at a cost of \$30 per square foot. Results of the noise barrier evaluation are shown in the following table and on Figure 9.

| Noise Barriers NSA11 and 12 Located along SR 161 ROW and EOS | | | | | |
|--|------------------|------------------------------------|--------------------|----------------------|-----------|
| Receiver | # Dwelling Units | Calculated Design Year Noise Level | | Noise Reduction (dB) | Benefited |
| | | No Barrier (dBA) | With Barrier (dBA) | | |
| NSA11-4 | 1 | 75.6 | 64.5 | 11.1 | Yes |
| NSA11-5 | 1 | 72.0 | 63.8 | 8.2 | Yes |
| NSA11-6 | 1 | 68.7 | 62.4 | 6.3 | Yes |
| NSA11-7 | 1 | 67.0 | 61.5 | 5.5 | Yes |
| NSA11-8 | 1 | 64.3 | 59.9 | 4.4 | No |
| NSA11-9 | 1 | 63.1 | 59.0 | 4.1 | No |
| NSA11-10 | 1 | 62.2 | 58.3 | 3.9 | No |
| NSA11-11 | 1 | 76.6 | 64.4 | 12.2 | Yes |
| NSA11-12 | 1 | 69.3 | 61.5 | 7.8 | Yes |
| NSA11-13 | 1 | 66.4 | 60.3 | 6.1 | Yes |
| NSA11-14 | 1 | 64.9 | 59.2 | 5.7 | Yes |
| NSA11-15 | 1 | 64.0 | 58.6 | 5.4 | Yes |
| NSA11-16 | 1 | 62.6 | 57.5 | 5.1 | Yes |
| NSA11-17 | 1 | 77.4 | 64.6 | 12.8 | Yes |
| NSA11-18 | 1 | 73.6 | 63.7 | 9.9 | Yes |
| NSA11-19 | 1 | 71.3 | 62.4 | 8.9 | Yes |
| NSA11-20 | 1 | 69.3 | 61.5 | 7.8 | Yes |
| NSA11-21 | 1 | 66.1 | 59.9 | 6.2 | Yes |
| NSA11-22 | 1 | 64.9 | 58.9 | 6.0 | Yes |
| NSA11-23 | 1 | 63.7 | 58.0 | 5.7 | Yes |
| NSA11-24 | 1 | 76.6 | 64.4 | 12.2 | Yes |
| NSA11-25 | 1 | 69.9 | 61.9 | 8.0 | Yes |
| NSA11-26 | 1 | 66.9 | 60.3 | 6.6 | Yes |
| NSA11-27 | 1 | 65.6 | 59.4 | 6.2 | Yes |
| NSA11-28 | 1 | 64.9 | 58.9 | 6.0 | Yes |
| NSA11-29 | 1 | 63.5 | 57.6 | 5.9 | Yes |

Noise Barriers NSA11 and 12 Located along SR 161 ROW and EOS

| Receiver | # Dwelling Units | Calculated Design Year Noise Level | | Noise Reduction (dB) | Benefited |
|----------|------------------|------------------------------------|--------------------|----------------------|------------|
| | | No Barrier (dBA) | With Barrier (dBA) | | |
| NSA11-30 | 1 | 74.1 | 63.5 | 10.6 | Yes |
| NSA11-31 | 1 | 69.3 | 61.6 | 7.7 | Yes |
| NSA11-32 | 1 | 67.7 | 60.7 | 7.0 | Yes |
| NSA11-33 | 1 | 66.0 | 59.6 | 6.4 | Yes |
| NSA11-34 | 1 | 77.0 | 64.6 | 12.4 | Yes |
| NSA11-35 | 1 | 76.2 | 64.1 | 12.1 | Yes |
| NSA11-36 | 1 | 75.7 | 63.9 | 11.8 | Yes |
| NSA11-38 | 1 | 74.8 | 63.6 | 11.2 | Yes |
| NSA11-39 | 1 | 73.2 | 62.3 | 10.9 | Yes |
| NSA11-40 | 1 | 72.5 | 62.5 | 10.0 | Yes |
| NSA11-41 | 1 | 72.4 | 62.2 | 10.2 | Yes |
| NSA11-42 | 1 | 74.0 | 61.9 | 12.1 | Yes |
| NSA11-43 | 1 | 73.4 | 61.9 | 11.5 | Yes |
| NSA11-44 | 1 | 68.6 | 60.5 | 8.2 | Yes |
| NSA11-45 | 1 | 65.9 | 59.3 | 6.6 | Yes |
| NSA11-46 | 1 | 68.6 | 61.1 | 7.5 | Yes |
| NSA11-47 | 1 | 66.5 | 60.0 | 6.5 | Yes |
| NSA11-48 | 1 | 66.7 | 60.1 | 6.6 | Yes |
| NSA11-49 | 1 | 66.4 | 59.8 | 6.6 | Yes |
| NSA11-50 | 1 | 67.0 | 60.1 | 6.9 | Yes |
| NSA11-51 | 1 | 65.7 | 59.6 | 6.1 | Yes |
| NSA12-1 | 6 | 73.1 | 62.6 | 10.5 | Yes |
| NSA12-2 | 6 | 73.7 | 63.2 | 10.5 | Yes |
| NSA12-3 | 6 | 73.0 | 62.8 | 10.2 | Yes |
| NSA12-4 | 6 | 72.0 | 62.6 | 9.4 | Yes |
| NSA12-5 | 6 | 69.4 | 60.3 | 9.1 | Yes |
| NSA12-6 | 6 | 67.6 | 60.1 | 7.5 | Yes |
| NSA12-7 | 6 | 67.8 | 60.4 | 7.4 | Yes |
| NSA12-8 | 6 | 67.2 | 60.4 | 6.8 | Yes |
| NSA12-9 | 6 | 67.4 | 60.6 | 6.8 | Yes |
| NSA12-10 | 6 | 66.7 | 59.0 | 7.7 | Yes |
| NSA12-11 | 6 | 67.3 | 60.1 | 7.2 | Yes |
| NSA12-12 | 6 | 67.4 | 60.2 | 7.2 | Yes |
| | 122 | Benefited Receivers | | | 116 |

Noise barrier wall NSA11 at a length of 1,761 feet and a height of 14 and noise barrier NSA12 at a length of 1,415 feet and height of 14 feet were found to be both a feasible and reasonable noise abatement measure and are recommended as a noise abatement measure for NSAs 11 and 12.



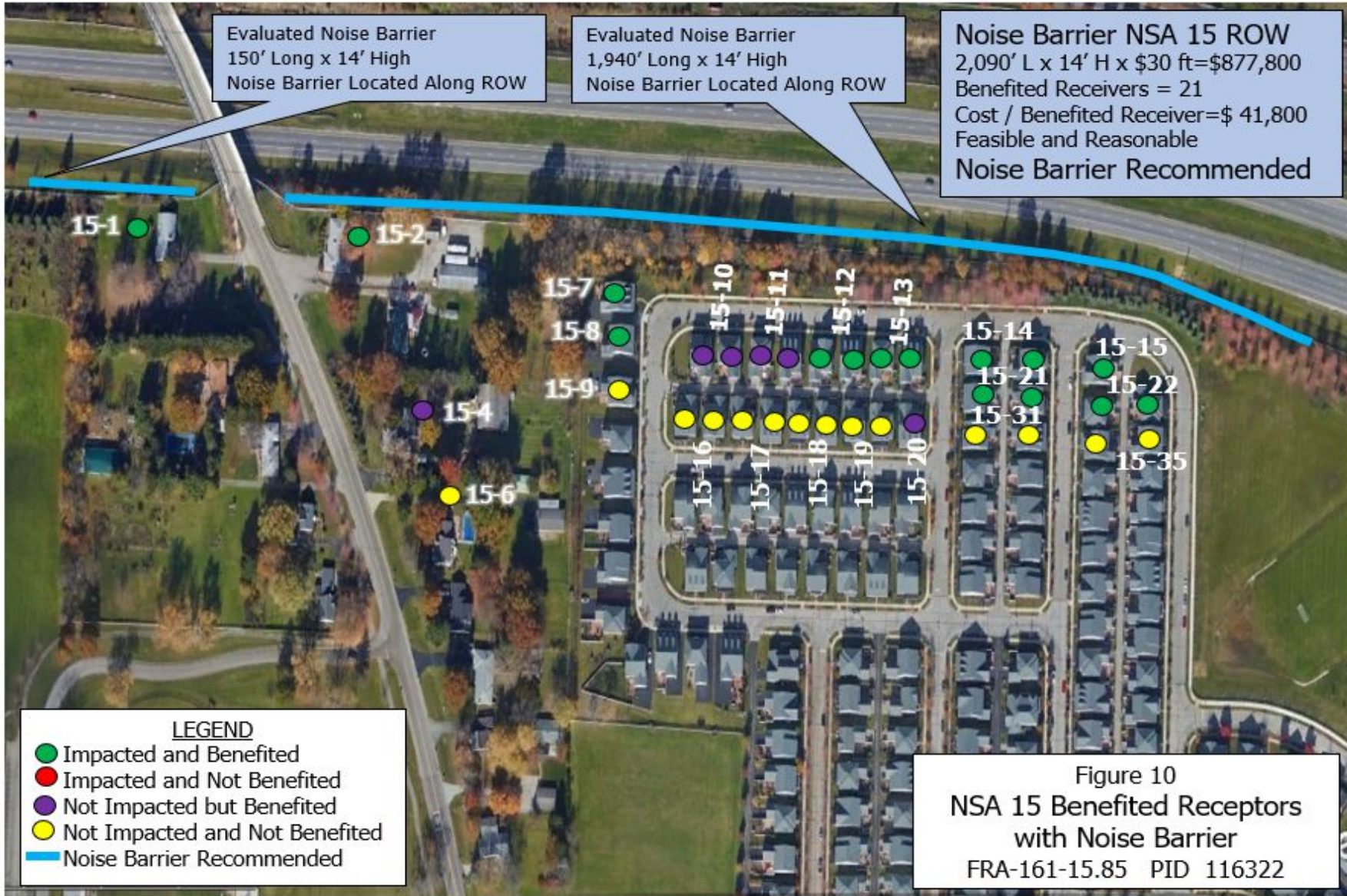
Noise Barrier NSA15

NSA 15 is located on the south side of SR 161 east of New Albany Condit Road. The NSA is comprised of three single family dwelling units with driveway access to New Albany Condit Road and a large, single-family residential development known as Windsor New Albany having 59 dwelling units located within 500 feet of SR 161. There is property, owned by the Windsor Homeowners Association Inc, located between Butterworth Green Drive and SR 161. This property is a landscaped soil berm that is about 10 feet higher in elevation than SR 161 and ranges from six to eight feet higher in elevation than the homes in Windsor New Albany along Butterworth Green Drive. This berm helps to shield the homes in Windsor from traffic noise on SR 161. With the shielding effects provided by the soil berm, of the 62 receivers in NSA 15, only seven are impacted by traffic noise from SR 161. Noise barrier NSA15l was evaluated along the ROW beginning about 50 feet east of the New Albany Condit Road overpass and extending 1,900 feet east to a point near the SR 161 exit ramp to Johnson Road.

| Noise Barrier NSA15 Located along SR 161 ROW | | | | | |
|--|------------------|------------------------------------|--------------------|----------------------|-----------|
| Receiver | # Dwelling Units | Calculated Design Year Noise Level | | Noise Reduction (dB) | Benefited |
| | | No Barrier (dBA) | With Barrier (dBA) | | |
| NSA15-1 | 1 | 73.8 | 66.9 | 6.7 | Yes |
| NSA15-2 | 1 | 73.3 | 62.1 | 11.2 | Yes |
| NSA15-3 | 1 | 62.0 | 61.1 | 0.9 | No |
| NSA15-4 | 1 | 64.4 | 59.1 | 5.3 | Yes |
| NSA15-6 | 1 | 61.7 | 58.4 | 3.3 | No |
| NSA15-7 | 1 | 72.3 | 60.7 | 11.6 | Yes |
| NSA15-8 | 1 | 65.9 | 59.9 | 6.0 | Yes |
| NSA15-9 | 1 | 62.2 | 58.3 | 3.9 | No |
| NSA15-10 | 2 | 65.4 | 60.0 | 5.4 | Yes |
| NSA15-11 | 2 | 65.4 | 60.1 | 5.3 | Yes |
| NSA15-12 | 2 | 66.0 | 60.8 | 5.2 | Yes |
| NSA15-13 | 2 | 66.0 | 60.8 | 5.2 | Yes |
| NSA15-14 | 2 | 66.8 | 61.3 | 5.5 | Yes |
| NSA15-15 | 1 | 68.4 | 62.7 | 5.7 | Yes |
| NSA15-16 | 2 | 63.7 | 59.3 | 4.4 | No |
| NSA15-17 | 2 | 63.7 | 59.5 | 4.2 | No |
| NSA15-18 | 2 | 64.1 | 59.9 | 4.2 | No |
| NSA15-19 | 2 | 64.6 | 60.2 | 4.4 | No |
| NSA15-20 | 1 | 64.9 | 60.2 | 4.7 | Yes |
| NSA15-21 | 2 | 65.6 | 61.0 | 4.6 | Yes |
| NSA15-22 | 2 | 67.1 | 62.2 | 4.9 | Yes |
| NSA15-23 | 1 | 60.9 | 57.6 | 3.3 | No |
| NSA15-24 | 1 | 59.5 | 56.5 | 3.0 | No |
| NSA15-25 | 1 | 58.4 | 55.8 | 2.6 | No |
| NSA15-26 | 2 | 60.7 | 57.0 | 3.7 | No |
| NSA15-27 | 2 | 60.6 | 57.4 | 3.2 | No |
| NSA15-28 | 2 | 60.9 | 57.9 | 3.0 | No |
| NSA15-29 | 2 | 60.8 | 57.8 | 3.0 | No |
| NSA15-30 | 1 | 61.0 | 58.8 | 2.2 | No |

| Noise Barrier NSA15 Located along SR 161 ROW | | | | | |
|--|------------------|------------------------------------|--------------------|----------------------|-----------|
| Receiver | # Dwelling Units | Calculated Design Year Noise Level | | Noise Reduction (dB) | Benefited |
| | | No Barrier (dBA) | With Barrier (dBA) | | |
| NSA15-31 | 2 | 64.4 | 60.4 | 4.0 | No |
| NSA15-32 | 2 | 63.2 | 59.7 | 3.5 | No |
| NSA15-33 | 2 | 62.1 | 59.1 | 3.0 | No |
| NSA15-34 | 2 | 61.5 | 58.7 | 2.8 | No |
| NSA15-35 | 2 | 66.6 | 62.6 | 4.0 | No |
| NSA15-36 | 2 | 65.1 | 61.2 | 3.9 | No |
| NSA15-37 | 2 | 62.4 | 60.8 | 3.4 | No |
| NSA15-38 | 2 | 63.4 | 60.4 | 3.0 | No |
| NSA15-39 | 2 | 62.8 | 60.2 | 2.6 | No |
| | 60 | Benefited Receptors | | | 21 |

Noise barrier wall NSA15 at a length of 2,090 feet and a height of 14 was found to be both a feasible and reasonable noise abatement measure and is recommended as a noise abatement measure for NSA 15.



Section 6.0

CONSTRUCTION NOISE

Noise sensitive receptors will also be subjected to noise impacts associated with the construction phase of the proposed project. Construction noise will generate temporary noise impacts on adjacent and nearby properties, particularly those in residential land use. Construction noise will be emitted intermittently by a range of construction equipment at varying levels of intensity based on the types of operations being performed and the number of pieces of equipment in operation at any given time. Depending on project circumstances, options are available to minimize the temporary adverse noise impacts, including the proper maintenance of equipment, most notably adequate lubrication, and non-leaking mufflers, equipment restriction modifications to reduce noise emissions and restrict the use of certain equipment by location and time of day, controlling non construction traffic by limiting heavy truck movements on residential streets, maximizing the distance between equipment and receptors where possible and, enclosing or screening noisy activities or stationary equipment.

Section 7.0

CONCLUSION AND RECOMMENDATION

A noise analysis was prepared for all noise sensitive receivers located within 500 feet of the existing driving lanes and associated roadway ramps on SR 161 from I-270 interchange with SR 161 to the US 62/Johnstown Road interchange with SR 161 and the northbound lanes of I-270 From SR 161 to interchange to the State Street interchange. The noise analysis for this project was conducted in accordance with the Code of Federal Regulations (CFR), Title 23, Part 772, and the U.S. Department of Transportation, Federal Highway Administration (FHWA), Highway Traffic Noise Analysis and Abatement Policy and Guidance (FHWA, 2011). The project was further conducted in accordance with the Ohio Department of Transportation (ODOT) noise policy pertaining to Standard Procedure for Analysis and Abatement of Highway Traffic Noise (ODOT, 2011) and the changes, clarifications and additions incorporated into ODOT's Highway Traffic Noise Analysis manual dated February 2013. Existing year 2028 noise levels and noise levels for Design Year 2048 Build Alternative I were modeled using the FHWA Traffic Noise Model (TNM) Version 2.5 (FHWA, 1998).

The study area has been divided into 16 noise sensitive areas and have been modeled for the Existing Year 2025 and Design Year 2045 conditions using certified traffic data provided by ODOT. Receivers in ten of the NSAs were predicted to experience traffic noise levels above their applicable FHWA NAC in the design year. In accordance with 23 CFR Part 772, when noise impacts are identified as a result of a proposed action, noise abatement measures must be considered for impacted sites predicted to approach or exceed the applicable FHWA NAC. Noise abatement measures, including noise barrier walls, were evaluated for the impacted receivers. Noise barrier walls were determined to be both a feasible and a reasonable noise abatement measure for nine of the ten NSAs where impact was predicted. The noise barriers that were evaluated as potential noise abatement measures are summarized in Table 5 on page 52.

Table 6, on page 53, summarizes the recommended noise barrier walls for the project. Figure 11, on pages 54 and 55 show the recommended noise barrier wall locations for the project.

Table 5. Noise Barrier Evaluation Summary

| Barrier | Barrier Length (feet) | Barrier Height (feet) | Square Footage of Barrier | Maximum Insertion Loss ^a (dB) | Impacted Receptors | Benefitted Receptors ^b | Barrier Cost ^c | Cost per benefitted receptor | Effectiveness | | Barrier Location ^f | Barrier Recommended ^g |
|-------------------|-----------------------|-----------------------|---------------------------|--|--------------------|-----------------------------------|---------------------------|------------------------------|-----------------------|-------------------------|-------------------------------|----------------------------------|
| | | | | | | | | | Feasible ^d | Reasonable ^e | | |
| Wilder School | 606 | 11 | 6,666 | 5.4 | 1 | 1 | \$203,273 | \$203,273 | No | No | EOS | No |
| NSA 1 | 1,232 | 16 | 19,712 | 5.1 | 10 | 6 | \$591,560 | \$98,593 | No | No | EOS | No |
| NSA 2 | No Noise Impact | | | | | | | | | | | |
| NSA 3 | 1,304 | 14 | 18,256 | 9.3 | 19 | 21 | \$547,680 | \$26,080 | Yes | Yes | Clear zone and EOS | Yes |
| NSA 4 | 1,078 | 14 | 15,092 | 7.1 | 34 | 28 | \$452,625 | \$16,165 | Yes | Yes | EOS | Yes |
| NSA 5 | No Noise Impact | | | | | | | | | | | |
| NSA 6 | 1,049 | 14 | 14,686 | 6.4 | 12 | 12 | \$440,507 | \$36,708 | Yes | Yes | White Fence Line | Yes |
| NSA 7 | No Noise Impact | | | | | | | | | | | |
| NSA 8 | 2,510 | 14 | 35,140 | 13.1 | 124 | 132 | \$1,054,098 | \$7,985 | Yes | Yes | White Fence Line / ROW | Yes |
| NSA 9 and NSA 10 | 2,890 | 14 | 40,460 | 9.6 | 52 | 84 | \$1,213,647 | \$14,448 | Yes | Yes | White Fence Line and EOS | Yes |
| NSA 11 and NSA 12 | 3,176 | 14 | 44,464 | 12.8 | 107 | 116 | \$1,333,545 | \$11,460 | Yes | Yes | White Fence Line and EOS | Yes |
| NSA 13 | No Noise Impact | | | | | | | | | | | |
| NSA 14 | No Noise Impact | | | | | | | | | | | |
| NSA 15 | 2,090 | 14 | 29,260 | 11.6 | 13 | 21 | \$877,800 | \$41,800 | Yes | Yes | ROW | Yes |

^a Insertion Loss (IL) is the maximum noise reduction provided by the noise barrier.

^b A receptor is considered benefitted by the noise barrier if the IL is 5dB or greater.

^c Cost is based on \$30 per square foot of noise barrier constructed on ground and \$100 per square foot constructed on bridge structure or on retaining wall.

^d A noise barrier is considered feasible if it can provide a substantial noise reduction of at least 7dB at one receptor location.

^e A noise barrier is considered cost reasonable if the cost per benefitted receptor is less than \$42,000.

^f The location of the noise barrier wall: ROW=noise barrier is located along the right of way line; EOS=noise barrier is located along the edge of shoulder.

^g Noise barrier recommendation is based on the number of benefitted receptors and the relative cost per benefitted receptor.

Table 6. Recommended Noise Barrier Walls

| Barrier | Barrier Length (feet) | Barrier Height (feet) | Square Footage of Barrier | Maximum Insertion Loss ^a (dB) | Impacted Receptors | Benefitted Receptors ^b | Barrier Cost ^c | Cost per benefitted receptor | Effectiveness | | Barrier Location ^f | Barrier Recommended ^g |
|-------------------|-----------------------|-----------------------|---------------------------|--|--------------------|-----------------------------------|---------------------------|------------------------------|-----------------------|-------------------------|-------------------------------|----------------------------------|
| | | | | | | | | | Feasible ^d | Reasonable ^e | | |
| NSA 3 | 1,304 | 14 | 18,256 | 9.3 | 19 | 21 | \$547,680 | \$26,080 | Yes | Yes | Clear zone and EOS | Yes |
| NSA 4 | 1,078 | 14 | 15,092 | 7.1 | 34 | 28 | \$452,625 | \$16,165 | Yes | Yes | EOS | Yes |
| NSA 6 | 1,049 | 14 | 14,686 | 6.4 | 12 | 12 | \$440,507 | \$36,708 | Yes | Yes | White Fence Line | Yes |
| NSA 8 | 2,510 | 14 | 35,140 | 13.1 | 124 | 132 | \$1,054,098 | \$7,985 | Yes | Yes | White Fence Line / ROW | Yes |
| NSA 9 and NSA 10 | 2,890 | 14 | 40,460 | 9.6 | 52 | 84 | \$1,213,647 | \$14,448 | Yes | Yes | White Fence Line and EOS | Yes |
| NSA 11 and NSA 12 | 3,176 | 14 | 44,464 | 12.8 | 107 | 116 | \$1,333,545 | \$11,460 | Yes | Yes | White Fence Line and EOS | Yes |
| NSA 15 | 2,090 | 14 | 29,260 | 11.6 | 13 | 21 | \$877,800 | \$41,800 | Yes | Yes | ROW | Yes |

^a Insertion Loss (IL) is the maximum noise reduction provided by the noise barrier.

^b A receptor is considered benefitted by the noise barrier if the IL is 5dB or greater.

^c Cost is based on \$30 per square foot of noise barrier constructed on ground and \$100 per square foot constructed on bridge structure or on retaining wall.

^d A noise barrier is considered feasible if it can provide a substantial noise reduction of at least 7dB at one receptor location.

^e A noise barrier is considered cost reasonable if the cost per benefitted receptor is less than \$42,000.

^f The location of the noise barrier wall: ROW=noise barrier is located along the right of way line; EOS=noise barrier is located along the edge of shoulder.

^g Noise barrier recommendation is based on the number of benefitted receptors and the relative cost per benefitted receptor.

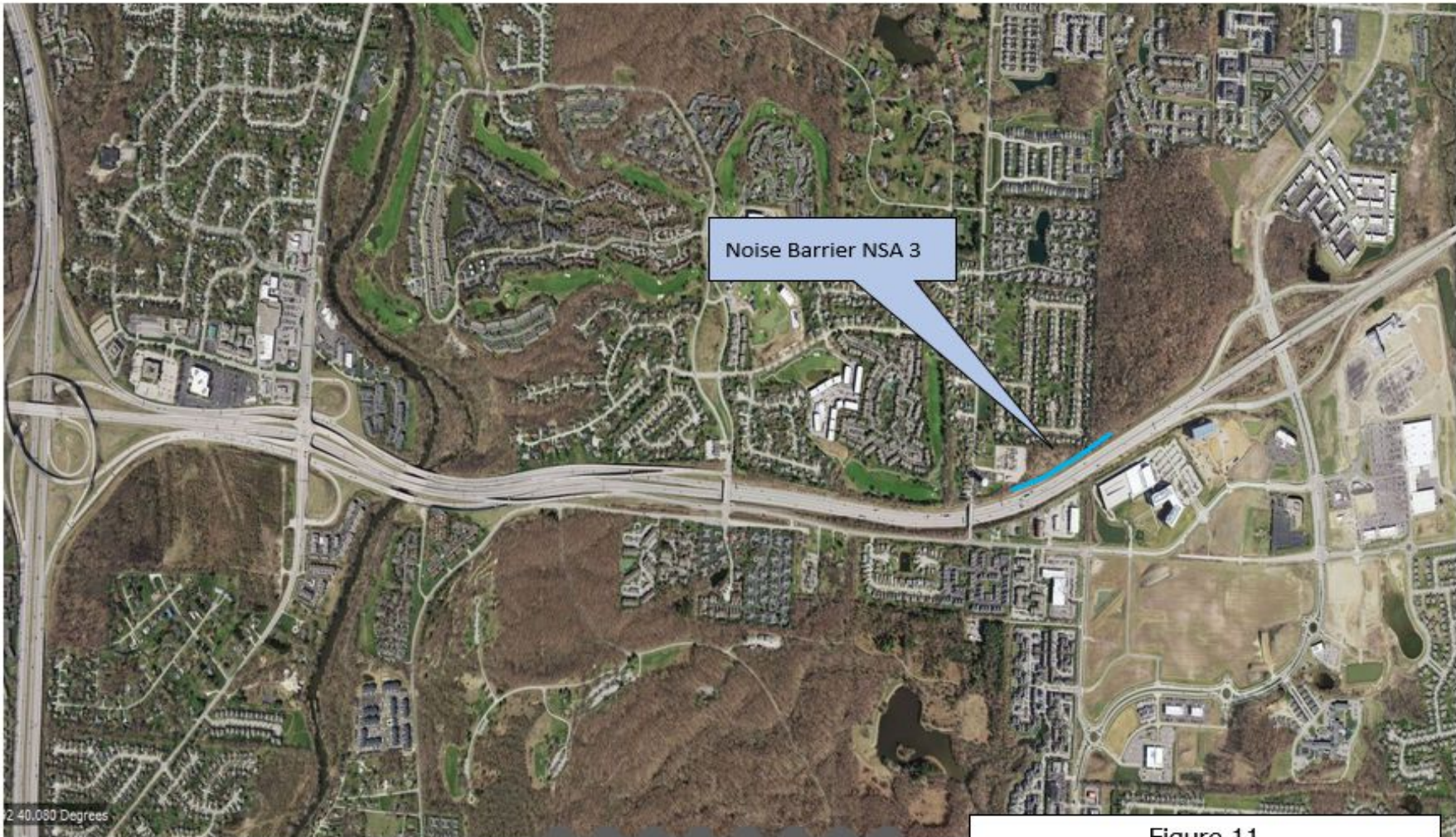


Figure 11
Recommended Noise Barrier
Wall Locations
FRA-161-15.85 PID 116322



Figure 11
 Recommended Noise Barrier
 Wall Locations
 FRA-161-15.85 PID 116322

Section 8.0 REFERENCES

Code of Federal Regulations (CFR) Title 23, Part 772, U.S. Department of Transportation, Federal Highway Administration (FHWA), *Procedures for Abatement of Highway Traffic Noise and Construction Noise*. Washington, D.C.

Ohio Department of Transportation, Office of Environmental Services. June, 2011. *Standard Procedure for Analysis and Abatement of Highway Traffic Noise*. Columbus, Ohio.

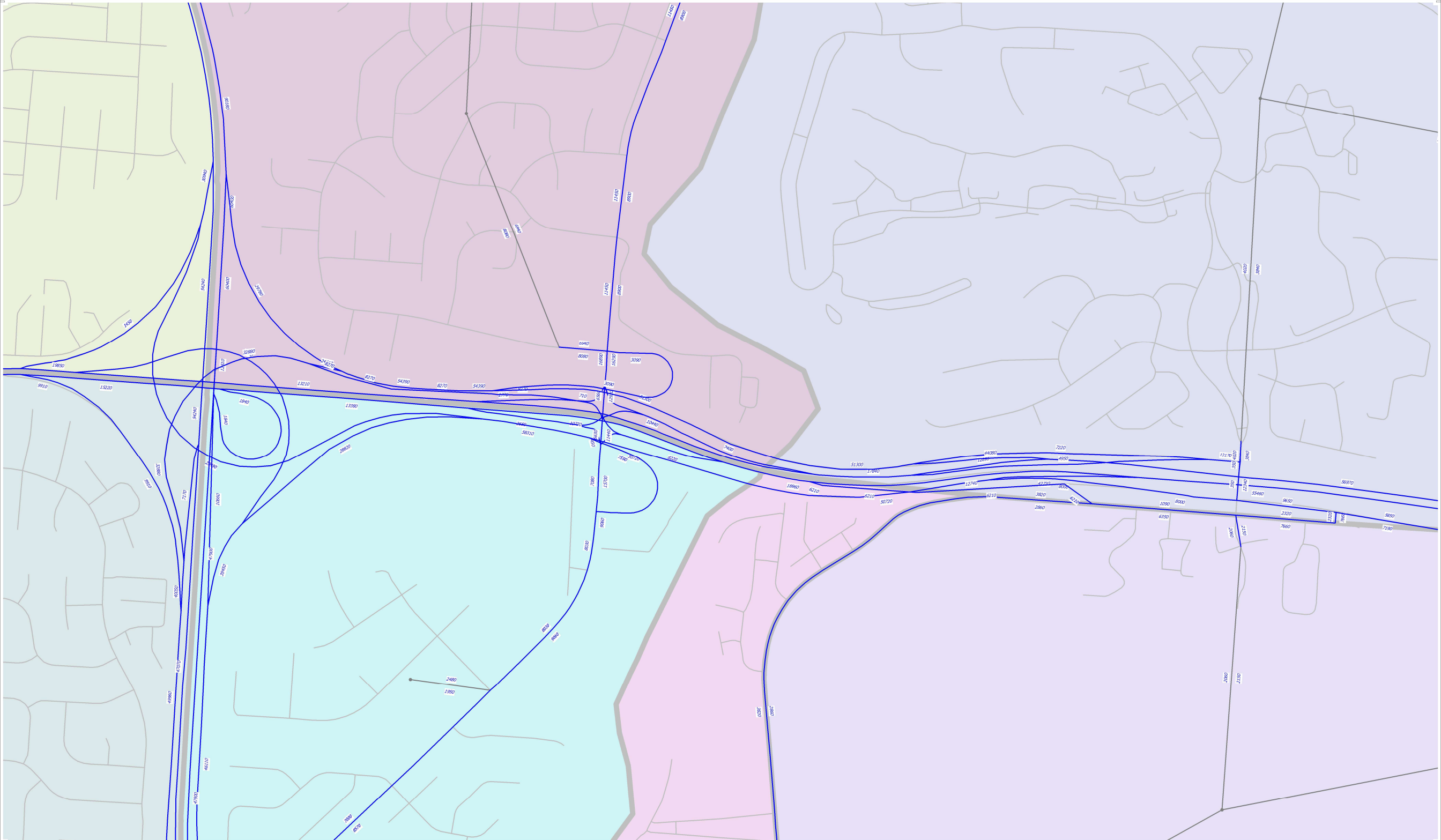
U.S. Department of Transportation, Federal Highway Administration. January, 1998. *FHWA Traffic Noise Model (TNM)*. Report No. FHWA-PD-96-009. Washington, D.C.

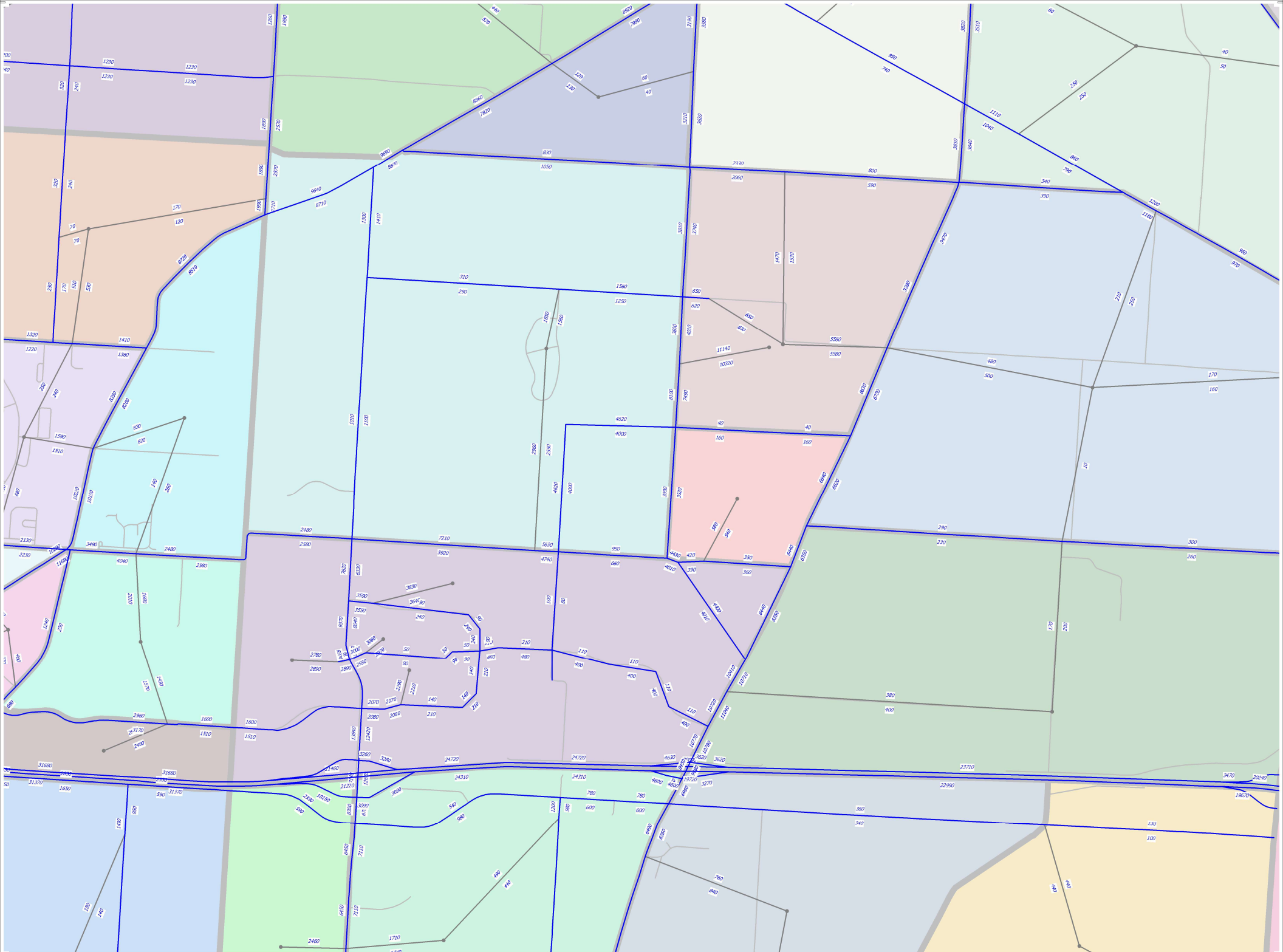
U.S. Department of Transportation, Federal Highway Administration. May, 1996. *Measurement of Highway-Related* Report No. FHWA-PD-96-046. Washington, D.C.

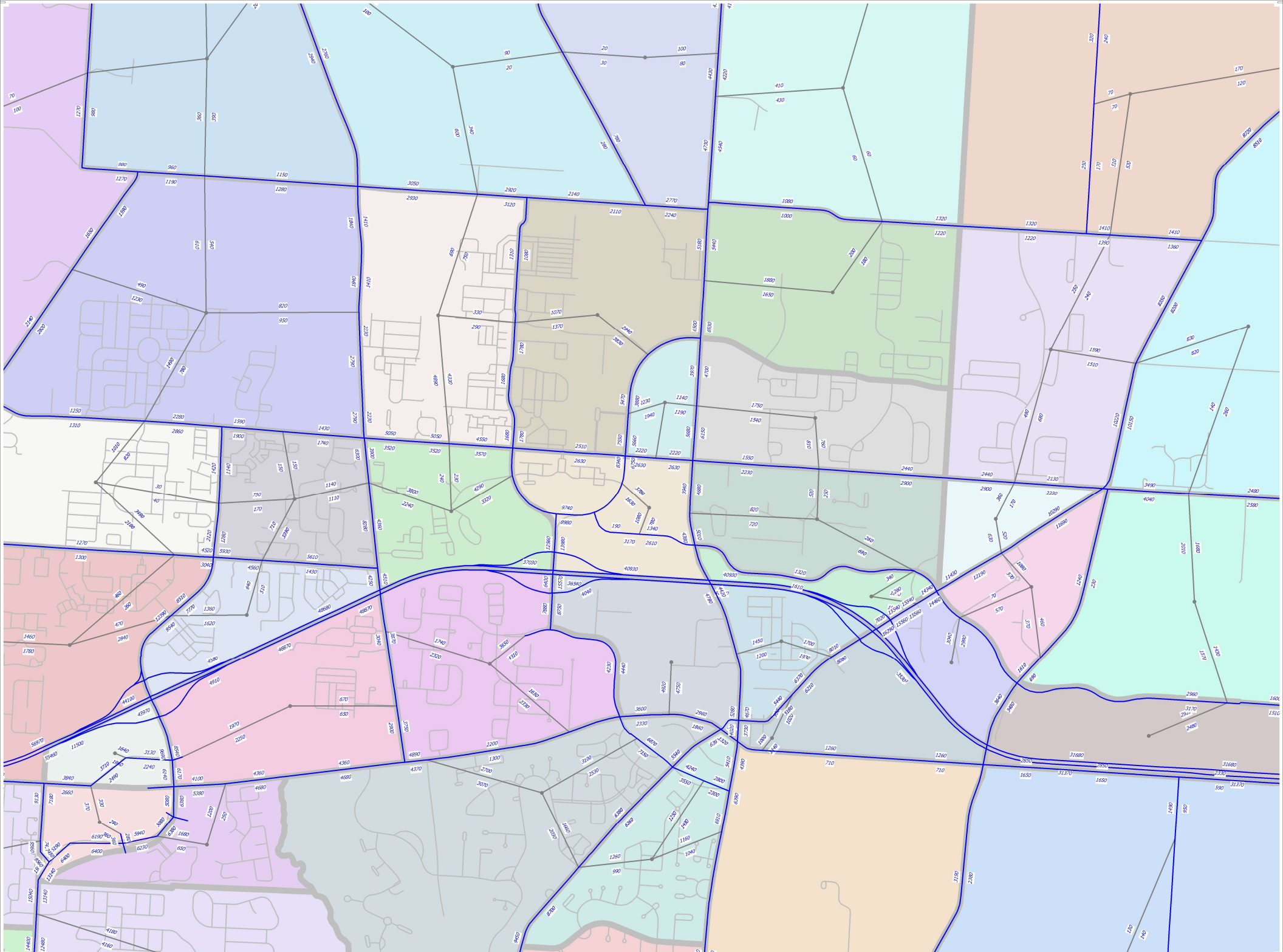
U.S. Department of Transportation, Federal Highway Administration. January, 2011. *Highway Traffic Noise Analysis and Abatement - Policy and Guidance*. Washington, D.C.

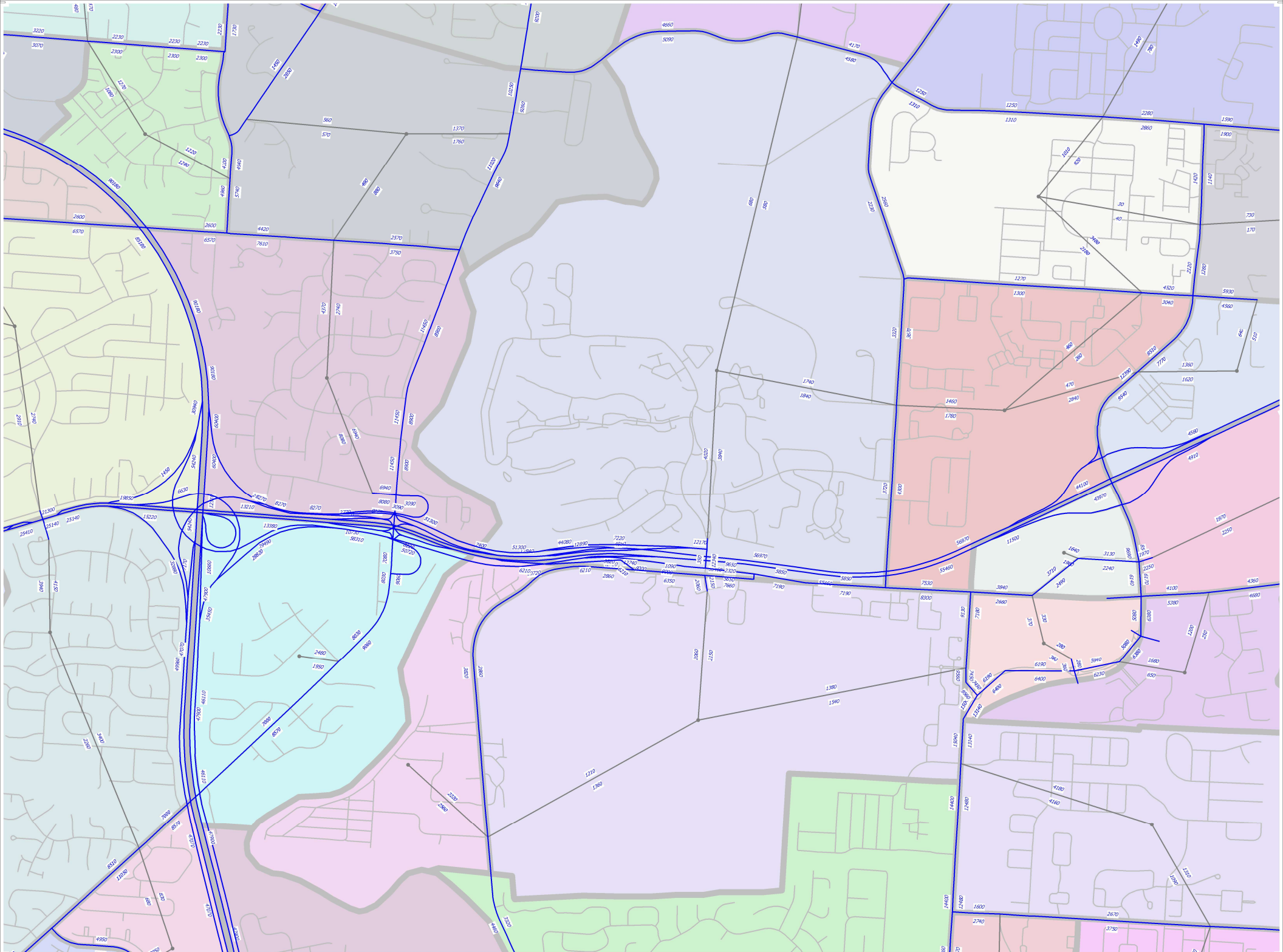
APPENDIX A

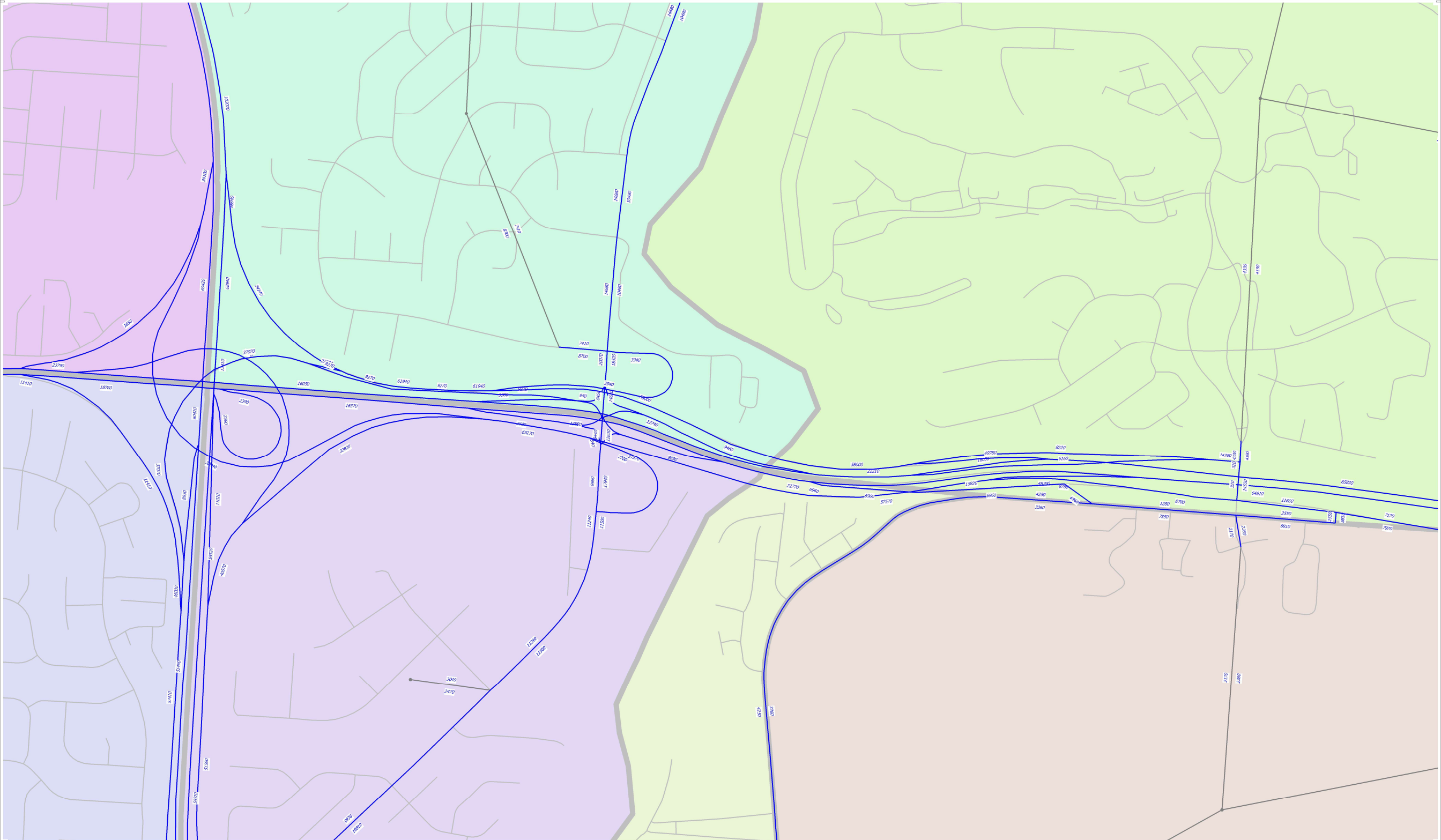
Traffic Data

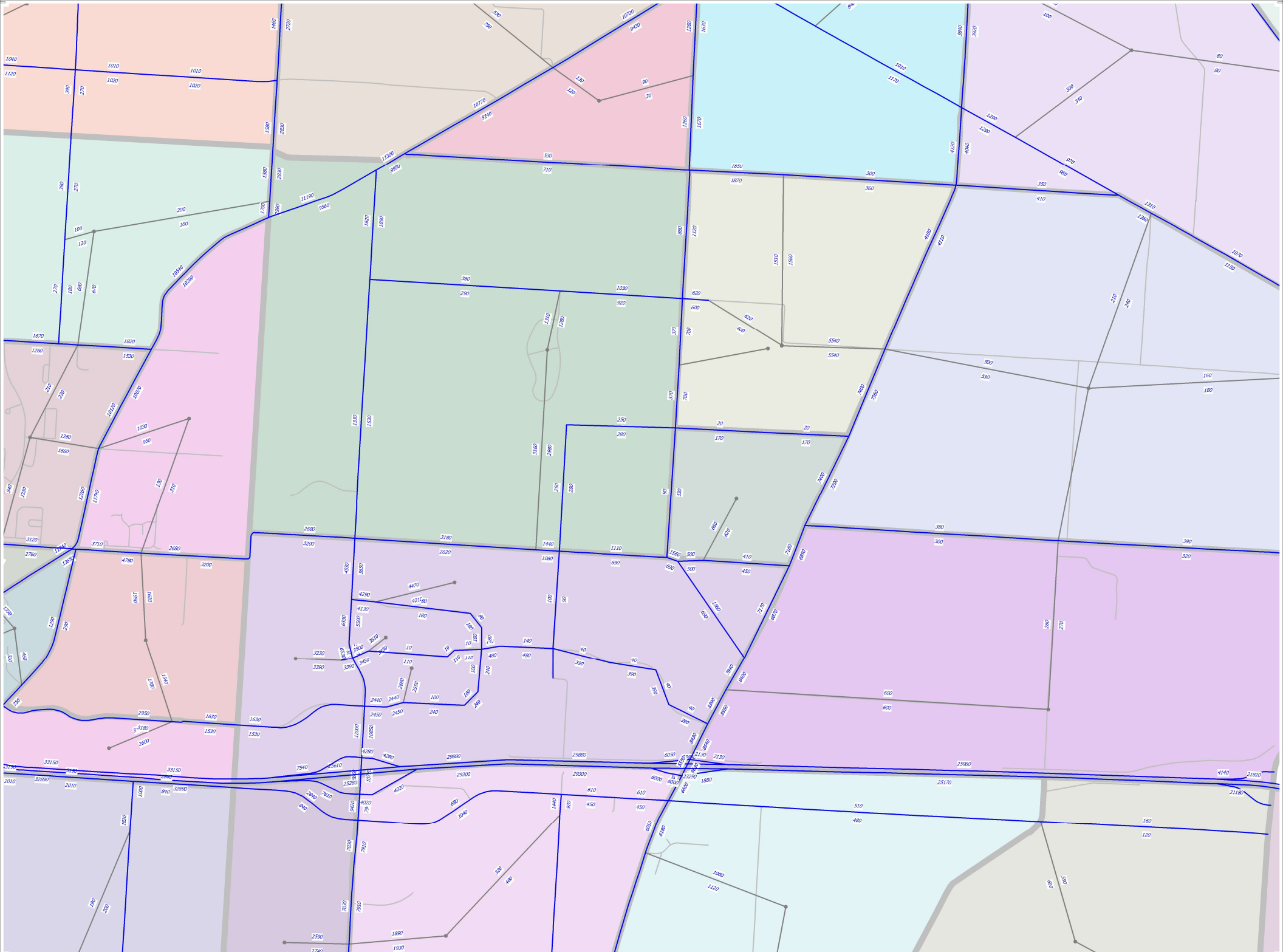


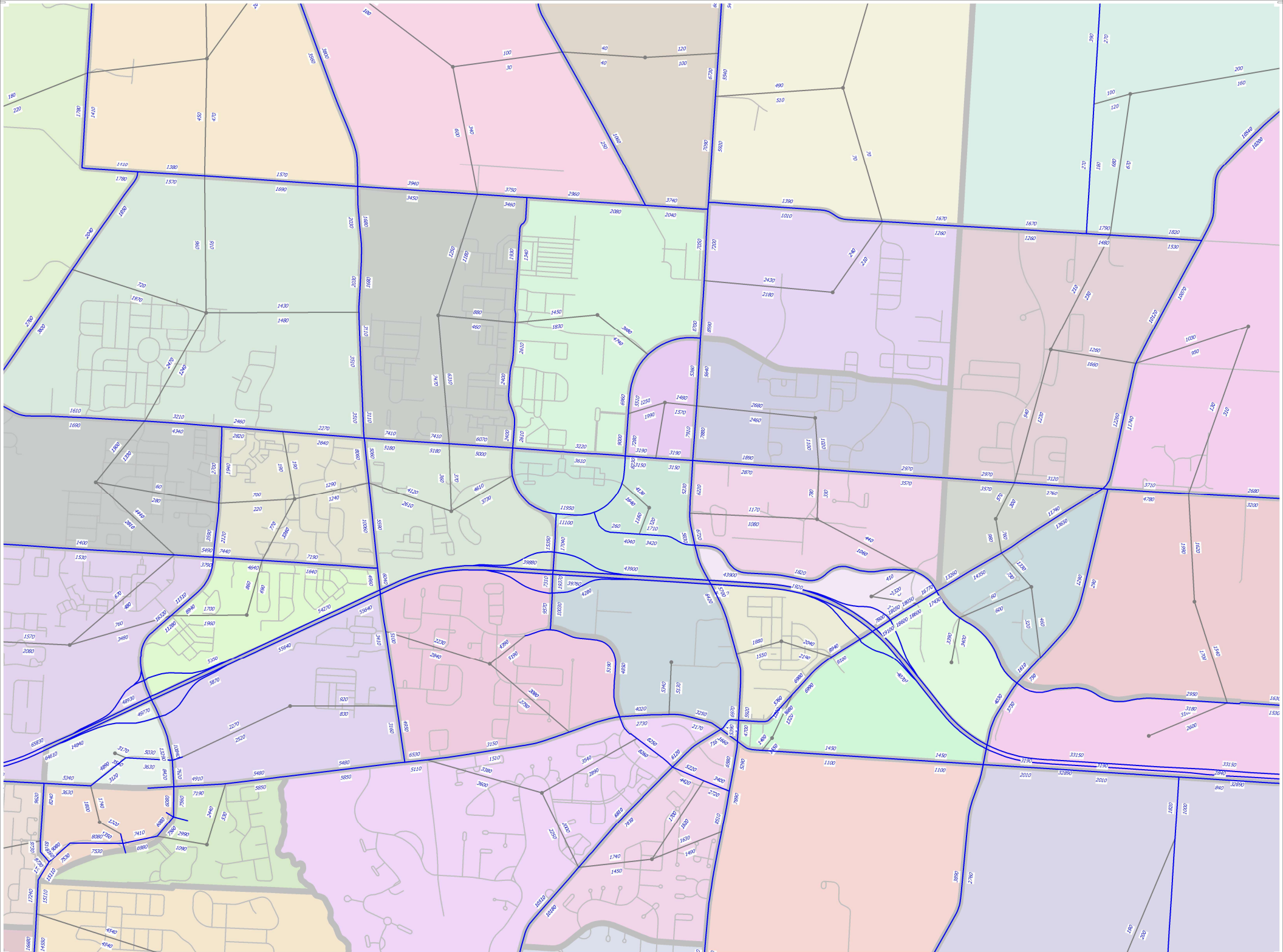


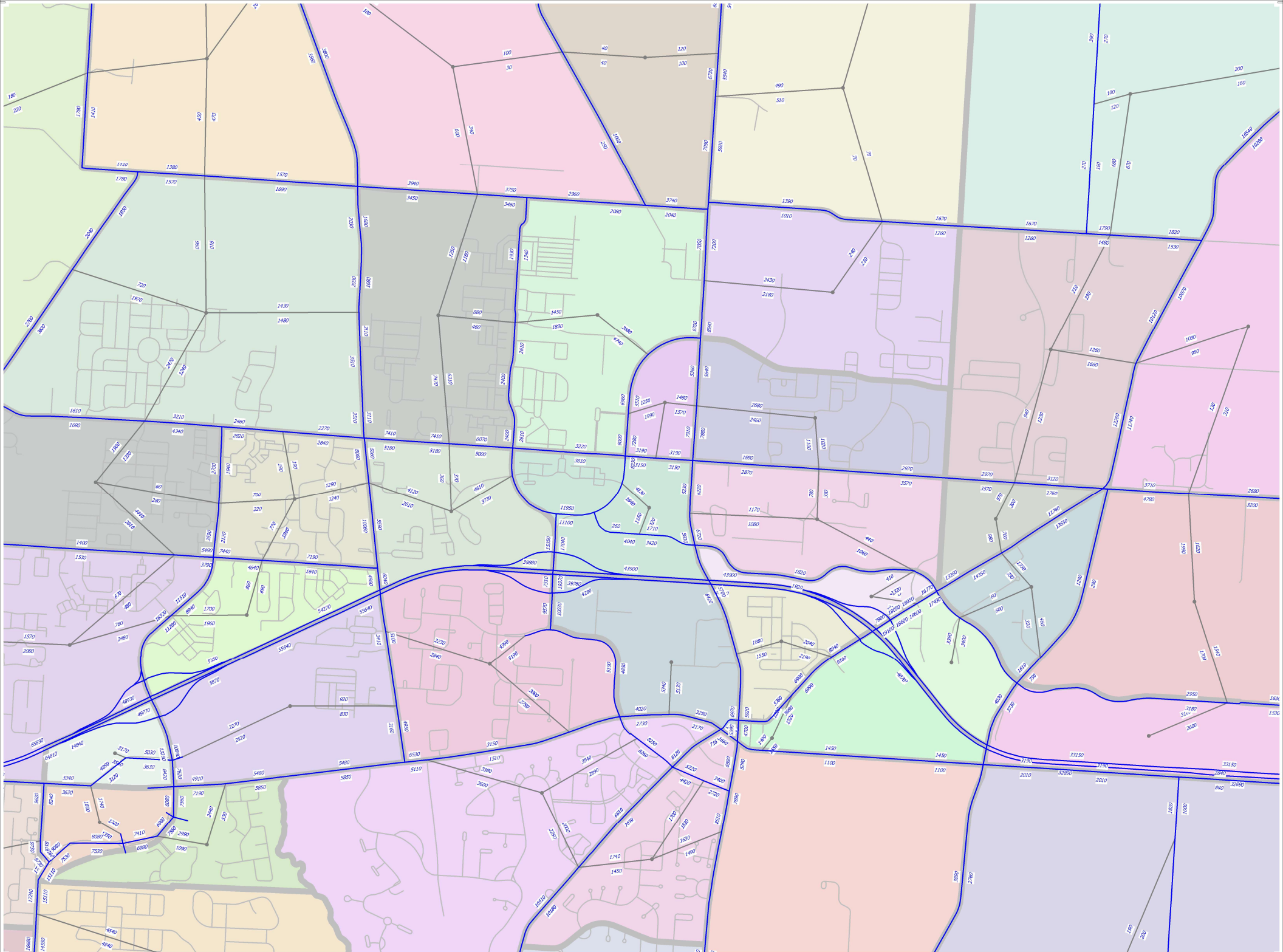












APPENDIX B

Field Noise Measurements and Model Validation Information



Reserve at Walnut Creek

Fairway Lakes Apartments

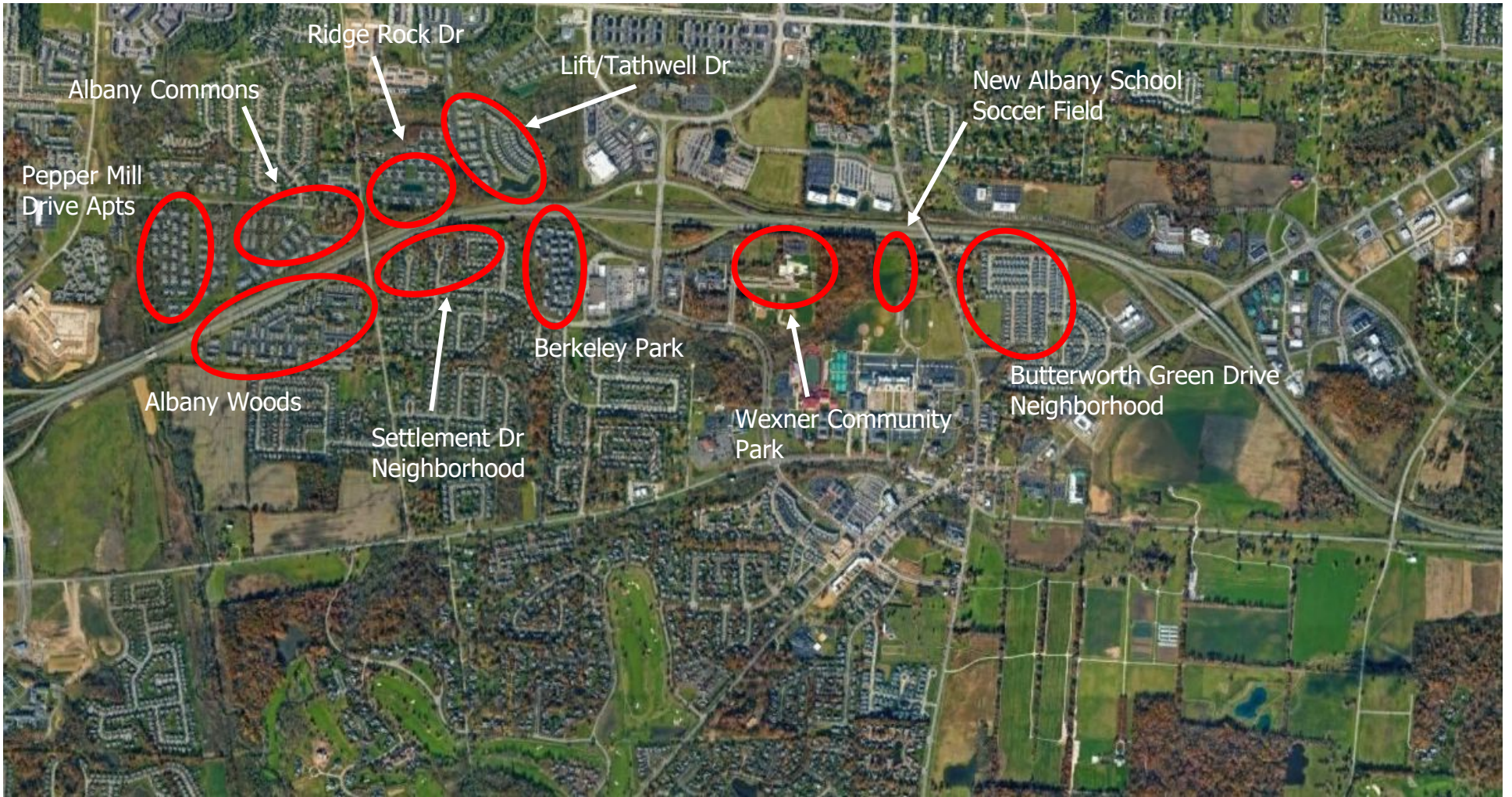
Preston Commons

HQ Flats Apartments

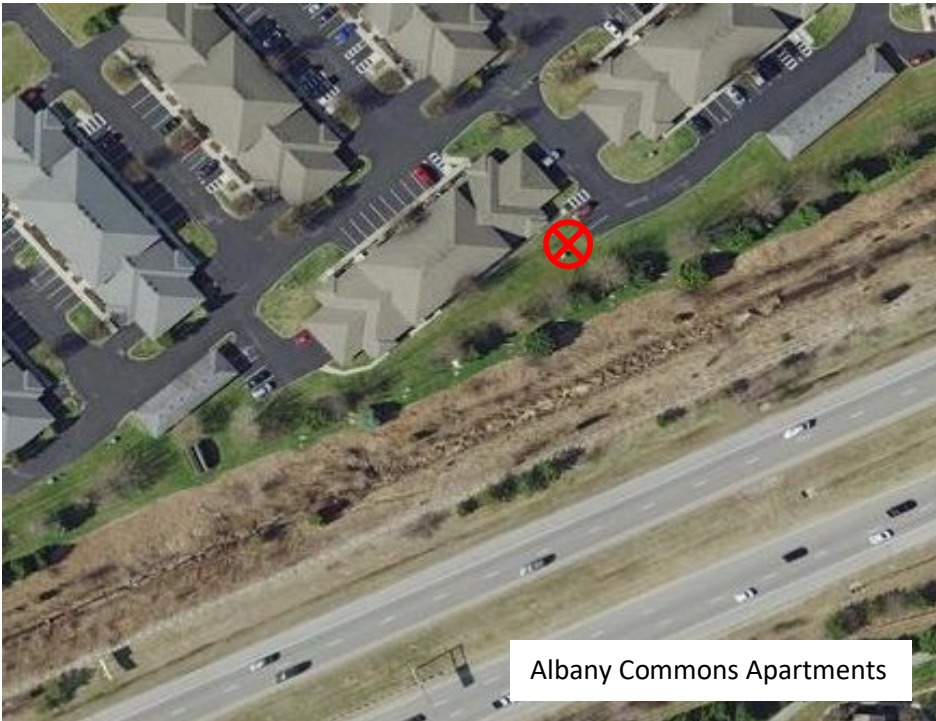
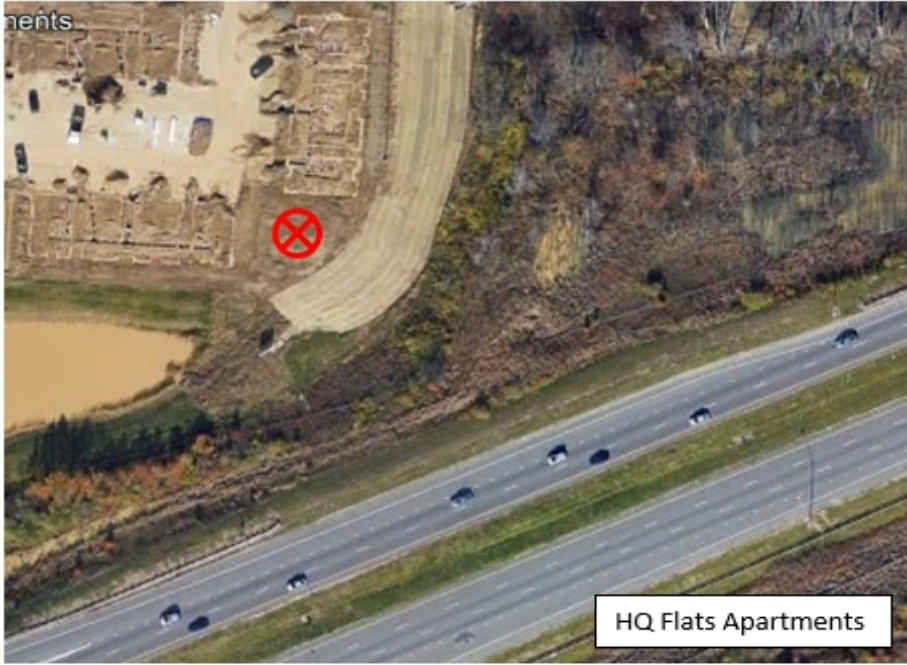
Ohio State
Outpatient Care

Noise Measurement Plan

FRA-SR161- 15.80 PID 116322





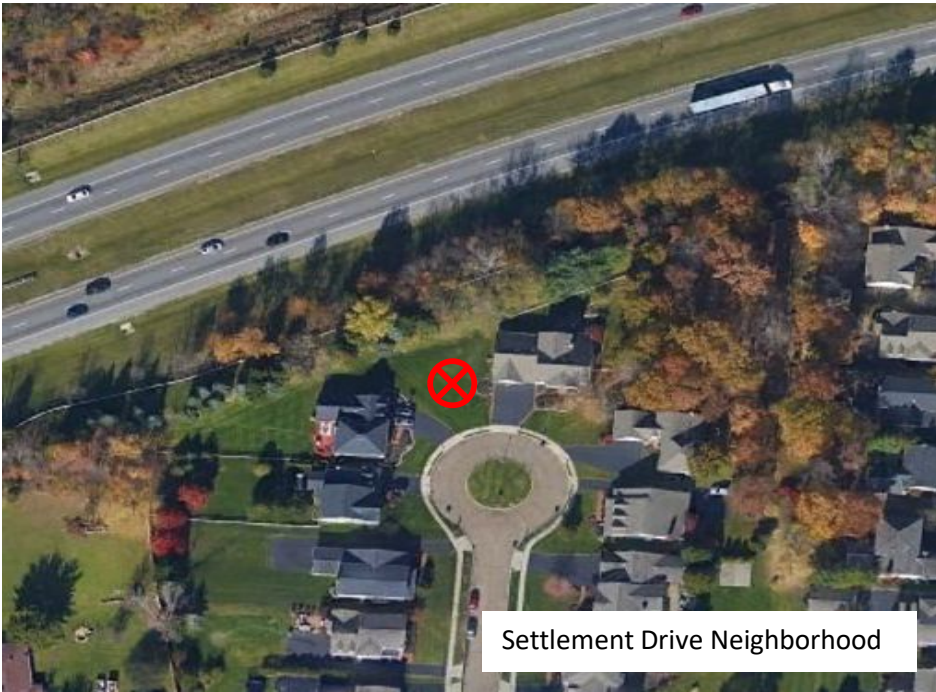




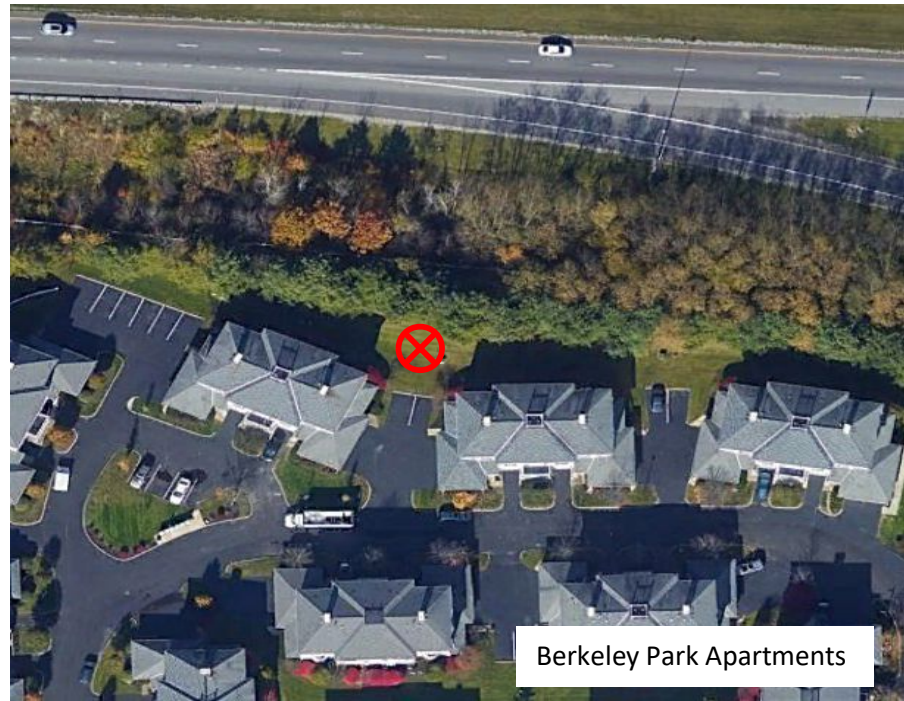
Ridge Rock Drive Condos



Gramercy New Albany Apartments



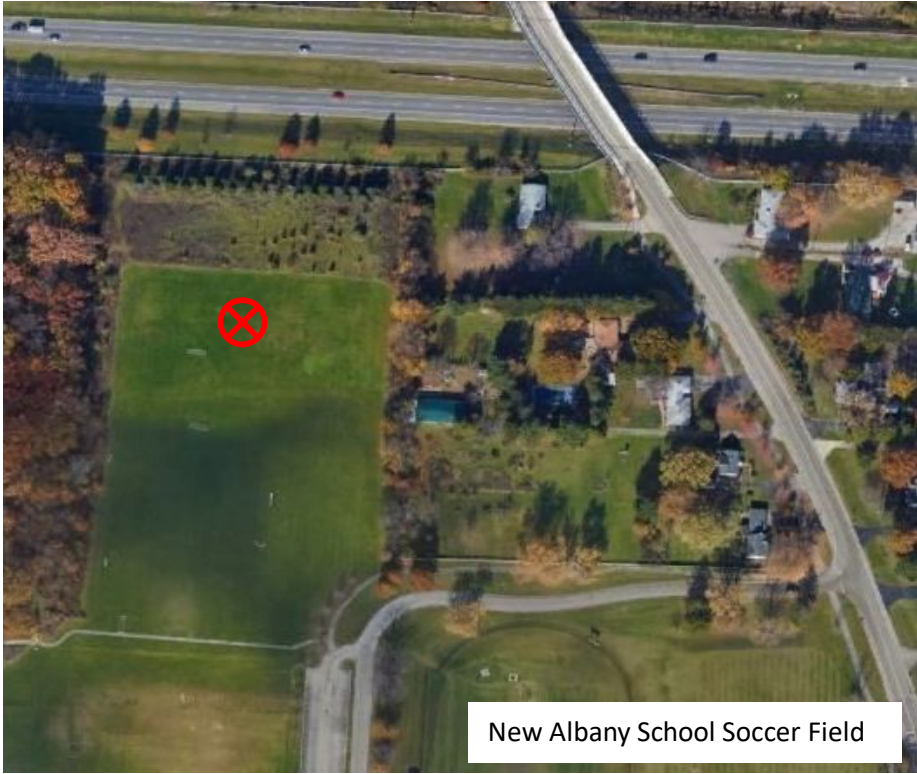
Settlement Drive Neighborhood



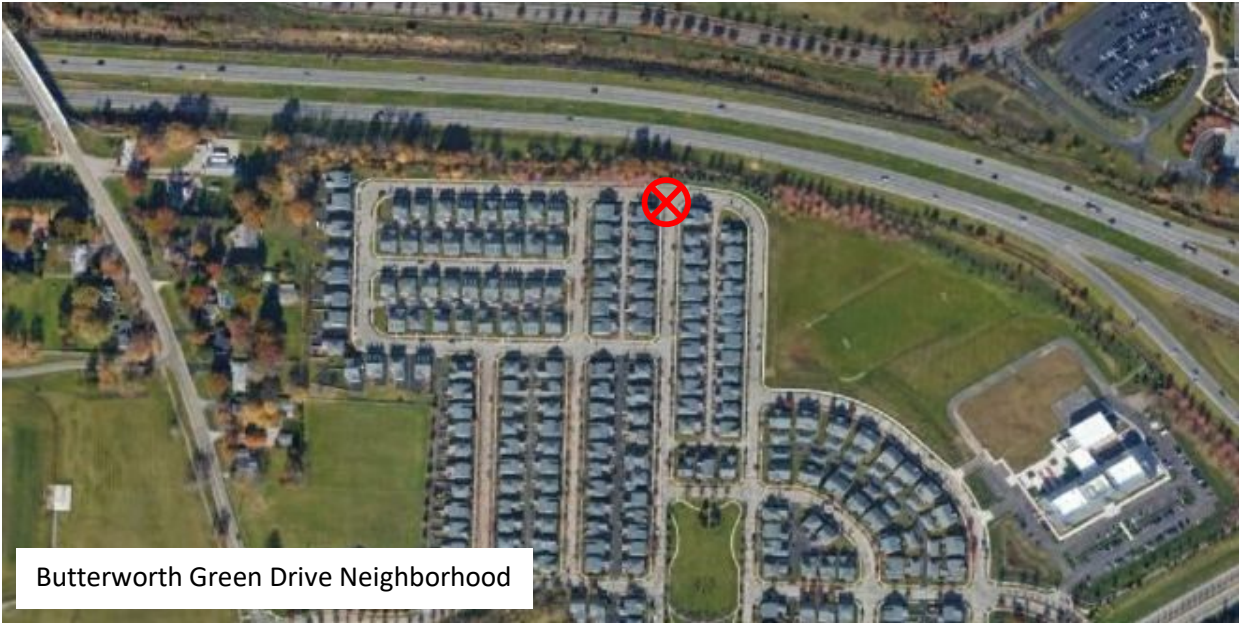
Berkeley Park Apartments



Wexner Community Park



New Albany School Soccer Field



Butterworth Green Drive Neighborhood

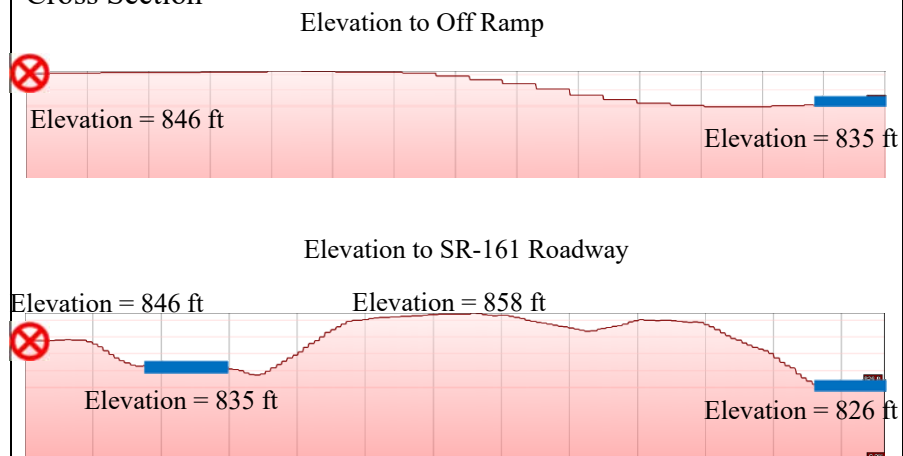
Field Worksheet

FRA-SR161-15.80 PID 116322

Plan View



Cross Section



Traffic Volume

| Roadway | Classification | Southbound | Northbound |
|---------|----------------|------------|------------|
| Sunbury | Auto | 97 | 93 |
| | Medium Truck | 5 | 3 |
| | Heavy Truck | | |
| | | Eastbound | Westbound |
| Ramp | Auto | | 75 |
| | Medium Truck | | 5 |
| | Heavy Truck | | 3 |

Measurement Site

Location: Reserve at Walnut Creek, 5930 S Sunbury Rd, Columbus, OH 43230

Date: 5/9/2022

Time:

Weather: 59°, RH= 59%
 Press= 30.18 mb and rising
 Wind = 12 mph from SE to NW
 (blocked from wind)

Events:

Sound Measurements Leq)

Each block = 1 minute
(read left to right)

| | | |
|-------|------|-------|
| 53.8 | 54.8 | 56.4 |
| 55.8 | 55.5 | 55.0 |
| 54.8 | 54.5 | 55.9 |
| 56.7 | 56.5 | *56.5 |
| *56.5 | 56.3 | 56.3 |

15 minute Leq = 56.3

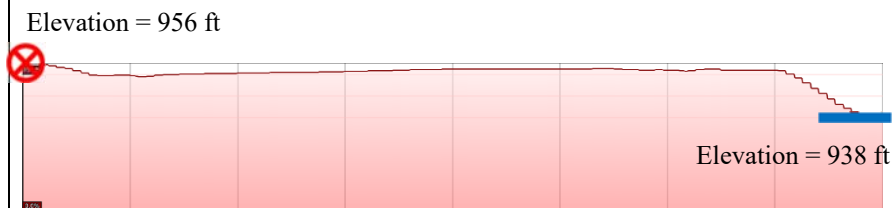
From this location, SR 161 is in a trench. The counts were taken for the ramp and for Sunbury Road.

Field Worksheet
FRA-SR161-15.80 PID 116322

Plan View



Cross Section



| Traffic Volume | | | | Measurement Site | Sound Measurements Leq) | | |
|----------------|----------------|------------|------------|---|---|------|-------|
| Roadway | Classification | Southbound | Northbound | Location: Fairway Lakes Apartments 5191 Fairway Lakes Dr, Westerville, OH 43081 | Each block = 1 minute (read left to right) | | |
| | Auto | | | | Date: 5/9/22 | 61.4 | 60.8 |
| | Medium Truck | | | Time: 10:10 AM | 61.1 | 61.1 | 61.1 |
| | Heavy Truck | | | Weather: 63 °, RH= 56 %, Press= 30.18 mb and rising Wind = 11 mph from SE to NW | 61.1 | 61.1 | 61.2 |
| SR 161 | | Eastbound | Westbound | Events: Weed wacker for a few seconds- not within sight. | 61.2 | 61.1 | *61.1 |
| | Auto | 332 | 491 | | 15 minute Leq = 61.1 | | |
| | Medium Truck | 27 | 32 | | | | |
| Heavy Truck | 44 | 32 | | | | | |

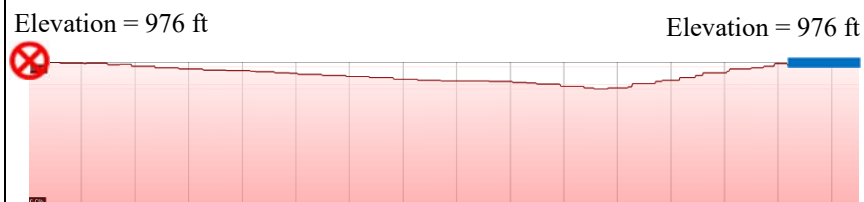
**Was not getting Leq before this. Leq was running we recorded instant readings instead for a few minutes.

Field Worksheet
FRA-SR161-15.80 PID 116322

Plan View



Cross Section



| Traffic Volume | | | | Measurement Site | Sound Measurements Leq) | | |
|----------------|----------------|------------|------------|---|--|------|------|
| Roadway | Classification | Southbound | Northbound | Location: Preston Commons Westerville, OH 43081 | Each block = 1 minute (read left to right) | | |
| | Auto | | | | | 70.1 | 70.2 |
| | Medium Truck | | | Date: 5/9/22 | 69.8 | 69.7 | 69.7 |
| | Heavy Truck | | | Time: 10:40 AM | 69.9 | 70.1 | 70.1 |
| | | Eastbound | Westbound | Weather: 63 °, RH= 57 %, Press= 30.18 mb and rising Wind = 11 mph from SE to NW | 70.3 | 70.4 | 70.4 |
| SR 161 | Auto | 422 | 545 | Events: | 70.6 | 70.5 | 70.4 |
| | Medium Truck | 15 | 36 | | 15 minute Leq = 70.4 (Max 77.6 Min 61.4) | | |
| | Heavy Truck | 38 | 25 | | | | |

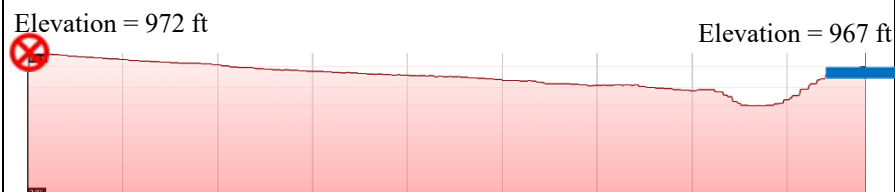
Homeowner Rafip Zoman allowed us to use back yard. Can coordinate with HOA. Contact Info: (614)787-7678 rafip226@yahoo.com

Field Worksheet
FRA-SR161-15.80 PID 116322

Plan View



Cross Section



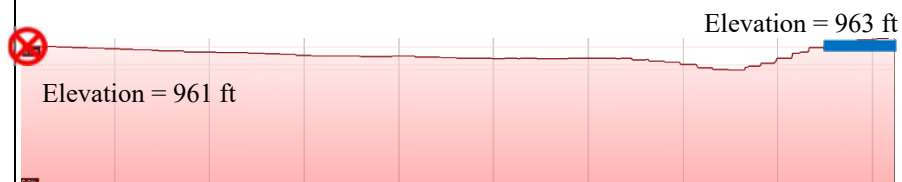
| Traffic Volume | | | | Measurement Site | Sound Measurements Leq | | |
|----------------|----------------|------------|------------|---|---|------|------|
| Roadway | Classification | Southbound | Northbound | Location: HQ flats near pool 6249 Walton Breck Way, Westerville, OH 43081 | Each block = 1 minute (read left to right) | | |
| | Auto | | | | Date: 5/9/22 | 67.4 | 66.9 |
| | Medium Truck | | | Time: 11:23 AM | 68.3 | 68.0 | 67.8 |
| | Heavy Truck | | | Weather: 65 °, RH= 53 %, Press= 30.17 mb and falling Wind = 10 mph from SE to NW (windy) | 69.7 | 69.4 | 69.1 |
| | | Eastbound | Westbound | | 68.8 | 68.4 | 68.2 |
| SR 161 | Auto | 395 | 403 | | 68.0 | 67.8 | 67.6 |
| | Medium Truck | 27 | 29 | Events: windy gust- no screen, one car drove by, ambient low music at the pool | 15-minute Leq = Not listed | | |
| | Heavy Truck | 30 | 23 | | | | |
| | | | | | Max 88.8 Min 56.8 | | |

Field Worksheet
FRA-SR161-15.80 PID 116322

Plan View



Cross Section



| Traffic Volume | | | | Measurement Site Location: HQ flats near corner 6249 Walton Breck Way, Westerville, OH 43081 | Sound Measurements Leq) Each block = 1 minute (read left to right) | | |
|----------------|----------------|------------|------------|---|--|------|------|
| Roadway | Classification | Southbound | Northbound | | | | |
| | Auto | | | Date: 5/9/22 | 72.6 | 72.4 | 72.1 |
| | Medium Truck | | | Time: 11:42 AM | 71.6 | 71.5 | 71.3 |
| | Heavy Truck | | | Weather: 65 °, RH= 53 %, Press= 30.17mb and falling Wind = 10 mph from SE to NW | 71.2 | 71.3 | 71.2 |
| | | Eastbound | Westbound | | 71.2 | 71.1 | 71.1 |
| SR 161 | Auto | 380 | 441 | Events: Fountain running the whole time | 71.0 | 71.1 | 71.2 |
| | Medium Truck | 20 | 38 | | 15-minute Leq = 71.2 | | |
| | Heavy Truck | 39 | 24 | | | | |

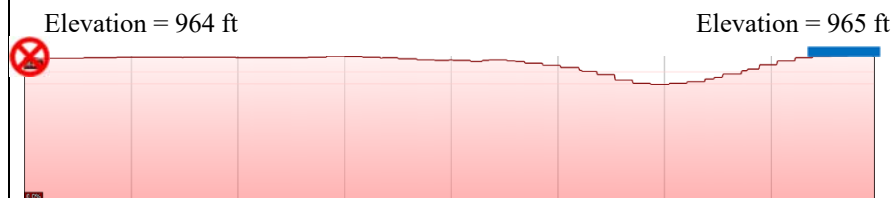
Field Worksheet

FRA-SR161-15.80 PID 116322

Plan View



Cross Section



| Traffic Volume | | | | Measurement Site | Sound Measurements Leq) | | |
|-------------------|----------------|------------|------------|---|---|------|------|
| Roadway | Classification | Southbound | Northbound | Location: Peppermill Dr. Condos Westerville, OH 43081 | Each block = 1 minute (read left to right) | | |
| | Auto | | | | | 66.1 | 66.8 |
| | Medium Truck | | | Date: 5/9/22 | 67.9 | 67.6 | 67.2 |
| | Heavy Truck | | | Time: 1:09 PM | 67.1 | 67.1 | 67.1 |
| | | Eastbound | Westbound | Weather: 65 °, RH= 54 %, Press= 30.17mb and falling Wind = 10 mph from SE to NW | 67.0 | 67.2 | 67.5 |
| SR 161 | Auto | 475 | 453 | Events: N/A | 67.9 | 67.8 | 67.7 |
| | Medium Truck | 13 | 22 | 15-minute Leq = 67.7 | | | |
| | Heavy Truck | 25 | 25 | | | | |
| Max 85.9 Min 58.2 | | | | | | | |

Field Worksheet
FRA-SR161-15.80 PID 116322

Plan View



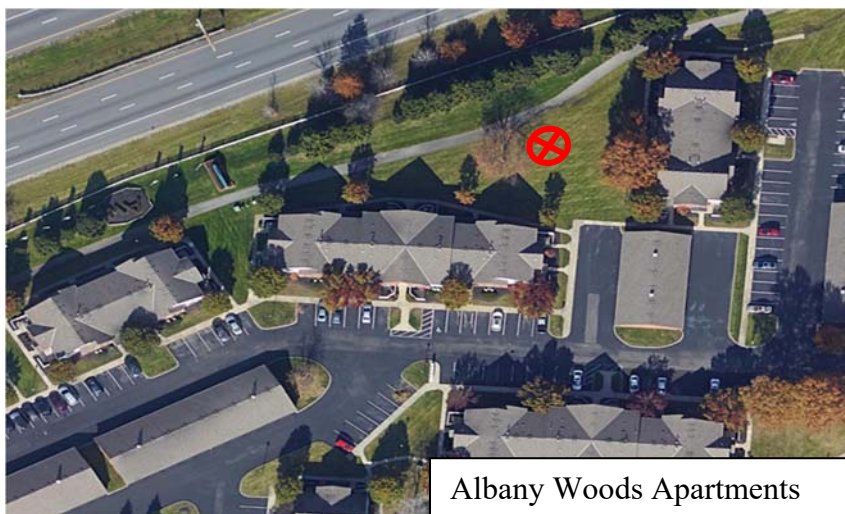
Cross Section



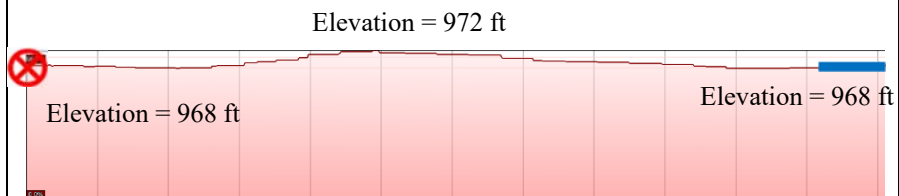
| Traffic Volume | | | | Measurement Site | Sound Measurements Leq) | | | |
|-------------------|----------------|------------|------------|---|---|--------|--------|------|
| Roadway | Classification | Southbound | Northbound | Location: Albany Commons 5621 Warner Park Dr, Westerville, OH 43081 | Each block = 1 minute (read left to right) | | | |
| | Auto | | | | Date: 5/9/22 | 59.5 | 60.5 | 61.1 |
| | Medium Truck | | | Time: 1:47 PM | 62.0 | 62.2 | * 62.1 | |
| | Heavy Truck | | | Weather: 70 °, RH= 44 %, Press= 30.15 mb and falling Wind = 12 mph from SE to NW | 62.2 | 62.2 | **62.2 | |
| | | Eastbound | Westbound | | **62.5 | **62.6 | *62.6 | |
| SR 161 | Auto | 432 | 412 | Events: Pickup started up next to area- doors slamming, flag raising for several seconds. | **62.5 | 62.5 | 62.4 | |
| | Medium Truck | 15 | 32 | | 15-minute Leq = 62.4 | | | |
| | Heavy Truck | 21 | 30 | | | | | |
| Max 81.5 Min 53.7 | | | | | | | | |

Field Worksheet
FRA-SR161-15.80 PID 116322

Plan View



Cross Section



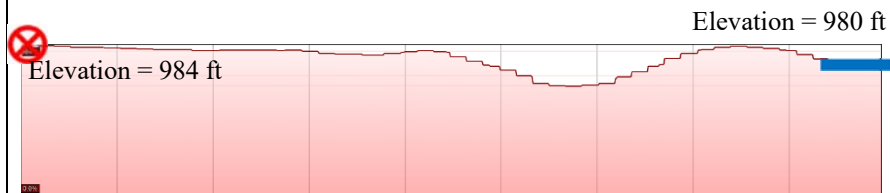
| Traffic Volume | | | | Measurement Site | Sound Measurements Leq) | | |
|----------------|----------------|------------|------------|--|---|------|------|
| Roadway | Classification | Southbound | Northbound | Location: Albany Woods | Each block = 1 minute (read left to right) | | |
| | Auto | | | | | 66.1 | 65.6 |
| | Medium Truck | | | Date: 5-13-22 | 65.9 | 65.9 | 65.7 |
| | Heavy Truck | | | Time: 9:29 am | 65.5 | 65.8 | 65.6 |
| | | Eastbound | Westbound | Weather: 72 °, RH= 65%, Press= 30.12 mb and Wind = 10 mph from ↙ | 65.9 | 65.9 | 65.8 |
| SR 161 | Auto | 442 | 628 | Events: | 66.3 | 66.3 | 66.6 |
| | Medium Truck | 20 | 36 | | 15 minute Leq = 66.6 | | |
| | Heavy Truck | 37 | 28 | | | | |

Field Worksheet
FRA-SR161-15.80 PID 116322

Plan View



Cross Section



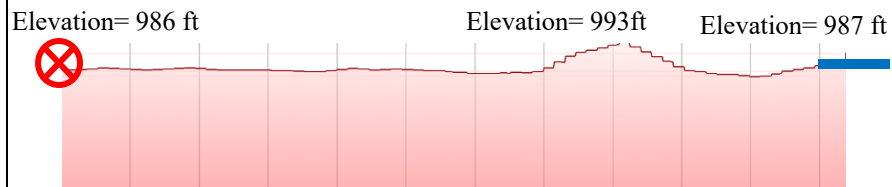
| Traffic Volume | | | | Measurement Site | Sound Measurements Leq) | | |
|-------------------|----------------|------------|------------|--|---|------|------|
| Roadway | Classification | Southbound | Northbound | Location: Ridge Rock Dr. Condos New Albany, OH 43054 | Each block = 1 minute (read left to right) | | |
| | Auto | | | | Date: 5/9/22 | 63.5 | 64.5 |
| | Medium Truck | | | Time: 2:16 PM | 65.0 | 65.7 | 65.8 |
| | Heavy Truck | | | Weather: 70 °, RH= 40 %, Press= 30.15 mb and falling Wind = 12 mph from SE to NW | 65.9 | 68.5 | 68.5 |
| | | Eastbound | Westbound | | 68.3 | 68.0 | 67.9 |
| SR 161 | Auto | 712 | 462 | Events: N/A | 67.8 | 67.8 | 67.6 |
| | Medium Truck | 21 | 32 | 15-minute Leq = 67.6 | | | |
| | Heavy Truck | 33 | 24 | | | | |
| Max 89.8 Min 59.3 | | | | | | | |

Field Worksheet
FRA-SR161-15.80 PID 116322



Plan View

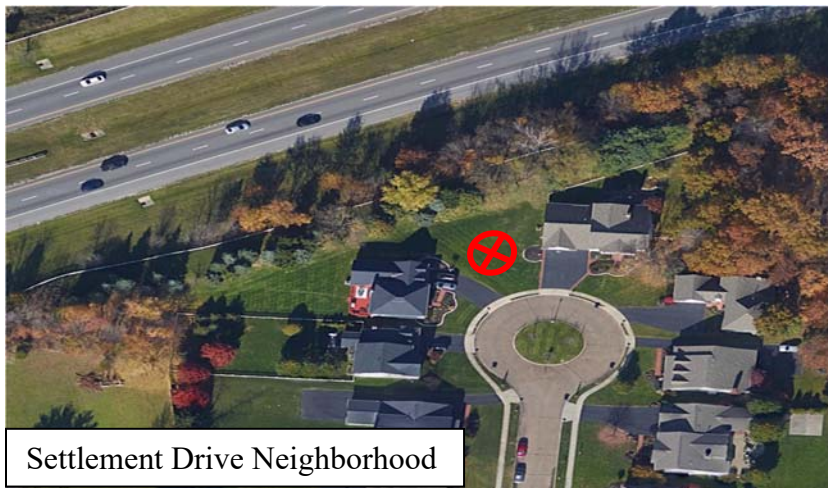
Cross Section



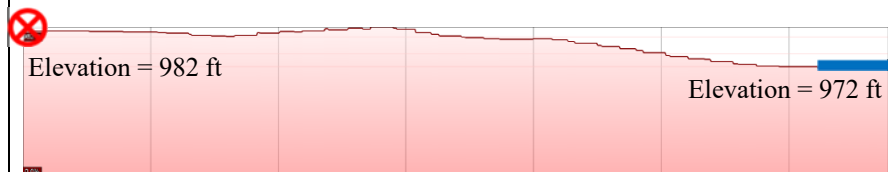
| Traffic Volume | | | | Measurement Site Location: Gramercy New Albany Apartments | Sound Measurements Leq) Each block = 1 minute (read left to right) | | |
|----------------|----------------|------------|------------|--|--|------|------|
| Roadway | Classification | Southbound | Northbound | | | | |
| | Auto | | | Date: 5-13-22 Time: 12:09 pm Weather: 77 °, RH= 55%, Press= 30.09 mb and Wind = 9 mph from ↙ | 66.3 | 66.1 | 65.3 |
| | Medium Truck | | | | 65.0 | 64.6 | 64.6 |
| | Heavy Truck | | | | 64.7 | 65.5 | 65.4 |
| | | Eastbound | Westbound | | 65.3 | 65.5 | 65.7 |
| SR 161 | Auto | 522 | 583 | | 65.9 | 65.8 | 65.7 |
| | Medium Truck | 21 | 41 | Events: | 15 minute Leq = 65.7 | | |
| | Heavy Truck | 25 | 24 | | | | |

Field Worksheet
FRA-SR161-15.80 PID 116322

Plan View



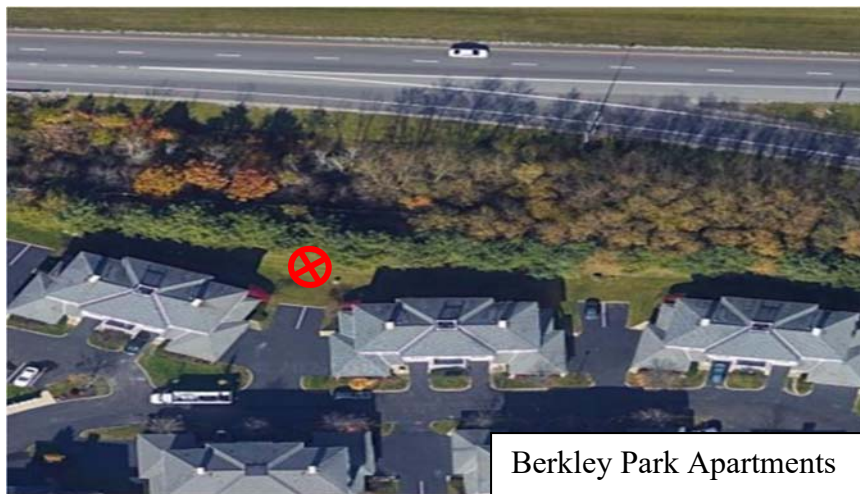
Cross Section



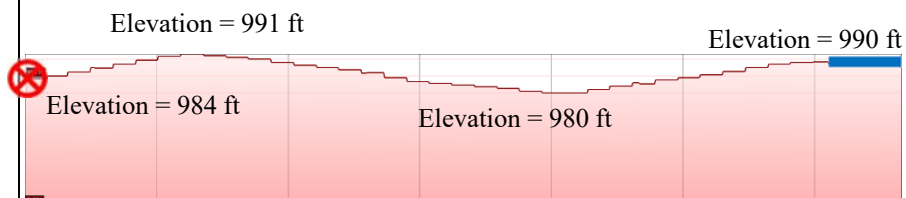
| Traffic Volume | | | | Measurement Site | Sound Measurements (Leq) | | |
|----------------|----------------|------------|------------|--|--|------|------|
| Roadway | Classification | Southbound | Northbound | Location: Settlement Drive | Each block = 1 minute (read left to right) | | |
| | Auto | | | | 75.2 | 73.4 | 72.5 |
| | Medium Truck | | | Date: 5-13-22 | 72.3 | 71.8 | 71.4 |
| | Heavy Truck | | | Time: 9:59 am | 71.0 | 70.6 | 70.4 |
| | | Eastbound | Westbound | Weather: 73 °, RH= 63%, Press= 30.12 mb and Wind = 12 mph from ↙ | 70.8 | 70.8 | 70.5 |
| SR 161 | Auto | 420 | 482 | | 70.2 | 70.0 | 69.8 |
| | Medium Truck | 17 | 45 | Events: | 15 minute Leq = 69.8 | | |
| | Heavy Truck | 38 | 17 | | | | |

Field Worksheet
FRA-SR161-15.80 PID 116322

Plan View



Cross Section



Traffic Volume

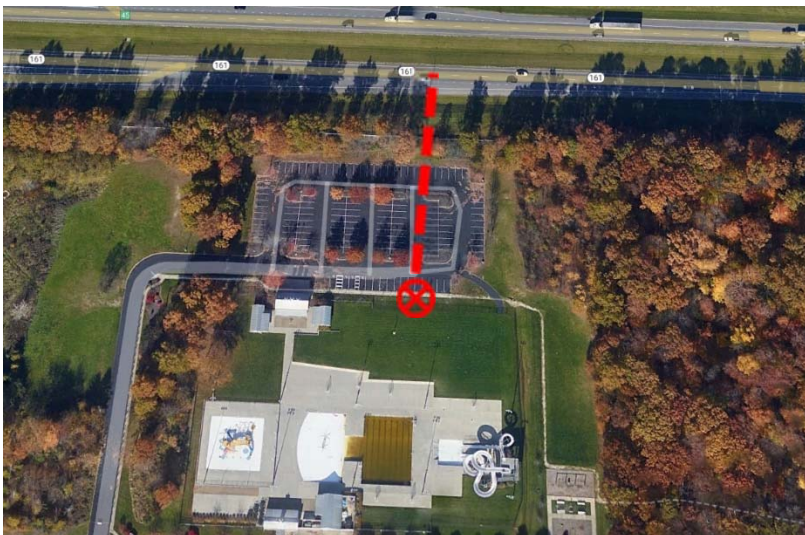
Measurement Site

Sound Measurements
Leq)

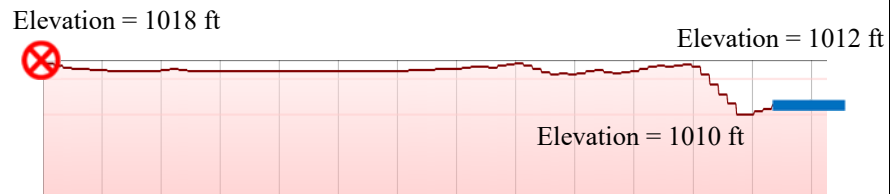
| Roadway | Classification | Southbound | Northbound | Location: Berkley Park | Each block = 1 minute (read left to right) | | |
|---------|----------------|------------|------------|--|---|------|------|
| | Auto | | | | | 63.2 | 64.1 |
| | Medium Truck | | | Date: 5-18-22 | 63.8 | 66.1 | 66.6 |
| | Heavy Truck | | | Time: 10:26 am | 66.3 | 66.0 | 65.9 |
| | | Eastbound | Westbound | Weather: 74 °, RH= 61%, Press= 30.11 mb and Wind = 13 mph from ↙ | 66.0 | 65.8 | 65.5 |
| SR 161 | Auto | 477 | 514 | | 65.4 | 65.4 | 65.2 |
| | Medium Truck | 39 | 37 | Events: | 15 minute Leq = 65.2 | | |
| | Heavy Truck | 22 | 29 | | | | |

Field Worksheet
FRA-SR161-15.80 PID 116322

Plan View



Cross Section



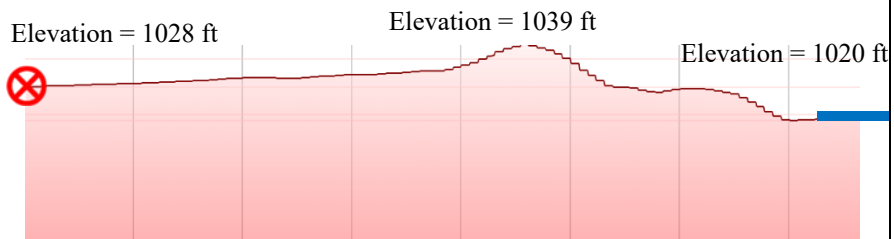
| Traffic Volume | | | | Measurement Site | Sound Measurements Leq | | |
|----------------|----------------|------------|------------|---|---|------|------|
| Roadway | Classification | Southbound | Northbound | Location: Wexner Park | Each block = 1 minute (read left to right) | | |
| | Auto | | | | Date: 5-13-22 | 62.0 | 62.6 |
| | Medium Truck | | | Time: 11:01 am | 62.0 | 61.8 | 61.3 |
| | Heavy Truck | | | Weather: 75°, RH= 58%, Press= 30.11 mb and Wind = 12 mph from ↖ | 61.0 | 60.8 | 60.6 |
| | | Eastbound | Westbound | | 60.4 | 60.5 | 60.4 |
| SR 161 | Auto | 348 | 417 | Events: | 60.3 | 60.7 | 61.2 |
| | Medium Truck | 35 | 38 | | 15 minute Leq = 61.2 | | |
| | Heavy Truck | 21 | 17 | | | | |

Field Worksheet
FRA-SR161-15.80 PID 116322

Plan View



Cross Section



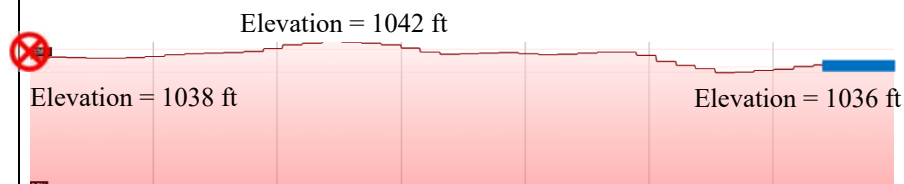
| Traffic Volume | | | | Measurement Site | Sound Measurements Leq) | | |
|----------------|----------------|------------|------------|---|---|------|------|
| Roadway | Classification | Southbound | Northbound | Location: New Albany School Soccer Field | Each block = 1 minute (read left to right) | | |
| | Auto | | | | | 62.6 | 61.7 |
| | Medium Truck | | | Date: 5-13-22 | 59.5 | 59.9 | 59.8 |
| | Heavy Truck | | | Time: 11:33 | 60.1 | 61.3 | 61.1 |
| | | Eastbound | Westbound | Weather: 75 °, RH=59 %, Press= 30.1 mb and Wind = 11 mph from ↙ | 60.9 | 60.6 | 60.5 |
| SR 161 | Auto | 423 | 448 | Events: | 60.3 | 60.1 | 59.9 |
| | Medium Truck | 41 | 29 | | 15 minute Leq = 59.9 | | |
| | Heavy Truck | 26 | 26 | | | | |

Field Worksheet
FRA-SR161-15.80 PID 116322

Plan View



Cross Section



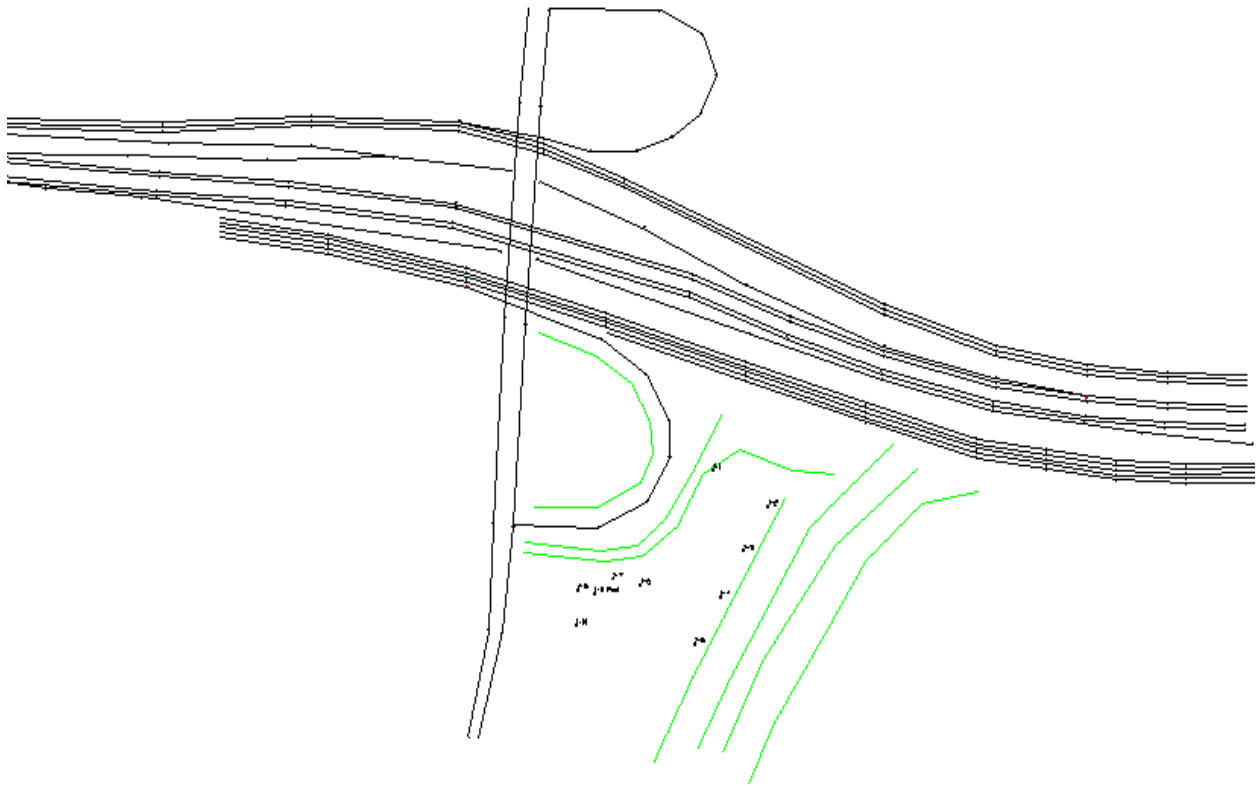
| Traffic Volume | | | | Measurement Site Location: Butterworth Green Drive/ Hearthstone Park Dr. New Albany, OH 43054 | Sound Measurements Leq Each block = 1 minute (read left to right) | | |
|----------------|----------------|------------|------------|---|---|------|------|
| Roadway | Classification | Southbound | Northbound | | | | |
| SR 161 | Auto | | | Date: 5/9/22 Time: 2:58 PM Weather: 70 °, RH= 40 %, Press= 30.15 mb and falling Wind = 11 mph from SE to NW | 64.0 | 63.3 | 64.4 |
| | Medium Truck | | | | * 64.5 | 67.4 | 69.4 |
| | Heavy Truck | | | | 69.4 | 69.1 | 68.9 |
| | | Eastbound | Westbound | | 68.6 | 68.3 | 68.0 |
| | Auto | 592 | 600 | | **67.9 | 67.7 | 67.9 |
| | Medium Truck | 22 | 20 | Events: One car on local road (slowly), USPS truck went by and 1 car (slowly) | 15-minute Leq = 67.9 | | |
| | Heavy Truck | 20 | 21 | | | | |

Max 94.8 Min 57.6

APPENDIX C

TNM Input and Output Spreadsheets

Existing Year 2025



RESULTS: SOUND LEVELS

FRA-SR161-15.80

| | | | | | | | | | | | | | |
|-----------------------|----|------------------------------|-----------------|-----------------|-------------------|------------------------|--------|--|-------------------|-------------------------|------|-----------------------|--|
| Existing Year 2025 | | | | | | | | | | 14 July 2022 | | | |
| CMCox | | | | | | | | | | TNM 2.5 | | | |
| | | | | | | | | | | Calculated with TNM 2.5 | | | |
| RESULTS: SOUND LEVELS | | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 | | | | | | | | | | | |
| RUN: | | NSA1 Reserve at Walnut Creek | | | | | | | | | | | |
| BARRIER DESIGN: | | INPUT HEIGHTS | | | | | | Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA. | | | | | |
| ATMOSPHERICS: | | 68 deg F, 50% RH | | | | | | | | | | | |
| Receiver | | | | | | | | | | | | | |
| Name | | No. | #DUs | Existing LAeq1h | No Barrier LAeq1h | Increase over existing | | Type | With Barrier | Noise Reduction | | | |
| | | | | Calculated | Crit'n | Calculated | Crit'n | Impact | Calculated LAeq1h | Calculated | Goal | Calculated minus Goal | |
| | | | | dBA | dBA | dBA | dB | | dBA | dB | dB | dB | |
| 1-1 | 1 | 6 | 0.0 | 70.1 | 66 | 70.1 | 10 | Snd Lvl | 70.1 | 0.0 | 8 | -8.0 | |
| 1-2 | 2 | 4 | 0.0 | 67.7 | 66 | 67.7 | 10 | Snd Lvl | 67.7 | 0.0 | 8 | -8.0 | |
| 1-3 | 3 | 4 | 0.0 | 64.0 | 66 | 64.0 | 10 | ---- | 64.0 | 0.0 | 8 | -8.0 | |
| 1-4 | 4 | 4 | 0.0 | 62.5 | 66 | 62.5 | 10 | ---- | 62.5 | 0.0 | 8 | -8.0 | |
| 1-5 | 5 | 4 | 0.0 | 61.1 | 66 | 61.1 | 10 | ---- | 61.1 | 0.0 | 8 | -8.0 | |
| 1-6 | 6 | 4 | 0.0 | 62.7 | 66 | 62.7 | 10 | ---- | 62.7 | 0.0 | 8 | -8.0 | |
| 1-7 | 7 | 4 | 0.0 | 63.6 | 66 | 63.6 | 10 | ---- | 63.6 | 0.0 | 8 | -8.0 | |
| 1-8 | 8 | 4 | 0.0 | 63.3 | 66 | 63.3 | 10 | ---- | 63.3 | 0.0 | 8 | -8.0 | |
| 1-9 Pool | 9 | 1 | 0.0 | 63.0 | 66 | 63.0 | 10 | ---- | 63.0 | 0.0 | 8 | -8.0 | |
| 1-10 | 10 | 4 | 0.0 | 61.0 | 66 | 61.0 | 10 | ---- | 61.0 | 0.0 | 8 | -8.0 | |
| Dwelling Units | | # DUs | Noise Reduction | | | | | | | | | | |
| | | | Min | Avg | Max | | | | | | | | |
| | | | dB | dB | dB | | | | | | | | |
| All Selected | | 39 | 0.0 | 0.0 | 0.0 | | | | | | | | |
| All Impacted | | 10 | 0.0 | 0.0 | 0.0 | | | | | | | | |
| All that meet NR Goal | | 0 | 0.0 | 0.0 | 0.0 | | | | | | | | |

| Existing Year 2025 | | | | 14 July 2022 | | | | | | | |
|---------------------------|-------|---------|-----|------------------------------|-----------|--------|---|------------------|---------------------------|-----------|------------|
| CMCox | | | | TNM 2.5 | | | | | | | |
| INPUT: ROADWAYS | | | | | | | Average pavement type shall be used unless | | | | |
| PROJECT/CONTRACT: | | | | FRA-SR161-15.80 | | | a State highway agency substantiates the use | | | | |
| RUN: | | | | NSA1 Reserve at Walnut Creek | | | of a different type with the approval of FHWA | | | | |
| Roadway | Width | Points | No. | Coordinates (pavement) | | | Flow Control | | | Segment | |
| Name | | Name | | X | Y | Z | Control Device | Speed Constraint | Percent Vehicles Affected | Pvmt Type | On Struct? |
| | ft | | | ft | ft | ft | | mph | % | | |
| SR 161 EB2 from I-270 NB2 | 12.0 | point1 | 1 | 1,856,892.0 | 758,393.0 | 835.00 | | | | Average | |
| | | point2 | 2 | 1,857,205.0 | 758,350.0 | 832.00 | | | | Average | |
| | | point3 | 3 | 1,857,600.0 | 758,267.0 | 830.00 | | | | Average | |
| | | point4 | 4 | 1,858,000.0 | 758,154.0 | 829.00 | | | | Average | |
| | | point5 | 5 | 1,858,400.0 | 758,032.0 | 831.00 | | | | Average | |
| | | point6 | 6 | 1,858,743.0 | 757,930.0 | 835.00 | | | | Average | Y |
| | | point7 | 7 | 1,859,061.0 | 757,841.0 | 836.00 | | | | Average | |
| | | point8 | 8 | 1,859,260.0 | 757,814.0 | 840.00 | | | | Average | |
| | | point9 | 9 | 1,859,460.0 | 757,787.0 | 843.00 | | | | Average | |
| | | point10 | 10 | 1,859,660.0 | 757,779.0 | 845.00 | | | | Average | |
| | | point11 | 11 | 1,859,860.0 | 757,781.0 | 847.00 | | | | | |
| SR161 EB1 from I-270 NB1 | 12.0 | point12 | 12 | 1,856,892.0 | 758,381.0 | 835.00 | | | | Average | |
| | | point13 | 13 | 1,857,205.0 | 758,338.0 | 832.00 | | | | Average | |
| | | point14 | 14 | 1,857,600.0 | 758,255.0 | 830.00 | | | | | |
| Sunbury Road NB | 24.0 | point22 | 22 | 1,857,631.0 | 757,132.0 | 828.00 | | | | Average | |
| | | point23 | 23 | 1,857,701.0 | 757,397.0 | 833.00 | | | | Average | |
| | | point24 | 24 | 1,857,731.0 | 757,663.0 | 838.00 | | | | Average | |
| | | point25 | 25 | 1,857,767.0 | 758,168.0 | 850.00 | | | | Average | Y |
| | | point26 | 26 | 1,857,810.0 | 758,710.0 | 850.00 | | | | Average | |
| | | point27 | 27 | 1,857,834.0 | 758,949.0 | 853.00 | | | | | |
| SR161 EB3 from I-270 SB2 | 12.0 | point28 | 28 | 1,856,892.0 | 758,405.0 | 835.00 | | | | Average | |
| | | point29 | 29 | 1,857,205.0 | 758,362.0 | 832.00 | | | | Average | |
| | | point30 | 30 | 1,857,600.0 | 758,279.0 | 830.00 | | | | Average | |
| | | point31 | 31 | 1,858,000.0 | 758,166.0 | 829.00 | | | | Average | |
| | | point32 | 32 | 1,858,400.0 | 758,044.0 | 831.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80

| | | | | | | | | | | | |
|---------------------------|------|---------|----|-------------|-----------|--------|--|--|--|---------|---|
| | | point33 | 33 | 1,858,743.0 | 757,942.0 | 835.00 | | | | Average | Y |
| | | point34 | 34 | 1,859,061.0 | 757,853.0 | 836.00 | | | | Average | |
| | | point35 | 35 | 1,859,260.0 | 757,826.0 | 840.00 | | | | Average | |
| | | point36 | 36 | 1,859,460.0 | 757,799.0 | 843.00 | | | | Average | |
| | | point37 | 37 | 1,859,660.0 | 757,791.0 | 845.00 | | | | Average | |
| | | point38 | 38 | 1,859,860.0 | 757,793.0 | 847.00 | | | | | |
| SR 161 EB4 from I-270 SB1 | 12.0 | point39 | 39 | 1,856,892.0 | 758,417.0 | 835.00 | | | | Average | |
| | | point40 | 40 | 1,857,205.0 | 758,374.0 | 832.00 | | | | Average | |
| | | point41 | 41 | 1,857,600.0 | 758,291.0 | 830.00 | | | | Average | |
| | | point42 | 42 | 1,858,000.0 | 758,178.0 | 829.00 | | | | Average | |
| | | point43 | 43 | 1,858,400.0 | 758,056.0 | 831.00 | | | | Average | |
| | | point44 | 44 | 1,858,743.0 | 757,954.0 | 835.00 | | | | Average | Y |
| | | point45 | 45 | 1,859,061.0 | 757,865.0 | 836.00 | | | | Average | |
| | | point46 | 46 | 1,859,260.0 | 757,838.0 | 840.00 | | | | Average | |
| | | point47 | 47 | 1,859,460.0 | 757,811.0 | 843.00 | | | | Average | |
| | | point48 | 48 | 1,859,660.0 | 757,803.0 | 845.00 | | | | Average | |
| | | point49 | 49 | 1,859,860.0 | 757,805.0 | 847.00 | | | | | |
| SR 161 EB inside shoulder | 12.0 | point50 | 50 | 1,856,892.0 | 758,429.0 | 835.00 | | | | Average | |
| | | point51 | 51 | 1,857,205.0 | 758,386.0 | 832.00 | | | | Average | |
| | | point52 | 52 | 1,857,600.0 | 758,303.0 | 830.00 | | | | Average | |
| | | point53 | 53 | 1,858,000.0 | 758,190.0 | 829.00 | | | | Average | |
| | | point54 | 54 | 1,858,400.0 | 758,068.0 | 831.00 | | | | Average | |
| | | point55 | 55 | 1,858,743.0 | 757,966.0 | 835.00 | | | | Average | Y |
| | | point56 | 56 | 1,859,061.0 | 757,877.0 | 836.00 | | | | Average | |
| | | point57 | 57 | 1,859,260.0 | 757,850.0 | 840.00 | | | | Average | |
| | | point58 | 58 | 1,859,460.0 | 757,823.0 | 843.00 | | | | Average | |
| | | point59 | 59 | 1,859,660.0 | 757,815.0 | 845.00 | | | | Average | |
| | | point60 | 60 | 1,859,860.0 | 757,817.0 | 847.00 | | | | | |
| SR161 EB outside shoulder | 12.0 | point62 | 62 | 1,858,000.0 | 758,142.0 | 829.00 | | | | Average | |
| | | point63 | 63 | 1,858,400.0 | 758,020.0 | 831.00 | | | | Average | |
| | | point64 | 64 | 1,858,743.0 | 757,918.0 | 835.00 | | | | Average | Y |
| | | point65 | 65 | 1,859,061.0 | 757,829.0 | 836.00 | | | | Average | |
| | | point66 | 66 | 1,859,260.0 | 757,802.0 | 840.00 | | | | Average | |
| | | point67 | 67 | 1,859,460.0 | 757,775.0 | 843.00 | | | | Average | |
| | | point68 | 68 | 1,859,660.0 | 757,767.0 | 845.00 | | | | Average | |
| | | point69 | 69 | 1,859,860.0 | 757,769.0 | 847.00 | | | | | |
| Sunburry Road SB | 24.0 | point74 | 74 | 1,857,774.0 | 758,949.0 | 853.00 | | | | Average | |
| | | point70 | 70 | 1,857,750.0 | 758,710.0 | 850.00 | | | | Average | Y |
| | | point71 | 71 | 1,857,706.0 | 758,178.0 | 840.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80

| | | | | | | | | | | | |
|-------------------------------------|------|----------|-----|-------------|-----------|--------|--------|------|-----|---------|---|
| | | point72 | 72 | 1,857,674.0 | 757,663.0 | 838.00 | | | | Average | |
| | | point73 | 73 | 1,857,661.0 | 757,397.0 | 833.00 | | | | Average | |
| | | point75 | 75 | 1,857,601.0 | 757,132.0 | 828.00 | | | | | |
| SR 161 EB1 | 12.0 | point76 | 76 | 1,856,142.0 | 758,527.0 | 841.00 | | | | Average | |
| | | point77 | 77 | 1,856,264.0 | 758,519.0 | 841.00 | | | | Average | |
| | | point78 | 78 | 1,856,716.0 | 758,483.0 | 838.00 | | | | Average | |
| | | point79 | 79 | 1,857,084.0 | 758,458.0 | 837.00 | | | | Average | |
| | | point80 | 80 | 1,857,564.0 | 758,404.0 | 834.00 | | | | Average | |
| | | point81 | 81 | 1,858,239.0 | 758,228.0 | 831.00 | | | | Average | |
| | | point82 | 82 | 1,858,520.0 | 758,123.0 | 835.00 | | | | Average | |
| | | point83 | 83 | 1,858,789.0 | 758,036.0 | 837.00 | | | | Average | Y |
| | | point84 | 84 | 1,859,107.0 | 757,958.0 | 850.00 | | | | Average | |
| | | point85 | 85 | 1,859,371.0 | 757,923.0 | 853.00 | | | | Average | |
| | | point86 | 86 | 1,859,599.0 | 757,906.0 | 862.00 | | | | Average | |
| | | point87 | 87 | 1,859,831.0 | 757,900.0 | 865.00 | | | | | |
| EB exit ramp to Sunburry | 12.0 | point88 | 88 | 1,856,264.0 | 758,519.0 | 841.00 | | | | Average | |
| | | point89 | 89 | 1,856,397.0 | 758,501.0 | 840.00 | | | | Average | |
| | | point90 | 90 | 1,856,674.0 | 758,478.0 | 838.00 | | | | Average | |
| | | point91 | 91 | 1,857,060.0 | 758,427.0 | 837.00 | | | | Average | |
| | | point92 | 92 | 1,857,701.9 | 758,344.5 | 840.00 | | | | | |
| Center lanes SR 161 EB2 | 12.0 | point93 | 93 | 1,856,142.0 | 758,539.0 | 841.00 | | | | Average | |
| | | point94 | 94 | 1,856,264.0 | 758,531.0 | 841.00 | | | | Average | |
| | | point95 | 95 | 1,856,716.0 | 758,495.0 | 838.00 | | | | Average | |
| | | point96 | 96 | 1,857,084.0 | 758,470.0 | 837.00 | | | | Average | |
| | | point97 | 97 | 1,857,564.0 | 758,416.0 | 834.00 | | | | Average | |
| | | point98 | 98 | 1,858,239.0 | 758,240.0 | 831.00 | | | | Average | |
| | | point99 | 99 | 1,858,520.0 | 758,135.0 | 835.00 | | | | Average | |
| | | point100 | 100 | 1,858,789.0 | 758,048.0 | 837.00 | | | | Average | Y |
| | | point101 | 101 | 1,859,107.0 | 757,970.0 | 850.00 | | | | Average | |
| | | point102 | 102 | 1,859,371.0 | 757,935.0 | 853.00 | | | | Average | |
| | | point103 | 103 | 1,859,599.0 | 757,918.0 | 862.00 | | | | Average | |
| | | point104 | 104 | 1,859,831.0 | 757,912.0 | 865.00 | | | | | |
| EB entrance ramp Sunburry to Turtle | 12.0 | point105 | 105 | 1,857,799.1 | 758,323.8 | 840.00 | Onramp | 0.00 | 100 | Average | |
| | | point106 | 106 | 1,858,412.0 | 758,136.0 | 834.00 | | | | Average | |
| | | point107 | 107 | 1,858,789.0 | 758,024.0 | 837.00 | | | | Average | Y |
| | | point108 | 108 | 1,859,107.0 | 757,946.0 | 850.00 | | | | Average | |
| | | point109 | 109 | 1,859,536.0 | 757,892.0 | 860.00 | | | | Average | |
| | | point110 | 110 | 1,859,852.0 | 757,864.0 | 870.00 | | | | | |
| Center Lanes SR 161 WB2 | 12.0 | point122 | 122 | 1,859,831.0 | 757,948.0 | 859.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80

| | | | | | | | | | | | |
|--|------|----------|-----|-------------|-----------|--------|------|------|-----|---------|---|
| | | point121 | 121 | 1,859,599.0 | 757,954.0 | 851.00 | | | | Average | |
| | | point120 | 120 | 1,859,371.0 | 757,971.0 | 847.00 | | | | Average | |
| | | point119 | 119 | 1,859,107.0 | 758,006.0 | 843.00 | | | | Average | Y |
| | | point118 | 118 | 1,858,789.0 | 758,084.0 | 831.00 | | | | Average | |
| | | point117 | 117 | 1,858,520.0 | 758,171.0 | 830.00 | | | | Average | |
| | | point116 | 116 | 1,858,239.0 | 758,276.0 | 831.00 | | | | Average | |
| | | point115 | 115 | 1,857,564.0 | 758,452.0 | 834.00 | | | | Average | |
| | | point114 | 114 | 1,857,084.0 | 758,506.0 | 837.00 | | | | Average | |
| | | point113 | 113 | 1,856,716.0 | 758,531.0 | 838.00 | | | | Average | |
| | | point112 | 112 | 1,856,264.0 | 758,567.0 | 841.00 | | | | Average | |
| | | point111 | 111 | 1,856,142.0 | 758,575.0 | 841.00 | | | | | |
| Center lanes SR 161 WB1 | 12.0 | point123 | 123 | 1,859,831.0 | 757,960.0 | 859.00 | | | | Average | |
| | | point124 | 124 | 1,859,599.0 | 757,966.0 | 851.00 | | | | Average | |
| | | point125 | 125 | 1,859,371.0 | 757,983.0 | 847.00 | | | | Average | |
| | | point126 | 126 | 1,859,107.0 | 758,018.0 | 843.00 | | | | Average | Y |
| | | point127 | 127 | 1,858,789.0 | 758,096.0 | 831.00 | | | | Average | |
| | | point128 | 128 | 1,858,520.0 | 758,183.0 | 830.00 | | | | Average | |
| | | point129 | 129 | 1,858,239.0 | 758,288.0 | 831.00 | | | | Average | |
| | | point130 | 130 | 1,857,564.0 | 758,464.0 | 834.00 | | | | Average | |
| | | point131 | 131 | 1,857,084.0 | 758,518.0 | 837.00 | | | | Average | |
| | | point132 | 132 | 1,856,716.0 | 758,543.0 | 838.00 | | | | Average | |
| | | point133 | 133 | 1,856,264.0 | 758,579.0 | 841.00 | | | | Average | |
| | | point134 | 134 | 1,856,142.0 | 758,587.0 | 841.00 | | | | | |
| Center lanes WB exit ramp to Sunburry | 12.0 | point135 | 135 | 1,859,371.0 | 757,983.0 | 847.00 | Stop | 0.00 | 100 | Average | |
| | | point136 | 136 | 1,859,107.0 | 758,030.0 | 843.00 | | | | Average | Y |
| | | point137 | 137 | 1,858,789.0 | 758,108.0 | 835.00 | | | | Average | |
| | | point138 | 138 | 1,858,394.0 | 758,263.0 | 836.00 | | | | Average | |
| | | point139 | 139 | 1,858,103.0 | 758,404.0 | 842.00 | | | | Average | |
| | | point140 | 140 | 1,857,803.6 | 758,518.3 | 850.00 | | | | | |
| Entrance ramp Sunburry to WB Center la | 12.0 | point141 | 141 | 1,857,727.2 | 758,544.3 | 850.00 | | | | Average | |
| | | point142 | 142 | 1,857,386.0 | 758,578.0 | 848.00 | | | | Average | |
| | | point143 | 143 | 1,857,025.0 | 758,573.0 | 845.00 | | | | Average | |
| | | point144 | 144 | 1,856,625.0 | 758,583.0 | 840.00 | | | | Average | |
| | | point145 | 145 | 1,856,142.0 | 758,587.0 | 841.00 | | | | | |
| Entrance ramp Sunburry to WB SR 161 | 12.0 | point146 | 146 | 1,857,386.0 | 758,578.0 | 848.00 | | | | Average | |
| | | point147 | 147 | 1,857,149.0 | 758,608.0 | 846.00 | | | | Average | |
| | | point148 | 148 | 1,856,742.0 | 758,614.0 | 835.00 | | | | Average | |
| | | point149 | 149 | 1,856,264.0 | 758,636.0 | 838.00 | | | | | |
| WB3 to I-270 NB & SB | 12.0 | point150 | 150 | 1,859,831.0 | 758,011.0 | 867.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80

| | | | | | | | | | | | |
|--------------------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point153 | 153 | 1,859,599.0 | 758,019.0 | 861.00 | | | | Average | |
| | | point154 | 154 | 1,859,371.0 | 758,037.0 | 852.00 | | | | Average | |
| | | point151 | 151 | 1,859,107.0 | 758,086.0 | 834.00 | | | | Average | Y |
| | | point152 | 152 | 1,858,789.0 | 758,189.0 | 833.00 | | | | Average | |
| | | point155 | 155 | 1,858,044.0 | 758,505.0 | 831.00 | | | | Average | |
| | | point160 | 160 | 1,857,813.6 | 758,590.2 | 831.50 | | | | Average | |
| | | point156 | 156 | 1,857,573.0 | 758,645.0 | 832.00 | | | | Average | |
| | | point157 | 157 | 1,857,149.0 | 758,657.0 | 833.00 | | | | Average | |
| | | point159 | 159 | 1,856,723.4 | 758,642.4 | 835.50 | | | | Average | |
| | | point158 | 158 | 1,856,264.0 | 758,652.0 | 838.00 | | | | | |
| WB2 to I-270 NB & SB | 12.0 | point161 | 161 | 1,859,831.0 | 758,023.0 | 867.00 | | | | Average | |
| | | point162 | 162 | 1,859,599.0 | 758,031.0 | 861.00 | | | | Average | |
| | | point163 | 163 | 1,859,371.0 | 758,049.0 | 852.00 | | | | Average | |
| | | point164 | 164 | 1,859,107.0 | 758,098.0 | 834.00 | | | | Average | Y |
| | | point165 | 165 | 1,858,789.0 | 758,201.0 | 833.00 | | | | Average | |
| | | point166 | 166 | 1,858,044.0 | 758,517.0 | 831.00 | | | | Average | |
| | | point167 | 167 | 1,857,813.6 | 758,602.2 | 831.50 | | | | Average | |
| | | point168 | 168 | 1,857,573.0 | 758,657.0 | 832.00 | | | | Average | |
| | | point169 | 169 | 1,857,149.0 | 758,669.0 | 833.00 | | | | Average | |
| | | point170 | 170 | 1,856,723.4 | 758,654.4 | 835.50 | | | | Average | |
| | | point171 | 171 | 1,856,264.0 | 758,664.0 | 838.00 | | | | | |
| WB1 to I-270 NB&SB | 12.0 | point172 | 172 | 1,859,831.0 | 758,035.0 | 867.00 | | | | Average | |
| | | point173 | 173 | 1,859,599.0 | 758,043.0 | 861.00 | | | | Average | |
| | | point174 | 174 | 1,859,371.0 | 758,061.0 | 852.00 | | | | Average | |
| | | point175 | 175 | 1,859,107.0 | 758,110.0 | 834.00 | | | | Average | Y |
| | | point176 | 176 | 1,858,789.0 | 758,213.0 | 833.00 | | | | Average | |
| | | point177 | 177 | 1,858,044.0 | 758,529.0 | 831.00 | | | | Average | |
| | | point178 | 178 | 1,857,813.6 | 758,614.2 | 831.50 | | | | Average | |
| | | point179 | 179 | 1,857,573.0 | 758,669.0 | 832.00 | | | | Average | |
| | | point180 | 180 | 1,857,149.0 | 758,681.0 | 833.00 | | | | Average | |
| | | point181 | 181 | 1,856,723.4 | 758,666.4 | 835.50 | | | | Average | |
| | | point182 | 182 | 1,856,264.0 | 758,676.0 | 838.00 | | | | | |
| Entrance Loop ramp Sunburry to WB161 | 12.0 | point183 | 183 | 1,857,834.0 | 758,949.0 | 853.00 | | | | Average | |
| | | point184 | 184 | 1,858,151.0 | 758,943.0 | 851.00 | | | | Average | |
| | | point192 | 192 | 1,858,273.1 | 758,882.6 | 848.00 | | | | Average | |
| | | point185 | 185 | 1,858,312.1 | 758,783.0 | 845.00 | | | | Average | |
| | | point190 | 190 | 1,858,267.6 | 758,683.7 | 840.67 | | | | Average | |
| | | point191 | 191 | 1,858,181.6 | 758,625.9 | 836.33 | | | | Average | |
| | | point186 | 186 | 1,858,081.0 | 758,595.0 | 832.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80

| | | | | | | | | | | | |
|----------------------------|------|----------|-----|-------------|-----------|--------|------|------|-----|---------|--|
| | | point189 | 189 | 1,857,947.2 | 758,593.5 | 831.75 | | | | Average | |
| | | point187 | 187 | 1,857,813.6 | 758,626.2 | 831.50 | | | | Average | |
| | | point188 | 188 | 1,857,573.0 | 758,669.0 | 832.00 | | | | | |
| SR161 EB1 from I-270 NB1-2 | 12.0 | point193 | 193 | 1,857,600.0 | 758,255.0 | 830.00 | Stop | 0.00 | 100 | Average | |
| | | point15 | 15 | 1,857,989.0 | 758,125.0 | 828.00 | | | | Average | |
| | | point16 | 16 | 1,858,113.0 | 758,037.0 | 828.00 | | | | Average | |
| | | point17 | 17 | 1,858,179.0 | 757,920.0 | 829.00 | | | | Average | |
| | | point18 | 18 | 1,858,179.0 | 757,830.0 | 831.00 | | | | Average | |
| | | point19 | 19 | 1,858,116.0 | 757,721.0 | 833.00 | | | | Average | |
| | | point20 | 20 | 1,857,972.0 | 757,655.0 | 835.00 | | | | Average | |
| | | point21 | 21 | 1,857,731.0 | 757,663.0 | 838.00 | | | | | |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| Existing Year 2025 | | 14 July 2022 | | | | | | | | | | |
|-----------------------------------|---------|------------------------------|---------|-----|---------|-----|---------|-----|--------|-----|-------------|-----|
| CMCox | | TNM 2.5 | | | | | | | | | | |
| INPUT: TRAFFIC FOR LAeq1h Volumes | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 | | | | | | | | | | |
| RUN: | | NSA1 Reserve at Walnut Creek | | | | | | | | | | |
| Roadway | Points | | | | | | | | | | | |
| Name | Name | No. | Segment | | MTrucks | | HTrucks | | Buses | | Motorcycles | |
| | | | Autos | | V | S | V | S | V | S | V | S |
| | | | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph |
| SR 161 EB2 from I-270 NB2 | point1 | 1 | 1232 | 65 | 20 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point2 | 2 | 1232 | 65 | 20 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point3 | 3 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point4 | 4 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point5 | 5 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point6 | 6 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point7 | 7 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point8 | 8 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point9 | 9 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point10 | 10 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point11 | 11 | | | | | | | | | | |
| SR161 EB1 from I-270 NB1 | point12 | 12 | 1232 | 65 | 20 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point13 | 13 | 1232 | 65 | 20 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point14 | 14 | | | | | | | | | | |
| Sunbury Road NB | point22 | 22 | 790 | 35 | 8 | 35 | 17 | 35 | 0 | 0 | 0 | 0 |
| | point23 | 23 | 790 | 35 | 8 | 35 | 17 | 35 | 0 | 0 | 0 | 0 |
| | point24 | 24 | 790 | 35 | 8 | 35 | 17 | 35 | 0 | 0 | 0 | 0 |
| | point25 | 25 | 790 | 35 | 8 | 35 | 17 | 35 | 0 | 0 | 0 | 0 |
| | point26 | 26 | 790 | 35 | 8 | 35 | 17 | 35 | 0 | 0 | 0 | 0 |
| | point27 | 27 | | | | | | | | | | |
| SR161 EB3 from I-270 SB2 | point28 | 28 | 1327 | 65 | 28 | 60 | 65 | 60 | 0 | 0 | 0 | 0 |
| | point29 | 29 | 1327 | 65 | 28 | 60 | 65 | 60 | 0 | 0 | 0 | 0 |
| | point30 | 30 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| | | | | | | | | | | | | |
|---------------------------|---------|----|------|----|----|----|----|----|---|---|---|---|
| | point31 | 31 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point32 | 32 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point33 | 33 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point34 | 34 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point35 | 35 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point36 | 36 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point37 | 37 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point38 | 38 | | | | | | | | | | |
| SR 161 EB4 from I-270 SB1 | point39 | 39 | 1327 | 65 | 28 | 60 | 65 | 60 | 0 | 0 | 0 | 0 |
| | point40 | 40 | 1327 | 65 | 28 | 60 | 65 | 60 | 0 | 0 | 0 | 0 |
| | point41 | 41 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point42 | 42 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point43 | 43 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point44 | 44 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point45 | 45 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point46 | 46 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point47 | 47 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point48 | 48 | 1505 | 65 | 14 | 60 | 33 | 60 | 0 | 0 | 0 | 0 |
| | point49 | 49 | | | | | | | | | | |
| SR 161 EB inside shoulder | point50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point51 | 51 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point52 | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point53 | 53 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point54 | 54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point55 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point58 | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point59 | 59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point60 | 60 | | | | | | | | | | |
| SR161 EB outside shoulder | point62 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point63 | 63 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point64 | 64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point65 | 65 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point66 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point67 | 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| | | | | | | | | | | | | |
|--------------------------|----------|-----|-----|----|---|----|----|----|---|---|---|---|
| | point68 | 68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point69 | 69 | | | | | | | | | | |
| Sunburry Road SB | point74 | 74 | 701 | 35 | 6 | 35 | 15 | 35 | 0 | 0 | 0 | 0 |
| | point70 | 70 | 701 | 35 | 6 | 35 | 15 | 35 | 0 | 0 | 0 | 0 |
| | point71 | 71 | 701 | 35 | 6 | 35 | 15 | 35 | 0 | 0 | 0 | 0 |
| | point72 | 72 | 701 | 35 | 6 | 35 | 15 | 35 | 0 | 0 | 0 | 0 |
| | point73 | 73 | 701 | 35 | 6 | 35 | 15 | 35 | 0 | 0 | 0 | 0 |
| | point75 | 75 | | | | | | | | | | |
| SR 161 EB1 | point76 | 76 | 714 | 65 | 7 | 60 | 15 | 60 | 0 | 0 | 0 | 0 |
| | point77 | 77 | 572 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point78 | 78 | 572 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point79 | 79 | 572 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point80 | 80 | 572 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point81 | 81 | 572 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point82 | 82 | 572 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point83 | 83 | 675 | 65 | 5 | 60 | 15 | 60 | 0 | 0 | 0 | 0 |
| | point84 | 84 | 675 | 65 | 5 | 60 | 15 | 60 | 0 | 0 | 0 | 0 |
| | point85 | 85 | 675 | 65 | 5 | 60 | 15 | 60 | 0 | 0 | 0 | 0 |
| | point86 | 86 | 675 | 65 | 5 | 60 | 15 | 60 | 0 | 0 | 0 | 0 |
| | point87 | 87 | | | | | | | | | | |
| EB exit ramp to Sunburry | point88 | 88 | 257 | 55 | 3 | 50 | 5 | 50 | 0 | 0 | 0 | 0 |
| | point89 | 89 | 257 | 55 | 3 | 50 | 5 | 50 | 0 | 0 | 0 | 0 |
| | point90 | 90 | 257 | 55 | 3 | 50 | 5 | 50 | 0 | 0 | 0 | 0 |
| | point91 | 91 | 257 | 55 | 3 | 50 | 5 | 50 | 0 | 0 | 0 | 0 |
| | point92 | 92 | | | | | | | | | | |
| Center lanes SR 161 EB2 | point93 | 93 | 714 | 65 | 7 | 60 | 15 | 60 | 0 | 0 | 0 | 0 |
| | point94 | 94 | 572 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point95 | 95 | 572 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point96 | 96 | 572 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point97 | 97 | 572 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point98 | 98 | 572 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point99 | 99 | 572 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point100 | 100 | 675 | 65 | 5 | 60 | 15 | 60 | 0 | 0 | 0 | 0 |
| | point101 | 101 | 675 | 65 | 5 | 60 | 15 | 60 | 0 | 0 | 0 | 0 |
| | point102 | 102 | 675 | 65 | 5 | 60 | 15 | 60 | 0 | 0 | 0 | 0 |
| | point103 | 103 | 675 | 65 | 5 | 60 | 15 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| | | | | | | | | | | | | |
|---------------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point104 | 104 | | | | | | | | | | |
| EB entrance ramp Sunburry to Turtle | point105 | 105 | 883 | 65 | 8 | 60 | 19 | 60 | 0 | 0 | 0 | 0 |
| | point106 | 106 | 883 | 65 | 8 | 60 | 19 | 60 | 0 | 0 | 0 | 0 |
| | point107 | 107 | 675 | 65 | 5 | 60 | 15 | 60 | 0 | 0 | 0 | 0 |
| | point108 | 108 | 675 | 65 | 5 | 60 | 15 | 60 | 0 | 0 | 0 | 0 |
| | point109 | 109 | 675 | 65 | 5 | 60 | 15 | 60 | 0 | 0 | 0 | 0 |
| | point110 | 110 | | | | | | | | | | |
| Center Lanes SR 161 WB2 | point122 | 122 | 865 | 65 | 8 | 60 | 19 | 60 | 0 | 0 | 0 | 0 |
| | point121 | 121 | 865 | 65 | 8 | 60 | 19 | 60 | 0 | 0 | 0 | 0 |
| | point120 | 120 | 383 | 65 | 4 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point119 | 119 | 383 | 65 | 4 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point118 | 118 | 383 | 65 | 4 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point117 | 117 | 383 | 65 | 4 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point116 | 116 | 383 | 65 | 4 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point115 | 115 | 383 | 65 | 4 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point114 | 114 | 383 | 65 | 4 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point113 | 113 | 383 | 65 | 4 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point112 | 112 | 383 | 65 | 4 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point111 | 111 | | | | | | | | | | |
| Center lanes SR 161 WB1 | point123 | 123 | 865 | 65 | 8 | 60 | 19 | 60 | 0 | 0 | 0 | 0 |
| | point124 | 124 | 865 | 65 | 8 | 60 | 19 | 60 | 0 | 0 | 0 | 0 |
| | point125 | 125 | 383 | 65 | 4 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point126 | 126 | 383 | 65 | 4 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point127 | 127 | 383 | 65 | 4 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point128 | 128 | 383 | 65 | 4 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point129 | 129 | 383 | 65 | 4 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point130 | 130 | 383 | 65 | 4 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point131 | 131 | 383 | 65 | 4 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point132 | 132 | 383 | 65 | 4 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point133 | 133 | 383 | 65 | 4 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point134 | 134 | | | | | | | | | | |
| Center lanes WB exit ramp to Sunburry | point135 | 135 | 1012 | 65 | 10 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |
| | point136 | 136 | 1012 | 65 | 10 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |
| | point137 | 137 | 1012 | 65 | 10 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |
| | point138 | 138 | 1012 | 65 | 10 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |
| | point139 | 139 | 1012 | 65 | 10 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| | | | | | | | | | | | | |
|--|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point140 | 140 | | | | | | | | | | |
| Entrance ramp Sunburry to WB Center la | point141 | 141 | 1043 | 55 | 10 | 50 | 22 | 50 | 0 | 0 | 0 | 0 |
| | point142 | 142 | 261 | 65 | 3 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point143 | 143 | 261 | 65 | 3 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point144 | 144 | 261 | 65 | 3 | 60 | 8 | 60 | 0 | 0 | 0 | 0 |
| | point145 | 145 | | | | | | | | | | |
| Entrance ramp Sunburry to WB SR 161 | point146 | 146 | 782 | 65 | 7 | 60 | 14 | 60 | 0 | 0 | 0 | 0 |
| | point147 | 147 | 865 | 65 | 8 | 60 | 19 | 60 | 0 | 0 | 0 | 0 |
| | point148 | 148 | 865 | 65 | 8 | 60 | 19 | 60 | 0 | 0 | 0 | 0 |
| | point149 | 149 | | | | | | | | | | |
| WB3 to I-270 NB & SB | point150 | 150 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point153 | 153 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point154 | 154 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point151 | 151 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point152 | 152 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point155 | 155 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point160 | 160 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point156 | 156 | 1583 | 65 | 15 | 60 | 34 | 60 | 0 | 0 | 0 | 0 |
| | point157 | 157 | 1583 | 65 | 15 | 60 | 34 | 60 | 0 | 0 | 0 | 0 |
| | point159 | 159 | 1583 | 65 | 15 | 60 | 34 | 60 | 0 | 0 | 0 | 0 |
| | point158 | 158 | | | | | | | | | | |
| WB2 to I-270 NB & SB | point161 | 161 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point162 | 162 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point163 | 163 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point164 | 164 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point165 | 165 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point166 | 166 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point167 | 167 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point168 | 168 | 1583 | 65 | 15 | 60 | 34 | 60 | 0 | 0 | 0 | 0 |
| | point169 | 169 | 1583 | 65 | 15 | 60 | 34 | 60 | 0 | 0 | 0 | 0 |
| | point170 | 170 | 1583 | 65 | 15 | 60 | 34 | 60 | 0 | 0 | 0 | 0 |
| | point171 | 171 | | | | | | | | | | |
| WB1 to I-270 NB&SB | point172 | 172 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point173 | 173 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point174 | 174 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point175 | 175 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

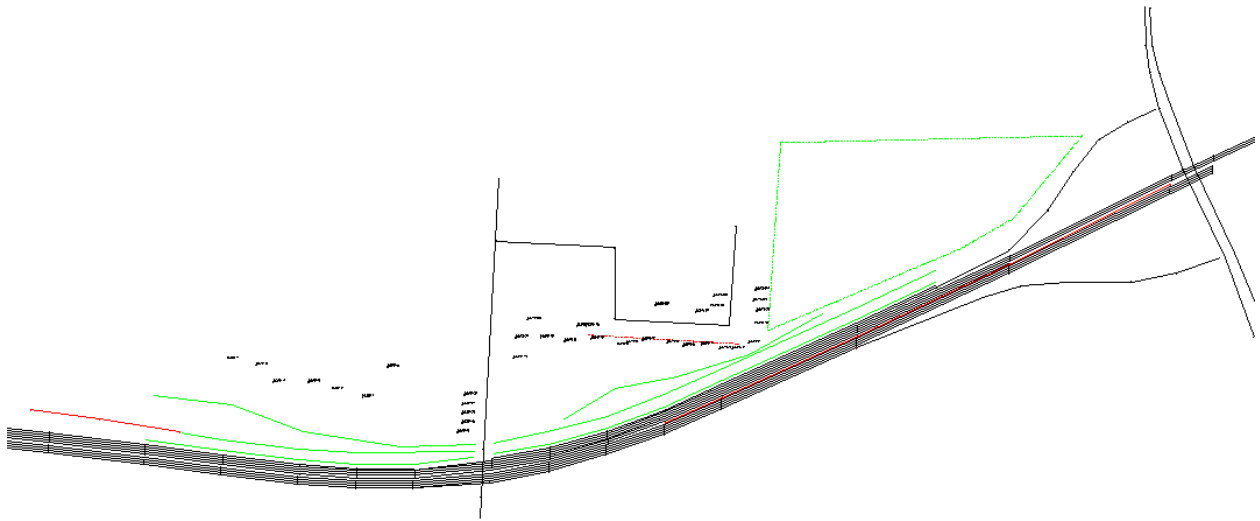
| | | | | | | | | | | | | |
|--------------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point176 | 176 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point177 | 177 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point178 | 178 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point179 | 179 | 1583 | 65 | 15 | 60 | 34 | 60 | 0 | 0 | 0 | 0 |
| | point180 | 180 | 1583 | 65 | 15 | 60 | 34 | 60 | 0 | 0 | 0 | 0 |
| | point181 | 181 | 1493 | 65 | 14 | 60 | 32 | 60 | 0 | 0 | 0 | 0 |
| | point182 | 182 | | | | | | | | | | |
| Entrance Loop ramp Sunburry to WB161 | point183 | 183 | 270 | 55 | 2 | 50 | 6 | 50 | 0 | 0 | 0 | 0 |
| | point184 | 184 | 270 | 55 | 2 | 50 | 6 | 50 | 0 | 0 | 0 | 0 |
| | point192 | 192 | 270 | 55 | 2 | 50 | 6 | 50 | 0 | 0 | 0 | 0 |
| | point185 | 185 | 270 | 55 | 2 | 50 | 6 | 50 | 0 | 0 | 0 | 0 |
| | point190 | 190 | 270 | 55 | 2 | 50 | 6 | 50 | 0 | 0 | 0 | 0 |
| | point191 | 191 | 270 | 55 | 2 | 50 | 6 | 50 | 0 | 0 | 0 | 0 |
| | point186 | 186 | 270 | 55 | 2 | 50 | 6 | 50 | 0 | 0 | 0 | 0 |
| | point189 | 189 | 270 | 55 | 2 | 50 | 6 | 50 | 0 | 0 | 0 | 0 |
| | point187 | 187 | 270 | 55 | 2 | 50 | 6 | 50 | 0 | 0 | 0 | 0 |
| | point188 | 188 | | | | | | | | | | |
| SR161 EB1 from I-270 NB1-2 | point193 | 193 | 1030 | 50 | 10 | 45 | 22 | 45 | 0 | 0 | 0 | 0 |
| | point15 | 15 | 1030 | 50 | 10 | 45 | 22 | 45 | 0 | 0 | 0 | 0 |
| | point16 | 16 | 1030 | 50 | 10 | 45 | 22 | 45 | 0 | 0 | 0 | 0 |
| | point17 | 17 | 1030 | 50 | 10 | 45 | 22 | 45 | 0 | 0 | 0 | 0 |
| | point18 | 18 | 1030 | 50 | 10 | 45 | 22 | 45 | 0 | 0 | 0 | 0 |
| | point19 | 19 | 1030 | 50 | 10 | 45 | 22 | 45 | 0 | 0 | 0 | 0 |
| | point20 | 20 | 1030 | 50 | 10 | 45 | 22 | 45 | 0 | 0 | 0 | 0 |
| | point21 | 21 | | | | | | | | | | |

INPUT: RECEIVERS

FRA-SR161-15.80

| Existing Year 2025 | | | | | | | 14 July 2022 | | | | | |
|--------------------------|-----|------------------------------|----------------------|-----------|--------|--------|---------------------------------|---------------------|-----------------|------|--------|----|
| CMCox | | | | | | | TNM 2.5 | | | | | |
| INPUT: RECEIVERS | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 | | | | | | | | | | |
| RUN: | | NSA1 Reserve at Walnut Creek | | | | | | | | | | |
| Receiver | | | | | | | | | | | | |
| Name | No. | #DUs | Coordinates (ground) | | | Height | Input Sound Levels and Criteria | | | | Active | |
| | | | X | Y | Z | | above | Existing | Impact Criteria | NR | | in |
| | | | | | | Ground | L _{Aeq} 1h | L _{Aeq} 1h | Sub'l | Goal | Calc. | |
| | | | ft | ft | ft | ft | dBA | dBA | dB | dB | | |
| 1-1 | 1 | 6 | 1,858,303.0 | 757,800.0 | 848.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| 1-2 | 2 | 4 | 1,858,461.0 | 757,709.0 | 848.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| 1-3 | 3 | 4 | 1,858,391.0 | 757,599.0 | 848.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| 1-4 | 4 | 4 | 1,858,323.0 | 757,485.0 | 850.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| 1-5 | 5 | 4 | 1,858,252.0 | 757,368.0 | 850.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| 1-6 | 6 | 4 | 1,858,096.0 | 757,514.0 | 848.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| 1-7 | 7 | 4 | 1,858,016.0 | 757,529.0 | 847.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| 1-8 | 8 | 4 | 1,857,916.1 | 757,501.1 | 847.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| 1-9 Pool | 9 | 1 | 1,857,963.4 | 757,492.8 | 848.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| 1-10 | 10 | 4 | 1,857,911.0 | 757,413.0 | 846.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |

NSA 2 and NSA 3



RESULTS: SOUND LEVELS

FRA-SR161-15.80 PID 116322

| <Organization?> | | | | | | | | | | | | | 14 July 2022 | |
|--|-----|------|----------|------------|--------|------------|------------------------|-----------|---------|--------------|-----------------|------|-------------------------|------|
| CMCox | | | | | | | | | | | | | TNM 2.5 | |
| | | | | | | | | | | | | | Calculated with TNM 2.5 | |
| RESULTS: SOUND LEVELS | | | | | | | | | | | | | | |
| PROJECT/CONTRACT: FRA-SR161-15.80 PID 116322 | | | | | | | | | | | | | | |
| RUN: Existing Year NSA 3 and NSA 4 | | | | | | | | | | | | | | |
| BARRIER DESIGN: INPUT HEIGHTS | | | | | | | | | | | | | | |
| Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA. | | | | | | | | | | | | | | |
| ATMOSPHERICS: 68 deg F, 50% RH | | | | | | | | | | | | | | |
| Receiver | | | | | | | | | | | | | | |
| Name | No. | #DUs | Existing | No Barrier | | | Increase over existing | | Type | With Barrier | | | | |
| | | | LAeq1h | LAeq1h | Crit'n | Calculated | Crit'n | Impact | | Calculated | Noise Reduction | | | |
| | | | | Calculated | Crit'n | | Calculated | Sub'l Inc | | Calculated | Calculated | Goal | Calculated | Goal |
| | | | dBA | dBA | dBA | | dB | | | dBA | dB | dB | | dB |
| NSA2-1 | 1 | 6 | 0.0 | 56.2 | 66 | | 56.2 | 10 | ---- | 56.2 | 0.0 | 8 | | -8.0 |
| NSA2-2 | 2 | 6 | 0.0 | 55.9 | 66 | | 55.9 | 10 | ---- | 55.9 | 0.0 | 8 | | -8.0 |
| NSA2-3 | 3 | 6 | 0.0 | 55.7 | 66 | | 55.7 | 10 | ---- | 55.7 | 0.0 | 8 | | -8.0 |
| NSA2-4 | 4 | 6 | 0.0 | 56.1 | 66 | | 56.1 | 10 | ---- | 56.1 | 0.0 | 8 | | -8.0 |
| NSA2-5 | 5 | 6 | 0.0 | 54.5 | 66 | | 54.5 | 10 | ---- | 54.5 | 0.0 | 8 | | -8.0 |
| NSA2-6 | 6 | 6 | 0.0 | 54.1 | 66 | | 54.1 | 10 | ---- | 54.1 | 0.0 | 8 | | -8.0 |
| NSA2-7 | 7 | 1 | 0.0 | 54.2 | 66 | | 54.2 | 10 | ---- | 54.2 | 0.0 | 8 | | -8.0 |
| NSA2-8 | 8 | 1 | 0.0 | 61.6 | 66 | | 61.6 | 10 | ---- | 61.6 | 0.0 | 8 | | -8.0 |
| NSA2-9 | 9 | 1 | 0.0 | 62.0 | 66 | | 62.0 | 10 | ---- | 62.0 | 0.0 | 8 | | -8.0 |
| NSA2-10 | 10 | 1 | 0.0 | 60.7 | 66 | | 60.7 | 10 | ---- | 60.7 | 0.0 | 8 | | -8.0 |
| NSA2-11 | 11 | 1 | 0.0 | 60.2 | 66 | | 60.2 | 10 | ---- | 60.2 | 0.0 | 8 | | -8.0 |
| NSA2-12 | 12 | 1 | 0.0 | 59.8 | 66 | | 59.8 | 10 | ---- | 59.8 | 0.0 | 8 | | -8.0 |
| NSA3-1 | 13 | 1 | 0.0 | 74.2 | 66 | | 74.2 | 10 | Snd Lvl | 74.2 | 0.0 | 8 | | -8.0 |
| NSA3-2 | 14 | 1 | 0.0 | 74.0 | 66 | | 74.0 | 10 | Snd Lvl | 74.0 | 0.0 | 8 | | -8.0 |
| NSA3-3 | 15 | 1 | 0.0 | 73.0 | 66 | | 73.0 | 10 | Snd Lvl | 73.0 | 0.0 | 8 | | -8.0 |
| NSA3-4 | 16 | 2 | 0.0 | 70.7 | 66 | | 70.7 | 10 | Snd Lvl | 70.7 | 0.0 | 8 | | -8.0 |
| NSA3-5 | 17 | 1 | 0.0 | 69.3 | 66 | | 69.3 | 10 | Snd Lvl | 69.3 | 0.0 | 8 | | -8.0 |
| NSA3-6 | 18 | 2 | 0.0 | 67.3 | 66 | | 67.3 | 10 | Snd Lvl | 67.3 | 0.0 | 8 | | -8.0 |
| NSA3-7 | 19 | 2 | 0.0 | 64.8 | 66 | | 64.8 | 10 | ---- | 64.8 | 0.0 | 8 | | -8.0 |
| NSA3-8 | 20 | 1 | 0.0 | 64.6 | 66 | | 64.6 | 10 | ---- | 64.6 | 0.0 | 8 | | -8.0 |
| NSA3-9 | 21 | 1 | 0.0 | 64.1 | 66 | | 64.1 | 10 | ---- | 64.1 | 0.0 | 8 | | -8.0 |
| NSA3-10 | 22 | 1 | 0.0 | 61.4 | 66 | | 61.4 | 10 | ---- | 61.4 | 0.0 | 8 | | -8.0 |
| NSA3-11 | 23 | 1 | 0.0 | 60.3 | 66 | | 60.3 | 10 | ---- | 60.3 | 0.0 | 8 | | -8.0 |
| NSA3-12 | 24 | 1 | 0.0 | 58.1 | 66 | | 58.1 | 10 | ---- | 58.1 | 0.0 | 8 | | -8.0 |

RESULTS: SOUND LEVELS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|-----------------------|----|--------------|------------------------|------------|------------|------|----|---------|------|-----|---|------|
| NSA3-13 | 25 | 1 | 0.0 | 59.1 | 66 | 59.1 | 10 | ---- | 59.1 | 0.0 | 8 | -8.0 |
| NSA3-14 | 26 | 1 | 0.0 | 57.8 | 66 | 57.8 | 10 | ---- | 57.8 | 0.0 | 8 | -8.0 |
| NSA3-15 | 27 | 1 | 0.0 | 71.4 | 66 | 71.4 | 10 | Snd Lvl | 71.4 | 0.0 | 8 | -8.0 |
| NSA3-16 | 28 | 1 | 0.0 | 58.0 | 66 | 58.0 | 10 | ---- | 58.0 | 0.0 | 8 | -8.0 |
| NSA3-17 | 29 | 1 | 0.0 | 58.8 | 66 | 58.8 | 10 | ---- | 58.8 | 0.0 | 8 | -8.0 |
| NSA3-18 | 30 | 1 | 0.0 | 56.4 | 66 | 56.4 | 10 | ---- | 56.4 | 0.0 | 8 | -8.0 |
| NSA3-19 | 31 | 1 | 0.0 | 69.2 | 66 | 69.2 | 10 | Snd Lvl | 69.2 | 0.0 | 8 | -8.0 |
| NSA3-20 | 32 | 1 | 0.0 | 64.5 | 66 | 64.5 | 10 | ---- | 64.5 | 0.0 | 8 | -8.0 |
| NSA3-21 | 33 | 1 | 0.0 | 64.3 | 66 | 64.3 | 10 | ---- | 64.3 | 0.0 | 8 | -8.0 |
| NSA3-22 | 34 | 1 | 0.0 | 61.6 | 66 | 61.6 | 10 | ---- | 61.6 | 0.0 | 8 | -8.0 |
| NSA3-23 | 35 | 1 | 0.0 | 67.2 | 66 | 67.2 | 10 | Snd Lvl | 67.2 | 0.0 | 8 | -8.0 |
| NSA3-24 | 36 | 1 | 0.0 | 65.4 | 66 | 65.4 | 10 | ---- | 65.4 | 0.0 | 8 | -8.0 |
| NSA3-25 | 37 | 1 | 0.0 | 63.8 | 66 | 63.8 | 10 | ---- | 63.8 | 0.0 | 8 | -8.0 |
| Dwelling Units | | # DUs | Noise Reduction | | | | | | | | | |
| | | | Min | Avg | Max | | | | | | | |
| | | | dB | dB | dB | | | | | | | |
| All Selected | | 70 | 0.0 | 0.0 | 0.0 | | | | | | | |
| All Impacted | | 11 | 0.0 | 0.0 | 0.0 | | | | | | | |
| All that meet NR Goal | | 0 | 0.0 | 0.0 | 0.0 | | | | | | | |

| <Organization?> | | 14 July 2022 | | | | | | | | | |
|-------------------|-------|-------------------------------|-----|------------------------|-----------|--------|---|------------------|---------------------------|-----------|------------|
| CMCox | | TNM 2.5 | | | | | | | | | |
| INPUT: ROADWAYS | | | | | | | Average pavement type shall be used unless | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 PID 116322 | | | | | a State highway agency substantiates the use | | | | |
| RUN: | | Existing Year NSA 3 and NSA 4 | | | | | of a different type with the approval of FHWA | | | | |
| Roadway | Width | Points | No. | Coordinates (pavement) | | | Flow Control | | | Segment | |
| Name | | Name | | X | Y | Z | Control Device | Speed Constraint | Percent Vehicles Affected | Pvmt Type | On Struct? |
| | ft | | | ft | ft | ft | | mph | % | | |
| SR 161WB2 | 12.0 | point24 | 24 | 1,870,465.0 | 759,698.0 | 976.00 | | | | Average | |
| | | point1 | 1 | 1,869,607.0 | 759,305.0 | 996.00 | | | | Average | Y |
| | | point2 | 2 | 1,869,386.0 | 759,201.0 | 998.00 | | | | Average | |
| | | point3 | 3 | 1,868,545.0 | 758,784.0 | 994.00 | | | | Average | |
| | | point7 | 7 | 1,867,753.0 | 758,412.0 | 985.00 | | | | Average | |
| | | point8 | 8 | 1,867,054.0 | 758,097.0 | 974.00 | | | | Average | |
| | | point9 | 9 | 1,866,754.0 | 757,963.0 | 967.00 | | | | Average | |
| | | point10 | 10 | 1,866,454.0 | 757,853.0 | 961.00 | | | | Average | |
| | | point11 | 11 | 1,866,154.0 | 757,768.0 | 955.00 | | | | Average | |
| | | point12 | 12 | 1,865,851.0 | 757,711.0 | 951.00 | | | | Average | |
| | | point13 | 13 | 1,865,451.0 | 757,672.0 | 946.00 | | | | | |
| Ulry Road | 22.0 | point20 | 20 | 1,865,895.0 | 759,201.0 | 975.00 | | | | Average | |
| | | point195 | 195 | 1,865,876.0 | 758,875.0 | 977.00 | | | | Average | |
| | | point21 | 21 | 1,865,811.0 | 757,790.0 | 979.00 | | | | Average | Y |
| | | point22 | 22 | 1,865,800.0 | 757,544.0 | 972.00 | | | | Average | |
| | | point23 | 23 | 1,865,795.0 | 757,434.0 | 972.00 | | | | | |
| Hamilton Road SB | 24.0 | point25 | 25 | 1,869,249.0 | 760,088.0 | 980.00 | | | | Average | |
| | | point26 | 26 | 1,869,257.0 | 759,888.0 | 981.00 | | | | Average | |
| | | point27 | 27 | 1,869,279.0 | 759,748.0 | 980.00 | | | | Average | |
| | | point28 | 28 | 1,869,327.0 | 759,561.0 | 978.00 | | | | Average | |
| | | point29 | 29 | 1,869,449.0 | 759,244.0 | 976.00 | | | | Average | |
| | | point30 | 30 | 1,869,671.0 | 758,791.0 | 975.00 | | | | Average | |
| | | point31 | 31 | 1,869,819.0 | 758,376.0 | 979.00 | | | | | |
| Hamilton Road NB | 24.0 | point32 | 32 | 1,869,911.0 | 758,301.0 | 980.00 | | | | Average | |
| | | point33 | 33 | 1,869,827.0 | 758,551.0 | 978.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|----------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point34 | 34 | 1,869,717.0 | 758,813.0 | 975.00 | | | | Average | |
| | | point35 | 35 | 1,869,513.0 | 759,251.0 | 976.00 | | | | Average | |
| | | point36 | 36 | 1,869,371.0 | 759,612.0 | 978.00 | | | | Average | |
| | | point37 | 37 | 1,869,325.0 | 759,748.0 | 980.00 | | | | Average | |
| | | point38 | 38 | 1,869,288.0 | 759,888.0 | 981.00 | | | | Average | |
| | | point39 | 39 | 1,869,277.0 | 760,088.0 | 980.00 | | | | | |
| SR 161 WB4 | 12.0 | point40 | 40 | 1,869,309.0 | 759,559.0 | 978.00 | | | | Average | |
| | | point41 | 41 | 1,869,159.0 | 759,492.0 | 977.00 | | | | Average | |
| | | point42 | 42 | 1,869,009.0 | 759,397.0 | 981.00 | | | | Average | |
| | | point43 | 43 | 1,868,876.0 | 759,233.0 | 985.00 | | | | Average | |
| | | point44 | 44 | 1,868,743.0 | 759,031.0 | 990.00 | | | | Average | |
| | | point45 | 45 | 1,868,543.0 | 758,827.0 | 992.00 | | | | Average | |
| | | point46 | 46 | 1,868,165.0 | 758,632.0 | 990.00 | | | | | |
| SR 161 WB1 | 12.0 | point47 | 47 | 1,870,465.0 | 759,686.0 | 976.00 | | | | Average | |
| | | point48 | 48 | 1,869,607.0 | 759,293.0 | 996.00 | | | | Average | Y |
| | | point49 | 49 | 1,869,386.0 | 759,189.0 | 998.00 | | | | Average | |
| | | point50 | 50 | 1,868,545.0 | 758,772.0 | 994.00 | | | | Average | |
| | | point51 | 51 | 1,867,753.0 | 758,400.0 | 985.00 | | | | Average | |
| | | point52 | 52 | 1,867,054.0 | 758,085.0 | 974.00 | | | | Average | |
| | | point53 | 53 | 1,866,754.0 | 757,951.0 | 967.00 | | | | Average | |
| | | point54 | 54 | 1,866,454.0 | 757,841.0 | 961.00 | | | | Average | |
| | | point55 | 55 | 1,866,154.0 | 757,756.0 | 955.00 | | | | Average | |
| | | point56 | 56 | 1,865,851.0 | 757,699.0 | 951.00 | | | | Average | |
| | | point57 | 57 | 1,865,451.0 | 757,660.0 | 946.00 | | | | | |
| SR161 outside shoulder WB1 | 12.0 | point64 | 64 | 1,870,465.0 | 759,710.0 | 976.00 | | | | Average | |
| | | point65 | 65 | 1,869,607.0 | 759,317.0 | 996.00 | | | | Average | Y |
| | | point66 | 66 | 1,869,386.0 | 759,213.0 | 998.00 | | | | Average | |
| | | point67 | 67 | 1,868,545.0 | 758,796.0 | 994.00 | | | | Average | |
| | | point68 | 68 | 1,867,753.0 | 758,424.0 | 985.00 | | | | | |
| SR166 WB3 | 12.0 | point69 | 69 | 1,867,753.0 | 758,424.0 | 985.00 | | | | Average | |
| | | point70 | 70 | 1,867,054.0 | 758,109.0 | 974.00 | | | | Average | |
| | | point71 | 71 | 1,866,754.0 | 757,975.0 | 967.00 | | | | Average | |
| | | point72 | 72 | 1,866,454.0 | 757,865.0 | 961.00 | | | | Average | |
| | | point73 | 73 | 1,866,154.0 | 757,780.0 | 955.00 | | | | Average | |
| | | point74 | 74 | 1,865,851.0 | 757,723.0 | 951.00 | | | | Average | |
| | | point75 | 75 | 1,865,451.0 | 757,684.0 | 946.00 | | | | | |
| SR 161 WB inside shoulder | 12.0 | point98 | 98 | 1,868,545.0 | 758,760.0 | 993.50 | | | | Average | |
| | | point99 | 99 | 1,867,753.0 | 758,387.0 | 984.50 | | | | Average | |
| | | point100 | 100 | 1,867,054.0 | 758,072.0 | 973.50 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|--------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|--|
| | | point101 | 101 | 1,866,754.0 | 757,939.0 | 966.50 | | | | Average | |
| | | point102 | 102 | 1,866,454.0 | 757,829.0 | 960.50 | | | | Average | |
| | | point103 | 103 | 1,866,154.0 | 757,743.0 | 954.50 | | | | Average | |
| | | point104 | 104 | 1,865,851.0 | 757,686.0 | 950.50 | | | | Average | |
| | | point105 | 105 | 1,865,451.0 | 757,647.0 | 945.50 | | | | Average | |
| | | point106 | 106 | 1,865,151.0 | 757,647.0 | 942.50 | | | | Average | |
| | | point107 | 107 | 1,864,851.0 | 757,668.0 | 939.50 | | | | Average | |
| | | point108 | 108 | 1,864,451.0 | 757,718.0 | 935.50 | | | | Average | |
| | | point109 | 109 | 1,864,051.0 | 757,770.0 | 931.50 | | | | Average | |
| | | point110 | 110 | 1,863,551.0 | 757,833.0 | 925.50 | | | | Average | |
| | | point111 | 111 | 1,863,051.0 | 757,886.0 | 919.50 | | | | | |
| SR161 EB inside Shoulder | 12.0 | point128 | 128 | 1,863,051.0 | 757,869.0 | 919.50 | | | | Average | |
| | | point127 | 127 | 1,863,551.0 | 757,816.0 | 925.50 | | | | Average | |
| | | point126 | 126 | 1,864,051.0 | 757,753.0 | 931.50 | | | | Average | |
| | | point125 | 125 | 1,864,451.0 | 757,701.0 | 935.50 | | | | Average | |
| | | point124 | 124 | 1,864,851.0 | 757,651.0 | 939.50 | | | | Average | |
| | | point123 | 123 | 1,865,151.0 | 757,630.0 | 942.50 | | | | Average | |
| | | point122 | 122 | 1,865,451.0 | 757,630.0 | 945.50 | | | | | |
| SR161 EB4 | 12.0 | point129 | 129 | 1,863,051.0 | 757,857.0 | 920.00 | | | | Average | |
| | | point130 | 130 | 1,863,551.0 | 757,804.0 | 926.00 | | | | Average | |
| | | point131 | 131 | 1,864,051.0 | 757,741.0 | 932.00 | | | | Average | |
| | | point132 | 132 | 1,864,451.0 | 757,689.0 | 936.00 | | | | Average | |
| | | point133 | 133 | 1,864,851.0 | 757,639.0 | 940.00 | | | | Average | |
| | | point134 | 134 | 1,865,151.0 | 757,618.0 | 943.00 | | | | Average | |
| | | point135 | 135 | 1,865,451.0 | 757,618.0 | 946.00 | | | | | |
| SR 161 EB2 | 12.0 | point145 | 145 | 1,863,051.0 | 757,845.0 | 920.50 | | | | Average | |
| | | point146 | 146 | 1,863,551.0 | 757,792.0 | 926.50 | | | | Average | |
| | | point147 | 147 | 1,864,051.0 | 757,729.0 | 932.50 | | | | Average | |
| | | point148 | 148 | 1,864,451.0 | 757,677.0 | 936.50 | | | | Average | |
| | | point149 | 149 | 1,864,851.0 | 757,627.0 | 940.50 | | | | Average | |
| | | point150 | 150 | 1,865,151.0 | 757,606.0 | 943.50 | | | | Average | |
| | | point151 | 151 | 1,865,451.0 | 757,606.0 | 946.50 | | | | | |
| SR161 EB3 | 12.0 | point161 | 161 | 1,863,051.0 | 757,833.0 | 921.00 | | | | Average | |
| | | point162 | 162 | 1,863,551.0 | 757,780.0 | 927.00 | | | | Average | |
| | | point163 | 163 | 1,864,051.0 | 757,717.0 | 933.00 | | | | Average | |
| | | point164 | 164 | 1,864,451.0 | 757,665.0 | 937.00 | | | | Average | |
| | | point165 | 165 | 1,864,851.0 | 757,615.0 | 941.00 | | | | Average | |
| | | point166 | 166 | 1,865,151.0 | 757,594.0 | 944.00 | | | | Average | |
| | | point167 | 167 | 1,865,451.0 | 757,594.0 | 947.00 | | | | | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | |
|-------------------------------|------|----------|-----|-------------|-----------|--------|------|------|-----|---------|
| SR 161 EB4 | 12.0 | point177 | 177 | 1,865,451.0 | 757,594.0 | 947.00 | | | | Average |
| | | point178 | 178 | 1,865,851.0 | 757,621.0 | 952.00 | | | | Average |
| | | point179 | 179 | 1,866,154.0 | 757,678.0 | 956.00 | | | | Average |
| | | point180 | 180 | 1,866,454.0 | 757,770.0 | 962.00 | | | | Average |
| | | point181 | 181 | 1,866,754.0 | 757,874.0 | 968.00 | | | | Average |
| | | point182 | 182 | 1,867,054.0 | 758,007.0 | 975.00 | | | | Average |
| | | point183 | 183 | 1,867,753.0 | 758,322.0 | 986.00 | | | | |
| Exit ramp SR161EB to Hamilton | 12.0 | point187 | 187 | 1,867,753.0 | 758,322.0 | 986.00 | Stop | 0.00 | 100 | Average |
| | | point188 | 188 | 1,868,410.0 | 758,584.0 | 991.00 | | | | Average |
| | | point189 | 189 | 1,868,610.0 | 758,640.0 | 990.00 | | | | Average |
| | | point190 | 190 | 1,868,846.0 | 758,662.0 | 985.00 | | | | Average |
| | | point191 | 191 | 1,869,185.0 | 758,662.0 | 978.00 | | | | Average |
| | | point193 | 193 | 1,869,418.1 | 758,707.4 | 976.00 | | | | Average |
| | | point192 | 192 | 1,869,645.0 | 758,790.0 | 974.00 | | | | |
| Hausman/Garnier/Bulfinch | 24.0 | point196 | 196 | 1,865,876.0 | 758,875.0 | 977.00 | | | | Average |
| | | point197 | 197 | 1,866,496.0 | 758,841.0 | 972.00 | | | | Average |
| | | point198 | 198 | 1,866,496.0 | 758,468.0 | 975.00 | | | | Average |
| | | point199 | 199 | 1,867,091.0 | 758,437.0 | 976.00 | | | | Average |
| | | point200 | 200 | 1,867,125.0 | 758,957.0 | 972.00 | | | | |
| SR 166 WB Outside shoulder | 10.0 | point201 | 201 | 1,865,451.0 | 757,695.0 | 946.00 | | | | Average |
| | | point202 | 202 | 1,865,151.0 | 757,695.0 | 943.00 | | | | Average |
| | | point203 | 203 | 1,864,851.0 | 757,716.0 | 940.00 | | | | Average |
| | | point204 | 204 | 1,864,451.0 | 757,766.0 | 936.00 | | | | Average |
| | | point205 | 205 | 1,864,051.0 | 757,818.0 | 932.00 | | | | Average |
| | | point206 | 206 | 1,863,551.0 | 757,882.0 | 926.00 | | | | Average |
| | | point207 | 207 | 1,863,051.0 | 757,934.0 | 920.00 | | | | |
| SR 161 WB inside shoulder 2 | 10.0 | point208 | 208 | 1,868,165.0 | 758,643.0 | 990.00 | | | | Average |
| | | point209 | 209 | 1,867,753.0 | 758,447.0 | 985.00 | | | | Average |
| | | point210 | 210 | 1,867,054.0 | 758,132.0 | 974.00 | | | | Average |
| | | point211 | 211 | 1,866,754.0 | 757,998.0 | 967.00 | | | | Average |
| | | point212 | 212 | 1,866,454.0 | 757,888.0 | 961.00 | | | | Average |
| | | point213 | 213 | 1,866,154.0 | 757,803.0 | 955.00 | | | | Average |
| | | point214 | 214 | 1,865,851.0 | 757,746.0 | 951.00 | | | | |
| SR 161 EB3 | 12.0 | point215 | 215 | 1,865,451.0 | 757,606.0 | 946.50 | | | | Average |
| | | point152 | 152 | 1,865,851.0 | 757,645.0 | 951.50 | | | | Average |
| | | point153 | 153 | 1,866,154.0 | 757,702.0 | 955.50 | | | | Average |
| | | point154 | 154 | 1,866,454.0 | 757,794.0 | 961.50 | | | | Average |
| | | point155 | 155 | 1,866,754.0 | 757,898.0 | 967.50 | | | | Average |
| | | point156 | 156 | 1,867,054.0 | 758,031.0 | 974.50 | | | | Average |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|----------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point157 | 157 | 1,867,753.0 | 758,346.0 | 985.50 | | | | Average | |
| | | point158 | 158 | 1,868,545.0 | 758,719.0 | 994.50 | | | | Average | |
| | | point159 | 159 | 1,869,386.0 | 759,136.0 | 998.50 | | | | Average | Y |
| | | point160 | 160 | 1,869,607.0 | 759,240.0 | 997.50 | | | | | |
| SR161 EB inside Shoulder-2 | 12.0 | point216 | 216 | 1,865,451.0 | 757,630.0 | 945.50 | | | | Average | |
| | | point121 | 121 | 1,865,851.0 | 757,669.0 | 950.50 | | | | Average | |
| | | point120 | 120 | 1,866,154.0 | 757,726.0 | 954.50 | | | | Average | |
| | | point119 | 119 | 1,866,454.0 | 757,818.0 | 960.50 | | | | Average | |
| | | point118 | 118 | 1,866,754.0 | 757,922.0 | 966.50 | | | | Average | |
| | | point117 | 117 | 1,867,054.0 | 758,055.0 | 973.50 | | | | Average | |
| | | point116 | 116 | 1,867,753.0 | 758,370.0 | 984.50 | | | | Average | |
| | | point115 | 115 | 1,868,545.0 | 758,743.0 | 993.50 | | | | Average | |
| | | point114 | 114 | 1,869,386.0 | 759,160.0 | 997.50 | | | | Average | Y |
| | | point113 | 113 | 1,869,607.0 | 759,264.0 | 996.50 | | | | | |
| SR161 EB1 | 12.0 | point217 | 217 | 1,865,451.0 | 757,618.0 | 946.00 | | | | Average | |
| | | point136 | 136 | 1,865,851.0 | 757,657.0 | 951.00 | | | | Average | |
| | | point137 | 137 | 1,866,154.0 | 757,714.0 | 955.00 | | | | Average | |
| | | point138 | 138 | 1,866,454.0 | 757,806.0 | 961.00 | | | | Average | |
| | | point139 | 139 | 1,866,754.0 | 757,910.0 | 967.00 | | | | Average | |
| | | point140 | 140 | 1,867,054.0 | 758,043.0 | 974.00 | | | | Average | |
| | | point141 | 141 | 1,867,753.0 | 758,358.0 | 985.00 | | | | Average | |
| | | point142 | 142 | 1,868,545.0 | 758,731.0 | 994.00 | | | | Average | |
| | | point143 | 143 | 1,869,386.0 | 759,148.0 | 998.00 | | | | Average | Y |
| | | point144 | 144 | 1,869,607.0 | 759,252.0 | 997.00 | | | | | |
| SR161 EB2 | 12.0 | point218 | 218 | 1,865,451.0 | 757,594.0 | 947.00 | | | | Average | |
| | | point168 | 168 | 1,865,851.0 | 757,633.0 | 952.00 | | | | Average | |
| | | point169 | 169 | 1,866,154.0 | 757,690.0 | 956.00 | | | | Average | |
| | | point170 | 170 | 1,866,454.0 | 757,782.0 | 962.00 | | | | Average | |
| | | point171 | 171 | 1,866,754.0 | 757,886.0 | 968.00 | | | | Average | |
| | | point172 | 172 | 1,867,054.0 | 758,019.0 | 975.00 | | | | Average | |
| | | point173 | 173 | 1,867,753.0 | 758,334.0 | 986.00 | | | | Average | |
| | | point174 | 174 | 1,868,545.0 | 758,707.0 | 995.00 | | | | Average | |
| | | point175 | 175 | 1,869,386.0 | 759,124.0 | 999.00 | | | | Average | Y |
| | | point176 | 176 | 1,869,607.0 | 759,228.0 | 998.00 | | | | | |
| SR166 WB1 | 12.0 | point219 | 219 | 1,865,451.0 | 757,684.0 | 946.00 | | | | Average | |
| | | point76 | 76 | 1,865,151.0 | 757,684.0 | 943.00 | | | | Average | |
| | | point77 | 77 | 1,864,851.0 | 757,705.0 | 940.00 | | | | Average | |
| | | point78 | 78 | 1,864,451.0 | 757,755.0 | 936.00 | | | | Average | |
| | | point79 | 79 | 1,864,051.0 | 757,807.0 | 932.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | |
|--|------|----------|-----|-------------|-----------|--------|--|--|--|---------|
| | | point80 | 80 | 1,863,551.0 | 757,870.0 | 926.00 | | | | Average |
| | | point81 | 81 | 1,863,051.0 | 757,923.0 | 920.00 | | | | |
| SR 161WB2-2 | 12.0 | point220 | 220 | 1,865,451.0 | 757,672.0 | 946.00 | | | | Average |
| | | point14 | 14 | 1,865,151.0 | 757,672.0 | 943.00 | | | | Average |
| | | point15 | 15 | 1,864,851.0 | 757,693.0 | 940.00 | | | | Average |
| | | point16 | 16 | 1,864,451.0 | 757,743.0 | 936.00 | | | | Average |
| | | point17 | 17 | 1,864,051.0 | 757,795.0 | 932.00 | | | | Average |
| | | point18 | 18 | 1,863,551.0 | 757,858.0 | 926.00 | | | | Average |
| | | point19 | 19 | 1,863,051.0 | 757,911.0 | 920.00 | | | | |
| SR 161 WB3-2 | 12.0 | point221 | 221 | 1,865,451.0 | 757,660.0 | 946.00 | | | | Average |
| | | point58 | 58 | 1,865,151.0 | 757,660.0 | 943.00 | | | | Average |
| | | point59 | 59 | 1,864,851.0 | 757,681.0 | 940.00 | | | | Average |
| | | point60 | 60 | 1,864,451.0 | 757,731.0 | 936.00 | | | | Average |
| | | point61 | 61 | 1,864,051.0 | 757,783.0 | 932.00 | | | | Average |
| | | point62 | 62 | 1,863,551.0 | 757,846.0 | 926.00 | | | | Average |
| | | point63 | 63 | 1,863,051.0 | 757,899.0 | 920.00 | | | | |
| SR 161 WB4-2 | 12.0 | point222 | 222 | 1,868,165.0 | 758,632.0 | 990.00 | | | | Average |
| | | point82 | 82 | 1,867,753.0 | 758,436.0 | 985.00 | | | | Average |
| | | point83 | 83 | 1,867,054.0 | 758,121.0 | 974.00 | | | | Average |
| | | point84 | 84 | 1,866,754.0 | 757,987.0 | 967.00 | | | | Average |
| | | point85 | 85 | 1,866,454.0 | 757,877.0 | 961.00 | | | | Average |
| | | point86 | 86 | 1,866,154.0 | 757,792.0 | 955.00 | | | | Average |
| | | point87 | 87 | 1,865,851.0 | 757,735.0 | 951.00 | | | | Average |
| | | point88 | 88 | 1,865,451.0 | 757,684.0 | 946.00 | | | | |
| SR 161WB2::point8 under overhead power lines | | | | | | | | | | |
| SR 161WB2::point11 below overhead sign | | | | | | | | | | |

| <Organization?> | | 14 July 2022 | | | | | | | | | | |
|-----------------------------------|----------|-------------------------------|---------|-----|---------|-----|---------|-----|--------|-----|-------------|-----|
| CMCox | | TNM 2.5 | | | | | | | | | | |
| INPUT: TRAFFIC FOR LAeq1h Volumes | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 PID 116322 | | | | | | | | | | |
| RUN: | | Existing Year NSA 3 and NSA 4 | | | | | | | | | | |
| Roadway | Points | | | | | | | | | | | |
| Name | Name | No. | Segment | | MTrucks | | HTrucks | | Buses | | Motorcycles | |
| | | | Autos | | V | S | V | S | V | S | V | S |
| | | | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph |
| SR 161WB2 | point24 | 24 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point1 | 1 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point2 | 2 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point3 | 3 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point7 | 7 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point8 | 8 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point9 | 9 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point10 | 10 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point11 | 11 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point12 | 12 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point13 | 13 | | | | | | | | | | |
| Uly Road | point20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point195 | 195 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point21 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point22 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point23 | 23 | | | | | | | | | | |
| Hamilton Road SB | point25 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point26 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point27 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point28 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point29 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point30 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point31 | 31 | | | | | | | | | | |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|----------------------------|---------|----|------|----|----|----|----|----|---|---|---|---|
| Hamilton Road NB | point32 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point33 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point34 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point35 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point36 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point37 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point38 | 38 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point39 | 39 | | | | | | | | | | |
| SR 161 WB4 | point40 | 40 | 1872 | 65 | 18 | 60 | 40 | 60 | 0 | 0 | 0 | 0 |
| | point41 | 41 | 1872 | 65 | 18 | 60 | 40 | 60 | 0 | 0 | 0 | 0 |
| | point42 | 42 | 1872 | 65 | 18 | 60 | 40 | 60 | 0 | 0 | 0 | 0 |
| | point43 | 43 | 1872 | 65 | 18 | 60 | 40 | 60 | 0 | 0 | 0 | 0 |
| | point44 | 44 | 1872 | 65 | 18 | 60 | 40 | 60 | 0 | 0 | 0 | 0 |
| | point45 | 45 | 1872 | 65 | 18 | 60 | 40 | 60 | 0 | 0 | 0 | 0 |
| | point46 | 46 | | | | | | | | | | |
| SR 161 WB1 | point47 | 47 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point48 | 48 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point49 | 49 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point50 | 50 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point51 | 51 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point52 | 52 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point53 | 53 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point54 | 54 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point55 | 55 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point56 | 56 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point57 | 57 | | | | | | | | | | |
| SR161 outside shoulder WB1 | point64 | 64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point65 | 65 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point66 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point67 | 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point68 | 68 | | | | | | | | | | |
| SR166 WB3 | point69 | 69 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point70 | 70 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point71 | 71 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point72 | 72 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point73 | 73 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|---------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point74 | 74 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point75 | 75 | | | | | | | | | | |
| SR 161 WB inside shoulder | point98 | 98 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point99 | 99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point101 | 101 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point102 | 102 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point103 | 103 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point104 | 104 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point105 | 105 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point106 | 106 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point107 | 107 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point108 | 108 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point109 | 109 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point110 | 110 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point111 | 111 | | | | | | | | | | |
| SR161 EB inside Shoulder | point128 | 128 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point127 | 127 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point126 | 126 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point125 | 125 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point124 | 124 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point123 | 123 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point122 | 122 | | | | | | | | | | |
| SR161 EB4 | point129 | 129 | 1581 | 65 | 25 | 60 | 58 | 60 | 0 | 0 | 0 | 0 |
| | point130 | 130 | 1581 | 65 | 25 | 60 | 58 | 60 | 0 | 0 | 0 | 0 |
| | point131 | 131 | 1581 | 65 | 25 | 60 | 58 | 60 | 0 | 0 | 0 | 0 |
| | point132 | 132 | 1581 | 65 | 25 | 60 | 58 | 60 | 0 | 0 | 0 | 0 |
| | point133 | 133 | 1581 | 65 | 25 | 60 | 58 | 60 | 0 | 0 | 0 | 0 |
| | point134 | 134 | 1581 | 65 | 25 | 60 | 58 | 60 | 0 | 0 | 0 | 0 |
| | point135 | 135 | | | | | | | | | | |
| SR 161 EB2 | point145 | 145 | 1581 | 65 | 25 | 60 | 58 | 60 | 0 | 0 | 0 | 0 |
| | point146 | 146 | 1581 | 65 | 25 | 60 | 58 | 60 | 0 | 0 | 0 | 0 |
| | point147 | 147 | 1581 | 65 | 25 | 60 | 58 | 60 | 0 | 0 | 0 | 0 |
| | point148 | 148 | 1581 | 65 | 25 | 60 | 58 | 60 | 0 | 0 | 0 | 0 |
| | point149 | 149 | 1581 | 65 | 25 | 60 | 58 | 60 | 0 | 0 | 0 | 0 |
| | point150 | 150 | 1581 | 65 | 25 | 60 | 58 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|-------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point151 | 151 | | | | | | | | | | |
| SR161 EB3 | point161 | 161 | 1581 | 65 | 25 | 60 | 58 | 60 | 0 | 0 | 0 | 0 |
| | point162 | 162 | 1581 | 65 | 25 | 60 | 58 | 60 | 0 | 0 | 0 | 0 |
| | point163 | 163 | 1581 | 65 | 25 | 60 | 58 | 60 | 0 | 0 | 0 | 0 |
| | point164 | 164 | 1581 | 65 | 25 | 60 | 58 | 60 | 0 | 0 | 0 | 0 |
| | point165 | 165 | 1581 | 65 | 25 | 60 | 58 | 60 | 0 | 0 | 0 | 0 |
| | point166 | 166 | 1581 | 65 | 25 | 60 | 58 | 60 | 0 | 0 | 0 | 0 |
| | point167 | 167 | | | | | | | | | | |
| SR 161 EB4 | point177 | 177 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point178 | 178 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point179 | 179 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point180 | 180 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point181 | 181 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point182 | 182 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point183 | 183 | | | | | | | | | | |
| Exit ramp SR161EB to Hamilton | point187 | 187 | 1784 | 65 | 17 | 60 | 39 | 60 | 0 | 0 | 0 | 0 |
| | point188 | 188 | 1784 | 65 | 17 | 60 | 39 | 60 | 0 | 0 | 0 | 0 |
| | point189 | 189 | 1784 | 65 | 17 | 60 | 39 | 60 | 0 | 0 | 0 | 0 |
| | point190 | 190 | 1784 | 65 | 17 | 60 | 39 | 60 | 0 | 0 | 0 | 0 |
| | point191 | 191 | 1784 | 65 | 17 | 60 | 39 | 60 | 0 | 0 | 0 | 0 |
| | point193 | 193 | 1784 | 65 | 17 | 60 | 39 | 60 | 0 | 0 | 0 | 0 |
| | point192 | 192 | | | | | | | | | | |
| Haussman/Garnier/Bulfinch | point196 | 196 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point197 | 197 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point198 | 198 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point199 | 199 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point200 | 200 | | | | | | | | | | |
| SR 166 WB Outside shoulder | point201 | 201 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point202 | 202 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point203 | 203 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point204 | 204 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point205 | 205 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point206 | 206 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point207 | 207 | | | | | | | | | | |
| SR 161 WB inside shoulder 2 | point208 | 208 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point209 | 209 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|----------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point210 | 210 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point211 | 211 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point212 | 212 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point213 | 213 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point214 | 214 | | | | | | | | | | |
| SR 161 EB3 | point215 | 215 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point152 | 152 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point153 | 153 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point154 | 154 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point155 | 155 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point156 | 156 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point157 | 157 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point158 | 158 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point159 | 159 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point160 | 160 | | | | | | | | | | |
| SR161 EB inside Shoulder-2 | point216 | 216 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point121 | 121 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point120 | 120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point119 | 119 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point118 | 118 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point117 | 117 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point116 | 116 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point115 | 115 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point114 | 114 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point113 | 113 | | | | | | | | | | |
| SR161 EB1 | point217 | 217 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point136 | 136 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point137 | 137 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point138 | 138 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point139 | 139 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point140 | 140 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point141 | 141 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point142 | 142 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point143 | 143 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point144 | 144 | | | | | | | | | | |
| SR161 EB2 | point218 | 218 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|--------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point168 | 168 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point169 | 169 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point170 | 170 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point171 | 171 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point172 | 172 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point173 | 173 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point174 | 174 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point175 | 175 | 1186 | 65 | 19 | 60 | 44 | 60 | 0 | 0 | 0 | 0 |
| | point176 | 176 | | | | | | | | | | |
| SR166 WB1 | point219 | 219 | 1623 | 65 | 29 | 60 | 60 | 60 | 0 | 0 | 0 | 0 |
| | point76 | 76 | 1623 | 65 | 29 | 60 | 60 | 60 | 0 | 0 | 0 | 0 |
| | point77 | 77 | 1623 | 65 | 29 | 60 | 60 | 60 | 0 | 0 | 0 | 0 |
| | point78 | 78 | 1623 | 65 | 29 | 60 | 60 | 60 | 0 | 0 | 0 | 0 |
| | point79 | 79 | 1623 | 65 | 29 | 60 | 60 | 60 | 0 | 0 | 0 | 0 |
| | point80 | 80 | 1623 | 65 | 29 | 60 | 60 | 60 | 0 | 0 | 0 | 0 |
| | point81 | 81 | | | | | | | | | | |
| SR 161WB2-2 | point220 | 220 | 1623 | 65 | 29 | 60 | 60 | 60 | 0 | 0 | 0 | 0 |
| | point14 | 14 | 1623 | 65 | 29 | 60 | 60 | 60 | 0 | 0 | 0 | 0 |
| | point15 | 15 | 1623 | 65 | 29 | 60 | 60 | 60 | 0 | 0 | 0 | 0 |
| | point16 | 16 | 1623 | 65 | 29 | 60 | 60 | 60 | 0 | 0 | 0 | 0 |
| | point17 | 17 | 1623 | 65 | 29 | 60 | 60 | 60 | 0 | 0 | 0 | 0 |
| | point18 | 18 | 1623 | 65 | 29 | 60 | 60 | 60 | 0 | 0 | 0 | 0 |
| | point19 | 19 | | | | | | | | | | |
| SR 161 WB3-2 | point221 | 221 | 1623 | 65 | 29 | 60 | 60 | 60 | 0 | 0 | 0 | 0 |
| | point58 | 58 | 1623 | 65 | 29 | 60 | 60 | 60 | 0 | 0 | 0 | 0 |
| | point59 | 59 | 1623 | 65 | 29 | 60 | 60 | 60 | 0 | 0 | 0 | 0 |
| | point60 | 60 | 1623 | 65 | 29 | 60 | 60 | 60 | 0 | 0 | 0 | 0 |
| | point61 | 61 | 1623 | 65 | 29 | 60 | 60 | 60 | 0 | 0 | 0 | 0 |
| | point62 | 62 | 1623 | 65 | 29 | 60 | 60 | 60 | 0 | 0 | 0 | 0 |
| | point63 | 63 | | | | | | | | | | |
| SR 161 WB4-2 | point222 | 222 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point82 | 82 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point83 | 83 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point84 | 84 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point85 | 85 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point86 | 86 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes**FRA-SR161-15.80 PID 116322**

| | | | | | | | | | | | | |
|--|---------|----|------|----|----|----|----|----|---|---|---|---|
| | point87 | 87 | 1235 | 65 | 19 | 60 | 45 | 60 | 0 | 0 | 0 | 0 |
| | point88 | 88 | | | | | | | | | | |

INPUT: RECEIVERS

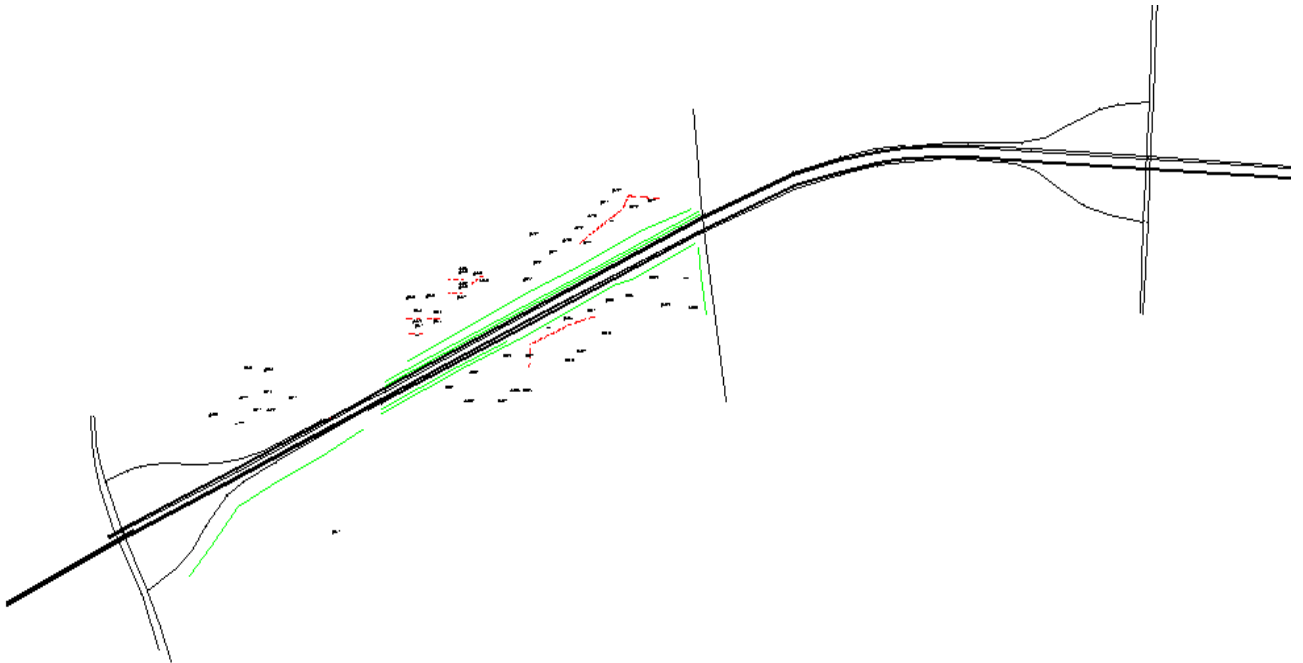
FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|--------------------------|------------|-------------|-----------------------------|-----------|----------|---------------|--|------------------------|--------------|-------------|---------------|
| | | | | | | | 14 July 2022 | | | | |
| <Organization?> | | | | | | | | | | | |
| CMCox | | | | | | | TNM 2.5 | | | | |
| INPUT: RECEIVERS | | | | | | | | | | | |
| PROJECT/CONTRACT: | | | | | | | FRA-SR161-15.80 PID 116322 | | | | |
| RUN: | | | | | | | Existing Year NSA 3 and NSA 4 | | | | |
| Receiver | | | | | | | | | | | |
| Name | No. | #DUs | Coordinates (ground) | | | Height | Input Sound Levels and Criteria | | | | Active |
| | | | X | Y | Z | above | Existing | Impact Criteria | | NR | in |
| | | | | | | Ground | LAeq1h | LAeq1h | Sub'l | Goal | Calc. |
| | | | ft | ft | ft | ft | dBA | dBA | dB | dB | |
| NSA2-1 | 1 | 6 | 1,865,184.0 | 758,065.0 | 959.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA2-2 | 2 | 6 | 1,865,021.0 | 758,105.0 | 957.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA2-3 | 3 | 6 | 1,864,902.0 | 758,143.0 | 955.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA2-4 | 4 | 6 | 1,864,719.0 | 758,143.0 | 953.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA2-5 | 5 | 6 | 1,864,629.0 | 758,232.0 | 953.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA2-6 | 6 | 6 | 1,865,315.0 | 758,221.0 | 962.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA2-7 | 7 | 1 | 1,864,476.0 | 758,261.0 | 950.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA2-8 | 8 | 1 | 1,865,678.0 | 757,885.0 | 972.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA2-9 | 9 | 1 | 1,865,703.0 | 757,930.0 | 974.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA2-10 | 10 | 1 | 1,865,703.0 | 757,980.0 | 974.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA2-11 | 11 | 1 | 1,865,703.0 | 758,026.0 | 975.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA2-12 | 12 | 1 | 1,865,714.0 | 758,078.0 | 975.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-1 | 13 | 1 | 1,867,192.0 | 758,347.0 | 977.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-2 | 14 | 1 | 1,867,108.0 | 758,316.0 | 977.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-3 | 15 | 1 | 1,867,040.0 | 758,316.0 | 977.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-4 | 16 | 2 | 1,866,945.0 | 758,339.0 | 977.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-5 | 17 | 1 | 1,866,852.0 | 758,330.0 | 976.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-6 | 18 | 2 | 1,866,766.0 | 758,347.0 | 976.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-7 | 19 | 2 | 1,866,641.0 | 758,361.0 | 976.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-8 | 20 | 1 | 1,866,555.0 | 758,347.0 | 977.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-9 | 21 | 1 | 1,866,504.0 | 758,335.0 | 977.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-10 | 22 | 1 | 1,866,371.0 | 758,369.0 | 977.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |

INPUT: RECEIVERS**FRA-SR161-15.80 PID 116322**

| | | | | | | | | | | | |
|---------|----|---|-------------|-----------|--------|------|------|----|------|-----|---|
| NSA3-11 | 23 | 1 | 1,866,233.0 | 758,354.0 | 978.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-12 | 24 | 1 | 1,866,110.0 | 758,374.0 | 976.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-13 | 25 | 1 | 1,865,970.0 | 758,268.0 | 977.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-14 | 26 | 1 | 1,865,980.0 | 758,374.0 | 978.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-15 | 27 | 1 | 1,867,224.0 | 758,443.0 | 976.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-16 | 28 | 1 | 1,866,346.0 | 758,434.0 | 977.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-17 | 29 | 1 | 1,866,298.0 | 758,434.0 | 978.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-18 | 30 | 1 | 1,866,041.0 | 758,468.0 | 976.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-19 | 31 | 1 | 1,867,233.1 | 758,512.8 | 977.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-20 | 32 | 1 | 1,866,994.0 | 758,535.0 | 977.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-21 | 33 | 1 | 1,866,916.0 | 758,506.0 | 978.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-22 | 34 | 1 | 1,866,708.0 | 758,544.0 | 978.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-23 | 35 | 1 | 1,867,214.0 | 758,564.0 | 976.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-24 | 36 | 1 | 1,867,227.0 | 758,623.0 | 975.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA3-25 | 37 | 1 | 1,867,010.0 | 758,588.0 | 977.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |

NSA 4 – NSA 8



RESULTS: SOUND LEVELS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|------------------------------|--|--|--|--|--|--|--|--|-------------------------|--|--|--|
| <Organization?> | | | | | | | | | 15 July 2022 | | | |
| CCox | | | | | | | | | TNM 2.5 | | | |
| | | | | | | | | | Calculated with TNM 2.5 | | | |
| RESULTS: SOUND LEVELS | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 PID 116322 | | | | | | | | | | |
| RUN: | | Existing Year NSA4- NSA 8 | | | | | | | | | | |
| BARRIER DESIGN: | | INPUT HEIGHTS | | | | | | | | | | |
| ATMOSPHERICS: | | 68 deg F, 50% RH | | | | | | | | | | |
| | | Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA. | | | | | | | | | | |

| Receiver | | | | | | | | | | | | |
|----------|-----|------|--------------------|-------------------------------|--------|------------------------|--------|---------|--------------|-------------------------------|----------------------------|------|
| Name | No. | #DUs | Existing | | | Increase over existing | | Type | With Barrier | | | |
| | | | L _{Aeq1h} | No Barrier L _{Aeq1h} | Crit'n | Calculated | Crit'n | | Impact | Calculated L _{Aeq1h} | Calculated Noise Reduction | Goal |
| | | | dBA | dBA | dBA | dB | dB | | dBA | dB | dB | dB |
| NSA4-1 | 1 | 6 | 0.0 | 66.9 | 66 | 66.9 | 10 | Snd Lvl | 66.9 | 0.0 | 8 | -8.0 |
| NSA4-2 | 2 | 6 | 0.0 | 68.2 | 66 | 68.2 | 10 | Snd Lvl | 68.2 | 0.0 | 8 | -8.0 |
| NSA4-3 | 3 | 4 | 0.0 | 67.2 | 66 | 67.2 | 10 | Snd Lvl | 67.2 | 0.0 | 8 | -8.0 |
| NSA4-4 | 4 | 6 | 0.0 | 68.0 | 66 | 68.0 | 10 | Snd Lvl | 68.0 | 0.0 | 8 | -8.0 |
| NSA4-5 | 5 | 6 | 0.0 | 64.9 | 66 | 64.9 | 10 | ---- | 64.9 | 0.0 | 8 | -8.0 |
| NSA4-6 | 6 | 6 | 0.0 | 65.8 | 66 | 65.8 | 10 | ---- | 65.8 | 0.0 | 8 | -8.0 |
| NSA4-7 | 7 | 1 | 0.0 | 64.6 | 66 | 64.6 | 10 | ---- | 64.6 | 0.0 | 8 | -8.0 |
| NSA4-8 | 8 | 6 | 0.0 | 62.9 | 66 | 62.9 | 10 | ---- | 62.9 | 0.0 | 8 | -8.0 |
| NSA4-9 | 9 | 6 | 0.0 | 61.5 | 66 | 61.5 | 10 | ---- | 61.5 | 0.0 | 8 | -8.0 |
| NSA6-1 | 10 | 2 | 0.0 | 68.8 | 66 | 68.8 | 10 | Snd Lvl | 68.8 | 0.0 | 8 | -8.0 |
| NSA6-2 | 11 | 2 | 0.0 | 64.1 | 66 | 64.1 | 10 | ---- | 64.1 | 0.0 | 8 | -8.0 |
| NSA6-3 | 12 | 2 | 0.0 | 64.3 | 66 | 64.3 | 10 | ---- | 64.3 | 0.0 | 8 | -8.0 |
| NSA6-4 | 13 | 2 | 0.0 | 61.3 | 66 | 61.3 | 10 | ---- | 61.3 | 0.0 | 8 | -8.0 |
| NSA6-5 | 14 | 2 | 0.0 | 67.8 | 66 | 67.8 | 10 | Snd Lvl | 67.8 | 0.0 | 8 | -8.0 |
| NSA6-6 | 15 | 2 | 0.0 | 63.5 | 66 | 63.5 | 10 | ---- | 63.5 | 0.0 | 8 | -8.0 |
| NSA6-7 | 16 | 2 | 0.0 | 65.5 | 66 | 65.5 | 10 | ---- | 65.5 | 0.0 | 8 | -8.0 |
| NSA6-8 | 17 | 2 | 0.0 | 60.9 | 66 | 60.9 | 10 | ---- | 60.9 | 0.0 | 8 | -8.0 |
| NSA6-9 | 18 | 2 | 0.0 | 63.9 | 66 | 63.9 | 10 | ---- | 63.9 | 0.0 | 8 | -8.0 |
| NSA6-10 | 19 | 2 | 0.0 | 60.3 | 66 | 60.3 | 10 | ---- | 60.3 | 0.0 | 8 | -8.0 |
| NSA6-11 | 20 | 2 | 0.0 | 61.6 | 66 | 61.6 | 10 | ---- | 61.6 | 0.0 | 8 | -8.0 |
| NSA6-12 | 21 | 2 | 0.0 | 62.4 | 66 | 62.4 | 10 | ---- | 62.4 | 0.0 | 8 | -8.0 |
| NSA6-13 | 22 | 2 | 0.0 | 61.4 | 66 | 61.4 | 10 | ---- | 61.4 | 0.0 | 8 | -8.0 |
| NSA6-14 | 23 | 2 | 0.0 | 58.3 | 66 | 58.3 | 10 | ---- | 58.3 | 0.0 | 8 | -8.0 |
| NSA6-15 | 24 | 1 | 0.0 | 58.5 | 66 | 58.5 | 10 | ---- | 58.5 | 0.0 | 8 | -8.0 |

RESULTS: SOUND LEVELS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|-----------------------|----|--------------|------------------------|------------|------------|------|----|---------|------|-----|---|------|
| NSA7-1 | 25 | 8 | 0.0 | 62.1 | 66 | 62.1 | 10 | ---- | 62.1 | 0.0 | 8 | -8.0 |
| NSA7-2 | 26 | 8 | 0.0 | 60.2 | 66 | 60.2 | 10 | ---- | 60.2 | 0.0 | 8 | -8.0 |
| NSA7-3 | 27 | 8 | 0.0 | 60.6 | 66 | 60.6 | 10 | ---- | 60.6 | 0.0 | 8 | -8.0 |
| NSA7-4 | 28 | 8 | 0.0 | 61.0 | 66 | 61.0 | 10 | ---- | 61.0 | 0.0 | 8 | -8.0 |
| NSA7-5 | 29 | 8 | 0.0 | 61.5 | 66 | 61.5 | 10 | ---- | 61.5 | 0.0 | 8 | -8.0 |
| NSA7-6 | 30 | 8 | 0.0 | 60.6 | 66 | 60.6 | 10 | ---- | 60.6 | 0.0 | 8 | -8.0 |
| NSA7-7 | 31 | 8 | 0.0 | 62.8 | 66 | 62.8 | 10 | ---- | 62.8 | 0.0 | 8 | -8.0 |
| NSA7-8 | 32 | 8 | 0.0 | 61.6 | 66 | 61.6 | 10 | ---- | 61.6 | 0.0 | 8 | -8.0 |
| NSA7-9 | 33 | 8 | 0.0 | 59.4 | 66 | 59.4 | 10 | ---- | 59.4 | 0.0 | 8 | -8.0 |
| NSA7-10 | 34 | 8 | 0.0 | 58.6 | 66 | 58.6 | 10 | ---- | 58.6 | 0.0 | 8 | -8.0 |
| NSA7-11 | 35 | 8 | 0.0 | 58.3 | 66 | 58.3 | 10 | ---- | 58.3 | 0.0 | 8 | -8.0 |
| NSA7-12 | 36 | 8 | 0.0 | 57.9 | 66 | 57.9 | 10 | ---- | 57.9 | 0.0 | 8 | -8.0 |
| NSA7-13 | 37 | 1 | 0.0 | 59.8 | 66 | 59.8 | 10 | ---- | 59.8 | 0.0 | 8 | -8.0 |
| NSA8-1 | 38 | 6 | 0.0 | 74.8 | 66 | 74.8 | 10 | Snd Lvl | 74.8 | 0.0 | 8 | -8.0 |
| NSA8-2 | 39 | 6 | 0.0 | 75.3 | 66 | 75.3 | 10 | Snd Lvl | 75.3 | 0.0 | 8 | -8.0 |
| NSA8-3 | 40 | 8 | 0.0 | 74.8 | 66 | 74.8 | 10 | Snd Lvl | 74.8 | 0.0 | 8 | -8.0 |
| NSA8-4 | 41 | 8 | 0.0 | 70.4 | 66 | 70.4 | 10 | Snd Lvl | 70.4 | 0.0 | 8 | -8.0 |
| NSA8-5 | 42 | 8 | 0.0 | 75.9 | 66 | 75.9 | 10 | Snd Lvl | 75.9 | 0.0 | 8 | -8.0 |
| NSA8-6 | 43 | 6 | 0.0 | 75.8 | 66 | 75.8 | 10 | Snd Lvl | 75.8 | 0.0 | 8 | -8.0 |
| NSA8-7 | 44 | 8 | 0.0 | 74.3 | 66 | 74.3 | 10 | Snd Lvl | 74.3 | 0.0 | 8 | -8.0 |
| NSA8-8 | 45 | 6 | 0.0 | 74.2 | 66 | 74.2 | 10 | Snd Lvl | 74.2 | 0.0 | 8 | -8.0 |
| NSA8-9 | 46 | 8 | 0.0 | 72.0 | 66 | 72.0 | 10 | Snd Lvl | 72.0 | 0.0 | 8 | -8.0 |
| NSA8-10 | 47 | 6 | 0.0 | 74.0 | 66 | 74.0 | 10 | Snd Lvl | 74.0 | 0.0 | 8 | -8.0 |
| NSA8-11 | 48 | 8 | 0.0 | 67.2 | 66 | 67.2 | 10 | Snd Lvl | 67.2 | 0.0 | 8 | -8.0 |
| NSA8-12 | 49 | 6 | 0.0 | 69.1 | 66 | 69.1 | 10 | Snd Lvl | 69.1 | 0.0 | 8 | -8.0 |
| NSA8-13 | 50 | 8 | 0.0 | 65.3 | 66 | 65.3 | 10 | ---- | 65.3 | 0.0 | 8 | -8.0 |
| NSA8-14 | 51 | 8 | 0.0 | 65.5 | 66 | 65.5 | 10 | ---- | 65.5 | 0.0 | 8 | -8.0 |
| NSA8-15 | 52 | 8 | 0.0 | 64.5 | 66 | 64.5 | 10 | ---- | 64.5 | 0.0 | 8 | -8.0 |
| NSA8-16 | 53 | 8 | 0.0 | 62.8 | 66 | 62.8 | 10 | ---- | 62.8 | 0.0 | 8 | -8.0 |
| NSA8-17 | 54 | 6 | 0.0 | 63.0 | 66 | 63.0 | 10 | ---- | 63.0 | 0.0 | 8 | -8.0 |
| NSA8-18 | 55 | 8 | 0.0 | 64.4 | 66 | 64.4 | 10 | ---- | 64.4 | 0.0 | 8 | -8.0 |
| NSA8-19 | 56 | 8 | 0.0 | 64.6 | 66 | 64.6 | 10 | ---- | 64.6 | 0.0 | 8 | -8.0 |
| NSA8-20 | 57 | 8 | 0.0 | 62.1 | 66 | 62.1 | 10 | ---- | 62.1 | 0.0 | 8 | -8.0 |
| NSA5-1 | 58 | 1 | 0.0 | 62.2 | 66 | 62.2 | 10 | ---- | 62.2 | 0.0 | 8 | -8.0 |
| Dwelling Units | | # DUs | Noise Reduction | | | | | | | | | |
| | | | Min | Avg | Max | | | | | | | |
| | | | dB | dB | dB | | | | | | | |
| All Selected | | 320 | 0.0 | 0.0 | 0.0 | | | | | | | |
| All Impacted | | 110 | 0.0 | 0.0 | 0.0 | | | | | | | |
| All that meet NR Goal | | 0 | 0.0 | 0.0 | 0.0 | | | | | | | |

| <Organization?> | | 15 July 2022 | | | | | | | | | |
|----------------------------|-------|----------------------------|-----|------------------------|-----------|--------|---|------------------|---------------------------|-----------|------------|
| CCox | | TNM 2.5 | | | | | | | | | |
| INPUT: ROADWAYS | | | | | | | Average pavement type shall be used unless | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 PID 116322 | | | | | a State highway agency substantiates the use | | | | |
| RUN: | | Existing Year NSA4- NSA 8 | | | | | of a different type with the approval of FHWA | | | | |
| Roadway | Width | Points | No. | Coordinates (pavement) | | | Flow Control | | | Segment | |
| Name | | Name | | X | Y | Z | Control Device | Speed Constraint | Percent Vehicles Affected | Pvmt Type | On Struct? |
| | ft | | | ft | ft | ft | | mph | % | | |
| Hamilton Road NB | 24.0 | point1 | 1 | 1,869,911.0 | 758,301.0 | 980.00 | | | | Average | |
| | | point2 | 2 | 1,869,827.0 | 758,551.0 | 978.00 | | | | Average | |
| | | point3 | 3 | 1,869,717.0 | 758,813.0 | 975.00 | | | | Average | |
| | | point4 | 4 | 1,869,513.0 | 759,251.0 | 976.00 | | | | Average | |
| | | point5 | 5 | 1,869,371.0 | 759,612.0 | 978.00 | | | | Average | |
| | | point6 | 6 | 1,869,325.0 | 759,748.0 | 980.00 | | | | Average | |
| | | point7 | 7 | 1,869,288.0 | 759,888.0 | 981.00 | | | | Average | |
| | | point8 | 8 | 1,869,277.0 | 760,088.0 | 980.00 | | | | | |
| Hamilton Road SB | 24.0 | point9 | 9 | 1,869,249.0 | 760,088.0 | 980.00 | | | | Average | |
| | | point10 | 10 | 1,869,257.0 | 759,888.0 | 981.00 | | | | Average | |
| | | point11 | 11 | 1,869,279.0 | 759,748.0 | 980.00 | | | | Average | |
| | | point12 | 12 | 1,869,327.0 | 759,561.0 | 978.00 | | | | Average | |
| | | point13 | 13 | 1,869,449.0 | 759,244.0 | 976.00 | | | | Average | |
| | | point14 | 14 | 1,869,671.0 | 758,791.0 | 975.00 | | | | Average | |
| | | point15 | 15 | 1,869,819.0 | 758,376.0 | 979.00 | | | | | |
| SR161 outside shoulder WB1 | 12.0 | point71 | 71 | 1,876,031.0 | 762,060.0 | 987.00 | | | | Average | |
| | | point70 | 70 | 1,875,787.0 | 762,030.0 | 985.00 | | | | Average | |
| | | point69 | 69 | 1,875,485.0 | 761,974.0 | 982.00 | | | | Average | |
| | | point68 | 68 | 1,875,095.0 | 761,862.0 | 978.00 | | | | Average | |
| | | point67 | 67 | 1,874,359.0 | 761,555.0 | 972.00 | | | | Average | |
| | | point66 | 66 | 1,873,218.0 | 761,017.0 | 969.00 | | | | Average | |
| | | point43 | 43 | 1,871,695.0 | 760,290.0 | 965.00 | | | | Average | Y |
| | | point40 | 40 | 1,871,563.0 | 760,228.0 | 965.00 | | | | Average | |
| | | point16 | 16 | 1,870,465.0 | 759,710.0 | 976.00 | | | | Average | |
| | | point17 | 17 | 1,869,607.0 | 759,317.0 | 996.00 | | | | Average | Y |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|--------------------------|------|---------|----|-------------|-----------|----------|--|--|--|---------|---|
| | | point18 | 18 | 1,869,386.0 | 759,213.0 | 998.00 | | | | | |
| SR161 WB1 | 12.0 | point65 | 65 | 1,879,435.0 | 761,894.0 | 1,010.00 | | | | Average | |
| | | point64 | 64 | 1,878,045.0 | 761,975.0 | 1,001.00 | | | | Average | |
| | | point63 | 63 | 1,877,079.0 | 762,030.0 | 994.00 | | | | Average | |
| | | point62 | 62 | 1,876,551.0 | 762,062.0 | 991.00 | | | | Average | |
| | | point61 | 61 | 1,876,331.0 | 762,062.0 | 990.00 | | | | Average | |
| | | point60 | 60 | 1,876,031.0 | 762,048.0 | 987.00 | | | | Average | |
| | | point59 | 59 | 1,875,787.0 | 762,018.0 | 985.00 | | | | Average | |
| | | point58 | 58 | 1,875,485.0 | 761,962.0 | 982.00 | | | | Average | |
| | | point57 | 57 | 1,875,095.0 | 761,850.0 | 978.00 | | | | Average | |
| | | point56 | 56 | 1,874,359.0 | 761,543.0 | 972.00 | | | | Average | |
| | | point55 | 55 | 1,873,218.0 | 761,005.0 | 969.00 | | | | Average | |
| | | point42 | 42 | 1,871,695.0 | 760,278.0 | 965.00 | | | | Average | Y |
| | | point39 | 39 | 1,871,563.0 | 760,216.0 | 965.00 | | | | Average | |
| | | point19 | 19 | 1,870,465.0 | 759,698.0 | 976.00 | | | | Average | |
| | | point20 | 20 | 1,869,607.0 | 759,305.0 | 996.00 | | | | Average | Y |
| | | point21 | 21 | 1,869,386.0 | 759,201.0 | 998.00 | | | | | |
| SR 161 WB2 | 12.0 | point54 | 54 | 1,879,435.0 | 761,882.0 | 1,010.00 | | | | Average | |
| | | point53 | 53 | 1,878,045.0 | 761,963.0 | 1,001.00 | | | | Average | |
| | | point52 | 52 | 1,877,079.0 | 762,018.0 | 994.00 | | | | Average | |
| | | point51 | 51 | 1,876,551.0 | 762,050.0 | 991.00 | | | | Average | |
| | | point50 | 50 | 1,876,331.0 | 762,050.0 | 990.00 | | | | Average | |
| | | point49 | 49 | 1,876,031.0 | 762,036.0 | 987.00 | | | | Average | |
| | | point48 | 48 | 1,875,787.0 | 762,006.0 | 985.00 | | | | Average | |
| | | point47 | 47 | 1,875,485.0 | 761,950.0 | 982.00 | | | | Average | |
| | | point46 | 46 | 1,875,095.0 | 761,838.0 | 978.00 | | | | Average | |
| | | point45 | 45 | 1,874,359.0 | 761,531.0 | 972.00 | | | | Average | |
| | | point44 | 44 | 1,873,218.0 | 760,993.0 | 969.00 | | | | Average | |
| | | point41 | 41 | 1,871,695.0 | 760,266.0 | 965.00 | | | | Average | Y |
| | | point38 | 38 | 1,871,563.0 | 760,204.0 | 965.00 | | | | Average | |
| | | point22 | 22 | 1,870,465.0 | 759,686.0 | 976.00 | | | | Average | |
| | | point23 | 23 | 1,869,607.0 | 759,293.0 | 996.00 | | | | Average | Y |
| | | point24 | 24 | 1,869,386.0 | 759,189.0 | 998.00 | | | | | |
| SR 161EB inside shoulder | 12.0 | point25 | 25 | 1,868,545.0 | 758,743.0 | 993.50 | | | | Average | |
| | | point26 | 26 | 1,869,386.0 | 759,160.0 | 997.50 | | | | Average | Y |
| | | point27 | 27 | 1,869,607.0 | 759,264.0 | 996.50 | | | | | |
| SR 161 EB3 | 12.0 | point28 | 28 | 1,868,545.0 | 758,731.0 | 994.00 | | | | Average | |
| | | point29 | 29 | 1,869,386.0 | 759,148.0 | 998.00 | | | | Average | Y |
| | | point30 | 30 | 1,869,607.0 | 759,252.0 | 997.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|--|------|----------|-----|-------------|-----------|--------|--------|------|-----|---------|---|
| | | point110 | 110 | 1,870,366.0 | 759,606.0 | 979.00 | | | | Average | |
| | | point111 | 111 | 1,870,972.0 | 759,891.0 | 965.00 | | | | Average | |
| | | point112 | 112 | 1,871,560.0 | 760,165.0 | 965.00 | | | | | |
| SR161 EB2 | 12.0 | point31 | 31 | 1,868,545.0 | 758,719.0 | 994.50 | | | | Average | |
| | | point32 | 32 | 1,869,386.0 | 759,136.0 | 998.50 | | | | Average | Y |
| | | point33 | 33 | 1,869,607.0 | 759,240.0 | 997.50 | | | | Average | |
| | | point100 | 100 | 1,870,366.0 | 759,594.0 | 979.00 | | | | Average | |
| | | point101 | 101 | 1,870,972.0 | 759,879.0 | 965.00 | | | | Average | |
| | | point102 | 102 | 1,871,560.0 | 760,153.0 | 965.00 | | | | | |
| SR 161 EB1 | 12.0 | point34 | 34 | 1,868,545.0 | 758,707.0 | 995.00 | | | | Average | |
| | | point35 | 35 | 1,869,386.0 | 759,124.0 | 999.00 | | | | Average | Y |
| | | point36 | 36 | 1,869,607.0 | 759,228.0 | 998.00 | | | | Average | |
| | | point88 | 88 | 1,870,366.0 | 759,582.0 | 979.00 | | | | Average | |
| | | point89 | 89 | 1,870,972.0 | 759,867.0 | 965.00 | | | | Average | |
| | | point90 | 90 | 1,871,560.0 | 760,141.0 | 965.00 | | | | | |
| Exit ramp SR 161 WB to Hamilton | 12.0 | point72 | 72 | 1,871,236.0 | 760,078.0 | 964.00 | Stop | 0.00 | 100 | Average | |
| | | point73 | 73 | 1,871,163.0 | 760,055.0 | 963.00 | | | | Average | |
| | | point74 | 74 | 1,870,682.0 | 759,833.0 | 970.00 | | | | Average | |
| | | point75 | 75 | 1,870,510.0 | 759,775.0 | 973.00 | | | | Average | |
| | | point76 | 76 | 1,870,323.0 | 759,743.0 | 976.00 | | | | Average | |
| | | point77 | 77 | 1,870,134.0 | 759,737.0 | 979.00 | | | | Average | |
| | | point78 | 78 | 1,869,865.0 | 759,746.0 | 980.00 | | | | Average | |
| | | point79 | 79 | 1,869,665.0 | 759,720.0 | 978.00 | | | | Average | |
| | | point80 | 80 | 1,869,553.0 | 759,687.0 | 977.00 | | | | Average | |
| | | point81 | 81 | 1,869,371.0 | 759,612.0 | 978.00 | | | | | |
| Entrance ramp Hamilton Rd to SR 166 EB | 12.0 | point82 | 82 | 1,869,717.0 | 758,813.0 | 975.00 | Onramp | 0.00 | 100 | Average | |
| | | point83 | 83 | 1,869,965.0 | 758,984.0 | 974.00 | | | | Average | |
| | | point84 | 84 | 1,870,092.0 | 759,115.0 | 976.00 | | | | Average | |
| | | point85 | 85 | 1,870,211.0 | 759,295.0 | 978.00 | | | | Average | |
| | | point86 | 86 | 1,870,383.0 | 759,515.0 | 978.00 | | | | Average | |
| | | point87 | 87 | 1,870,525.0 | 759,615.0 | 974.00 | | | | Average | |
| | | point92 | 92 | 1,870,795.0 | 759,754.0 | 968.00 | | | | Average | |
| | | point93 | 93 | 1,871,560.0 | 760,141.0 | 965.00 | | | | | |
| HarLem Road | 12.0 | point124 | 124 | 1,874,538.0 | 760,192.0 | 974.00 | | | | Average | |
| | | point120 | 120 | 1,874,360.0 | 761,378.0 | 993.00 | | | | Average | Y |
| | | point121 | 121 | 1,874,330.0 | 761,634.0 | 993.00 | | | | Average | |
| | | point122 | 122 | 1,874,297.0 | 762,017.0 | 984.00 | | | | Average | |
| | | point123 | 123 | 1,874,263.0 | 762,332.0 | 981.00 | | | | | |
| New Albany Road NB | 24.0 | point125 | 125 | 1,878,008.0 | 760,827.0 | 998.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|------------------------------------|------|----------|-----|-------------|-----------|----------|--------|------|-----|---------|---|
| | | point126 | 126 | 1,878,049.0 | 761,502.0 | 1,012.00 | | | | Average | |
| | | point127 | 127 | 1,878,063.0 | 761,817.0 | 1,022.00 | | | | Average | Y |
| | | point128 | 128 | 1,878,077.0 | 762,064.0 | 1,024.00 | | | | Average | |
| | | point129 | 129 | 1,878,095.0 | 762,373.0 | 1,019.00 | | | | Average | |
| | | point130 | 130 | 1,878,126.0 | 763,174.0 | 1,006.00 | | | | | |
| New Albany Road SB | 12.0 | point136 | 136 | 1,878,086.0 | 763,174.0 | 1,006.00 | | | | Average | |
| | | point135 | 135 | 1,878,060.0 | 762,373.0 | 1,019.00 | | | | Average | |
| | | point134 | 134 | 1,878,044.0 | 762,064.0 | 1,024.00 | | | | Average | Y |
| | | point133 | 133 | 1,878,029.0 | 761,817.0 | 1,022.00 | | | | Average | |
| | | point132 | 132 | 1,878,014.0 | 761,502.0 | 1,012.00 | | | | Average | |
| | | point131 | 131 | 1,877,984.0 | 760,827.0 | 998.00 | | | | | |
| Entrance ramp New Albany to SR161W | 12.0 | point152 | 152 | 1,878,060.0 | 762,373.0 | 1,019.00 | Onramp | 0.00 | 100 | Average | |
| | | point153 | 153 | 1,877,800.0 | 762,356.0 | 1,012.00 | | | | Average | |
| | | point154 | 154 | 1,877,646.0 | 762,325.0 | 1,008.00 | | | | Average | |
| | | point155 | 155 | 1,877,399.0 | 762,207.0 | 999.00 | | | | Average | |
| | | point156 | 156 | 1,877,186.0 | 762,110.0 | 994.00 | | | | Average | |
| | | point157 | 157 | 1,876,993.0 | 762,074.0 | 993.00 | | | | Average | |
| | | point158 | 158 | 1,876,650.0 | 762,078.0 | 992.00 | | | | Average | |
| | | point159 | 159 | 1,876,395.0 | 762,082.0 | 991.00 | | | | Average | |
| | | point160 | 160 | 1,876,031.0 | 762,048.0 | 987.00 | | | | | |
| Exit ramp SR 161 EB to New Albany | 12.0 | point168 | 168 | 1,876,331.0 | 761,968.0 | 989.00 | Stop | 0.00 | 100 | Average | |
| | | point167 | 167 | 1,876,551.0 | 761,956.0 | 990.00 | | | | Average | |
| | | point166 | 166 | 1,876,943.0 | 761,925.0 | 993.00 | | | | Average | |
| | | point161 | 161 | 1,877,119.0 | 761,870.0 | 993.00 | | | | Average | |
| | | point162 | 162 | 1,877,319.0 | 761,739.0 | 996.00 | | | | Average | |
| | | point163 | 163 | 1,877,519.0 | 761,623.0 | 1,001.00 | | | | Average | |
| | | point164 | 164 | 1,877,719.0 | 761,555.0 | 1,006.00 | | | | Average | |
| | | point165 | 165 | 1,878,014.0 | 761,502.0 | 1,012.00 | | | | | |
| SR 161 EB outside shoulder | 10.0 | point169 | 169 | 1,871,560.0 | 760,130.0 | 965.00 | | | | Average | Y |
| | | point170 | 170 | 1,871,670.0 | 760,181.0 | 965.00 | | | | Average | |
| | | point171 | 171 | 1,872,909.0 | 760,759.0 | 968.00 | | | | Average | |
| | | point172 | 172 | 1,874,312.0 | 761,411.0 | 972.00 | | | | Average | |
| | | point173 | 173 | 1,875,104.0 | 761,744.0 | 976.00 | | | | Average | |
| | | point174 | 174 | 1,875,499.0 | 761,845.0 | 982.00 | | | | Average | |
| | | point183 | 183 | 1,875,800.0 | 761,912.0 | 984.00 | | | | Average | |
| | | point184 | 184 | 1,876,036.0 | 761,942.0 | 987.00 | | | | Average | |
| | | point185 | 185 | 1,876,331.0 | 761,956.0 | 989.00 | | | | | |
| SR 161 EB1-2 | 12.0 | point175 | 175 | 1,875,499.0 | 761,856.0 | 982.00 | | | | Average | |
| | | point98 | 98 | 1,875,800.0 | 761,924.0 | 984.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|----------------|------|----------|-----|-------------|-----------|----------|--|--|--|---------|---|
| | | point99 | 99 | 1,876,036.0 | 761,954.0 | 987.00 | | | | Average | |
| | | point147 | 147 | 1,876,331.0 | 761,968.0 | 989.00 | | | | Average | |
| | | point148 | 148 | 1,876,551.0 | 761,968.0 | 990.00 | | | | Average | |
| | | point149 | 149 | 1,877,079.0 | 761,936.0 | 994.00 | | | | Average | |
| | | point150 | 150 | 1,878,045.0 | 761,881.0 | 1,001.00 | | | | Average | |
| | | point151 | 151 | 1,879,435.0 | 761,800.0 | 1,010.00 | | | | | |
| SR161 EB2-2 | 12.0 | point176 | 176 | 1,875,499.0 | 761,868.0 | 982.00 | | | | Average | |
| | | point108 | 108 | 1,875,800.0 | 761,936.0 | 984.00 | | | | Average | |
| | | point109 | 109 | 1,876,036.0 | 761,966.0 | 987.00 | | | | Average | |
| | | point142 | 142 | 1,876,331.0 | 761,980.0 | 989.00 | | | | Average | |
| | | point143 | 143 | 1,876,551.0 | 761,980.0 | 990.00 | | | | Average | |
| | | point144 | 144 | 1,877,079.0 | 761,948.0 | 994.00 | | | | Average | |
| | | point145 | 145 | 1,878,045.0 | 761,893.0 | 1,001.00 | | | | Average | |
| | | point146 | 146 | 1,879,435.0 | 761,812.0 | 1,010.00 | | | | | |
| SR 161 EB3-2 | 12.0 | point177 | 177 | 1,871,560.0 | 760,165.0 | 965.00 | | | | Average | Y |
| | | point113 | 113 | 1,871,670.0 | 760,216.0 | 965.00 | | | | Average | |
| | | point114 | 114 | 1,872,909.0 | 760,794.0 | 968.00 | | | | Average | |
| | | point115 | 115 | 1,874,312.0 | 761,434.0 | 972.00 | | | | | |
| SR161 EB2-2 | 12.0 | point178 | 178 | 1,871,560.0 | 760,153.0 | 965.00 | | | | Average | Y |
| | | point103 | 103 | 1,871,670.0 | 760,204.0 | 965.00 | | | | Average | |
| | | point104 | 104 | 1,872,909.0 | 760,782.0 | 968.00 | | | | Average | |
| | | point105 | 105 | 1,874,312.0 | 761,434.0 | 972.00 | | | | | |
| SR 161 EB1-2 | 12.0 | point179 | 179 | 1,871,560.0 | 760,141.0 | 965.00 | | | | Average | Y |
| | | point91 | 91 | 1,871,670.0 | 760,192.0 | 965.00 | | | | Average | |
| | | point94 | 94 | 1,872,909.0 | 760,770.0 | 968.00 | | | | Average | |
| | | point95 | 95 | 1,874,312.0 | 761,422.0 | 972.00 | | | | | |
| SR 161 EB1-2-2 | 12.0 | point180 | 180 | 1,874,312.0 | 761,422.0 | 972.00 | | | | Average | |
| | | point96 | 96 | 1,875,104.0 | 761,756.0 | 976.00 | | | | Average | |
| | | point97 | 97 | 1,875,499.0 | 761,856.0 | 982.00 | | | | | |
| SR161 EB2-2-2 | 12.0 | point181 | 181 | 1,874,312.0 | 761,434.0 | 972.00 | | | | Average | |
| | | point106 | 106 | 1,875,104.0 | 761,768.0 | 976.00 | | | | Average | |
| | | point107 | 107 | 1,875,499.0 | 761,868.0 | 982.00 | | | | | |

| | | | | | | | | | | | | | |
|-----------------------------------|----------------------------|-----|---------|-----|---------|-----|---------|-----|--------|-----|-------------|-----|---|
| <Organization?> | | | | | | | | | | | | | |
| CCox | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| INPUT: TRAFFIC FOR LAeq1h Volumes | | | | | | | | | | | | | |
| PROJECT/CONTRACT: | FRA-SR161-15.80 PID 116322 | | | | | | | | | | | | |
| RUN: | Existing Year NSA4- NSA 8 | | | | | | | | | | | | |
| Roadway | Points | | | | | | | | | | | | |
| Name | Name | No. | Segment | | | | | | | | | | |
| | | | Autos | | MTrucks | | HTrucks | | Buses | | Motorcycles | | |
| | | | V | S | V | S | V | S | V | S | V | S | |
| | | | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | |
| Hamilton Road NB | point1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point6 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point7 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point8 | 8 | | | | | | | | | | | |
| Hamilton Road SB | point9 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point10 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point11 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point12 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point13 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point14 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point15 | 15 | | | | | | | | | | | |
| SR161 outside shoulder WB1 | point71 | 71 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point70 | 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point69 | 69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point68 | 68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point67 | 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point66 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point43 | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point40 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|--------------------------|---------|----|------|----|----|----|-----|----|---|---|---|---|
| | point16 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point17 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point18 | 18 | | | | | | | | | | |
| SR161 WB1 | point65 | 65 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point64 | 64 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point63 | 63 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point62 | 62 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point61 | 61 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point60 | 60 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point59 | 59 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point58 | 58 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point57 | 57 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point56 | 56 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point55 | 55 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point42 | 42 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point39 | 39 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point19 | 19 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point20 | 20 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point21 | 21 | | | | | | | | | | |
| SR 161 WB2 | point54 | 54 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point53 | 53 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point52 | 52 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point51 | 51 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point50 | 50 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point49 | 49 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point48 | 48 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point47 | 47 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point46 | 46 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point45 | 45 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point44 | 44 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point41 | 41 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point38 | 38 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point22 | 22 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point23 | 23 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point24 | 24 | | | | | | | | | | |
| SR 161EB inside shoulder | point25 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|--|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point26 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point27 | 27 | | | | | | | | | | |
| SR 161 EB3 | point28 | 28 | 1348 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point29 | 29 | 1348 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point30 | 30 | 1348 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point110 | 110 | 1348 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point111 | 111 | 1348 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point112 | 112 | | | | | | | | | | |
| SR161 EB2 | point31 | 31 | 1348 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point32 | 32 | 1348 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point33 | 33 | 1348 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point100 | 100 | 1348 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point101 | 101 | 1348 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point102 | 102 | | | | | | | | | | |
| SR 161 EB1 | point34 | 34 | 1348 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point35 | 35 | 1348 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point36 | 36 | 1348 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point88 | 88 | 1348 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point89 | 89 | 1348 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point90 | 90 | | | | | | | | | | |
| Exit ramp SR 161 WB to Hamilton | point72 | 72 | 444 | 65 | 4 | 60 | 10 | 60 | 0 | 0 | 0 | 0 |
| | point73 | 73 | 444 | 65 | 4 | 60 | 10 | 60 | 0 | 0 | 0 | 0 |
| | point74 | 74 | 444 | 65 | 4 | 60 | 10 | 60 | 0 | 0 | 0 | 0 |
| | point75 | 75 | 444 | 65 | 4 | 60 | 10 | 60 | 0 | 0 | 0 | 0 |
| | point76 | 76 | 444 | 65 | 4 | 60 | 10 | 60 | 0 | 0 | 0 | 0 |
| | point77 | 77 | 444 | 65 | 4 | 60 | 10 | 60 | 0 | 0 | 0 | 0 |
| | point78 | 78 | 444 | 65 | 4 | 60 | 10 | 60 | 0 | 0 | 0 | 0 |
| | point79 | 79 | 444 | 65 | 4 | 60 | 10 | 60 | 0 | 0 | 0 | 0 |
| | point80 | 80 | 444 | 65 | 4 | 60 | 10 | 60 | 0 | 0 | 0 | 0 |
| | point81 | 81 | | | | | | | | | | |
| Entrance ramp Hamilton Rd to SR 166 EB | point82 | 82 | 471 | 65 | 6 | 60 | 14 | 60 | 0 | 0 | 0 | 0 |
| | point83 | 83 | 471 | 65 | 6 | 60 | 14 | 60 | 0 | 0 | 0 | 0 |
| | point84 | 84 | 471 | 65 | 6 | 60 | 14 | 60 | 0 | 0 | 0 | 0 |
| | point85 | 85 | 471 | 65 | 6 | 60 | 14 | 60 | 0 | 0 | 0 | 0 |
| | point86 | 86 | 471 | 65 | 6 | 60 | 14 | 60 | 0 | 0 | 0 | 0 |
| | point87 | 87 | 471 | 65 | 6 | 60 | 14 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|------------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point92 | 92 | 471 | 65 | 6 | 60 | 14 | 60 | 0 | 0 | 0 | 0 |
| | point93 | 93 | | | | | | | | | | |
| HarLem Road | point124 | 124 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point120 | 120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point121 | 121 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point122 | 122 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point123 | 123 | | | | | | | | | | |
| New Albany Road NB | point125 | 125 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point126 | 126 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point127 | 127 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point128 | 128 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point129 | 129 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point130 | 130 | | | | | | | | | | |
| New Albany Road SB | point136 | 136 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point135 | 135 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point134 | 134 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point133 | 133 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point132 | 132 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point131 | 131 | | | | | | | | | | |
| Entrance ramp New Albany to SR161W | point152 | 152 | 1130 | 65 | 11 | 60 | 24 | 60 | 0 | 0 | 0 | 0 |
| | point153 | 153 | 1130 | 65 | 11 | 60 | 24 | 60 | 0 | 0 | 0 | 0 |
| | point154 | 154 | 1130 | 65 | 11 | 60 | 24 | 60 | 0 | 0 | 0 | 0 |
| | point155 | 155 | 1130 | 65 | 11 | 60 | 24 | 60 | 0 | 0 | 0 | 0 |
| | point156 | 156 | 1130 | 65 | 11 | 60 | 24 | 60 | 0 | 0 | 0 | 0 |
| | point157 | 157 | 1130 | 65 | 11 | 60 | 24 | 60 | 0 | 0 | 0 | 0 |
| | point158 | 158 | 1130 | 65 | 11 | 60 | 24 | 60 | 0 | 0 | 0 | 0 |
| | point159 | 159 | 1130 | 65 | 11 | 60 | 24 | 60 | 0 | 0 | 0 | 0 |
| | point160 | 160 | | | | | | | | | | |
| Exit ramp SR 161 EB to New Albany | point168 | 168 | 1196 | 65 | 12 | 60 | 25 | 60 | 0 | 0 | 0 | 0 |
| | point167 | 167 | 1196 | 65 | 12 | 60 | 25 | 60 | 0 | 0 | 0 | 0 |
| | point166 | 166 | 1196 | 65 | 12 | 60 | 25 | 60 | 0 | 0 | 0 | 0 |
| | point161 | 161 | 1196 | 65 | 12 | 60 | 25 | 60 | 0 | 0 | 0 | 0 |
| | point162 | 162 | 1196 | 65 | 12 | 60 | 25 | 60 | 0 | 0 | 0 | 0 |
| | point163 | 163 | 1196 | 65 | 12 | 60 | 25 | 60 | 0 | 0 | 0 | 0 |
| | point164 | 164 | 1196 | 65 | 12 | 60 | 25 | 60 | 0 | 0 | 0 | 0 |
| | point165 | 165 | | | | | | | | | | |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|----------------------------|----------|-----|------|----|----|----|-----|----|---|---|---|---|
| SR 161 EB outside shoulder | point169 | 169 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point170 | 170 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point171 | 171 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point172 | 172 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point173 | 173 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point174 | 174 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point183 | 183 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point184 | 184 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point185 | 185 | | | | | | | | | | |
| SR 161 EB1-2 | point175 | 175 | 2248 | 65 | 59 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point98 | 98 | 2248 | 65 | 59 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point99 | 99 | 2248 | 65 | 59 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point147 | 147 | 1680 | 65 | 44 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point148 | 148 | 1680 | 65 | 44 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point149 | 149 | 1680 | 65 | 44 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point150 | 150 | 1680 | 65 | 44 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point151 | 151 | | | | | | | | | | |
| SR161 EB2-2 | point176 | 176 | 1680 | 65 | 44 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point108 | 108 | 1680 | 65 | 44 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point109 | 109 | 1680 | 65 | 44 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point142 | 142 | 1680 | 65 | 44 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point143 | 143 | 1680 | 65 | 44 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point144 | 144 | 1680 | 65 | 44 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point145 | 145 | 1680 | 65 | 44 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point146 | 146 | | | | | | | | | | |
| SR 161 EB3-2 | point177 | 177 | 1498 | 65 | 39 | 60 | 91 | 60 | 0 | 0 | 0 | 0 |
| | point113 | 113 | 1498 | 65 | 39 | 60 | 91 | 60 | 0 | 0 | 0 | 0 |
| | point114 | 114 | 1498 | 65 | 39 | 60 | 91 | 60 | 0 | 0 | 0 | 0 |
| | point115 | 115 | | | | | | | | | | |
| SR161 EB2-2 | point178 | 178 | 1498 | 65 | 39 | 60 | 91 | 60 | 0 | 0 | 0 | 0 |
| | point103 | 103 | 1498 | 65 | 39 | 60 | 91 | 60 | 0 | 0 | 0 | 0 |
| | point104 | 104 | 1498 | 65 | 39 | 60 | 91 | 60 | 0 | 0 | 0 | 0 |
| | point105 | 105 | | | | | | | | | | |
| SR 161 EB1-2 | point179 | 179 | 1498 | 65 | 39 | 60 | 91 | 60 | 0 | 0 | 0 | 0 |
| | point91 | 91 | 1498 | 65 | 39 | 60 | 91 | 60 | 0 | 0 | 0 | 0 |
| | point94 | 94 | 1498 | 65 | 39 | 60 | 91 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes**FRA-SR161-15.80 PID 116322**

| | | | | | | | | | | | | |
|----------------|----------|-----|------|----|----|----|-----|----|---|---|---|---|
| | point95 | 95 | | | | | | | | | | |
| SR 161 EB1-2-2 | point180 | 180 | 2248 | 65 | 59 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point96 | 96 | 2248 | 65 | 59 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point97 | 97 | | | | | | | | | | |
| SR161 EB2-2-2 | point181 | 181 | 2248 | 65 | 59 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point106 | 106 | 2248 | 65 | 59 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point107 | 107 | | | | | | | | | | |

INPUT: RECEIVERS

FRA-SR161-15.80 PID 116322

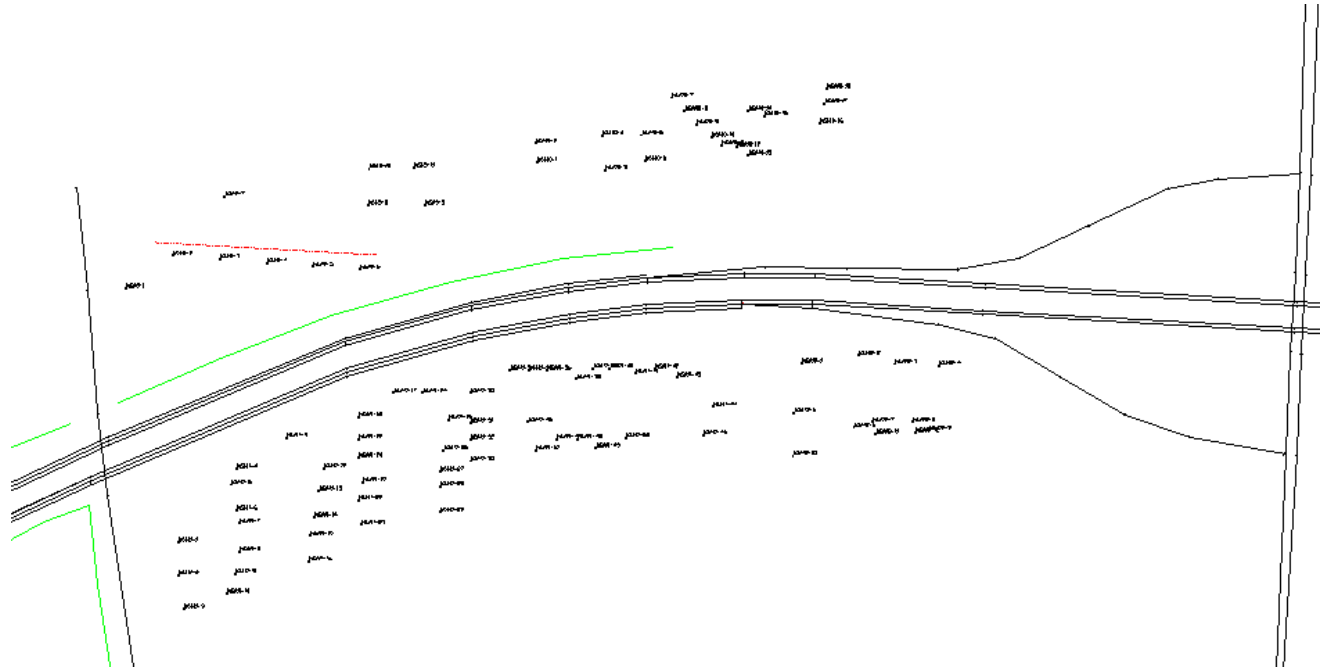
| | | | | | | | 15 July 2022 | | | | | |
|--------------------------|-----|------|-----------------------------------|-----------|--------|---------------------------|---------------------------------|---------------------------|-------|------------|-----------------------|--|
| <Organization?> | | | | | | | TNM 2.5 | | | | | |
| CCox | | | | | | | | | | | | |
| INPUT: RECEIVERS | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | | FRA-SR161-15.80 PID 116322 | | | | | | | | | |
| RUN: | | | Existing Year NSA4- NSA 8 | | | | | | | | | |
| Receiver | | | | | | | | | | | | |
| Name | No. | #DUs | Coordinates (ground) | | | Height above Ground | Input Sound Levels and Criteria | | | | Active in Calc. | |
| | | | X | Y | Z | | Existing LAeq1h | Impact Criteria LAeq1h | Sub'l | NR Goal | | |
| | | | ft | ft | ft | ft | dBA | dBA | dB | dB | | |
| NSA4-1 | 1 | 6 | 1,870,900.0 | 760,216.0 | 961.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA4-2 | 2 | 6 | 1,870,721.0 | 760,129.0 | 966.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA4-3 | 3 | 4 | 1,870,604.0 | 760,129.0 | 968.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA4-4 | 4 | 6 | 1,870,458.0 | 760,033.0 | 971.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA4-5 | 5 | 6 | 1,870,241.0 | 760,093.0 | 978.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA4-6 | 6 | 6 | 1,870,691.0 | 760,261.0 | 969.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA4-7 | 7 | 1 | 1,870,490.0 | 760,216.0 | 975.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA4-8 | 8 | 6 | 1,870,700.0 | 760,418.0 | 969.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA4-9 | 9 | 6 | 1,870,530.0 | 760,428.0 | 974.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA6-1 | 10 | 2 | 1,871,951.0 | 760,668.0 | 965.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA6-2 | 11 | 2 | 1,871,951.0 | 760,738.0 | 965.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA6-3 | 12 | 2 | 1,871,934.0 | 760,770.0 | 966.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA6-4 | 13 | 2 | 1,871,934.0 | 760,845.0 | 966.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA6-5 | 14 | 2 | 1,872,104.0 | 760,770.0 | 967.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA6-6 | 15 | 2 | 1,872,104.0 | 760,843.0 | 968.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA6-7 | 16 | 2 | 1,872,306.0 | 760,946.0 | 971.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA6-8 | 17 | 2 | 1,872,319.0 | 761,023.0 | 970.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA6-9 | 18 | 2 | 1,872,492.0 | 761,063.0 | 973.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA6-10 | 19 | 2 | 1,872,441.0 | 761,121.0 | 974.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA6-11 | 20 | 2 | 1,871,881.0 | 760,944.0 | 968.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA6-12 | 21 | 2 | 1,872,045.0 | 760,955.0 | 970.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |
| NSA6-13 | 22 | 2 | 1,872,319.0 | 761,048.0 | 972.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y | |

INPUT: RECEIVERS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|---------|----|---|-------------|-----------|--------|------|------|----|------|-----|---|
| NSA6-14 | 23 | 2 | 1,872,319.0 | 761,132.0 | 971.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA6-15 | 24 | 1 | 1,872,319.0 | 761,158.0 | 972.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA7-1 | 25 | 8 | 1,872,858.0 | 761,075.0 | 971.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA7-2 | 26 | 8 | 1,872,939.0 | 761,199.0 | 970.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA7-3 | 27 | 8 | 1,873,069.0 | 761,274.0 | 971.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA7-4 | 28 | 8 | 1,873,347.0 | 761,344.0 | 972.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA7-5 | 29 | 8 | 1,873,572.0 | 761,501.0 | 973.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA7-6 | 30 | 8 | 1,873,740.0 | 761,609.0 | 973.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA7-7 | 31 | 8 | 1,873,891.0 | 761,649.0 | 976.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA7-8 | 32 | 8 | 1,873,184.0 | 761,361.0 | 973.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA7-9 | 33 | 8 | 1,873,282.0 | 761,455.0 | 971.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA7-10 | 34 | 8 | 1,873,392.0 | 761,539.0 | 971.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA7-11 | 35 | 8 | 1,873,494.0 | 761,635.0 | 972.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA7-12 | 36 | 8 | 1,873,598.0 | 761,723.0 | 972.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA7-13 | 37 | 1 | 1,872,908.0 | 761,405.0 | 975.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-1 | 38 | 6 | 1,872,204.0 | 760,292.0 | 965.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-2 | 39 | 6 | 1,872,406.0 | 760,402.0 | 966.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-3 | 40 | 8 | 1,872,686.0 | 760,525.0 | 967.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-4 | 41 | 8 | 1,872,873.0 | 760,525.0 | 967.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-5 | 42 | 8 | 1,873,046.0 | 760,723.0 | 969.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-6 | 43 | 6 | 1,873,192.0 | 760,791.0 | 969.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-7 | 44 | 8 | 1,873,386.0 | 760,850.0 | 970.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-8 | 45 | 6 | 1,873,540.0 | 760,923.0 | 971.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-9 | 46 | 8 | 1,873,704.0 | 760,961.0 | 974.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-10 | 47 | 6 | 1,873,904.0 | 761,093.0 | 974.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-11 | 48 | 8 | 1,874,179.0 | 761,084.0 | 975.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-12 | 49 | 6 | 1,872,364.0 | 760,192.0 | 966.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-13 | 50 | 8 | 1,872,645.0 | 760,192.0 | 966.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-14 | 51 | 8 | 1,872,747.0 | 760,269.0 | 966.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-15 | 52 | 8 | 1,872,852.0 | 760,269.0 | 967.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-16 | 53 | 8 | 1,873,199.0 | 760,490.0 | 969.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-17 | 54 | 6 | 1,873,302.0 | 760,554.0 | 970.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-18 | 55 | 8 | 1,873,505.0 | 760,688.0 | 970.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-19 | 56 | 8 | 1,874,002.0 | 760,891.0 | 976.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA8-20 | 57 | 8 | 1,874,233.0 | 760,866.0 | 975.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA5-1 | 58 | 1 | 1,871,260.0 | 759,237.0 | 958.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |

NSA 9 – NSA 12



RESULTS: SOUND LEVELS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | | | |
|-----------------------|--|----------------------------|--|--|--|--|--|--|--|-------------------------|--|--|--|--|
| <Organization?> | | | | | | | | | | 15 July 2022 | | | | |
| CCox | | | | | | | | | | TNM 2.5 | | | | |
| | | | | | | | | | | Calculated with TNM 2.5 | | | | |
| RESULTS: SOUND LEVELS | | | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 PID 116322 | | | | | | | | | | | | |
| RUN: | | Existing Year NSAs 9 - 12 | | | | | | | | | | | | |
| BARRIER DESIGN: | | INPUT HEIGHTS | | | | | | | | | | Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA. | | |
| ATMOSPHERICS: | | 68 deg F, 50% RH | | | | | | | | | | | | |

| Receiver | | | | | | | | | | | | |
|----------|-----|------|-----------------|-------------------|------------------------|------------|--------|--------------|-------------------|------------|------|-----------------------|
| Name | No. | #DUs | Existing LAeq1h | No Barrier LAeq1h | Increase over existing | | Type | With Barrier | Noise Reduction | | | |
| | | | | Calculated | Crit'n | Calculated | Crit'n | Impact | Calculated LAeq1h | Calculated | Goal | Calculated minus Goal |
| | | | dBA | dBA | dBA | dB | dB | | dBA | dB | dB | dB |
| NSA9-1 | 58 | 1 | 0.0 | 62.4 | 66 | 62.4 | 10 | ---- | 62.4 | 0.0 | 8 | -8.0 |
| NSA9-2 | 59 | 4 | 0.0 | 62.2 | 66 | 62.2 | 10 | ---- | 62.2 | 0.0 | 8 | -8.0 |
| NSA9-3 | 60 | 4 | 0.0 | 63.8 | 66 | 63.8 | 10 | ---- | 63.8 | 0.0 | 8 | -8.0 |
| NSA9-4 | 61 | 4 | 0.0 | 65.1 | 66 | 65.1 | 10 | ---- | 65.1 | 0.0 | 8 | -8.0 |
| NSA9-5 | 62 | 4 | 0.0 | 67.1 | 66 | 67.1 | 10 | Snd Lvl | 67.1 | 0.0 | 8 | -8.0 |
| NSA9-6 | 63 | 4 | 0.0 | 69.7 | 66 | 69.7 | 10 | Snd Lvl | 69.7 | 0.0 | 8 | -8.0 |
| NSA9-7 | 64 | 4 | 0.0 | 58.8 | 66 | 58.8 | 10 | ---- | 58.8 | 0.0 | 8 | -8.0 |
| NSA9-8 | 65 | 4 | 0.0 | 62.7 | 66 | 62.7 | 10 | ---- | 62.7 | 0.0 | 8 | -8.0 |
| NSA9-9 | 66 | 4 | 0.0 | 65.0 | 66 | 65.0 | 10 | ---- | 65.0 | 0.0 | 8 | -8.0 |
| NSA9-10 | 67 | 4 | 0.0 | 61.1 | 66 | 61.1 | 10 | ---- | 61.1 | 0.0 | 8 | -8.0 |
| NSA9-11 | 68 | 4 | 0.0 | 62.1 | 66 | 62.1 | 10 | ---- | 62.1 | 0.0 | 8 | -8.0 |
| NSA10-1 | 69 | 6 | 0.0 | 63.5 | 66 | 63.5 | 10 | ---- | 63.5 | 0.0 | 8 | -8.0 |
| NSA10-2 | 70 | 6 | 0.0 | 62.1 | 66 | 62.1 | 10 | ---- | 62.1 | 0.0 | 8 | -8.0 |
| NSA10-3 | 71 | 8 | 0.0 | 64.9 | 66 | 64.9 | 10 | ---- | 64.9 | 0.0 | 8 | -8.0 |
| NSA10-4 | 72 | 8 | 0.0 | 62.4 | 66 | 62.4 | 10 | ---- | 62.4 | 0.0 | 8 | -8.0 |
| NSA10-5 | 73 | 3 | 0.0 | 64.4 | 66 | 64.4 | 10 | ---- | 64.4 | 0.0 | 8 | -8.0 |
| NSA10-6 | 74 | 4 | 0.0 | 62.7 | 66 | 62.7 | 10 | ---- | 62.7 | 0.0 | 8 | -8.0 |
| NSA10-7 | 75 | 1 | 0.0 | 61.3 | 66 | 61.3 | 10 | ---- | 61.3 | 0.0 | 8 | -8.0 |
| NSA101-8 | 76 | 1 | 0.0 | 62.0 | 66 | 62.0 | 10 | ---- | 62.0 | 0.0 | 8 | -8.0 |
| NSA10-9 | 77 | 1 | 0.0 | 62.6 | 66 | 62.6 | 10 | ---- | 62.6 | 0.0 | 8 | -8.0 |
| NSA10-10 | 78 | 1 | 0.0 | 63.4 | 66 | 63.4 | 10 | ---- | 63.4 | 0.0 | 8 | -8.0 |
| NSA10-11 | 79 | 1 | 0.0 | 64.2 | 66 | 64.2 | 10 | ---- | 64.2 | 0.0 | 8 | -8.0 |
| NSA10-12 | 80 | 1 | 0.0 | 64.4 | 66 | 64.4 | 10 | ---- | 64.4 | 0.0 | 8 | -8.0 |
| NSA10-13 | 81 | 1 | 0.0 | 64.9 | 66 | 64.9 | 10 | ---- | 64.9 | 0.0 | 8 | -8.0 |

RESULTS: SOUND LEVELS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|----------|-----|---|-----|------|----|------|----|---------|------|-----|---|------|
| NSA10-14 | 82 | 1 | 0.0 | 62.2 | 66 | 62.2 | 10 | ---- | 62.2 | 0.0 | 8 | -8.0 |
| NSA10-15 | 83 | 1 | 0.0 | 62.6 | 66 | 62.6 | 10 | ---- | 62.6 | 0.0 | 8 | -8.0 |
| NSA10-16 | 84 | 1 | 0.0 | 63.1 | 66 | 63.1 | 10 | ---- | 63.1 | 0.0 | 8 | -8.0 |
| NSA10-17 | 85 | 1 | 0.0 | 62.2 | 66 | 62.2 | 10 | ---- | 62.2 | 0.0 | 8 | -8.0 |
| NSA10-18 | 86 | 1 | 0.0 | 61.4 | 66 | 61.4 | 10 | ---- | 61.4 | 0.0 | 8 | -8.0 |
| NSA11-1 | 87 | 1 | 0.0 | 65.5 | 66 | 65.5 | 10 | ---- | 65.5 | 0.0 | 8 | -8.0 |
| NSA11-2 | 88 | 1 | 0.0 | 62.3 | 66 | 62.3 | 10 | ---- | 62.3 | 0.0 | 8 | -8.0 |
| NSA11-3 | 89 | 1 | 0.0 | 59.9 | 66 | 59.9 | 10 | ---- | 59.9 | 0.0 | 8 | -8.0 |
| NSA11-4 | 90 | 1 | 0.0 | 73.3 | 66 | 73.3 | 10 | Snd Lvl | 73.3 | 0.0 | 8 | -8.0 |
| NSA11-5 | 91 | 1 | 0.0 | 70.9 | 66 | 70.9 | 10 | Snd Lvl | 70.9 | 0.0 | 8 | -8.0 |
| NSA11-6 | 92 | 1 | 0.0 | 67.2 | 66 | 67.2 | 10 | Snd Lvl | 67.2 | 0.0 | 8 | -8.0 |
| NSA11-7 | 93 | 1 | 0.0 | 65.7 | 66 | 65.7 | 10 | ---- | 65.7 | 0.0 | 8 | -8.0 |
| NSA11-8 | 94 | 1 | 0.0 | 63.2 | 66 | 63.2 | 10 | ---- | 63.2 | 0.0 | 8 | -8.0 |
| NSA11-9 | 95 | 1 | 0.0 | 61.8 | 66 | 61.8 | 10 | ---- | 61.8 | 0.0 | 8 | -8.0 |
| NSA11-10 | 96 | 1 | 0.0 | 60.7 | 66 | 60.7 | 10 | ---- | 60.7 | 0.0 | 8 | -8.0 |
| NSA11-11 | 97 | 1 | 0.0 | 75.1 | 66 | 75.1 | 10 | Snd Lvl | 75.1 | 0.0 | 8 | -8.0 |
| NSA11-12 | 98 | 1 | 0.0 | 68.1 | 66 | 68.1 | 10 | Snd Lvl | 68.1 | 0.0 | 8 | -8.0 |
| NSA11-13 | 99 | 1 | 0.0 | 65.9 | 66 | 65.9 | 10 | ---- | 65.9 | 0.0 | 8 | -8.0 |
| NSA11-14 | 100 | 1 | 0.0 | 63.9 | 66 | 63.9 | 10 | ---- | 63.9 | 0.0 | 8 | -8.0 |
| NSA11-15 | 101 | 1 | 0.0 | 62.8 | 66 | 62.8 | 10 | ---- | 62.8 | 0.0 | 8 | -8.0 |
| NSA11-16 | 102 | 1 | 0.0 | 61.3 | 66 | 61.3 | 10 | ---- | 61.3 | 0.0 | 8 | -8.0 |
| NSA11-17 | 103 | 1 | 0.0 | 75.8 | 66 | 75.8 | 10 | Snd Lvl | 75.8 | 0.0 | 8 | -8.0 |
| NSA11-18 | 104 | 1 | 0.0 | 73.5 | 66 | 73.5 | 10 | Snd Lvl | 73.5 | 0.0 | 8 | -8.0 |
| NSA11-19 | 105 | 1 | 0.0 | 69.9 | 66 | 69.9 | 10 | Snd Lvl | 69.9 | 0.0 | 8 | -8.0 |
| NSA11-20 | 106 | 1 | 0.0 | 67.7 | 66 | 67.7 | 10 | Snd Lvl | 67.7 | 0.0 | 8 | -8.0 |
| NSA11-21 | 107 | 1 | 0.0 | 65.3 | 66 | 65.3 | 10 | ---- | 65.3 | 0.0 | 8 | -8.0 |
| NSA11-22 | 108 | 1 | 0.0 | 64.0 | 66 | 64.0 | 10 | ---- | 64.0 | 0.0 | 8 | -8.0 |
| NSA11-23 | 109 | 1 | 0.0 | 62.4 | 66 | 62.4 | 10 | ---- | 62.4 | 0.0 | 8 | -8.0 |
| NSA11-24 | 110 | 1 | 0.0 | 74.2 | 66 | 74.2 | 10 | Snd Lvl | 74.2 | 0.0 | 8 | -8.0 |
| NSA11-25 | 111 | 1 | 0.0 | 68.7 | 66 | 68.7 | 10 | Snd Lvl | 68.7 | 0.0 | 8 | -8.0 |
| NSA11-26 | 112 | 1 | 0.0 | 65.7 | 66 | 65.7 | 10 | ---- | 65.7 | 0.0 | 8 | -8.0 |
| NSA11-27 | 113 | 1 | 0.0 | 64.2 | 66 | 64.2 | 10 | ---- | 64.2 | 0.0 | 8 | -8.0 |
| NSA11-28 | 114 | 1 | 0.0 | 63.2 | 66 | 63.2 | 10 | ---- | 63.2 | 0.0 | 8 | -8.0 |
| NSA11-29 | 115 | 1 | 0.0 | 61.8 | 66 | 61.8 | 10 | ---- | 61.8 | 0.0 | 8 | -8.0 |
| NSA11-30 | 116 | 1 | 0.0 | 71.7 | 66 | 71.7 | 10 | Snd Lvl | 71.7 | 0.0 | 8 | -8.0 |
| NSA11-31 | 117 | 1 | 0.0 | 67.7 | 66 | 67.7 | 10 | Snd Lvl | 67.7 | 0.0 | 8 | -8.0 |
| NSA11-32 | 118 | 1 | 0.0 | 66.0 | 66 | 66.0 | 10 | Snd Lvl | 66.0 | 0.0 | 8 | -8.0 |
| NSA11-33 | 119 | 1 | 0.0 | 64.3 | 66 | 64.3 | 10 | ---- | 64.3 | 0.0 | 8 | -8.0 |
| NSA11-34 | 120 | 1 | 0.0 | 74.3 | 66 | 74.3 | 10 | Snd Lvl | 74.3 | 0.0 | 8 | -8.0 |
| NSA11-35 | 121 | 1 | 0.0 | 73.5 | 66 | 73.5 | 10 | Snd Lvl | 73.5 | 0.0 | 8 | -8.0 |
| NSA11-36 | 122 | 1 | 0.0 | 72.8 | 66 | 72.8 | 10 | Snd Lvl | 72.8 | 0.0 | 8 | -8.0 |

RESULTS: SOUND LEVELS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|-----------------------|-----|--------------|------------------------|------------|------------|------|----|---------|------|-----|---|------|
| NSA11-38 | 124 | 1 | 0.0 | 70.5 | 66 | 70.5 | 10 | Snd Lvl | 70.5 | 0.0 | 8 | -8.0 |
| NSA11-39 | 125 | 1 | 0.0 | 71.7 | 66 | 71.7 | 10 | Snd Lvl | 71.7 | 0.0 | 8 | -8.0 |
| NSA11-40 | 126 | 1 | 0.0 | 71.4 | 66 | 71.4 | 10 | Snd Lvl | 71.4 | 0.0 | 8 | -8.0 |
| NSA11-41 | 127 | 1 | 0.0 | 70.0 | 66 | 70.0 | 10 | Snd Lvl | 70.0 | 0.0 | 8 | -8.0 |
| NSA11-42 | 128 | 1 | 0.0 | 70.7 | 66 | 70.7 | 10 | Snd Lvl | 70.7 | 0.0 | 8 | -8.0 |
| NSA11-43 | 130 | 1 | 0.0 | 68.9 | 66 | 68.9 | 10 | Snd Lvl | 68.9 | 0.0 | 8 | -8.0 |
| NSA11-44 | 131 | 1 | 0.0 | 65.8 | 66 | 65.8 | 10 | ---- | 65.8 | 0.0 | 8 | -8.0 |
| NSA11-45 | 132 | 1 | 0.0 | 63.9 | 66 | 63.9 | 10 | ---- | 63.9 | 0.0 | 8 | -8.0 |
| NSA11-46 | 133 | 1 | 0.0 | 66.4 | 66 | 66.4 | 10 | Snd Lvl | 66.4 | 0.0 | 8 | -8.0 |
| NSA11-47 | 134 | 1 | 0.0 | 64.5 | 66 | 64.5 | 10 | ---- | 64.5 | 0.0 | 8 | -8.0 |
| NSA11-48 | 135 | 1 | 0.0 | 64.3 | 66 | 64.3 | 10 | ---- | 64.3 | 0.0 | 8 | -8.0 |
| NSA11-49 | 136 | 1 | 0.0 | 63.4 | 66 | 63.4 | 10 | ---- | 63.4 | 0.0 | 8 | -8.0 |
| NSA11-50 | 137 | 1 | 0.0 | 63.8 | 66 | 63.8 | 10 | ---- | 63.8 | 0.0 | 8 | -8.0 |
| NSA11-51 | 138 | 1 | 0.0 | 64.0 | 66 | 64.0 | 10 | ---- | 64.0 | 0.0 | 8 | -8.0 |
| NSA12-1 | 139 | 6 | 0.0 | 68.9 | 66 | 68.9 | 10 | Snd Lvl | 68.9 | 0.0 | 8 | -8.0 |
| NSA12-2 | 140 | 6 | 0.0 | 70.8 | 66 | 70.8 | 10 | Snd Lvl | 70.8 | 0.0 | 8 | -8.0 |
| NSA12-3 | 141 | 6 | 0.0 | 69.4 | 66 | 69.4 | 10 | Snd Lvl | 69.4 | 0.0 | 8 | -8.0 |
| NSA12-4 | 142 | 6 | 0.0 | 70.3 | 66 | 70.3 | 10 | Snd Lvl | 70.3 | 0.0 | 8 | -8.0 |
| NSA12-5 | 143 | 6 | 0.0 | 64.9 | 66 | 64.9 | 10 | ---- | 64.9 | 0.0 | 8 | -8.0 |
| NSA12-6 | 144 | 6 | 0.0 | 64.4 | 66 | 64.4 | 10 | ---- | 64.4 | 0.0 | 8 | -8.0 |
| NSA12-7 | 145 | 6 | 0.0 | 64.8 | 66 | 64.8 | 10 | ---- | 64.8 | 0.0 | 8 | -8.0 |
| NSA12-8 | 146 | 6 | 0.0 | 65.3 | 66 | 65.3 | 10 | ---- | 65.3 | 0.0 | 8 | -8.0 |
| NSA12-9 | 147 | 6 | 0.0 | 63.6 | 66 | 63.6 | 10 | ---- | 63.6 | 0.0 | 8 | -8.0 |
| NSA12-10 | 148 | 6 | 0.0 | 62.5 | 66 | 62.5 | 10 | ---- | 62.5 | 0.0 | 8 | -8.0 |
| NSA12-11 | 149 | 6 | 0.0 | 63.6 | 66 | 63.6 | 10 | ---- | 63.6 | 0.0 | 8 | -8.0 |
| NSA12-12 | 150 | 6 | 0.0 | 64.0 | 66 | 64.0 | 10 | ---- | 64.0 | 0.0 | 8 | -8.0 |
| Dwelling Units | | # DUs | Noise Reduction | | | | | | | | | |
| | | | Min | Avg | Max | | | | | | | |
| | | | dB | dB | dB | | | | | | | |
| All Selected | | 210 | 0.0 | 0.0 | 0.0 | | | | | | | |
| All Impacted | | 56 | 0.0 | 0.0 | 0.0 | | | | | | | |
| All that meet NR Goal | | 0 | 0.0 | 0.0 | 0.0 | | | | | | | |

| <Organization?> | | 15 July 2022 | | | | | | | | | |
|----------------------------|-------|----------------------------|-----|------------------------|-----------|--------|---|------------------|---------------------------|-----------|------------|
| CCox | | TNM 2.5 | | | | | | | | | |
| INPUT: ROADWAYS | | | | | | | Average pavement type shall be used unless | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 PID 116322 | | | | | a State highway agency substantiates the use | | | | |
| RUN: | | Existing Year NSAs 9 - 12 | | | | | of a different type with the approval of FHWA | | | | |
| Roadway | Width | Points | No. | Coordinates (pavement) | | | Flow Control | | | Segment | |
| Name | | Name | | X | Y | Z | Control Device | Speed Constraint | Percent Vehicles Affected | Pvmt Type | On Struct? |
| | ft | | | ft | ft | ft | | mph | % | | |
| Hamilton Road NB | 24.0 | point1 | 1 | 1,869,911.0 | 758,301.0 | 980.00 | | | | Average | |
| | | point2 | 2 | 1,869,827.0 | 758,551.0 | 978.00 | | | | Average | |
| | | point3 | 3 | 1,869,717.0 | 758,813.0 | 975.00 | | | | Average | |
| | | point4 | 4 | 1,869,513.0 | 759,251.0 | 976.00 | | | | Average | |
| | | point5 | 5 | 1,869,371.0 | 759,612.0 | 978.00 | | | | Average | |
| | | point6 | 6 | 1,869,325.0 | 759,748.0 | 980.00 | | | | Average | |
| | | point7 | 7 | 1,869,288.0 | 759,888.0 | 981.00 | | | | Average | |
| | | point8 | 8 | 1,869,277.0 | 760,088.0 | 980.00 | | | | | |
| Hamilton Road SB | 24.0 | point9 | 9 | 1,869,249.0 | 760,088.0 | 980.00 | | | | Average | |
| | | point10 | 10 | 1,869,257.0 | 759,888.0 | 981.00 | | | | Average | |
| | | point11 | 11 | 1,869,279.0 | 759,748.0 | 980.00 | | | | Average | |
| | | point12 | 12 | 1,869,327.0 | 759,561.0 | 978.00 | | | | Average | |
| | | point13 | 13 | 1,869,449.0 | 759,244.0 | 976.00 | | | | Average | |
| | | point14 | 14 | 1,869,671.0 | 758,791.0 | 975.00 | | | | Average | |
| | | point15 | 15 | 1,869,819.0 | 758,376.0 | 979.00 | | | | | |
| SR161 outside shoulder WB1 | 12.0 | point71 | 71 | 1,876,031.0 | 762,060.0 | 987.00 | | | | Average | |
| | | point70 | 70 | 1,875,787.0 | 762,030.0 | 985.00 | | | | Average | |
| | | point69 | 69 | 1,875,485.0 | 761,974.0 | 982.00 | | | | Average | |
| | | point68 | 68 | 1,875,095.0 | 761,862.0 | 978.00 | | | | Average | |
| | | point67 | 67 | 1,874,359.0 | 761,555.0 | 972.00 | | | | Average | |
| | | point66 | 66 | 1,873,218.0 | 761,017.0 | 969.00 | | | | Average | |
| | | point43 | 43 | 1,871,695.0 | 760,290.0 | 965.00 | | | | Average | Y |
| | | point40 | 40 | 1,871,563.0 | 760,228.0 | 965.00 | | | | Average | |
| | | point16 | 16 | 1,870,465.0 | 759,710.0 | 976.00 | | | | Average | |
| | | point17 | 17 | 1,869,607.0 | 759,317.0 | 996.00 | | | | Average | Y |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|---------------------------------|------|----------|-----|-------------|-----------|----------|------|------|-----|---------|---|
| | | point18 | 18 | 1,869,386.0 | 759,213.0 | 998.00 | | | | | |
| SR161 WB3 | 12.0 | point65 | 65 | 1,879,435.0 | 761,894.0 | 1,010.00 | | | | Average | |
| | | point64 | 64 | 1,878,045.0 | 761,975.0 | 1,001.00 | | | | Average | |
| | | point63 | 63 | 1,877,079.0 | 762,030.0 | 994.00 | | | | Average | |
| | | point62 | 62 | 1,876,551.0 | 762,062.0 | 991.00 | | | | Average | |
| | | point61 | 61 | 1,876,331.0 | 762,062.0 | 990.00 | | | | Average | |
| | | point60 | 60 | 1,876,031.0 | 762,048.0 | 987.00 | | | | | |
| SR 161 WB2 | 12.0 | point54 | 54 | 1,879,435.0 | 761,882.0 | 1,010.00 | | | | Average | |
| | | point53 | 53 | 1,878,045.0 | 761,963.0 | 1,001.00 | | | | Average | |
| | | point52 | 52 | 1,877,079.0 | 762,018.0 | 994.00 | | | | Average | |
| | | point51 | 51 | 1,876,551.0 | 762,050.0 | 991.00 | | | | Average | |
| | | point50 | 50 | 1,876,331.0 | 762,050.0 | 990.00 | | | | Average | |
| | | point49 | 49 | 1,876,031.0 | 762,036.0 | 987.00 | | | | | |
| SR 161EB inside shoulder | 12.0 | point25 | 25 | 1,868,545.0 | 758,743.0 | 993.50 | | | | Average | |
| | | point26 | 26 | 1,869,386.0 | 759,160.0 | 997.50 | | | | Average | Y |
| | | point27 | 27 | 1,869,607.0 | 759,264.0 | 996.50 | | | | | |
| SR 161 EB4 | 12.0 | point28 | 28 | 1,868,545.0 | 758,731.0 | 994.00 | | | | Average | |
| | | point29 | 29 | 1,869,386.0 | 759,148.0 | 998.00 | | | | Average | Y |
| | | point30 | 30 | 1,869,607.0 | 759,252.0 | 997.00 | | | | Average | |
| | | point110 | 110 | 1,870,366.0 | 759,606.0 | 979.00 | | | | Average | |
| | | point111 | 111 | 1,870,972.0 | 759,891.0 | 965.00 | | | | Average | |
| | | point112 | 112 | 1,871,560.0 | 760,165.0 | 965.00 | | | | | |
| SR161 EB3 | 12.0 | point31 | 31 | 1,868,545.0 | 758,719.0 | 994.50 | | | | Average | |
| | | point32 | 32 | 1,869,386.0 | 759,136.0 | 998.50 | | | | Average | Y |
| | | point33 | 33 | 1,869,607.0 | 759,240.0 | 997.50 | | | | Average | |
| | | point100 | 100 | 1,870,366.0 | 759,594.0 | 979.00 | | | | Average | |
| | | point101 | 101 | 1,870,972.0 | 759,879.0 | 965.00 | | | | Average | |
| | | point102 | 102 | 1,871,560.0 | 760,153.0 | 965.00 | | | | | |
| SR 161 EB2 | 12.0 | point34 | 34 | 1,868,545.0 | 758,707.0 | 995.00 | | | | Average | |
| | | point35 | 35 | 1,869,386.0 | 759,124.0 | 999.00 | | | | Average | Y |
| | | point36 | 36 | 1,869,607.0 | 759,228.0 | 998.00 | | | | Average | |
| | | point88 | 88 | 1,870,366.0 | 759,582.0 | 979.00 | | | | Average | |
| | | point89 | 89 | 1,870,972.0 | 759,867.0 | 965.00 | | | | Average | |
| | | point90 | 90 | 1,871,560.0 | 760,141.0 | 965.00 | | | | | |
| Exit ramp SR 161 WB to Hamilton | 12.0 | point72 | 72 | 1,871,236.0 | 760,078.0 | 964.00 | Stop | 0.00 | 100 | Average | |
| | | point73 | 73 | 1,871,163.0 | 760,055.0 | 963.00 | | | | Average | |
| | | point74 | 74 | 1,870,682.0 | 759,833.0 | 970.00 | | | | Average | |
| | | point75 | 75 | 1,870,510.0 | 759,775.0 | 973.00 | | | | Average | |
| | | point76 | 76 | 1,870,323.0 | 759,743.0 | 976.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|--|------|----------|-----|-------------|-----------|----------|--------|------|-----|---------|---|
| | | point77 | 77 | 1,870,134.0 | 759,737.0 | 979.00 | | | | Average | |
| | | point78 | 78 | 1,869,865.0 | 759,746.0 | 980.00 | | | | Average | |
| | | point79 | 79 | 1,869,665.0 | 759,720.0 | 978.00 | | | | Average | |
| | | point80 | 80 | 1,869,553.0 | 759,687.0 | 977.00 | | | | Average | |
| | | point81 | 81 | 1,869,371.0 | 759,612.0 | 978.00 | | | | | |
| Entrance ramp Hamilton Rd to SR 166 EB | 12.0 | point82 | 82 | 1,869,717.0 | 758,813.0 | 975.00 | Onramp | 0.00 | 100 | Average | |
| | | point83 | 83 | 1,869,965.0 | 758,984.0 | 974.00 | | | | Average | |
| | | point84 | 84 | 1,870,092.0 | 759,115.0 | 976.00 | | | | Average | |
| | | point85 | 85 | 1,870,211.0 | 759,295.0 | 978.00 | | | | Average | |
| | | point86 | 86 | 1,870,383.0 | 759,515.0 | 978.00 | | | | Average | |
| | | point87 | 87 | 1,870,525.0 | 759,615.0 | 974.00 | | | | Average | |
| | | point92 | 92 | 1,870,795.0 | 759,754.0 | 968.00 | | | | Average | |
| | | point93 | 93 | 1,871,508.0 | 760,112.0 | 965.00 | | | | | |
| HarLem Road | 12.0 | point124 | 124 | 1,874,538.0 | 760,192.0 | 974.00 | | | | Average | |
| | | point120 | 120 | 1,874,360.0 | 761,378.0 | 993.00 | | | | Average | Y |
| | | point121 | 121 | 1,874,330.0 | 761,634.0 | 993.00 | | | | Average | |
| | | point122 | 122 | 1,874,297.0 | 762,017.0 | 984.00 | | | | Average | |
| | | point123 | 123 | 1,874,263.0 | 762,332.0 | 981.00 | | | | | |
| New Albany Road NB | 24.0 | point125 | 125 | 1,878,008.0 | 760,827.0 | 998.00 | | | | Average | |
| | | point126 | 126 | 1,878,049.0 | 761,502.0 | 1,012.00 | | | | Average | |
| | | point127 | 127 | 1,878,063.0 | 761,817.0 | 1,022.00 | | | | Average | Y |
| | | point128 | 128 | 1,878,077.0 | 762,064.0 | 1,024.00 | | | | Average | |
| | | point129 | 129 | 1,878,095.0 | 762,373.0 | 1,019.00 | | | | Average | |
| | | point130 | 130 | 1,878,126.0 | 763,174.0 | 1,006.00 | | | | | |
| New Albany Road SB | 24.0 | point136 | 136 | 1,878,086.0 | 763,174.0 | 1,006.00 | | | | Average | |
| | | point135 | 135 | 1,878,060.0 | 762,373.0 | 1,019.00 | | | | Average | |
| | | point134 | 134 | 1,878,044.0 | 762,064.0 | 1,024.00 | | | | Average | Y |
| | | point133 | 133 | 1,878,029.0 | 761,817.0 | 1,022.00 | | | | Average | |
| | | point132 | 132 | 1,878,014.0 | 761,502.0 | 1,012.00 | | | | Average | |
| | | point131 | 131 | 1,877,984.0 | 760,827.0 | 998.00 | | | | | |
| Entrance ramp New Albany to SR161W | 12.0 | point152 | 152 | 1,878,060.0 | 762,373.0 | 1,019.00 | Onramp | 0.00 | 100 | Average | |
| | | point153 | 153 | 1,877,800.0 | 762,356.0 | 1,012.00 | | | | Average | |
| | | point154 | 154 | 1,877,646.0 | 762,325.0 | 1,008.00 | | | | Average | |
| | | point155 | 155 | 1,877,399.0 | 762,207.0 | 999.00 | | | | Average | |
| | | point156 | 156 | 1,877,186.0 | 762,110.0 | 994.00 | | | | Average | |
| | | point157 | 157 | 1,876,993.0 | 762,074.0 | 993.00 | | | | Average | |
| | | point158 | 158 | 1,876,650.0 | 762,078.0 | 992.00 | | | | Average | |
| | | point159 | 159 | 1,876,395.0 | 762,082.0 | 991.00 | | | | Average | |
| | | point160 | 160 | 1,876,031.0 | 762,048.0 | 987.00 | | | | | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|-----------------------------------|------|----------|-----|-------------|-----------|----------|------|------|-----|---------|---|
| Exit ramp SR 161 EB to New Albany | 12.0 | point168 | 168 | 1,876,331.0 | 761,968.0 | 989.00 | Stop | 0.00 | 100 | Average | |
| | | point167 | 167 | 1,876,551.0 | 761,956.0 | 990.00 | | | | Average | |
| | | point166 | 166 | 1,876,943.0 | 761,904.0 | 993.00 | | | | Average | |
| | | point161 | 161 | 1,877,119.0 | 761,862.0 | 993.00 | | | | Average | |
| | | point162 | 162 | 1,877,319.0 | 761,739.0 | 996.00 | | | | Average | |
| | | point163 | 163 | 1,877,519.0 | 761,623.0 | 1,001.00 | | | | Average | |
| | | point164 | 164 | 1,877,719.0 | 761,555.0 | 1,006.00 | | | | Average | |
| | | point165 | 165 | 1,878,014.0 | 761,502.0 | 1,012.00 | | | | | |
| SR 161 EB outside shoulder | 10.0 | point169 | 169 | 1,871,560.0 | 760,130.0 | 965.00 | | | | Average | Y |
| | | point170 | 170 | 1,871,670.0 | 760,181.0 | 965.00 | | | | Average | |
| | | point171 | 171 | 1,872,909.0 | 760,759.0 | 968.00 | | | | Average | |
| | | point172 | 172 | 1,874,312.0 | 761,411.0 | 972.00 | | | | | |
| SR 161 EB4-2 | 12.0 | point173 | 173 | 1,874,312.0 | 761,434.0 | 972.00 | | | | Average | |
| | | point116 | 116 | 1,875,104.0 | 761,768.0 | 976.00 | | | | Average | |
| | | point117 | 117 | 1,875,499.0 | 761,880.0 | 982.00 | | | | Average | |
| | | point118 | 118 | 1,875,800.0 | 761,936.0 | 984.00 | | | | Average | |
| | | point119 | 119 | 1,876,036.0 | 761,966.0 | 987.00 | | | | Average | |
| | | point137 | 137 | 1,876,331.0 | 761,980.0 | 989.00 | | | | | |
| SR161 EB3-2 | 12.0 | point174 | 174 | 1,874,312.0 | 761,422.0 | 972.00 | | | | Average | |
| | | point106 | 106 | 1,875,104.0 | 761,756.0 | 976.00 | | | | Average | |
| | | point107 | 107 | 1,875,499.0 | 761,868.0 | 982.00 | | | | Average | |
| | | point108 | 108 | 1,875,800.0 | 761,924.0 | 984.00 | | | | Average | |
| | | point109 | 109 | 1,876,036.0 | 761,954.0 | 987.00 | | | | Average | |
| | | point142 | 142 | 1,876,331.0 | 761,968.0 | 989.00 | | | | | |
| SR 161 EB2-2 | 12.0 | point175 | 175 | 1,874,312.0 | 761,411.0 | 972.00 | | | | Average | |
| | | point96 | 96 | 1,875,104.0 | 761,744.0 | 976.00 | | | | Average | |
| | | point97 | 97 | 1,875,499.0 | 761,856.0 | 982.00 | | | | Average | |
| | | point98 | 98 | 1,875,800.0 | 761,912.0 | 984.00 | | | | Average | |
| | | point99 | 99 | 1,876,036.0 | 761,942.0 | 987.00 | | | | Average | |
| | | point147 | 147 | 1,876,331.0 | 761,956.0 | 989.00 | | | | | |
| SR 161 EB4-2 | 12.0 | point177 | 177 | 1,871,560.0 | 760,165.0 | 965.00 | | | | Average | Y |
| | | point113 | 113 | 1,871,670.0 | 760,216.0 | 965.00 | | | | Average | |
| | | point114 | 114 | 1,872,909.0 | 760,794.0 | 968.00 | | | | Average | |
| | | point115 | 115 | 1,874,312.0 | 761,434.0 | 972.00 | | | | | |
| SR161 EB3-2 | 12.0 | point178 | 178 | 1,871,560.0 | 760,153.0 | 965.00 | | | | Average | Y |
| | | point103 | 103 | 1,871,670.0 | 760,204.0 | 965.00 | | | | Average | |
| | | point104 | 104 | 1,872,909.0 | 760,782.0 | 968.00 | | | | Average | |
| | | point105 | 105 | 1,874,312.0 | 761,434.0 | 972.00 | | | | | |
| SR 161 EB2-2 | 12.0 | point179 | 179 | 1,871,560.0 | 760,141.0 | 965.00 | | | | Average | Y |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|----------------|------|----------|-----|-------------|-----------|----------|--|--|--|---------|---|
| | | point91 | 91 | 1,871,670.0 | 760,192.0 | 965.00 | | | | Average | |
| | | point94 | 94 | 1,872,909.0 | 760,770.0 | 968.00 | | | | Average | |
| | | point95 | 95 | 1,874,312.0 | 761,422.0 | 972.00 | | | | | |
| SR161 EB3-2-2 | 12.0 | point180 | 180 | 1,876,331.0 | 761,968.0 | 989.00 | | | | Average | |
| | | point143 | 143 | 1,876,551.0 | 761,968.0 | 990.00 | | | | Average | |
| | | point144 | 144 | 1,877,079.0 | 761,936.0 | 994.00 | | | | Average | |
| | | point145 | 145 | 1,878,045.0 | 761,881.0 | 1,001.00 | | | | Average | |
| | | point146 | 146 | 1,879,435.0 | 761,800.0 | 1,010.00 | | | | | |
| SR 161 EB4-2-2 | 12.0 | point181 | 181 | 1,876,331.0 | 761,980.0 | 989.00 | | | | Average | |
| | | point138 | 138 | 1,876,551.0 | 761,980.0 | 990.00 | | | | Average | |
| | | point139 | 139 | 1,877,079.0 | 761,948.0 | 994.00 | | | | Average | |
| | | point140 | 140 | 1,878,045.0 | 761,893.0 | 1,001.00 | | | | Average | |
| | | point141 | 141 | 1,879,435.0 | 761,812.0 | 1,010.00 | | | | | |
| SR 161 WB2-2 | 12.0 | point182 | 182 | 1,876,031.0 | 762,036.0 | 987.00 | | | | Average | |
| | | point48 | 48 | 1,875,787.0 | 762,006.0 | 985.00 | | | | Average | |
| | | point47 | 47 | 1,875,485.0 | 761,950.0 | 982.00 | | | | Average | |
| | | point46 | 46 | 1,875,095.0 | 761,838.0 | 978.00 | | | | Average | |
| | | point45 | 45 | 1,874,359.0 | 761,531.0 | 972.00 | | | | Average | |
| | | point44 | 44 | 1,873,218.0 | 760,993.0 | 969.00 | | | | Average | |
| | | point41 | 41 | 1,871,695.0 | 760,266.0 | 965.00 | | | | Average | Y |
| | | point38 | 38 | 1,871,563.0 | 760,204.0 | 965.00 | | | | | |
| SR161 WB3-2 | 12.0 | point183 | 183 | 1,876,031.0 | 762,048.0 | 987.00 | | | | Average | |
| | | point59 | 59 | 1,875,787.0 | 762,018.0 | 985.00 | | | | Average | |
| | | point58 | 58 | 1,875,485.0 | 761,962.0 | 982.00 | | | | Average | |
| | | point57 | 57 | 1,875,095.0 | 761,850.0 | 978.00 | | | | Average | |
| | | point56 | 56 | 1,874,359.0 | 761,543.0 | 972.00 | | | | Average | |
| | | point55 | 55 | 1,873,218.0 | 761,005.0 | 969.00 | | | | Average | |
| | | point42 | 42 | 1,871,695.0 | 760,278.0 | 965.00 | | | | Average | Y |
| | | point39 | 39 | 1,871,563.0 | 760,216.0 | 965.00 | | | | | |
| SR161 WB3-2-2 | 12.0 | point185 | 185 | 1,871,563.0 | 760,216.0 | 965.00 | | | | Average | |
| | | point19 | 19 | 1,870,465.0 | 759,698.0 | 976.00 | | | | Average | |
| | | point20 | 20 | 1,869,607.0 | 759,305.0 | 996.00 | | | | Average | Y |
| | | point21 | 21 | 1,869,386.0 | 759,201.0 | 998.00 | | | | | |
| SR 161 WB2-2-2 | 12.0 | point186 | 186 | 1,871,563.0 | 760,204.0 | 965.00 | | | | Average | |
| | | point22 | 22 | 1,870,465.0 | 759,686.0 | 976.00 | | | | Average | |
| | | point23 | 23 | 1,869,607.0 | 759,293.0 | 996.00 | | | | Average | Y |
| | | point24 | 24 | 1,869,386.0 | 759,189.0 | 998.00 | | | | | |

| <Organization?> | | 15 July 2022 | | | | | | | | | | |
|-----------------------------------|---------|----------------------------|---------|-----|---------|-----|---------|-----|--------|-----|-------------|-----|
| CCox | | TNM 2.5 | | | | | | | | | | |
| INPUT: TRAFFIC FOR LAeq1h Volumes | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 PID 116322 | | | | | | | | | | |
| RUN: | | Existing Year NSAs 9 - 12 | | | | | | | | | | |
| Roadway | Points | | | | | | | | | | | |
| Name | Name | No. | Segment | | MTrucks | | HTrucks | | Buses | | Motorcycles | |
| | | | Autos | | V | S | V | S | V | S | V | S |
| | | | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph |
| Hamilton Road NB | point1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point6 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point7 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point8 | 8 | | | | | | | | | | |
| Hamilton Road SB | point9 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point10 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point11 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point12 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point13 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point14 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point15 | 15 | | | | | | | | | | |
| SR161 outside shoulder WB1 | point71 | 71 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point70 | 70 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point69 | 69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point68 | 68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point67 | 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point66 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point43 | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point40 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|--------------------------|----------|-----|------|----|----|----|-----|----|---|---|---|---|
| | point16 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point17 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point18 | 18 | | | | | | | | | | |
| SR161 WB3 | point65 | 65 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point64 | 64 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point63 | 63 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point62 | 62 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point61 | 61 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point60 | 60 | | | | | | | | | | |
| SR 161 WB2 | point54 | 54 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point53 | 53 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point52 | 52 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point51 | 51 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point50 | 50 | 1703 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point49 | 49 | | | | | | | | | | |
| SR 161EB inside shoulder | point25 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point26 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point27 | 27 | | | | | | | | | | |
| SR 161 EB4 | point28 | 28 | 1335 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point29 | 29 | 1335 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point30 | 30 | 1335 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point110 | 110 | 1335 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point111 | 111 | 1335 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point112 | 112 | | | | | | | | | | |
| SR161 EB3 | point31 | 31 | 1335 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point32 | 32 | 1335 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point33 | 33 | 1335 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point100 | 100 | 1335 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point101 | 101 | 1335 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point102 | 102 | | | | | | | | | | |
| SR 161 EB2 | point34 | 34 | 1335 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point35 | 35 | 1335 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point36 | 36 | 1335 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point88 | 88 | 1335 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point89 | 89 | 1335 | 65 | 36 | 60 | 82 | 60 | 0 | 0 | 0 | 0 |
| | point90 | 90 | | | | | | | | | | |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|--|----------|-----|------|----|----|----|----|----|---|---|---|---|
| Exit ramp SR 161 WB to Hamilton | point72 | 72 | 444 | 65 | 4 | 60 | 10 | 60 | 0 | 0 | 0 | 0 |
| | point73 | 73 | 444 | 65 | 4 | 60 | 10 | 60 | 0 | 0 | 0 | 0 |
| | point74 | 74 | 444 | 65 | 4 | 60 | 10 | 60 | 0 | 0 | 0 | 0 |
| | point75 | 75 | 444 | 65 | 4 | 60 | 10 | 60 | 0 | 0 | 0 | 0 |
| | point76 | 76 | 444 | 65 | 4 | 60 | 10 | 60 | 0 | 0 | 0 | 0 |
| | point77 | 77 | 444 | 65 | 4 | 60 | 10 | 60 | 0 | 0 | 0 | 0 |
| | point78 | 78 | 444 | 65 | 4 | 60 | 10 | 60 | 0 | 0 | 0 | 0 |
| | point79 | 79 | 444 | 65 | 4 | 60 | 10 | 60 | 0 | 0 | 0 | 0 |
| | point80 | 80 | 444 | 65 | 4 | 60 | 10 | 60 | 0 | 0 | 0 | 0 |
| | point81 | 81 | | | | | | | | | | |
| Entrance ramp Hamilton Rd to SR 166 EB | point82 | 82 | 471 | 65 | 6 | 60 | 14 | 60 | 0 | 0 | 0 | 0 |
| | point83 | 83 | 471 | 65 | 6 | 60 | 14 | 60 | 0 | 0 | 0 | 0 |
| | point84 | 84 | 471 | 65 | 6 | 60 | 14 | 60 | 0 | 0 | 0 | 0 |
| | point85 | 85 | 471 | 65 | 6 | 60 | 14 | 60 | 0 | 0 | 0 | 0 |
| | point86 | 86 | 471 | 65 | 6 | 60 | 14 | 60 | 0 | 0 | 0 | 0 |
| | point87 | 87 | 471 | 65 | 6 | 60 | 14 | 60 | 0 | 0 | 0 | 0 |
| | point92 | 92 | 471 | 65 | 6 | 60 | 14 | 60 | 0 | 0 | 0 | 0 |
| | point93 | 93 | | | | | | | | | | |
| HarLem Road | point124 | 124 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point120 | 120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point121 | 121 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point122 | 122 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point123 | 123 | | | | | | | | | | |
| New Albany Road NB | point125 | 125 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point126 | 126 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point127 | 127 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point128 | 128 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point129 | 129 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point130 | 130 | | | | | | | | | | |
| New Albany Road SB | point136 | 136 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point135 | 135 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point134 | 134 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point133 | 133 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point132 | 132 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point131 | 131 | | | | | | | | | | |
| Entrance ramp New Albany to SR161W | point152 | 152 | 1130 | 65 | 11 | 60 | 24 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|-----------------------------------|----------|-----|------|----|----|----|-----|----|---|---|---|---|
| | point153 | 153 | 1130 | 65 | 11 | 60 | 24 | 60 | 0 | 0 | 0 | 0 |
| | point154 | 154 | 1130 | 65 | 11 | 60 | 24 | 60 | 0 | 0 | 0 | 0 |
| | point155 | 155 | 1130 | 65 | 11 | 60 | 24 | 60 | 0 | 0 | 0 | 0 |
| | point156 | 156 | 1130 | 65 | 11 | 60 | 24 | 60 | 0 | 0 | 0 | 0 |
| | point157 | 157 | 1130 | 65 | 11 | 60 | 24 | 60 | 0 | 0 | 0 | 0 |
| | point158 | 158 | 1130 | 65 | 11 | 60 | 24 | 60 | 0 | 0 | 0 | 0 |
| | point159 | 159 | 1130 | 65 | 11 | 60 | 24 | 60 | 0 | 0 | 0 | 0 |
| | point160 | 160 | | | | | | | | | | |
| Exit ramp SR 161 EB to New Albany | point168 | 168 | 1196 | 65 | 12 | 60 | 25 | 60 | 0 | 0 | 0 | 0 |
| | point167 | 167 | 1196 | 65 | 12 | 60 | 25 | 60 | 0 | 0 | 0 | 0 |
| | point166 | 166 | 1196 | 65 | 12 | 60 | 25 | 60 | 0 | 0 | 0 | 0 |
| | point161 | 161 | 1196 | 65 | 12 | 60 | 25 | 60 | 0 | 0 | 0 | 0 |
| | point162 | 162 | 1196 | 65 | 12 | 60 | 25 | 60 | 0 | 0 | 0 | 0 |
| | point163 | 163 | 1196 | 65 | 12 | 60 | 25 | 60 | 0 | 0 | 0 | 0 |
| | point164 | 164 | 1196 | 65 | 12 | 60 | 25 | 60 | 0 | 0 | 0 | 0 |
| | point165 | 165 | | | | | | | | | | |
| SR 161 EB outside shoulder | point169 | 169 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point170 | 170 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point171 | 171 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point172 | 172 | | | | | | | | | | |
| SR 161 EB4-2 | point173 | 173 | 2248 | 65 | 59 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point116 | 116 | 2248 | 65 | 59 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point117 | 117 | 2248 | 65 | 59 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point118 | 118 | 2248 | 65 | 59 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point119 | 119 | 2248 | 65 | 59 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point137 | 137 | | | | | | | | | | |
| SR161 EB3-2 | point174 | 174 | 2248 | 65 | 59 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point106 | 106 | 2248 | 65 | 59 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point107 | 107 | 2248 | 65 | 59 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point108 | 108 | 2248 | 65 | 59 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point109 | 109 | 2248 | 65 | 59 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point142 | 142 | | | | | | | | | | |
| SR 161 EB2-2 | point175 | 175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point96 | 96 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point97 | 97 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point98 | 98 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|----------------|----------|-----|------|----|----|----|-----|----|---|---|---|---|
| | point99 | 99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point147 | 147 | | | | | | | | | | |
| SR 161 EB4-2 | point177 | 177 | 1498 | 65 | 39 | 60 | 91 | 60 | 0 | 0 | 0 | 0 |
| | point113 | 113 | 1498 | 65 | 39 | 60 | 91 | 60 | 0 | 0 | 0 | 0 |
| | point114 | 114 | 1498 | 65 | 39 | 60 | 91 | 60 | 0 | 0 | 0 | 0 |
| | point115 | 115 | | | | | | | | | | |
| SR161 EB3-2 | point178 | 178 | 1498 | 65 | 39 | 60 | 91 | 60 | 0 | 0 | 0 | 0 |
| | point103 | 103 | 1498 | 65 | 39 | 60 | 91 | 60 | 0 | 0 | 0 | 0 |
| | point104 | 104 | 0 8 | 65 | 39 | 60 | 91 | 60 | 0 | 0 | 0 | 0 |
| | point105 | 105 | | | | | | | | | | |
| SR 161 EB2-2 | point179 | 179 | 1498 | 65 | 39 | 60 | 91 | 60 | 0 | 0 | 0 | 0 |
| | point91 | 91 | 1498 | 65 | 39 | 60 | 91 | 60 | 0 | 0 | 0 | 0 |
| | point94 | 94 | 1498 | 65 | 39 | 60 | 91 | 60 | 0 | 0 | 0 | 0 |
| | point95 | 95 | | | | | | | | | | |
| SR161 EB3-2-2 | point180 | 180 | 1680 | 65 | 44 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point143 | 143 | 1680 | 65 | 44 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point144 | 144 | 1680 | 65 | 44 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point145 | 145 | 1680 | 65 | 44 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point146 | 146 | | | | | | | | | | |
| SR 161 EB4-2-2 | point181 | 181 | 1680 | 65 | 44 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point138 | 138 | 1680 | 65 | 44 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point139 | 139 | 1680 | 65 | 44 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point140 | 140 | 1680 | 65 | 44 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point141 | 141 | | | | | | | | | | |
| SR 161 WB2-2 | point182 | 182 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point48 | 48 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point47 | 47 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point46 | 46 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point45 | 45 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point44 | 44 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point41 | 41 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point38 | 38 | | | | | | | | | | |
| SR161 WB3-2 | point183 | 183 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point59 | 59 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point58 | 58 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point57 | 57 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|----------------|----------|-----|------|----|----|----|-----|----|---|---|---|---|
| | point56 | 56 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point55 | 55 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point42 | 42 | 2239 | 65 | 58 | 60 | 136 | 60 | 0 | 0 | 0 | 0 |
| | point39 | 39 | | | | | | | | | | |
| SR161 WB3-2-2 | point185 | 185 | 2028 | 65 | 53 | 60 | 123 | 60 | 0 | 0 | 0 | 0 |
| | point19 | 19 | 2028 | 65 | 53 | 60 | 123 | 60 | 0 | 0 | 0 | 0 |
| | point20 | 20 | 2028 | 65 | 53 | 60 | 123 | 60 | 0 | 0 | 0 | 0 |
| | point21 | 21 | | | | | | | | | | |
| SR 161 WB2-2-2 | point186 | 186 | 2028 | 65 | 53 | 60 | 123 | 60 | 0 | 0 | 0 | 0 |
| | point22 | 22 | 2028 | 65 | 53 | 60 | 123 | 60 | 0 | 0 | 0 | 0 |
| | point23 | 23 | 2028 | 65 | 53 | 60 | 123 | 60 | 0 | 0 | 0 | 0 |
| | point24 | 24 | | | | | | | | | | |

INPUT: RECEIVERS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|-----------------|--|--|--|--|--|--|--------------|--|--|--|--|
| <Organization?> | | | | | | | 15 July 2022 | | | | |
| CCox | | | | | | | TNM 2.5 | | | | |

INPUT: RECEIVERS

PROJECT/CONTRACT: FRA-SR161-15.80 PID 116322

RUN: Existing Year NSAs 9 - 12

| Receiver | | | | | | | | | | | |
|----------|-----|------|----------------------|-----------|--------|--------|---------------------------------|---------------------|-------|------|--------|
| Name | No. | #DUs | Coordinates (ground) | | | Height | Input Sound Levels and Criteria | | | | Active |
| | | | X | Y | Z | above | Existing | Impact Criteria | | NR | in |
| | | | | | | Ground | L _{Aeq} 1h | L _{Aeq} 1h | Sub'l | Goal | Calc. |
| | | | ft | ft | ft | ft | dBA | dBA | dB | dB | |
| NSA9-1 | 58 | 1 | 1,874,418.0 | 762,017.0 | 980.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA9-2 | 59 | 4 | 1,874,562.0 | 762,119.0 | 983.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA9-3 | 60 | 4 | 1,874,708.0 | 762,109.0 | 986.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA9-4 | 61 | 4 | 1,874,854.0 | 762,096.0 | 986.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA9-5 | 62 | 4 | 1,874,998.0 | 762,084.0 | 987.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA9-6 | 63 | 4 | 1,875,144.0 | 762,076.0 | 987.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA9-7 | 64 | 4 | 1,874,724.0 | 762,302.0 | 985.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA9-8 | 65 | 4 | 1,875,168.0 | 762,275.0 | 987.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA9-9 | 66 | 4 | 1,875,345.0 | 762,275.0 | 989.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA9-10 | 67 | 4 | 1,875,171.0 | 762,387.0 | 989.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA9-11 | 68 | 4 | 1,875,310.0 | 762,391.0 | 990.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA10-1 | 69 | 6 | 1,875,692.0 | 762,407.0 | 988.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA10-2 | 70 | 6 | 1,875,687.0 | 762,467.0 | 988.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA10-3 | 71 | 8 | 1,875,904.0 | 762,384.0 | 986.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA10-4 | 72 | 8 | 1,875,894.0 | 762,491.0 | 987.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA10-5 | 73 | 3 | 1,876,027.0 | 762,412.0 | 987.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA10-6 | 74 | 4 | 1,876,017.0 | 762,492.0 | 987.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA10-7 | 75 | 1 | 1,876,110.0 | 762,608.0 | 988.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA101-8 | 76 | 1 | 1,876,150.0 | 762,566.0 | 988.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA10-9 | 77 | 1 | 1,876,188.0 | 762,525.0 | 988.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA10-10 | 78 | 1 | 1,876,233.0 | 762,485.0 | 988.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA10-11 | 79 | 1 | 1,876,266.0 | 762,460.0 | 988.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |

INPUT: RECEIVERS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|----------|-----|---|-------------|-----------|--------|------|------|----|------|-----|---|
| NSA10-12 | 80 | 1 | 1,876,312.0 | 762,455.0 | 987.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA10-13 | 81 | 1 | 1,876,348.0 | 762,429.0 | 987.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA10-14 | 82 | 1 | 1,876,348.0 | 762,567.0 | 987.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA10-15 | 83 | 1 | 1,876,396.0 | 762,551.0 | 988.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA10-16 | 84 | 1 | 1,876,569.0 | 762,528.0 | 989.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA10-17 | 85 | 1 | 1,876,584.0 | 762,589.0 | 989.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA10-18 | 86 | 1 | 1,876,592.0 | 762,635.0 | 989.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-1 | 87 | 1 | 1,874,579.0 | 761,230.0 | 979.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-2 | 88 | 1 | 1,874,579.0 | 761,128.0 | 978.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-3 | 89 | 1 | 1,874,596.0 | 761,024.0 | 978.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-4 | 90 | 1 | 1,874,760.0 | 761,458.0 | 983.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-5 | 91 | 1 | 1,874,742.0 | 761,409.0 | 982.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-6 | 92 | 1 | 1,874,760.0 | 761,329.0 | 983.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-7 | 93 | 1 | 1,874,770.0 | 761,289.0 | 983.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-8 | 94 | 1 | 1,874,770.0 | 761,201.0 | 981.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-9 | 95 | 1 | 1,874,755.0 | 761,133.0 | 981.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-10 | 96 | 1 | 1,874,731.0 | 761,071.0 | 981.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-11 | 97 | 1 | 1,874,915.0 | 761,555.0 | 983.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-12 | 98 | 1 | 1,875,030.0 | 761,460.0 | 983.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-13 | 99 | 1 | 1,875,016.0 | 761,389.0 | 982.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-14 | 100 | 1 | 1,875,002.0 | 761,307.0 | 983.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-15 | 101 | 1 | 1,874,989.0 | 761,251.0 | 983.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-16 | 102 | 1 | 1,874,984.0 | 761,171.0 | 982.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-17 | 103 | 1 | 1,875,248.0 | 761,693.0 | 984.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-18 | 104 | 1 | 1,875,140.0 | 761,618.0 | 983.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-19 | 105 | 1 | 1,875,140.0 | 761,550.0 | 983.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-20 | 106 | 1 | 1,875,140.0 | 761,493.0 | 984.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-21 | 107 | 1 | 1,875,153.0 | 761,417.0 | 983.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-22 | 108 | 1 | 1,875,138.0 | 761,361.0 | 982.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-23 | 109 | 1 | 1,875,147.0 | 761,285.0 | 983.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-24 | 110 | 1 | 1,875,338.0 | 761,693.0 | 984.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-25 | 111 | 1 | 1,875,418.0 | 761,610.0 | 983.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-26 | 112 | 1 | 1,875,403.0 | 761,515.0 | 983.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-27 | 113 | 1 | 1,875,391.0 | 761,449.0 | 984.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-28 | 114 | 1 | 1,875,391.0 | 761,404.0 | 985.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-29 | 115 | 1 | 1,875,391.0 | 761,324.0 | 984.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |

INPUT: RECEIVERS**FRA-SR161-15.80 PID 116322**

| | | | | | | | | | | | |
|----------|-----|---|-------------|-----------|--------|------|------|----|------|-----|---|
| NSA11-30 | 116 | 1 | 1,875,485.0 | 761,693.0 | 984.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-31 | 117 | 1 | 1,875,485.0 | 761,600.0 | 984.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-32 | 118 | 1 | 1,875,485.0 | 761,549.0 | 984.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-33 | 119 | 1 | 1,875,485.0 | 761,482.0 | 984.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-34 | 120 | 1 | 1,875,609.0 | 761,763.0 | 985.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-35 | 121 | 1 | 1,875,666.0 | 761,763.0 | 984.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-36 | 122 | 1 | 1,875,724.0 | 761,763.0 | 984.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-38 | 124 | 1 | 1,875,815.0 | 761,736.0 | 985.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-39 | 125 | 1 | 1,875,867.0 | 761,769.0 | 983.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-40 | 126 | 1 | 1,875,918.0 | 761,769.0 | 984.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-41 | 127 | 1 | 1,875,998.0 | 761,753.0 | 984.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-42 | 128 | 1 | 1,876,058.0 | 761,768.0 | 983.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-43 | 130 | 1 | 1,876,127.0 | 761,741.0 | 982.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-44 | 131 | 1 | 1,876,238.0 | 761,650.0 | 979.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-45 | 132 | 1 | 1,876,207.0 | 761,563.0 | 978.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-46 | 133 | 1 | 1,875,665.0 | 761,603.0 | 984.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-47 | 134 | 1 | 1,875,754.0 | 761,550.0 | 983.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-48 | 135 | 1 | 1,875,819.0 | 761,550.0 | 984.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-49 | 136 | 1 | 1,875,875.0 | 761,523.0 | 985.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-50 | 137 | 1 | 1,875,967.0 | 761,555.0 | 984.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA11-51 | 138 | 1 | 1,875,690.0 | 761,516.0 | 983.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA12-1 | 139 | 6 | 1,876,514.0 | 761,784.0 | 981.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA12-2 | 140 | 6 | 1,876,689.0 | 761,809.0 | 985.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA12-3 | 141 | 6 | 1,876,803.0 | 761,783.0 | 987.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA12-4 | 142 | 6 | 1,876,938.0 | 761,778.0 | 987.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA12-5 | 143 | 6 | 1,876,490.0 | 761,631.0 | 980.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA12-6 | 144 | 6 | 1,876,675.0 | 761,586.0 | 983.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA12-7 | 145 | 6 | 1,876,733.0 | 761,603.0 | 984.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA12-8 | 146 | 6 | 1,876,859.0 | 761,603.0 | 985.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA12-9 | 147 | 6 | 1,876,909.0 | 761,577.0 | 988.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA12-10 | 148 | 6 | 1,876,486.0 | 761,499.0 | 981.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA12-11 | 149 | 6 | 1,876,743.0 | 761,565.0 | 985.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA12-12 | 150 | 6 | 1,876,867.0 | 761,570.0 | 986.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |

NSA 13 – NSA 15



RESULTS: SOUND LEVELS

FRA-SR161-15.80

| | | | | | | | | | | | | |
|------------------------------|----------------------------|--|--|--|--|--|--|--|--|--|--|--|
| Lawhon & Assoc CMCox | | | | | 15 July 2022 TNM 2.5 Calculated with TNM 2.5 | | | | | | | |
| RESULTS: SOUND LEVELS | | | | | | | | | | | | |
| PROJECT/CONTRACT: | FRA-SR161-15.80 | | | | | | | | | | | |
| RUN: | Existing Year NSAs 13 - 15 | | | | | | | | | | | |
| BARRIER DESIGN: | INPUT HEIGHTS | | | | Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA. | | | | | | | |
| ATMOSPHERICS: | 68 deg F, 50% RH | | | | | | | | | | | |

| Receiver | | | | | | | | | | | | |
|---------------------------------|-----|------|-----------------|-------------------|------------------------|--------|--------|-------------------|-----------------|------|---|-----------------------|
| Name | No. | #DUs | Existing LAeq1h | No Barrier LAeq1h | Increase over existing | | Type | With Barrier | | | | |
| | | | Calculated | Crit'n | Calculated | Crit'n | Impact | Calculated LAeq1h | Noise Reduction | | | Calculated minus Goal |
| | | | dBA | dBA | dBA | dB | | dBA | dB | Goal | | dB |
| NSA13-1Plain Twp Aquatic Center | 1 | 1 | 0.0 | 59.9 | 66 | 59.9 | 10 | ---- | 59.9 | 0.0 | 8 | -8.0 |
| NSA14-1 Soccer field | 2 | 1 | 0.0 | 57.3 | 66 | 57.3 | 10 | ---- | 57.3 | 0.0 | 8 | -8.0 |
| NSA15-1 | 3 | 1 | 0.0 | 70.3 | 66 | 70.3 | 10 | Snd Lvl | 70.3 | 0.0 | 8 | -8.0 |
| NSA15-2 | 4 | 1 | 0.0 | 70.4 | 66 | 70.4 | 10 | Snd Lvl | 70.4 | 0.0 | 8 | -8.0 |
| NSA15-3 | 5 | 1 | 0.0 | 61.2 | 66 | 61.2 | 10 | ---- | 61.2 | 0.0 | 8 | -8.0 |
| NSA15-4 | 6 | 1 | 0.0 | 63.1 | 66 | 63.1 | 10 | ---- | 63.1 | 0.0 | 8 | -8.0 |
| NSA15-5 | 7 | 1 | 0.0 | 59.7 | 66 | 59.7 | 10 | ---- | 59.7 | 0.0 | 8 | -8.0 |
| NSA15-6 | 8 | 1 | 0.0 | 60.5 | 66 | 60.5 | 10 | ---- | 60.5 | 0.0 | 8 | -8.0 |
| NSA15-7 | 9 | 1 | 0.0 | 69.1 | 66 | 69.1 | 10 | Snd Lvl | 69.1 | 0.0 | 8 | -8.0 |
| NSA15-8 | 10 | 1 | 0.0 | 64.3 | 66 | 64.3 | 10 | ---- | 64.3 | 0.0 | 8 | -8.0 |
| NSA15-9 | 11 | 1 | 0.0 | 60.8 | 66 | 60.8 | 10 | ---- | 60.8 | 0.0 | 8 | -8.0 |
| NSA15-10 | 12 | 2 | 0.0 | 63.9 | 66 | 63.9 | 10 | ---- | 63.9 | 0.0 | 8 | -8.0 |
| NSA15-11 | 13 | 2 | 0.0 | 63.9 | 66 | 63.9 | 10 | ---- | 63.9 | 0.0 | 8 | -8.0 |
| NSA15-12 | 14 | 2 | 0.0 | 64.2 | 66 | 64.2 | 10 | ---- | 64.2 | 0.0 | 8 | -8.0 |
| NSA15-13 | 15 | 2 | 0.0 | 64.3 | 66 | 64.3 | 10 | ---- | 64.3 | 0.0 | 8 | -8.0 |
| NSA15-14 | 16 | 2 | 0.0 | 64.7 | 66 | 64.7 | 10 | ---- | 64.7 | 0.0 | 8 | -8.0 |
| NSA15-15 | 17 | 1 | 0.0 | 66.2 | 66 | 66.2 | 10 | Snd Lvl | 66.2 | 0.0 | 8 | -8.0 |
| NSA15-16 | 18 | 2 | 0.0 | 62.4 | 66 | 62.4 | 10 | ---- | 62.4 | 0.0 | 8 | -8.0 |
| NSA15-17 | 19 | 2 | 0.0 | 62.4 | 66 | 62.4 | 10 | ---- | 62.4 | 0.0 | 8 | -8.0 |
| NSA15-18 | 20 | 2 | 0.0 | 62.8 | 66 | 62.8 | 10 | ---- | 62.8 | 0.0 | 8 | -8.0 |
| NSA15-19 | 21 | 2 | 0.0 | 63.1 | 66 | 63.1 | 10 | ---- | 63.1 | 0.0 | 8 | -8.0 |
| NSA15-20 | 22 | 1 | 0.0 | 63.1 | 66 | 63.1 | 10 | ---- | 63.1 | 0.0 | 8 | -8.0 |
| NSA15-21 | 23 | 2 | 0.0 | 63.8 | 66 | 63.8 | 10 | ---- | 63.8 | 0.0 | 8 | -8.0 |
| NSA15-22 | 24 | 2 | 0.0 | 65.0 | 66 | 65.0 | 10 | ---- | 65.0 | 0.0 | 8 | -8.0 |

RESULTS: SOUND LEVELS

FRA-SR161-15.80

| | | | | | | | | | | | | |
|-----------------------|----|--------------|------------------------|------------|------------|------|----|------|------|-----|---|------|
| NSA15-23 | 25 | 1 | 0.0 | 59.7 | 66 | 59.7 | 10 | ---- | 59.7 | 0.0 | 8 | -8.0 |
| NSA15-24 | 26 | 1 | 0.0 | 58.2 | 66 | 58.2 | 10 | ---- | 58.2 | 0.0 | 8 | -8.0 |
| NSA15-25 | 27 | 1 | 0.0 | 57.2 | 66 | 57.2 | 10 | ---- | 57.2 | 0.0 | 8 | -8.0 |
| NSA15-26 | 28 | 2 | 0.0 | 59.2 | 66 | 59.2 | 10 | ---- | 59.2 | 0.0 | 8 | -8.0 |
| NSA15-27 | 29 | 2 | 0.0 | 59.4 | 66 | 59.4 | 10 | ---- | 59.4 | 0.0 | 8 | -8.0 |
| NSA15-28 | 30 | 2 | 0.0 | 59.5 | 66 | 59.5 | 10 | ---- | 59.5 | 0.0 | 8 | -8.0 |
| NSA15-29 | 31 | 2 | 0.0 | 59.5 | 66 | 59.5 | 10 | ---- | 59.5 | 0.0 | 8 | -8.0 |
| NSA15-30 | 32 | 1 | 0.0 | 59.5 | 66 | 59.5 | 10 | ---- | 59.5 | 0.0 | 8 | -8.0 |
| NSA15-31 | 33 | 2 | 0.0 | 62.7 | 66 | 62.7 | 10 | ---- | 62.7 | 0.0 | 8 | -8.0 |
| NSA15-32 | 34 | 2 | 0.0 | 61.5 | 66 | 61.5 | 10 | ---- | 61.5 | 0.0 | 8 | -8.0 |
| NSA15-33 | 35 | 2 | 0.0 | 60.6 | 66 | 60.6 | 10 | ---- | 60.6 | 0.0 | 8 | -8.0 |
| NSA15-34 | 36 | 2 | 0.0 | 60.0 | 66 | 60.0 | 10 | ---- | 60.0 | 0.0 | 8 | -8.0 |
| NSA15-35 | 37 | 2 | 0.0 | 64.5 | 66 | 64.5 | 10 | ---- | 64.5 | 0.0 | 8 | -8.0 |
| NSA15-36 | 38 | 2 | 0.0 | 63.1 | 66 | 63.1 | 10 | ---- | 63.1 | 0.0 | 8 | -8.0 |
| NSA15-37 | 39 | 2 | 0.0 | 62.3 | 66 | 62.3 | 10 | ---- | 62.3 | 0.0 | 8 | -8.0 |
| NSA15-38 | 40 | 2 | 0.0 | 61.5 | 66 | 61.5 | 10 | ---- | 61.5 | 0.0 | 8 | -8.0 |
| NSA15-39 | 41 | 2 | 0.0 | 60.9 | 66 | 60.9 | 10 | ---- | 60.9 | 0.0 | 8 | -8.0 |
| Dwelling Units | | # DUs | Noise Reduction | | | | | | | | | |
| | | | Min | Avg | Max | | | | | | | |
| | | | dB | dB | dB | | | | | | | |
| All Selected | | 65 | 0.0 | 0.0 | 0.0 | | | | | | | |
| All Impacted | | 4 | 0.0 | 0.0 | 0.0 | | | | | | | |
| All that meet NR Goal | | 0 | 0.0 | 0.0 | 0.0 | | | | | | | |

| Lawhon & Assoc CMCox | | | | | | | 15 July 2022 TNM 2.5 | | | | |
|-------------------------|-------|----------------------------|-----|------------------------|-----------|----------|---|------------------|---------------------------|-----------|------------|
| INPUT: ROADWAYS | | | | | | | Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 | | | | | | | | | |
| RUN: | | Existing Year NSAs 13 - 15 | | | | | | | | | |
| Roadway Name | Width | Points Name | No. | Coordinates (pavement) | | | Flow Control | | | Segment | On Struct? |
| | | | | X | Y | Z | Control Device | Speed Constraint | Percent Vehicles Affected | Pvmt Type | |
| | ft | | | ft | ft | ft | | mph | % | | |
| NEw Albany Road SB | 24.0 | point1 | 1 | 1,878,086.0 | 763,174.0 | 1,006.00 | | | | Average | |
| | | point2 | 2 | 1,878,060.0 | 762,373.0 | 1,019.00 | | | | Average | |
| | | point3 | 3 | 1,878,044.0 | 762,064.0 | 1,024.00 | | | | Average | Y |
| | | point4 | 4 | 1,878,029.0 | 761,817.0 | 1,022.00 | | | | Average | |
| | | point5 | 5 | 1,878,014.0 | 761,502.0 | 1,012.00 | | | | Average | |
| | | point6 | 6 | 1,877,984.0 | 760,827.0 | 998.00 | | | | | |
| New Albany Road NB | 24.0 | point7 | 7 | 1,878,008.0 | 760,827.0 | 998.00 | | | | Average | |
| | | point8 | 8 | 1,878,049.0 | 761,502.0 | 1,012.00 | | | | Average | |
| | | point9 | 9 | 1,878,063.0 | 761,817.0 | 1,022.00 | | | | Average | Y |
| | | point10 | 10 | 1,878,077.0 | 762,064.0 | 1,024.00 | | | | Average | |
| | | point11 | 11 | 1,878,095.0 | 762,373.0 | 1,019.00 | | | | Average | |
| | | point12 | 12 | 1,878,126.0 | 763,174.0 | 1,006.00 | | | | | |
| SR 161 EB2 | 12.0 | point13 | 13 | 1,876,036.0 | 761,942.0 | 987.00 | | | | Average | |
| | | point14 | 14 | 1,876,331.0 | 761,956.0 | 989.00 | | | | Average | |
| | | point15 | 15 | 1,876,551.0 | 761,956.0 | 990.00 | | | | Average | |
| | | point16 | 16 | 1,877,079.0 | 761,924.0 | 994.00 | | | | Average | |
| | | point17 | 17 | 1,878,045.0 | 761,869.0 | 1,001.00 | | | | Average | |
| | | point18 | 18 | 1,879,435.0 | 761,788.0 | 1,010.00 | | | | Average | |
| SR 161 EB3 | 12.0 | point79 | 79 | 1,880,194.4 | 761,733.0 | 1,014.00 | | | | | |
| | | point19 | 19 | 1,876,036.0 | 761,954.0 | 987.00 | | | | Average | |
| | | point20 | 20 | 1,876,331.0 | 761,968.0 | 989.00 | | | | Average | |
| | | point21 | 21 | 1,876,551.0 | 761,968.0 | 990.00 | | | | Average | |
| | | point22 | 22 | 1,877,079.0 | 761,936.0 | 994.00 | | | | Average | |
| | | point23 | 23 | 1,878,045.0 | 761,881.0 | 1,001.00 | | | | Average | |
| | | point24 | 24 | 1,879,435.0 | 761,800.0 | 1,010.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80

| | | | | | | | | | | | |
|-------------------------------------|------|----------|-----|-------------|-----------|----------|--------|------|-----|---------|---|
| | | point82 | 82 | 1,880,194.4 | 761,745.0 | 1,014.00 | | | | | |
| Exit Ramp SR161EB to New albany | 12.0 | point31 | 31 | 1,876,331.0 | 761,956.0 | 989.00 | | | | Average | |
| | | point32 | 32 | 1,876,551.0 | 761,944.0 | 990.00 | | | | Average | |
| | | point33 | 33 | 1,876,943.0 | 761,913.0 | 993.00 | | | | Average | |
| | | point34 | 34 | 1,877,119.0 | 761,862.0 | 993.00 | | | | Average | |
| | | point35 | 35 | 1,877,319.0 | 761,739.0 | 996.00 | | | | Average | |
| | | point36 | 36 | 1,877,519.0 | 761,623.0 | 1,001.00 | | | | Average | |
| | | point37 | 37 | 1,877,719.0 | 761,555.0 | 1,006.00 | | | | Average | |
| | | point38 | 38 | 1,878,014.0 | 761,502.0 | 1,012.00 | | | | | |
| SR 161 WB2 | 12.0 | point146 | 146 | 1,885,310.2 | 760,401.3 | 1,067.00 | | | | Average | |
| | | point120 | 120 | 1,885,095.0 | 760,611.0 | 1,069.00 | | | | Average | Y |
| | | point119 | 119 | 1,884,938.0 | 760,748.0 | 1,067.00 | | | | Average | |
| | | point121 | 121 | 1,884,693.1 | 760,932.5 | 1,064.00 | | | | Average | |
| | | point118 | 118 | 1,884,424.0 | 761,105.0 | 1,061.00 | | | | Average | |
| | | point117 | 117 | 1,884,092.0 | 761,300.0 | 1,051.50 | | | | Average | |
| | | point115 | 115 | 1,883,781.0 | 761,439.0 | 1,046.00 | | | | | |
| SR 161 WB3 | 12.0 | point147 | 147 | 1,885,322.2 | 760,401.3 | 1,067.00 | | | | Average | |
| | | point128 | 128 | 1,885,107.0 | 760,611.0 | 1,069.00 | | | | Average | Y |
| | | point127 | 127 | 1,884,950.0 | 760,748.0 | 1,067.00 | | | | Average | |
| | | point126 | 126 | 1,884,705.0 | 760,932.5 | 1,064.00 | | | | Average | |
| | | point125 | 125 | 1,884,424.0 | 761,117.0 | 1,061.00 | | | | Average | |
| | | point124 | 124 | 1,884,092.0 | 761,312.0 | 1,051.50 | | | | Average | |
| | | point116 | 116 | 1,883,781.0 | 761,451.0 | 1,046.00 | | | | | |
| Entrance ramp New Albany to SR161W | 12.0 | point55 | 55 | 1,878,060.0 | 762,373.0 | 1,019.00 | | | | Average | |
| | | point56 | 56 | 1,877,800.0 | 762,356.0 | 1,012.00 | | | | Average | |
| | | point57 | 57 | 1,877,646.0 | 762,325.0 | 1,008.00 | | | | Average | |
| | | point58 | 58 | 1,877,399.0 | 762,207.0 | 999.00 | | | | Average | |
| | | point59 | 59 | 1,877,186.0 | 762,110.0 | 994.00 | | | | Average | |
| | | point60 | 60 | 1,876,993.0 | 762,074.0 | 993.00 | | | | Average | |
| | | point61 | 61 | 1,876,650.0 | 762,078.0 | 992.00 | | | | Average | |
| | | point62 | 62 | 1,876,395.0 | 762,082.0 | 991.00 | | | | Average | |
| | | point63 | 63 | 1,876,031.0 | 762,048.0 | 987.00 | | | | | |
| Entrance ramp New Albany to SR161EB | 12.0 | point64 | 64 | 1,878,049.0 | 761,502.0 | 1,012.00 | Onramp | 0.00 | 100 | Average | |
| | | point65 | 65 | 1,878,349.0 | 761,518.2 | 1,008.00 | | | | Average | |
| | | point66 | 66 | 1,878,607.0 | 761,573.3 | 1,007.00 | | | | Average | |
| | | point72 | 72 | 1,878,753.2 | 761,645.1 | 1,006.50 | | | | Average | |
| | | point67 | 67 | 1,878,878.4 | 761,717.0 | 1,006.00 | | | | Average | |
| | | point71 | 71 | 1,878,980.4 | 761,758.4 | 1,006.00 | | | | Average | |
| | | point68 | 68 | 1,879,117.4 | 761,780.3 | 1,006.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80

| | | | | | | | | | | | |
|----------------------------------|------|----------|-----|-------------|-----------|----------|--------|------|-----|---------|---|
| | | point69 | 69 | 1,879,435.0 | 761,776.0 | 1,010.00 | | | | Average | |
| | | point81 | 81 | 1,880,194.4 | 761,733.0 | 1,014.00 | | | | | |
| New Albany Condit Road | 24.0 | point72 | 77 | 1,881,870.0 | 760,728.0 | 1,040.00 | | | | Average | |
| | | point73 | 73 | 1,881,551.0 | 761,599.0 | 1,046.00 | | | | Average | Y |
| | | point74 | 74 | 1,881,418.0 | 761,845.0 | 1,044.00 | | | | Average | |
| | | point76 | 76 | 1,881,269.9 | 762,195.2 | 1,041.00 | | | | Average | |
| | | point75 | 75 | 1,881,180.0 | 762,495.0 | 1,038.00 | | | | | |
| Exit ramp SR161EB to US62 | 12.0 | point110 | 110 | 1,883,275.0 | 761,500.0 | 1,040.00 | Stop | 0.00 | 100 | Average | |
| | | point109 | 109 | 1,883,781.0 | 761,339.0 | 1,046.00 | | | | Average | |
| | | point107 | 107 | 1,884,093.5 | 761,164.3 | 1,046.00 | | | | Average | |
| | | point103 | 103 | 1,884,232.0 | 761,046.0 | 1,048.00 | | | | Average | |
| | | point104 | 104 | 1,884,431.0 | 760,833.0 | 1,050.00 | | | | Average | |
| | | point105 | 105 | 1,884,647.0 | 760,590.0 | 1,047.00 | | | | Average | |
| | | point106 | 106 | 1,884,737.0 | 760,507.0 | 1,045.00 | | | | | |
| Entrance Ramp SR161WB from US 62 | 12.0 | point129 | 129 | 1,885,344.0 | 760,868.8 | 1,049.00 | Onramp | 0.00 | 100 | Average | |
| | | point130 | 130 | 1,885,175.0 | 761,020.0 | 1,049.00 | | | | Average | |
| | | point131 | 131 | 1,885,059.0 | 761,087.0 | 1,051.00 | | | | Average | |
| | | point132 | 132 | 1,884,875.0 | 761,146.0 | 1,053.00 | | | | Average | |
| | | point133 | 133 | 1,884,621.0 | 761,163.0 | 1,057.00 | | | | Average | |
| | | point134 | 134 | 1,884,419.0 | 761,193.0 | 1,057.00 | | | | Average | |
| | | point135 | 135 | 1,884,237.0 | 761,252.0 | 1,054.00 | | | | Average | |
| | | point137 | 137 | 1,884,092.0 | 761,324.0 | 1,051.50 | | | | Average | |
| | | point136 | 136 | 1,883,781.0 | 761,451.0 | 1,046.00 | | | | | |
| US 62 EB | 12.0 | point138 | 138 | 1,884,172.0 | 760,109.0 | 1,044.00 | | | | Average | |
| | | point139 | 139 | 1,884,737.0 | 760,464.0 | 1,045.00 | | | | Average | |
| | | point140 | 140 | 1,885,358.0 | 760,838.0 | 1,049.00 | | | | Average | |
| | | point141 | 141 | 1,885,764.0 | 761,116.0 | 1,053.00 | | | | | |
| US 62 WB | 12.0 | point145 | 145 | 1,885,764.0 | 761,159.0 | 1,053.00 | | | | Average | |
| | | point144 | 144 | 1,885,344.0 | 760,868.8 | 1,049.00 | | | | Average | |
| | | point143 | 143 | 1,884,737.0 | 760,507.0 | 1,045.00 | | | | Average | |
| | | point142 | 142 | 1,884,172.0 | 760,152.0 | 1,044.00 | | | | | |
| Exit Ramp SR161WB to New albany | 12.0 | point148 | 148 | 1,879,880.0 | 761,872.0 | 1,013.00 | | | | Average | |
| | | point149 | 149 | 1,879,435.0 | 761,906.0 | 1,010.00 | | | | Average | |
| | | point150 | 150 | 1,879,092.0 | 761,985.0 | 1,006.00 | | | | Average | |
| | | point151 | 151 | 1,878,823.0 | 762,128.0 | 1,008.00 | | | | Average | |
| | | point153 | 153 | 1,878,592.0 | 762,253.0 | 1,015.00 | | | | Average | |
| | | point154 | 154 | 1,878,369.0 | 762,314.0 | 1,016.00 | | | | Average | |
| | | point155 | 155 | 1,878,095.0 | 762,373.0 | 1,019.00 | | | | | |
| Butterworth Breen Drive | 20.0 | point157 | 157 | 1,883,266.0 | 760,798.0 | 1,037.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80

| | | | | | | | | | | | |
|--------------------|------|----------|-----|-------------|-----------|----------|--|--|--|---------|---|
| | | point158 | 158 | 1,883,270.0 | 761,273.0 | 1,039.00 | | | | Average | |
| | | point159 | 159 | 1,883,256.2 | 761,329.6 | 1,039.00 | | | | Average | |
| | | point160 | 160 | 1,883,174.0 | 761,385.0 | 1,039.00 | | | | Average | |
| | | point161 | 161 | 1,883,060.0 | 761,400.0 | 1,039.00 | | | | Average | |
| | | point162 | 162 | 1,882,842.0 | 761,415.0 | 1,038.00 | | | | Average | |
| | | point163 | 163 | 1,882,330.0 | 761,427.0 | 1,040.00 | | | | Average | |
| | | point164 | 164 | 1,882,325.0 | 761,223.0 | 1,039.00 | | | | Average | |
| | | point165 | 165 | 1,882,320.0 | 761,012.0 | 1,039.00 | | | | | |
| Hearthstone Park | 22.0 | point166 | 166 | 1,883,060.0 | 761,400.0 | 1,039.00 | | | | Average | |
| | | point167 | 167 | 1,883,061.9 | 760,898.0 | 1,039.00 | | | | | |
| Blackstone Edge Dr | 22.0 | point168 | 168 | 1,882,842.0 | 761,415.0 | 1,038.00 | | | | Average | |
| | | point169 | 169 | 1,882,839.9 | 761,011.0 | 1,038.00 | | | | | |
| Loomis Dr | 12.0 | point170 | 170 | 1,882,325.0 | 761,223.0 | 1,039.00 | | | | Average | |
| | | point171 | 171 | 1,882,827.0 | 761,218.0 | 1,039.00 | | | | | |
| SR 161 EB3-2 | 12.0 | point172 | 172 | 1,880,194.4 | 761,745.0 | 1,014.00 | | | | Average | |
| | | point83 | 83 | 1,880,953.6 | 761,690.0 | 1,019.00 | | | | Average | |
| | | point84 | 84 | 1,881,713.0 | 761,635.0 | 1,025.00 | | | | Average | |
| | | point95 | 95 | 1,882,943.0 | 761,564.0 | 1,036.00 | | | | Average | |
| | | point96 | 96 | 1,883,275.0 | 761,512.0 | 1,040.00 | | | | | |
| SR 161 EB2-2 | 12.0 | point173 | 173 | 1,880,194.4 | 761,733.0 | 1,014.00 | | | | Average | |
| | | point80 | 80 | 1,880,953.6 | 761,678.0 | 1,019.00 | | | | Average | |
| | | point78 | 78 | 1,881,713.0 | 761,623.0 | 1,025.00 | | | | Average | |
| | | point87 | 87 | 1,882,943.0 | 761,552.0 | 1,036.00 | | | | Average | |
| | | point88 | 88 | 1,883,275.0 | 761,500.0 | 1,040.00 | | | | | |
| SR 161 WB2-2 | 12.0 | point174 | 174 | 1,879,435.0 | 761,882.0 | 1,010.00 | | | | Average | |
| | | point40 | 40 | 1,878,045.0 | 761,963.0 | 1,001.00 | | | | Average | |
| | | point41 | 41 | 1,877,079.0 | 762,018.0 | 994.00 | | | | Average | |
| | | point42 | 42 | 1,876,551.0 | 762,050.0 | 991.00 | | | | Average | |
| | | point43 | 43 | 1,876,331.0 | 762,050.0 | 990.00 | | | | Average | |
| | | point44 | 44 | 1,876,031.0 | 762,036.0 | 987.00 | | | | Average | Y |
| | | point45 | 45 | 1,875,787.0 | 762,006.0 | 985.00 | | | | | |
| SR 161 WB3-2 | 12.0 | point175 | 175 | 1,879,435.0 | 761,894.0 | 1,010.00 | | | | Average | |
| | | point49 | 49 | 1,878,045.0 | 761,975.0 | 1,001.00 | | | | Average | |
| | | point50 | 50 | 1,877,079.0 | 762,030.0 | 994.00 | | | | Average | |
| | | point51 | 51 | 1,876,551.0 | 762,062.0 | 991.00 | | | | Average | |
| | | point52 | 52 | 1,876,331.0 | 762,062.0 | 990.00 | | | | Average | |
| | | point53 | 53 | 1,876,031.0 | 762,048.0 | 987.00 | | | | Average | |
| | | point54 | 54 | 1,875,787.0 | 762,018.0 | 985.00 | | | | | |
| SR 161 EB3-2-2 | 12.0 | point176 | 176 | 1,883,275.0 | 761,512.0 | 1,040.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80

| | | | | | | | | | | | |
|----------------|------|----------|-----|-------------|-----------|----------|--|--|--|---------|---|
| | | point97 | 97 | 1,883,781.0 | 761,363.0 | 1,046.00 | | | | Average | |
| | | point122 | 122 | 1,884,092.0 | 761,227.0 | 1,051.50 | | | | Average | |
| | | point98 | 98 | 1,884,409.0 | 761,060.9 | 1,057.00 | | | | Average | |
| | | point99 | 99 | 1,884,709.0 | 760,881.0 | 1,064.00 | | | | Average | |
| | | point100 | 100 | 1,884,905.0 | 760,733.0 | 1,067.00 | | | | Average | Y |
| | | point101 | 101 | 1,885,065.0 | 760,602.0 | 1,068.00 | | | | Average | |
| | | point102 | 102 | 1,885,292.0 | 760,382.0 | 1,067.00 | | | | | |
| SR 161 EB2-2-2 | 12.0 | point177 | 177 | 1,883,781.0 | 761,351.0 | 1,046.00 | | | | Average | |
| | | point123 | 123 | 1,884,091.4 | 761,211.3 | 1,051.50 | | | | Average | |
| | | point90 | 90 | 1,884,409.0 | 761,048.9 | 1,057.00 | | | | Average | |
| | | point91 | 91 | 1,884,709.0 | 760,869.0 | 1,064.00 | | | | Average | |
| | | point92 | 92 | 1,884,905.0 | 760,721.0 | 1,067.00 | | | | Average | Y |
| | | point93 | 93 | 1,885,065.0 | 760,590.0 | 1,068.00 | | | | Average | |
| | | point94 | 94 | 1,885,280.0 | 760,382.0 | 1,067.00 | | | | | |
| SR 161 WB2-2 | 12.0 | point178 | 178 | 1,883,781.0 | 761,439.0 | 1,046.00 | | | | Average | |
| | | point113 | 113 | 1,883,275.0 | 761,585.0 | 1,040.00 | | | | Average | |
| | | point111 | 111 | 1,882,943.0 | 761,635.0 | 1,036.00 | | | | Average | |
| | | point85 | 85 | 1,881,713.0 | 761,707.0 | 1,025.00 | | | | Average | |
| | | point39 | 39 | 1,879,435.0 | 761,882.0 | 1,010.00 | | | | | |
| SR 161 WB3-2 | 12.0 | point179 | 179 | 1,883,781.0 | 761,451.0 | 1,046.00 | | | | Average | |
| | | point114 | 114 | 1,883,275.0 | 761,597.0 | 1,040.00 | | | | Average | |
| | | point112 | 112 | 1,882,943.0 | 761,647.0 | 1,036.00 | | | | Average | |
| | | point86 | 86 | 1,881,713.0 | 761,719.0 | 1,025.00 | | | | Average | |
| | | point48 | 48 | 1,879,435.0 | 761,894.0 | 1,010.00 | | | | | |
| SR 161 EB2-2-2 | 12.0 | point180 | 180 | 1,883,275.0 | 761,500.0 | 1,040.00 | | | | Average | |
| | | point89 | 89 | 1,883,781.0 | 761,351.0 | 1,046.00 | | | | | |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| | | | | | | | | | | | | | |
|-----------------------------------|----------------------------|-----|---------|-----|---------|-----|---------|-----|--------|-----|-------------|-----|---|
| Lawhon & Assoc | | | | | | | | | | | | | |
| CMCox | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| INPUT: TRAFFIC FOR LAeq1h Volumes | | | | | | | | | | | | | |
| PROJECT/CONTRACT: | FRA-SR161-15.80 | | | | | | | | | | | | |
| RUN: | Existing Year NSAs 13 - 15 | | | | | | | | | | | | |
| Roadway | Points | | | | | | | | | | | | |
| Name | Name | No. | Segment | | | | | | | | | | |
| | | | Autos | | MTrucks | | HTrucks | | Buses | | Motorcycles | | |
| | | | V | S | V | S | V | S | V | S | V | S | |
| | | | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | |
| NEw Albany Road SB | point1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point6 | 6 | | | | | | | | | | | |
| New Albany Road NB | point7 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point8 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point9 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point10 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point11 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point12 | 12 | | | | | | | | | | | |
| SR 161 EB2 | point13 | 13 | 1516 | 65 | 40 | 60 | 92 | 60 | 0 | 0 | 0 | 0 | 0 |
| | point14 | 14 | 1516 | 65 | 40 | 60 | 92 | 60 | 0 | 0 | 0 | 0 | 0 |
| | point15 | 15 | 1516 | 65 | 40 | 60 | 92 | 60 | 0 | 0 | 0 | 0 | 0 |
| | point16 | 16 | 1516 | 65 | 40 | 60 | 92 | 60 | 0 | 0 | 0 | 0 | 0 |
| | point17 | 17 | 1516 | 65 | 40 | 60 | 92 | 60 | 0 | 0 | 0 | 0 | 0 |
| | point18 | 18 | 1516 | 65 | 40 | 60 | 92 | 60 | 0 | 0 | 0 | 0 | 0 |
| | point79 | 79 | | | | | | | | | | | |
| SR 161 EB3 | point19 | 19 | 1516 | 65 | 40 | 60 | 92 | 60 | 0 | 0 | 0 | 0 | 0 |
| | point20 | 20 | 1516 | 65 | 40 | 60 | 92 | 60 | 0 | 0 | 0 | 0 | 0 |
| | point21 | 21 | 1516 | 65 | 40 | 60 | 92 | 60 | 0 | 0 | 0 | 0 | 0 |
| | point22 | 22 | 1516 | 65 | 40 | 60 | 92 | 60 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| | | | | | | | | | | | | |
|-------------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point23 | 23 | 1516 | 65 | 40 | 60 | 92 | 60 | 0 | 0 | 0 | 0 |
| | point24 | 24 | 1516 | 65 | 40 | 60 | 92 | 60 | 0 | 0 | 0 | 0 |
| | point82 | 82 | | | | | | | | | | |
| Exit Ramp SR161EB to New albany | point31 | 31 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point32 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point33 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point34 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point35 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point36 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point37 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point38 | 38 | | | | | | | | | | |
| SR 161 WB2 | point146 | 146 | 1311 | 65 | 34 | 60 | 80 | 60 | 0 | 0 | 0 | 0 |
| | point120 | 120 | 1311 | 65 | 34 | 60 | 80 | 60 | 0 | 0 | 0 | 0 |
| | point119 | 119 | 1311 | 65 | 34 | 60 | 80 | 60 | 0 | 0 | 0 | 0 |
| | point121 | 121 | 1311 | 65 | 34 | 60 | 80 | 60 | 0 | 0 | 0 | 0 |
| | point118 | 118 | 1311 | 65 | 34 | 60 | 80 | 60 | 0 | 0 | 0 | 0 |
| | point117 | 117 | 1311 | 65 | 34 | 60 | 80 | 60 | 0 | 0 | 0 | 0 |
| | point115 | 115 | | | | | | | | | | |
| SR 161 WB3 | point147 | 147 | 1311 | 65 | 34 | 60 | 80 | 60 | 0 | 0 | 0 | 0 |
| | point128 | 128 | 1311 | 65 | 34 | 60 | 80 | 60 | 0 | 0 | 0 | 0 |
| | point127 | 127 | 1311 | 65 | 34 | 60 | 80 | 60 | 0 | 0 | 0 | 0 |
| | point126 | 126 | 1311 | 65 | 34 | 60 | 80 | 60 | 0 | 0 | 0 | 0 |
| | point125 | 125 | 1311 | 65 | 34 | 60 | 80 | 60 | 0 | 0 | 0 | 0 |
| | point124 | 124 | 1311 | 65 | 34 | 60 | 80 | 60 | 0 | 0 | 0 | 0 |
| | point116 | 116 | | | | | | | | | | |
| Entrance ramp New Albany to SR161W | point55 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point58 | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point59 | 59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point60 | 60 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point61 | 61 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point62 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point63 | 63 | | | | | | | | | | |
| Entrance ramp New Albany to SR161EB | point64 | 64 | 426 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point65 | 65 | 426 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| | | | | | | | | | | | | |
|----------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point66 | 66 | 426 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point72 | 72 | 426 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point67 | 67 | 426 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point71 | 71 | 426 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point68 | 68 | 426 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point69 | 69 | 426 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point81 | 81 | | | | | | | | | | |
| New Albany Condit Road | point72 | 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point73 | 73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point74 | 74 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point76 | 76 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point75 | 75 | | | | | | | | | | |
| Exit ramp SR161EB to US62 | point110 | 110 | 1796 | 65 | 35 | 60 | 80 | 60 | 0 | 0 | 0 | 0 |
| | point109 | 109 | 1796 | 65 | 35 | 60 | 80 | 60 | 0 | 0 | 0 | 0 |
| | point107 | 107 | 1796 | 65 | 35 | 60 | 80 | 60 | 0 | 0 | 0 | 0 |
| | point103 | 103 | 1796 | 65 | 35 | 60 | 80 | 60 | 0 | 0 | 0 | 0 |
| | point104 | 104 | 1796 | 65 | 35 | 60 | 80 | 60 | 0 | 0 | 0 | 0 |
| | point105 | 105 | 1796 | 65 | 35 | 60 | 80 | 60 | 0 | 0 | 0 | 0 |
| | point106 | 106 | | | | | | | | | | |
| Entrance Ramp SR161WB from US 62 | point129 | 129 | 946 | 65 | 21 | 60 | 50 | 60 | 0 | 0 | 0 | 0 |
| | point130 | 130 | 946 | 65 | 21 | 60 | 50 | 60 | 0 | 0 | 0 | 0 |
| | point131 | 131 | 946 | 65 | 21 | 60 | 50 | 60 | 0 | 0 | 0 | 0 |
| | point132 | 132 | 946 | 65 | 21 | 60 | 50 | 60 | 0 | 0 | 0 | 0 |
| | point133 | 133 | 946 | 65 | 21 | 60 | 50 | 60 | 0 | 0 | 0 | 0 |
| | point134 | 134 | 946 | 65 | 21 | 60 | 50 | 60 | 0 | 0 | 0 | 0 |
| | point135 | 135 | 946 | 65 | 21 | 60 | 50 | 60 | 0 | 0 | 0 | 0 |
| | point137 | 137 | 946 | 65 | 21 | 60 | 50 | 60 | 0 | 0 | 0 | 0 |
| | point136 | 136 | | | | | | | | | | |
| US 62 EB | point138 | 138 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point139 | 139 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point140 | 140 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point141 | 141 | | | | | | | | | | |
| US 62 WB | point145 | 145 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point144 | 144 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point143 | 143 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point142 | 142 | | | | | | | | | | |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| | | | | | | | | | | | | |
|---------------------------------|----------|-----|------|----|----|----|-----|----|---|---|---|---|
| Exit Ramp SR161WB to New albany | point148 | 148 | 449 | 65 | 6 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point149 | 149 | 449 | 65 | 6 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point150 | 150 | 449 | 65 | 6 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point151 | 151 | 449 | 65 | 6 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point153 | 153 | 449 | 65 | 6 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point154 | 154 | 449 | 65 | 6 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point155 | 155 | | | | | | | | | | |
| Butterworth Breen Drive | point157 | 157 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point158 | 158 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point159 | 159 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point160 | 160 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point161 | 161 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point162 | 162 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point163 | 163 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point164 | 164 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point165 | 165 | | | | | | | | | | |
| Hearthstone Park | point166 | 166 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point167 | 167 | | | | | | | | | | |
| Blackstone Edge Dr | point168 | 168 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point169 | 169 | | | | | | | | | | |
| Loomis Dr | point170 | 170 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point171 | 171 | | | | | | | | | | |
| SR 161 EB3-2 | point172 | 172 | 1680 | 65 | 44 | 60 | 102 | 60 | 0 | 0 | 0 | 0 |
| | point83 | 83 | 1680 | 65 | 44 | 60 | 102 | 60 | 0 | 0 | 0 | 0 |
| | point84 | 84 | 1680 | 65 | 44 | 60 | 102 | 60 | 0 | 0 | 0 | 0 |
| | point95 | 95 | 1680 | 65 | 44 | 60 | 102 | 60 | 0 | 0 | 0 | 0 |
| | point96 | 96 | | | | | | | | | | |
| SR 161 EB2-2 | point173 | 173 | 1680 | 65 | 44 | 60 | 102 | 60 | 0 | 0 | 0 | 0 |
| | point80 | 80 | 1680 | 65 | 44 | 60 | 102 | 60 | 0 | 0 | 0 | 0 |
| | point78 | 78 | 1680 | 65 | 44 | 60 | 102 | 60 | 0 | 0 | 0 | 0 |
| | point87 | 87 | 1680 | 65 | 44 | 60 | 102 | 60 | 0 | 0 | 0 | 0 |
| | point88 | 88 | | | | | | | | | | |
| SR 161 WB2-2 | point174 | 174 | 1704 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point40 | 40 | 1704 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point41 | 41 | 1704 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point42 | 42 | 1704 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| | | | | | | | | | | | | |
|----------------|----------|-----|------|----|----|----|-----|----|---|---|---|---|
| | point43 | 43 | 1704 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point44 | 44 | 1704 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point45 | 45 | | | | | | | | | | |
| SR 161 WB3-2 | point175 | 175 | 1704 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point49 | 49 | 1704 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point50 | 50 | 1704 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point51 | 51 | 1704 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point52 | 52 | 1704 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point53 | 53 | 1704 | 65 | 45 | 60 | 103 | 60 | 0 | 0 | 0 | 0 |
| | point54 | 54 | | | | | | | | | | |
| SR 161 EB3-2-2 | point176 | 176 | 1152 | 65 | 30 | 60 | 70 | 60 | 0 | 0 | 0 | 0 |
| | point97 | 97 | 1152 | 65 | 30 | 60 | 70 | 60 | 0 | 0 | 0 | 0 |
| | point122 | 122 | 1152 | 65 | 30 | 60 | 70 | 60 | 0 | 0 | 0 | 0 |
| | point98 | 98 | 1152 | 65 | 30 | 60 | 70 | 60 | 0 | 0 | 0 | 0 |
| | point99 | 99 | 1152 | 65 | 30 | 60 | 70 | 60 | 0 | 0 | 0 | 0 |
| | point100 | 100 | 1152 | 65 | 30 | 60 | 70 | 60 | 0 | 0 | 0 | 0 |
| | point101 | 101 | 1152 | 65 | 30 | 60 | 70 | 60 | 0 | 0 | 0 | 0 |
| | point102 | 102 | | | | | | | | | | |
| SR 161 EB2-2-2 | point177 | 177 | 1152 | 65 | 30 | 60 | 70 | 60 | 0 | 0 | 0 | 0 |
| | point123 | 123 | 1152 | 65 | 30 | 60 | 70 | 60 | 0 | 0 | 0 | 0 |
| | point90 | 90 | 1152 | 65 | 30 | 60 | 70 | 60 | 0 | 0 | 0 | 0 |
| | point91 | 91 | 1152 | 65 | 30 | 60 | 70 | 60 | 0 | 0 | 0 | 0 |
| | point92 | 92 | 1152 | 65 | 30 | 60 | 70 | 60 | 0 | 0 | 0 | 0 |
| | point93 | 93 | 1152 | 65 | 30 | 60 | 70 | 60 | 0 | 0 | 0 | 0 |
| | point94 | 94 | | | | | | | | | | |
| SR 161 WB2-2 | point178 | 178 | 2071 | 65 | 54 | 60 | 126 | 60 | 0 | 0 | 0 | 0 |
| | point113 | 113 | 2071 | 65 | 54 | 60 | 126 | 60 | 0 | 0 | 0 | 0 |
| | point111 | 111 | 2071 | 65 | 54 | 60 | 126 | 60 | 0 | 0 | 0 | 0 |
| | point85 | 85 | 2071 | 65 | 54 | 60 | 126 | 60 | 0 | 0 | 0 | 0 |
| | point39 | 39 | | | | | | | | | | |
| SR 161 WB3-2 | point179 | 179 | 2071 | 65 | 54 | 60 | 126 | 60 | 0 | 0 | 0 | 0 |
| | point114 | 114 | 2071 | 65 | 54 | 60 | 126 | 60 | 0 | 0 | 0 | 0 |
| | point112 | 112 | 2071 | 65 | 54 | 60 | 126 | 60 | 0 | 0 | 0 | 0 |
| | point86 | 86 | 2071 | 65 | 54 | 60 | 126 | 60 | 0 | 0 | 0 | 0 |
| | point48 | 0 | | | | | | | | | | |
| SR 161 EB2-2-2 | point180 | 180 | 1152 | 65 | 30 | 60 | 70 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| | | | | | | | | | | | | | |
|--|---------|----|--|--|--|--|--|--|--|--|--|--|--|
| | point89 | 89 | | | | | | | | | | | |
|--|---------|----|--|--|--|--|--|--|--|--|--|--|--|

INPUT: RECEIVERS

FRA-SR161-15.80

| | | | | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|--|--|--|
| Lawhon & Assoc | | | | | | | | | | | | |
| CMCox | | | | | | | | | | | | |

15 July 2022
TNM 2.5

INPUT: RECEIVERS

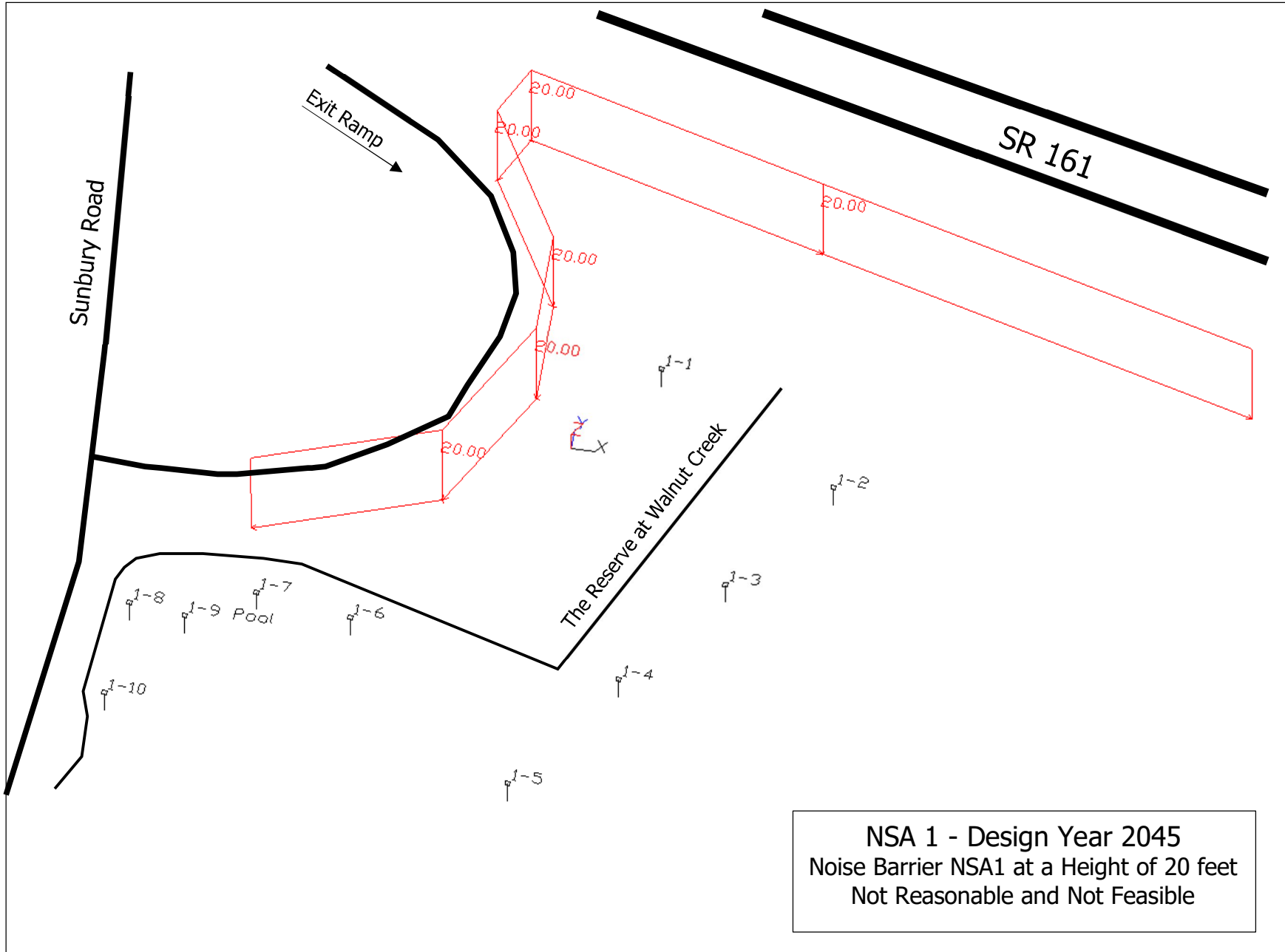
PROJECT/CONTRACT: FRA-SR161-15.80
RUN: Existing Year NSAs 13 - 15

| Receiver | No. | #DUs | Coordinates (ground) | | | Height | Input Sound Levels and Criteria | | | | Active |
|---------------------------------|-----|------|----------------------|-----------|----------|--------|---------------------------------|---------------------|-------|------|--------|
| Name | | | X | Y | Z | above | Existing | Impact Criteria | | NR | in |
| | | | | | | Ground | L _{Aeq} 1h | L _{Aeq} 1h | Sub'l | Goal | Calc. |
| | | | ft | ft | ft | ft | dBA | dBA | dB | dB | |
| NSA13-1Plain Twp Aquatic Center | 1 | 1 | 1,879,797.0 | 761,338.0 | 1,021.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA14-1 Soccer field | 2 | 1 | 1,881,143.8 | 761,366.0 | 1,028.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-1 | 3 | 1 | 1,881,402.0 | 761,521.0 | 1,037.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-2 | 4 | 1 | 1,881,779.0 | 761,497.0 | 1,041.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-3 | 5 | 1 | 1,881,496.0 | 761,314.0 | 1,041.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-4 | 6 | 1 | 1,881,898.0 | 761,377.0 | 1,040.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-5 | 7 | 1 | 1,881,583.0 | 761,240.0 | 1,041.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-6 | 8 | 1 | 1,881,898.0 | 761,240.0 | 1,043.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-7 | 9 | 1 | 1,882,211.0 | 761,458.0 | 1,041.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-8 | 10 | 1 | 1,882,211.0 | 761,395.0 | 1,040.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-9 | 11 | 1 | 1,882,211.0 | 761,305.0 | 1,039.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-10 | 12 | 2 | 1,882,407.0 | 761,336.0 | 1,041.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-11 | 13 | 2 | 1,882,525.0 | 761,332.0 | 1,040.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-12 | 14 | 2 | 1,882,634.0 | 761,328.0 | 1,041.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-13 | 15 | 2 | 1,882,736.0 | 761,326.0 | 1,040.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-14 | 16 | 2 | 1,882,938.0 | 761,356.0 | 1,038.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-15 | 17 | 1 | 1,883,137.0 | 761,328.0 | 1,040.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-16 | 18 | 2 | 1,882,391.0 | 761,293.0 | 1,041.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-17 | 19 | 2 | 1,882,493.0 | 761,293.0 | 1,040.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-18 | 20 | 2 | 1,882,595.0 | 761,291.0 | 1,040.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-19 | 21 | 2 | 1,882,695.0 | 761,289.0 | 1,040.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-20 | 22 | 1 | 1,882,781.0 | 761,289.0 | 1,039.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |

INPUT: RECEIVERS**FRA-SR161-15.80**

| | | | | | | | | | | | |
|----------|----|---|-------------|-----------|----------|------|------|----|------|-----|---|
| NSA15-21 | 23 | 2 | 1,882,939.0 | 761,287.0 | 1,039.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-22 | 24 | 2 | 1,883,156.0 | 761,274.0 | 1,040.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-23 | 25 | 1 | 1,882,199.0 | 761,237.0 | 1,040.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-24 | 26 | 1 | 1,882,199.0 | 761,172.0 | 1,039.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-25 | 27 | 1 | 1,882,199.0 | 761,103.0 | 1,039.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-26 | 28 | 2 | 1,882,384.0 | 761,121.0 | 1,040.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-27 | 29 | 2 | 1,882,480.0 | 761,117.0 | 1,040.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-28 | 30 | 2 | 1,882,585.0 | 761,113.0 | 1,040.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-29 | 31 | 2 | 1,882,685.0 | 761,110.0 | 1,039.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-30 | 32 | 1 | 1,882,775.0 | 761,108.0 | 1,038.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-31 | 33 | 2 | 1,882,934.0 | 761,237.0 | 1,039.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-32 | 34 | 2 | 1,882,934.0 | 761,177.0 | 1,039.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-33 | 35 | 2 | 1,882,934.0 | 761,117.0 | 1,039.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-34 | 36 | 2 | 1,882,934.0 | 761,073.0 | 1,039.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-35 | 37 | 2 | 1,883,156.0 | 761,251.0 | 1,040.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-36 | 38 | 2 | 1,883,156.0 | 761,191.0 | 1,039.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-37 | 39 | 2 | 1,883,156.0 | 761,140.0 | 1,039.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-38 | 40 | 2 | 1,883,156.0 | 761,093.0 | 1,039.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |
| NSA15-39 | 41 | 2 | 1,883,156.0 | 761,044.0 | 1,039.00 | 4.92 | 0.00 | 66 | 10.0 | 8.0 | Y |

Design Year 2045



NSA 1 - Design Year 2045
Noise Barrier NSA1 at a Height of 20 feet
Not Reasonable and Not Feasible

RESULTS: SOUND LEVELS

FRA-SR161-15.80

| | | | | | | | | | | | | | | |
|-----------------------|--|-----|---------------------------------------|-----------------|-------------------|------------------------|------------|--------|--------------|-------------------|-----------------|--|-------------------------|--|
| <Organization?> | | | | | | | | | | | | | 18 July 2022 | |
| CMCox | | | | | | | | | | | | | TNM 2.5 | |
| | | | | | | | | | | | | | Calculated with TNM 2.5 | |
| RESULTS: SOUND LEVELS | | | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | | FRA-SR161-15.80 | | | | | | | | | | | |
| RUN: | | | Design Year NSA1 Reserve at Walnut Cr | | | | | | | | | | | |
| BARRIER DESIGN: | | | NSA1 20' NFNR | | | | | | | | | Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA. | | |
| ATMOSPHERICS: | | | 68 deg F, 50% RH | | | | | | | | | | | |
| Receiver | | | | | | | | | | | | | | |
| Name | | No. | #DUs | Existing LAeq1h | No Barrier LAeq1h | Increase over existing | | Type | With Barrier | | Noise Reduction | | | |
| | | | | | Calculated | Crit'n | Calculated | Crit'n | Impact | Calculated LAeq1h | Calculated | Goal | Calculated minus Goal | |
| | | | | dBA | dBA | dBA | dB | dB | | dBA | dB | dB | dB | |
| 1-1 | | 1 | 6 | 70.1 | 72.0 | 66 | 1.9 | 10 | Snd Lvl | 65.1 | 6.9 | 5 | 1.9 | |
| 1-2 | | 2 | 4 | 67.7 | 69.6 | 66 | 1.9 | 10 | Snd Lvl | 65.3 | 4.3 | 5 | -0.7 | |
| 1-3 | | 3 | 4 | 64.0 | 65.6 | 66 | 1.6 | 10 | ---- | 63.4 | 2.2 | 5 | -2.8 | |
| 1-4 | | 4 | 4 | 62.5 | 64.0 | 66 | 1.5 | 10 | ---- | 62.4 | 1.6 | 5 | -3.4 | |
| 1-5 | | 5 | 4 | 61.1 | 62.6 | 66 | 1.5 | 10 | ---- | 61.3 | 1.3 | 5 | -3.7 | |
| 1-6 | | 6 | 4 | 62.7 | 64.4 | 66 | 1.7 | 10 | ---- | 61.7 | 2.7 | 5 | -2.3 | |
| 1-7 | | 7 | 4 | 63.6 | 65.4 | 66 | 1.8 | 10 | ---- | 63.1 | 2.3 | 5 | -2.7 | |
| 1-8 | | 8 | 4 | 63.3 | 65.1 | 66 | 1.8 | 10 | ---- | 64.1 | 1.0 | 5 | -4.0 | |
| 1-9 Pool | | 9 | 1 | 63.0 | 64.6 | 66 | 1.6 | 10 | ---- | 63.4 | 1.2 | 5 | -3.8 | |
| 1-10 | | 10 | 4 | 61.0 | 62.5 | 66 | 1.5 | 10 | ---- | 61.9 | 0.6 | 5 | -4.4 | |
| Dwelling Units | | | # DUs | Noise Reduction | | | | | | | | | | |
| | | | | Min | Avg | Max | | | | | | | | |
| | | | | dB | dB | dB | | | | | | | | |
| All Selected | | | 39 | 0.6 | 2.4 | 6.9 | | | | | | | | |
| All Impacted | | | 10 | 4.3 | 5.6 | 6.9 | | | | | | | | |
| All that meet NR Goal | | | 6 | 6.9 | 6.9 | 6.9 | | | | | | | | |

RESULTS: BARRIER DESCRIPTIONS

FRA-SR161-15.80

| <Organization?> | | | | | | | | | | | |
|---|------|-----------------------|-------|-------|--------|---------|--------|--------------|-------|---------------|------|
| CMCox | | | | | | | | | | | |
| 18 July 2022 | | | | | | | | | | | |
| TNM 2.5 | | | | | | | | | | | |
| RESULTS: BARRIER DESCRIPTIONS | | | | | | | | | | | |
| PROJECT/CONTRACT: FRA-SR161-15.80 | | | | | | | | | | | |
| RUN: Design Year NSA1 Reserve at Walnut Cr | | | | | | | | | | | |
| BARRIER DESIGN: NSA1 20' NFNR | | | | | | | | | | | |
| Barriers | | | | | | | | | | | |
| Name | Type | Heights along Barrier | | | Length | If Wall | | If Berm | | Run:Rise | Cost |
| | | Min | Avg | Max | | Area | Volume | Top Width | | | |
| | | ft | ft | ft | ft | sq ft | cu yd | ft | ft:ft | \$ | |
| Noise Barrier NSA1 c | W | 20.00 | 20.00 | 20.00 | 185 | 3702 | | | | 111070 | |
| Noise Barrier NSA 1 b | W | 20.00 | 20.00 | 20.00 | 390 | 7804 | | | | 234123 | |
| Noise Barrier NSA1 a | W | 20.00 | 20.00 | 20.00 | 657 | 13142 | | | | 394257 | |
| Total Cost: | | | | | | | | | | 739450 | |

INPUT: RECEIVERS

FRA-SR161-15.80

| | | | | | | | 18 July 2022 | | | | |
|--|-----|------|----------------------|-----------|--------|--------|---------------------------------|---------------------|-----------------|------|--------|
| <Organization?> | | | | | | | TNM 2.5 | | | | |
| CMCox | | | | | | | | | | | |
| INPUT: RECEIVERS | | | | | | | | | | | |
| PROJECT/CONTRACT: FRA-SR161-15.80 | | | | | | | | | | | |
| RUN: Design Year NSA1 Reserve at Walnut Cr | | | | | | | | | | | |
| Receiver | | | | | | | | | | | |
| Name | No. | #DUs | Coordinates (ground) | | | Height | Input Sound Levels and Criteria | | | | Active |
| | | | X | Y | Z | | above | Existing | Impact Criteria | | |
| | | | | | | Ground | L _{Aeq} 1h | L _{Aeq} 1h | Sub'l | Goal | in |
| | | | ft | ft | ft | ft | dBA | dBA | dB | dB | |
| 1-1 | 1 | 6 | 1,858,303.0 | 757,800.0 | 848.00 | 4.92 | 70.10 | 66 | 10.0 | 5.0 | Y |
| 1-2 | 2 | 4 | 1,858,461.0 | 757,709.0 | 848.00 | 4.92 | 67.70 | 66 | 10.0 | 5.0 | Y |
| 1-3 | 3 | 4 | 1,858,391.0 | 757,599.0 | 848.00 | 4.92 | 64.00 | 66 | 10.0 | 5.0 | Y |
| 1-4 | 4 | 4 | 1,858,323.0 | 757,485.0 | 850.00 | 4.92 | 62.50 | 66 | 10.0 | 5.0 | Y |
| 1-5 | 5 | 4 | 1,858,252.0 | 757,368.0 | 850.00 | 4.92 | 61.10 | 66 | 10.0 | 5.0 | Y |
| 1-6 | 6 | 4 | 1,858,096.0 | 757,514.0 | 848.00 | 4.92 | 62.70 | 66 | 10.0 | 5.0 | Y |
| 1-7 | 7 | 4 | 1,858,016.0 | 757,529.0 | 847.00 | 4.92 | 63.60 | 66 | 10.0 | 5.0 | Y |
| 1-8 | 8 | 4 | 1,857,916.1 | 757,501.1 | 847.00 | 4.92 | 63.30 | 66 | 10.0 | 5.0 | Y |
| 1-9 Pool | 9 | 1 | 1,857,963.4 | 757,492.8 | 848.00 | 4.92 | 63.00 | 66 | 10.0 | 5.0 | Y |
| 1-10 | 10 | 4 | 1,857,911.0 | 757,413.0 | 846.00 | 4.92 | 61.00 | 66 | 10.0 | 5.0 | Y |

| <Organization?> | | | | | | | | | | 18 July 2022 | | | | | | | | | |
|-----------------------|------|--------|-------|-----------------------------------|-----------------------------------|--------------|-------------------|-------------------------------------|---------|---------------------------------------|----------------------|-----------|--------|-----------------------|-----------|-----------------|-----|---------------|--------------------------------|
| CMCox | | | | | | | | | | TNM 2.5 | | | | | | | | | |
| INPUT: BARRIERS | | | | | | | | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | | | | | | | | | FRA-SR161-15.80 | | | | | | | | | |
| RUN: | | | | | | | | | | Design Year NSA1 Reserve at Walnut Cr | | | | | | | | | |
| Barrier | | | | | | | | | | Points | | | | | | | | | |
| Name | Type | Height | | If Wall \$ per Unit Area | If Berm \$ per Unit Vol. | Top Width | Run:Rise ft:ft | Add'tnl \$ per Unit Length | Name | No. | Coordinates (bottom) | | | Height at Point | Segment | | | On Struct? | Important Reflec- tions? |
| | | Min | Max | | | | | | | | X | Y | Z | | Seg Ht | Perturbs #Up | #Dn | | |
| | | ft | ft | \$/sq ft | \$/cu yd | ft | ft:ft | \$/ft | | | ft | ft | ft | ft | ft | | | | |
| Noise Barrier NSA1 a | W | 5.00 | 99.99 | 30.00 | | | | 0.00 | point1 | 1 | 1,858,144.0 | 758,090.0 | 828.00 | 16.00 | 1.00 | 4 | 0 | | |
| | | | | | | | | | point3 | 3 | 1,858,399.0 | 758,010.0 | 831.00 | 16.00 | 1.00 | 4 | 0 | | |
| | | | | | | | | | point2 | 2 | 1,858,773.0 | 757,900.0 | 834.00 | 16.00 | | | | | |
| Noise Barrier NSA 1 b | W | 5.00 | 99.99 | 30.00 | | | | 0.00 | point4 | 4 | 1,858,191.0 | 757,927.4 | 829.00 | 16.00 | 1.00 | 4 | 0 | | |
| | | | | | | | | | point5 | 5 | 1,858,194.5 | 757,828.8 | 831.00 | 16.00 | 1.00 | 4 | 0 | | |
| | | | | | | | | | point6 | 6 | 1,858,137.8 | 757,709.5 | 833.00 | 16.00 | 1.00 | 4 | 0 | | |
| | | | | | | | | | point7 | 7 | 1,857,990.4 | 757,648.6 | 835.00 | 16.00 | | | | | |
| Noise Barrier NSA1 c | W | 0.00 | 99.99 | 30.00 | | | | 0.00 | point10 | 10 | 1,858,144.0 | 758,090.0 | 828.00 | 16.00 | 1.00 | 4 | 0 | | |
| | | | | | | | | | point8 | 8 | 1,858,123.4 | 758,046.7 | 828.00 | 16.00 | 1.00 | 4 | 0 | | |
| | | | | | | | | | point9 | 9 | 1,858,191.0 | 757,927.4 | 829.00 | 16.00 | | | | | |

| <Organization?> | | 18 July 2022 | | | | | | | | | |
|---------------------------|-------|---------------------------------------|-----|------------------------|-----------|--------|---|------------------|---------------------------|-----------|------------|
| CMCox | | TNM 2.5 | | | | | | | | | |
| INPUT: ROADWAYS | | | | | | | Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 | | | | | | | | | |
| RUN: | | Design Year NSA1 Reserve at Walnut Cr | | | | | | | | | |
| Roadway Name | Width | Points Name | No. | Coordinates (pavement) | | | Flow Control | | | Segment | |
| | | | | X | Y | Z | Control Device | Speed Constraint | Percent Vehicles Affected | Pvmt Type | On Struct? |
| | ft | | | ft | ft | ft | | mph | % | | |
| SR 161 EB2 | 12.0 | point1 | 1 | 1,856,892.0 | 758,399.0 | 835.30 | | | | Average | |
| | | point2 | 2 | 1,857,205.0 | 758,356.0 | 832.30 | | | | Average | |
| | | point3 | 3 | 1,857,600.0 | 758,273.0 | 830.30 | | | | | |
| SR161 EB1 exit to Sunbury | 12.0 | point12 | 12 | 1,856,892.0 | 758,375.5 | 835.00 | Stop | 0.00 | 100 | Average | |
| | | point13 | 13 | 1,857,205.0 | 758,332.5 | 832.00 | | | | Average | |
| | | point14 | 14 | 1,857,600.0 | 758,249.5 | 830.00 | | | | Average | |
| | | point15 | 15 | 1,857,989.0 | 758,125.0 | 828.00 | | | | Average | |
| | | point16 | 16 | 1,858,113.0 | 758,037.0 | 828.00 | | | | Average | |
| | | point17 | 17 | 1,858,179.0 | 757,920.0 | 829.00 | | | | Average | |
| | | point18 | 18 | 1,858,179.0 | 757,830.0 | 831.00 | | | | Average | |
| | | point19 | 19 | 1,858,116.0 | 757,721.0 | 833.00 | | | | Average | |
| | | point20 | 20 | 1,857,972.0 | 757,655.0 | 835.00 | | | | Average | |
| | | point21 | 21 | 1,857,731.0 | 757,663.0 | 838.00 | | | | | |
| Sunbury Road NB | 24.0 | point22 | 22 | 1,857,631.0 | 757,132.0 | 828.00 | | | | Average | |
| | | point23 | 23 | 1,857,701.0 | 757,397.0 | 833.00 | | | | Average | |
| | | point24 | 24 | 1,857,731.0 | 757,663.0 | 838.00 | | | | Average | |
| | | point25 | 25 | 1,857,767.0 | 758,168.0 | 850.00 | | | | Average | Y |
| | | point26 | 26 | 1,857,810.0 | 758,710.0 | 850.00 | | | | Average | |
| | | point27 | 27 | 1,857,834.0 | 758,949.0 | 853.00 | | | | | |
| SR161 EB3 | 12.0 | point28 | 28 | 1,856,892.0 | 758,411.0 | 835.20 | | | | Average | |
| | | point29 | 29 | 1,857,205.0 | 758,368.0 | 832.20 | | | | Average | |
| | | point30 | 30 | 1,857,600.0 | 758,285.0 | 830.20 | | | | | |
| SR 161 EB4 | 11.0 | point39 | 39 | 1,856,892.0 | 758,422.5 | 835.10 | | | | Average | |
| | | point40 | 40 | 1,857,205.0 | 758,379.5 | 832.10 | | | | Average | |
| | | point41 | 41 | 1,857,600.0 | 758,296.5 | 830.10 | | | | | |

INPUT: ROADWAYS

FRA-SR161-15.80

| | | | | | | | | | | | |
|---------------------------|------|---------|----|-------------|-----------|--------|------|------|-----|---------|---|
| SR 161 EB inside shoulder | 6.0 | point50 | 50 | 1,856,892.0 | 758,431.0 | 835.00 | | | | Average | |
| | | point51 | 51 | 1,857,205.0 | 758,388.0 | 832.00 | | | | Average | |
| | | point52 | 52 | 1,857,600.0 | 758,305.0 | 830.00 | | | | Average | |
| | | point53 | 53 | 1,858,000.0 | 758,192.0 | 829.00 | | | | Average | |
| | | point54 | 54 | 1,858,400.0 | 758,070.0 | 831.00 | | | | Average | |
| | | point55 | 55 | 1,858,743.0 | 757,968.0 | 835.00 | | | | Average | Y |
| | | point56 | 56 | 1,859,061.0 | 757,879.0 | 836.00 | | | | Average | |
| | | point57 | 57 | 1,859,260.0 | 757,852.0 | 840.00 | | | | Average | |
| | | point58 | 58 | 1,859,460.0 | 757,825.0 | 843.00 | | | | Average | |
| | | point59 | 59 | 1,859,660.0 | 757,817.0 | 845.00 | | | | Average | |
| | | point60 | 60 | 1,859,860.0 | 757,819.0 | 847.00 | | | | | |
| SR161 EB outside shoulder | 5.0 | point61 | 61 | 1,857,600.0 | 758,249.5 | 830.00 | | | | Average | |
| | | point62 | 62 | 1,858,000.0 | 758,140.5 | 829.00 | | | | Average | |
| | | point63 | 63 | 1,858,400.0 | 758,018.5 | 831.00 | | | | Average | |
| | | point64 | 64 | 1,858,743.0 | 757,916.5 | 835.00 | | | | Average | Y |
| | | point65 | 65 | 1,859,061.0 | 757,826.5 | 836.00 | | | | Average | |
| | | point66 | 66 | 1,859,260.0 | 757,800.5 | 840.00 | | | | Average | |
| | | point67 | 67 | 1,859,460.0 | 757,773.5 | 843.00 | | | | Average | |
| | | point68 | 68 | 1,859,660.0 | 757,765.5 | 845.00 | | | | Average | |
| | | point69 | 69 | 1,859,860.0 | 757,767.5 | 847.00 | | | | | |
| Sunburry Road SB | 24.0 | point74 | 74 | 1,857,774.0 | 758,949.0 | 853.00 | | | | Average | |
| | | point70 | 70 | 1,857,750.0 | 758,710.0 | 850.00 | | | | Average | Y |
| | | point71 | 71 | 1,857,706.0 | 758,178.0 | 840.00 | | | | Average | |
| | | point72 | 72 | 1,857,674.0 | 757,663.0 | 838.00 | | | | Average | |
| | | point73 | 73 | 1,857,661.0 | 757,397.0 | 833.00 | | | | Average | |
| | | point75 | 75 | 1,857,601.0 | 757,132.0 | 828.00 | | | | | |
| Center lanes EB1 | 12.0 | point76 | 76 | 1,856,142.0 | 758,527.0 | 841.00 | | | | Average | |
| | | point77 | 77 | 1,856,264.0 | 758,519.0 | 841.00 | | | | Average | |
| | | point78 | 78 | 1,856,716.0 | 758,483.0 | 838.00 | | | | Average | |
| | | point79 | 79 | 1,857,084.0 | 758,458.0 | 837.00 | | | | Average | |
| | | point80 | 80 | 1,857,564.0 | 758,404.0 | 834.00 | | | | Average | |
| | | point81 | 81 | 1,858,239.0 | 758,228.0 | 831.00 | | | | Average | |
| | | point82 | 82 | 1,858,520.0 | 758,123.0 | 835.00 | | | | Average | |
| | | point83 | 83 | 1,858,789.0 | 758,036.0 | 837.00 | | | | Average | Y |
| | | point84 | 84 | 1,859,107.0 | 757,958.0 | 850.00 | | | | Average | |
| | | point85 | 85 | 1,859,371.0 | 757,923.0 | 853.00 | | | | Average | |
| | | point86 | 86 | 1,859,599.0 | 757,906.0 | 862.00 | | | | Average | |
| | | point87 | 87 | 1,859,831.0 | 757,900.0 | 865.00 | | | | | |
| EB exit ramp to Sunburry | 12.0 | point88 | 88 | 1,856,264.0 | 758,519.0 | 841.00 | Stop | 0.00 | 100 | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80

| | | | | | | | | | | | |
|------------------------------------|------|----------|-----|-------------|-----------|--------|--------|------|-----|---------|---|
| | | point89 | 89 | 1,856,397.0 | 758,501.0 | 840.00 | | | | Average | |
| | | point90 | 90 | 1,856,674.0 | 758,478.0 | 838.00 | | | | Average | |
| | | point91 | 91 | 1,857,060.0 | 758,427.0 | 837.00 | | | | Average | |
| | | point92 | 92 | 1,857,696.9 | 758,348.1 | 840.00 | | | | | |
| Center lanes EB2 | 12.0 | point93 | 93 | 1,856,142.0 | 758,539.0 | 841.00 | | | | Average | |
| | | point94 | 94 | 1,856,264.0 | 758,531.0 | 841.00 | | | | Average | |
| | | point95 | 95 | 1,856,716.0 | 758,495.0 | 838.00 | | | | Average | |
| | | point96 | 96 | 1,857,084.0 | 758,470.0 | 837.00 | | | | Average | |
| | | point97 | 97 | 1,857,564.0 | 758,416.0 | 834.00 | | | | Average | |
| | | point98 | 98 | 1,858,239.0 | 758,240.0 | 831.00 | | | | Average | |
| | | point99 | 99 | 1,858,520.0 | 758,135.0 | 835.00 | | | | Average | |
| | | point100 | 100 | 1,858,789.0 | 758,048.0 | 837.00 | | | | Average | Y |
| | | point101 | 101 | 1,859,107.0 | 757,970.0 | 850.00 | | | | Average | |
| | | point102 | 102 | 1,859,371.0 | 757,935.0 | 853.00 | | | | Average | |
| | | point103 | 103 | 1,859,599.0 | 757,918.0 | 862.00 | | | | Average | |
| | | point104 | 104 | 1,859,831.0 | 757,912.0 | 865.00 | | | | | |
| EB entrance ramp Sunburry to EB161 | 12.0 | point105 | 105 | 1,857,800.6 | 758,325.1 | 840.00 | Onramp | 0.00 | 100 | Average | |
| | | point106 | 106 | 1,858,412.0 | 758,136.0 | 834.00 | | | | Average | |
| | | point107 | 107 | 1,858,789.0 | 758,024.0 | 837.00 | | | | Average | Y |
| | | point108 | 108 | 1,859,107.0 | 757,946.0 | 850.00 | | | | Average | |
| | | point109 | 109 | 1,859,536.0 | 757,892.0 | 860.00 | | | | Average | |
| | | point110 | 110 | 1,859,852.0 | 757,864.0 | 870.00 | | | | | |
| Center lanes WB2 | 12.0 | point122 | 122 | 1,859,831.0 | 757,948.0 | 859.00 | | | | Average | |
| | | point121 | 121 | 1,859,599.0 | 757,954.0 | 851.00 | | | | Average | |
| | | point120 | 120 | 1,859,371.0 | 757,971.0 | 847.00 | | | | Average | |
| | | point119 | 119 | 1,859,107.0 | 758,006.0 | 843.00 | | | | Average | Y |
| | | point118 | 118 | 1,858,789.0 | 758,084.0 | 831.00 | | | | Average | |
| | | point117 | 117 | 1,858,520.0 | 758,171.0 | 830.00 | | | | Average | |
| | | point116 | 116 | 1,858,239.0 | 758,276.0 | 831.00 | | | | Average | |
| | | point115 | 115 | 1,857,564.0 | 758,452.0 | 834.00 | | | | Average | |
| | | point114 | 114 | 1,857,084.0 | 758,506.0 | 837.00 | | | | Average | |
| | | point113 | 113 | 1,856,716.0 | 758,531.0 | 838.00 | | | | Average | |
| | | point112 | 112 | 1,856,264.0 | 758,567.0 | 841.00 | | | | Average | |
| | | point111 | 111 | 1,856,142.0 | 758,575.0 | 841.00 | | | | | |
| Center lanes WB1 | 12.0 | point123 | 123 | 1,859,831.0 | 757,960.0 | 859.00 | | | | Average | |
| | | point124 | 124 | 1,859,599.0 | 757,966.0 | 851.00 | | | | Average | |
| | | point125 | 125 | 1,859,371.0 | 757,983.0 | 847.00 | | | | Average | |
| | | point126 | 126 | 1,859,107.0 | 758,018.0 | 843.00 | | | | Average | Y |
| | | point127 | 127 | 1,858,789.0 | 758,096.0 | 831.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80

| | | | | | | | | | | | |
|--|------|----------|-----|-------------|-----------|--------|--------|------|-----|---------|---|
| | | point128 | 128 | 1,858,520.0 | 758,183.0 | 830.00 | | | | Average | |
| | | point129 | 129 | 1,858,239.0 | 758,288.0 | 831.00 | | | | Average | |
| | | point130 | 130 | 1,857,564.0 | 758,464.0 | 834.00 | | | | Average | |
| | | point131 | 131 | 1,857,084.0 | 758,518.0 | 837.00 | | | | Average | |
| | | point132 | 132 | 1,856,716.0 | 758,543.0 | 838.00 | | | | Average | |
| | | point133 | 133 | 1,856,264.0 | 758,579.0 | 841.00 | | | | Average | |
| | | point134 | 134 | 1,856,142.0 | 758,587.0 | 841.00 | | | | | |
| Center lanes WB exit ramp to Sunburry | 12.0 | point135 | 135 | 1,859,371.0 | 757,983.0 | 847.00 | Stop | 0.00 | 100 | Average | |
| | | point136 | 136 | 1,859,107.0 | 758,030.0 | 843.00 | | | | Average | Y |
| | | point137 | 137 | 1,858,789.0 | 758,108.0 | 835.00 | | | | Average | |
| | | point138 | 138 | 1,858,394.0 | 758,263.0 | 836.00 | | | | Average | |
| | | point139 | 139 | 1,858,103.0 | 758,404.0 | 842.00 | | | | Average | |
| | | point140 | 140 | 1,857,807.2 | 758,520.6 | 850.00 | | | | | |
| Entrance ramp Sunburry to WB Center la | 12.0 | point141 | 141 | 1,857,695.8 | 758,546.6 | 850.00 | Onramp | 0.00 | 100 | Average | |
| | | point142 | 142 | 1,857,386.0 | 758,578.0 | 848.00 | | | | Average | |
| | | point143 | 143 | 1,857,025.0 | 758,573.0 | 845.00 | | | | Average | |
| | | point144 | 144 | 1,856,625.0 | 758,583.0 | 840.00 | | | | Average | |
| | | point145 | 145 | 1,856,142.0 | 758,587.0 | 841.00 | | | | | |
| Entrance ramp Sunburry to WB SR 161 | 12.0 | point146 | 146 | 1,857,386.0 | 758,578.0 | 848.00 | | | | Average | |
| | | point147 | 147 | 1,857,149.0 | 758,608.0 | 846.00 | | | | Average | |
| | | point148 | 148 | 1,856,742.0 | 758,614.0 | 835.00 | | | | Average | |
| | | point149 | 149 | 1,856,264.0 | 758,636.0 | 838.00 | | | | | |
| SR 161 WB3 | 12.0 | point150 | 150 | 1,859,831.0 | 758,011.0 | 867.00 | | | | Average | |
| | | point153 | 153 | 1,859,599.0 | 758,019.0 | 861.00 | | | | Average | |
| | | point154 | 154 | 1,859,371.0 | 758,037.0 | 852.00 | | | | Average | |
| | | point151 | 151 | 1,859,107.0 | 758,086.0 | 834.00 | | | | Average | Y |
| | | point152 | 152 | 1,858,789.0 | 758,189.0 | 833.00 | | | | Average | |
| | | point155 | 155 | 1,858,044.0 | 758,505.0 | 831.00 | | | | Average | |
| | | point160 | 160 | 1,857,813.6 | 758,590.2 | 831.50 | | | | Average | |
| | | point156 | 156 | 1,857,573.0 | 758,645.0 | 832.00 | | | | | |
| SR161WB2 | 12.0 | point161 | 161 | 1,859,831.0 | 758,023.0 | 867.00 | | | | Average | |
| | | point162 | 162 | 1,859,599.0 | 758,031.0 | 861.00 | | | | Average | |
| | | point163 | 163 | 1,859,371.0 | 758,049.0 | 852.00 | | | | Average | |
| | | point164 | 164 | 1,859,107.0 | 758,098.0 | 834.00 | | | | Average | Y |
| | | point165 | 165 | 1,858,789.0 | 758,201.0 | 833.00 | | | | Average | |
| | | point166 | 166 | 1,858,044.0 | 758,517.0 | 831.00 | | | | Average | |
| | | point167 | 167 | 1,857,813.6 | 758,602.2 | 831.50 | | | | Average | |
| | | point168 | 168 | 1,857,573.0 | 758,657.0 | 832.00 | | | | | |
| SR 161 WB1 | 12.0 | point172 | 172 | 1,859,831.0 | 758,035.0 | 867.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80

| | | | | | | | | | | | |
|--------------------------------------|------|----------|-----|-------------|-----------|--------|--------|------|-----|---------|---|
| | | point173 | 173 | 1,859,599.0 | 758,043.0 | 861.00 | | | | Average | |
| | | point174 | 174 | 1,859,371.0 | 758,061.0 | 852.00 | | | | Average | |
| | | point175 | 175 | 1,859,107.0 | 758,110.0 | 834.00 | | | | Average | Y |
| | | point176 | 176 | 1,858,789.0 | 758,213.0 | 833.00 | | | | Average | |
| | | point177 | 177 | 1,858,044.0 | 758,529.0 | 831.00 | | | | Average | |
| | | point178 | 178 | 1,857,813.6 | 758,614.2 | 831.50 | | | | Average | |
| | | point179 | 179 | 1,857,573.0 | 758,669.0 | 832.00 | | | | | |
| Entrance Loop ramp Sunburry to WB161 | 12.0 | point183 | 183 | 1,857,834.0 | 758,949.0 | 853.00 | Onramp | 0.00 | 100 | Average | |
| | | point184 | 184 | 1,858,151.0 | 758,943.0 | 851.00 | | | | Average | |
| | | point192 | 192 | 1,858,273.1 | 758,882.6 | 848.00 | | | | Average | |
| | | point185 | 185 | 1,858,312.1 | 758,783.0 | 845.00 | | | | Average | |
| | | point190 | 190 | 1,858,267.6 | 758,683.7 | 840.67 | | | | Average | |
| | | point191 | 191 | 1,858,181.6 | 758,625.9 | 836.33 | | | | Average | |
| | | point186 | 186 | 1,858,081.0 | 758,595.0 | 832.00 | | | | Average | |
| | | point189 | 189 | 1,857,947.2 | 758,593.5 | 831.75 | | | | Average | |
| | | point187 | 187 | 1,857,813.6 | 758,626.2 | 831.50 | | | | Average | |
| | | point188 | 188 | 1,857,573.0 | 758,669.0 | 832.00 | | | | | |
| SR161EB1 | 11.0 | point193 | 193 | 1,856,892.0 | 758,387.5 | 835.20 | | | | Average | |
| | | point194 | 194 | 1,857,205.0 | 758,344.5 | 832.20 | | | | Average | |
| | | point195 | 195 | 1,857,600.0 | 758,261.5 | 830.20 | | | | | |
| SR 161 EB4-2 | 11.0 | point204 | 204 | 1,857,600.0 | 758,296.5 | 830.10 | | | | Average | |
| | | point42 | 42 | 1,858,000.0 | 758,183.5 | 829.10 | | | | Average | |
| | | point43 | 43 | 1,858,400.0 | 758,061.5 | 831.10 | | | | Average | |
| | | point44 | 44 | 1,858,743.0 | 757,959.5 | 835.10 | | | | Average | Y |
| | | point45 | 45 | 1,859,061.0 | 757,870.5 | 836.10 | | | | Average | |
| | | point46 | 46 | 1,859,260.0 | 757,843.5 | 840.10 | | | | Average | |
| | | point47 | 47 | 1,859,460.0 | 757,816.5 | 843.10 | | | | Average | |
| | | point48 | 48 | 1,859,660.0 | 757,808.5 | 845.10 | | | | Average | |
| | | point49 | 49 | 1,859,860.0 | 757,810.5 | 847.10 | | | | | |
| SR161 EB3-2 | 12.0 | point205 | 205 | 1,857,600.0 | 758,285.0 | 830.20 | | | | Average | |
| | | point31 | 31 | 1,858,000.0 | 758,172.0 | 829.20 | | | | Average | |
| | | point32 | 32 | 1,858,400.0 | 758,050.0 | 831.20 | | | | Average | |
| | | point33 | 33 | 1,858,743.0 | 757,948.0 | 835.20 | | | | Average | Y |
| | | point34 | 34 | 1,859,061.0 | 757,858.0 | 836.20 | | | | Average | |
| | | point35 | 35 | 1,859,260.0 | 757,832.0 | 840.20 | | | | Average | |
| | | point36 | 36 | 1,859,460.0 | 757,805.0 | 843.20 | | | | Average | |
| | | point37 | 37 | 1,859,660.0 | 757,797.0 | 845.20 | | | | Average | |
| | | point38 | 38 | 1,859,860.0 | 757,799.0 | 847.20 | | | | | |
| SR 161 EB2-2 | 12.0 | point206 | 206 | 1,857,600.0 | 758,273.0 | 830.30 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80

| | | | | | | | | | | | |
|--------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point4 | 4 | 1,858,000.0 | 758,160.0 | 829.30 | | | | Average | |
| | | point5 | 5 | 1,858,400.0 | 758,038.0 | 831.30 | | | | Average | |
| | | point6 | 6 | 1,858,743.0 | 757,936.0 | 835.30 | | | | Average | Y |
| | | point7 | 7 | 1,859,061.0 | 757,846.0 | 836.30 | | | | Average | |
| | | point8 | 8 | 1,859,260.0 | 757,820.0 | 840.30 | | | | Average | |
| | | point9 | 9 | 1,859,460.0 | 757,793.0 | 843.30 | | | | Average | |
| | | point10 | 10 | 1,859,660.0 | 757,785.0 | 845.30 | | | | Average | |
| | | point11 | 11 | 1,859,860.0 | 757,787.0 | 847.30 | | | | | |
| SR161EB1-2 | 11.0 | point207 | 207 | 1,857,600.0 | 758,261.5 | 830.20 | | | | Average | |
| | | point196 | 196 | 1,858,000.0 | 758,148.5 | 829.20 | | | | Average | |
| | | point197 | 197 | 1,858,400.0 | 758,026.5 | 831.20 | | | | Average | |
| | | point198 | 198 | 1,858,743.0 | 757,924.5 | 835.20 | | | | Average | Y |
| | | point199 | 199 | 1,859,061.0 | 757,834.5 | 836.20 | | | | Average | |
| | | point200 | 200 | 1,859,260.0 | 757,808.5 | 840.20 | | | | Average | |
| | | point201 | 201 | 1,859,460.0 | 757,781.5 | 843.20 | | | | Average | |
| | | point202 | 202 | 1,859,660.0 | 757,773.5 | 845.20 | | | | Average | |
| | | point203 | 203 | 1,859,860.0 | 757,775.5 | 847.20 | | | | | |
| SR 161 WB1-2 | 12.0 | point208 | 208 | 1,857,573.0 | 758,669.0 | 832.00 | | | | Average | |
| | | point180 | 180 | 1,857,149.0 | 758,681.0 | 833.00 | | | | Average | |
| | | point181 | 181 | 1,856,723.4 | 758,666.4 | 835.50 | | | | Average | |
| | | point182 | 182 | 1,856,264.0 | 758,676.0 | 838.00 | | | | | |
| SR161WB2-2 | 12.0 | point209 | 209 | 1,857,573.0 | 758,657.0 | 832.00 | | | | Average | |
| | | point169 | 169 | 1,857,149.0 | 758,669.0 | 833.00 | | | | Average | |
| | | point170 | 170 | 1,856,723.4 | 758,654.4 | 835.50 | | | | Average | |
| | | point171 | 171 | 1,856,264.0 | 758,664.0 | 838.00 | | | | | |
| SR 161 WB3-2 | 12.0 | point210 | 210 | 1,857,573.0 | 758,645.0 | 832.00 | | | | Average | |
| | | point157 | 157 | 1,857,149.0 | 758,657.0 | 833.00 | | | | Average | |
| | | point159 | 159 | 1,856,723.4 | 758,642.4 | 835.50 | | | | Average | |
| | | point158 | 158 | 1,856,264.0 | 758,652.0 | 838.00 | | | | | |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| <Organization?> | | 18 July 2022 | | | | | | | | | | |
|-----------------------------------|---------|---------------------------------------|---------|-----|---------|-----|---------|-----|--------|-----|-------------|-----|
| CMCox | | TNM 2.5 | | | | | | | | | | |
| INPUT: TRAFFIC FOR LAeq1h Volumes | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 | | | | | | | | | | |
| RUN: | | Design Year NSA1 Reserve at Walnut Cr | | | | | | | | | | |
| Roadway | Points | | | | | | | | | | | |
| Name | Name | No. | Segment | | MTrucks | | HTrucks | | Buses | | Motorcycles | |
| | | | Autos | | V | S | V | S | V | S | V | S |
| | | | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph |
| SR 161 EB2 | point1 | 1 | 1388 | 65 | 27 | 60 | 62 | 60 | 0 | 0 | 0 | 0 |
| | point2 | 2 | 1388 | 65 | 27 | 60 | 62 | 60 | 0 | 0 | 0 | 0 |
| | point3 | 3 | | | | | | | | | | |
| SR161 EB1 exit to Sunbury | point12 | 12 | 1078 | 65 | 10 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |
| | point13 | 13 | 1078 | 65 | 10 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |
| | point14 | 14 | 1078 | 65 | 10 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |
| | point15 | 15 | 1078 | 65 | 10 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |
| | point16 | 16 | 1078 | 65 | 10 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |
| | point17 | 17 | 1078 | 65 | 10 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |
| | point18 | 18 | 1078 | 65 | 10 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |
| | point19 | 19 | 1078 | 65 | 10 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |
| | point20 | 20 | 1078 | 65 | 10 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |
| | point21 | 21 | | | | | | | | | | |
| Sunbury Road NB | point22 | 22 | 1004 | 35 | 10 | 35 | 21 | 35 | 0 | 0 | 0 | 0 |
| | point23 | 23 | 1004 | 35 | 10 | 35 | 21 | 35 | 0 | 0 | 0 | 0 |
| | point24 | 24 | 1556 | 35 | 15 | 35 | 33 | 35 | 0 | 0 | 0 | 0 |
| | point25 | 25 | 1556 | 35 | 15 | 35 | 33 | 35 | 0 | 0 | 0 | 0 |
| | point26 | 26 | 1556 | 35 | 15 | 35 | 33 | 35 | 0 | 0 | 0 | 0 |
| | point27 | 27 | | | | | | | | | | |
| SR161 EB3 | point28 | 28 | 1341 | 65 | 35 | 60 | 84 | 60 | 0 | 0 | 0 | 0 |
| | point29 | 29 | 1341 | 65 | 35 | 60 | 84 | 60 | 0 | 0 | 0 | 0 |
| | point30 | 30 | | | | | | | | | | |
| SR 161 EB4 | point39 | 39 | 1341 | 65 | 35 | 60 | 84 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| | | | | | | | | | | | | |
|---------------------------|---------|----|------|----|----|----|----|----|---|---|---|---|
| | point40 | 40 | 1341 | 65 | 35 | 60 | 84 | 60 | 0 | 0 | 0 | 0 |
| | point41 | 41 | | | | | | | | | | |
| SR 161 EB inside shoulder | point50 | 50 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point51 | 51 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point52 | 52 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point53 | 53 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point54 | 54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point55 | 55 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point56 | 56 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point57 | 57 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point58 | 58 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point59 | 59 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point60 | 60 | | | | | | | | | | |
| SR161 EB outside shoulder | point61 | 61 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point62 | 62 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point63 | 63 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point64 | 64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point65 | 65 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point66 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point67 | 67 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point68 | 68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point69 | 69 | | | | | | | | | | |
| Sunburry Road SB | point74 | 74 | 871 | 35 | 8 | 35 | 19 | 35 | 0 | 0 | 0 | 0 |
| | point70 | 70 | 871 | 35 | 8 | 35 | 19 | 35 | 0 | 0 | 0 | 0 |
| | point71 | 71 | 871 | 35 | 8 | 35 | 19 | 35 | 0 | 0 | 0 | 0 |
| | point72 | 72 | 981 | 35 | 10 | 35 | 20 | 35 | 0 | 0 | 0 | 0 |
| | point73 | 73 | 981 | 35 | 10 | 35 | 20 | 35 | 0 | 0 | 0 | 0 |
| | point75 | 75 | | | | | | | | | | |
| Center lanes EB1 | point76 | 76 | 873 | 65 | 8 | 60 | 19 | 60 | 0 | 0 | 0 | 0 |
| | point77 | 77 | 704 | 65 | 6 | 60 | 18 | 60 | 0 | 0 | 0 | 0 |
| | point78 | 78 | 704 | 65 | 6 | 60 | 18 | 60 | 0 | 0 | 0 | 0 |
| | point79 | 79 | 704 | 65 | 6 | 60 | 18 | 60 | 0 | 0 | 0 | 0 |
| | point80 | 80 | 704 | 65 | 6 | 60 | 18 | 60 | 0 | 0 | 0 | 0 |
| | point81 | 81 | 704 | 65 | 6 | 60 | 18 | 60 | 0 | 0 | 0 | 0 |
| | point82 | 82 | 704 | 65 | 6 | 60 | 18 | 60 | 0 | 0 | 0 | 0 |
| | point83 | 83 | 821 | 65 | 11 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| | | | | | | | | | | | | |
|------------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point84 | 84 | 861 | 65 | 13 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |
| | point85 | 85 | 861 | 65 | 13 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |
| | point86 | 86 | 861 | 65 | 13 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |
| | point87 | 87 | | | | | | | | | | |
| EB exit ramp to Sunburry | point88 | 88 | 338 | 65 | 4 | 60 | 7 | 60 | 0 | 0 | 0 | 0 |
| | point89 | 89 | 338 | 65 | 4 | 60 | 7 | 60 | 0 | 0 | 0 | 0 |
| | point90 | 90 | 338 | 65 | 4 | 60 | 7 | 60 | 0 | 0 | 0 | 0 |
| | point91 | 91 | 338 | 65 | 4 | 60 | 7 | 60 | 0 | 0 | 0 | 0 |
| | point92 | 92 | | | | | | | | | | |
| Center lanes EB2 | point93 | 93 | 873 | 65 | 8 | 60 | 19 | 60 | 0 | 0 | 0 | 0 |
| | point94 | 94 | 704 | 65 | 6 | 60 | 18 | 60 | 0 | 0 | 0 | 0 |
| | point95 | 95 | 704 | 65 | 6 | 60 | 18 | 60 | 0 | 0 | 0 | 0 |
| | point96 | 96 | 704 | 65 | 6 | 60 | 18 | 60 | 0 | 0 | 0 | 0 |
| | point97 | 97 | 704 | 65 | 6 | 60 | 18 | 60 | 0 | 0 | 0 | 0 |
| | point98 | 98 | 704 | 65 | 6 | 60 | 18 | 60 | 0 | 0 | 0 | 0 |
| | point99 | 99 | 704 | 65 | 6 | 60 | 18 | 60 | 0 | 0 | 0 | 0 |
| | point100 | 100 | 821 | 65 | 11 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |
| | point101 | 101 | 861 | 65 | 13 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |
| | point102 | 102 | 861 | 65 | 13 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |
| | point103 | 103 | 861 | 65 | 13 | 60 | 22 | 60 | 0 | 0 | 0 | 0 |
| | point104 | 104 | | | | | | | | | | |
| EB entrance ramp Sunburry to EB161 | point105 | 105 | 1055 | 65 | 10 | 60 | 23 | 60 | 0 | 0 | 0 | 0 |
| | point106 | 106 | 1055 | 65 | 10 | 60 | 23 | 60 | 0 | 0 | 0 | 0 |
| | point107 | 107 | 821 | 65 | 11 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |
| | point108 | 108 | 742 | 65 | 7 | 60 | 16 | 60 | 0 | 0 | 0 | 0 |
| | point109 | 109 | 742 | 65 | 7 | 60 | 16 | 60 | 0 | 0 | 0 | 0 |
| | point110 | 110 | | | | | | | | | | |
| Center lanes WB2 | point122 | 122 | 1077 | 65 | 10 | 60 | 23 | 60 | 0 | 0 | 0 | 0 |
| | point121 | 121 | 1077 | 65 | 10 | 60 | 23 | 60 | 0 | 0 | 0 | 0 |
| | point120 | 120 | 460 | 65 | 4 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |
| | point119 | 119 | 460 | 65 | 4 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |
| | point118 | 118 | 460 | 65 | 4 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |
| | point117 | 117 | 460 | 65 | 4 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |
| | point116 | 116 | 460 | 65 | 4 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |
| | point115 | 115 | 460 | 65 | 4 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |
| | point114 | 114 | 460 | 65 | 4 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| | | | | | | | | | | | | |
|--|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point113 | 113 | 460 | 65 | 4 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |
| | point112 | 112 | 460 | 65 | 4 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |
| | point111 | 111 | | | | | | | | | | |
| Center lanes WB1 | point123 | 123 | 1077 | 65 | 10 | 60 | 23 | 60 | 0 | 0 | 0 | 0 |
| | point124 | 124 | 1077 | 65 | 10 | 60 | 23 | 60 | 0 | 0 | 0 | 0 |
| | point125 | 125 | 460 | 65 | 4 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |
| | point126 | 126 | 460 | 65 | 4 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |
| | point127 | 127 | 460 | 65 | 4 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |
| | point128 | 128 | 460 | 65 | 4 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |
| | point129 | 129 | 460 | 65 | 4 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |
| | point130 | 130 | 460 | 65 | 4 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |
| | point131 | 131 | 460 | 65 | 4 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |
| | point132 | 132 | 460 | 65 | 4 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |
| | point133 | 133 | 460 | 65 | 4 | 60 | 20 | 60 | 0 | 0 | 0 | 0 |
| | point134 | 134 | | | | | | | | | | |
| Center lanes WB exit ramp to Sunburry | point135 | 135 | 1235 | 65 | 12 | 60 | 27 | 60 | 0 | 0 | 0 | 0 |
| | point136 | 136 | 1235 | 65 | 12 | 60 | 27 | 60 | 0 | 0 | 0 | 0 |
| | point137 | 137 | 1235 | 65 | 12 | 60 | 27 | 60 | 0 | 0 | 0 | 0 |
| | point138 | 138 | 1235 | 65 | 12 | 60 | 27 | 60 | 0 | 0 | 0 | 0 |
| | point139 | 139 | 1235 | 65 | 12 | 60 | 27 | 60 | 0 | 0 | 0 | 0 |
| | point140 | 140 | | | | | | | | | | |
| Entrance ramp Sunburry to WB Center la | point141 | 141 | 1245 | 65 | 12 | 60 | 27 | 60 | 0 | 0 | 0 | 0 |
| | point142 | 142 | 702 | 65 | 7 | 60 | 14 | 60 | 0 | 0 | 0 | 0 |
| | point143 | 143 | 702 | 65 | 7 | 60 | 14 | 60 | 0 | 0 | 0 | 0 |
| | point144 | 144 | 702 | 65 | 7 | 60 | 14 | 60 | 0 | 0 | 0 | 0 |
| | point145 | 145 | | | | | | | | | | |
| Entrance ramp Sunburry to WB SR 161 | point146 | 146 | 543 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point147 | 147 | 543 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point148 | 148 | 543 | 65 | 5 | 60 | 13 | 60 | 0 | 0 | 0 | 0 |
| | point149 | 149 | | | | | | | | | | |
| SR 161 WB3 | point150 | 150 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point153 | 153 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point154 | 154 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point151 | 151 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point152 | 152 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point155 | 155 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| | | | | | | | | | | | | |
|--------------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point160 | 160 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point156 | 156 | | | | | | | | | | |
| SR161WB2 | point161 | 161 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point162 | 162 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point163 | 163 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point164 | 164 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point165 | 165 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point166 | 166 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point167 | 167 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point168 | 168 | | | | | | | | | | |
| SR 161 WB1 | point172 | 172 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point173 | 173 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point174 | 174 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point175 | 175 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point176 | 176 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point177 | 177 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point178 | 178 | 1687 | 65 | 16 | 60 | 36 | 60 | 0 | 0 | 0 | 0 |
| | point179 | 179 | | | | | | | | | | |
| Entrance Loop ramp Sunburry to WB161 | point183 | 183 | 344 | 65 | 3 | 60 | 7 | 60 | 0 | 0 | 0 | 0 |
| | point184 | 184 | 344 | 65 | 3 | 60 | 7 | 60 | 0 | 0 | 0 | 0 |
| | point192 | 192 | 344 | 65 | 3 | 60 | 7 | 60 | 0 | 0 | 0 | 0 |
| | point185 | 185 | 344 | 65 | 3 | 60 | 7 | 60 | 0 | 0 | 0 | 0 |
| | point190 | 190 | 344 | 65 | 3 | 60 | 7 | 60 | 0 | 0 | 0 | 0 |
| | point191 | 191 | 344 | 65 | 3 | 60 | 7 | 60 | 0 | 0 | 0 | 0 |
| | point186 | 186 | 344 | 65 | 3 | 60 | 7 | 60 | 0 | 0 | 0 | 0 |
| | point189 | 189 | 344 | 65 | 3 | 60 | 7 | 60 | 0 | 0 | 0 | 0 |
| | point187 | 187 | 344 | 65 | 3 | 60 | 7 | 60 | 0 | 0 | 0 | 0 |
| | point188 | 188 | | | | | | | | | | |
| SR161EB1 | point193 | 193 | 1388 | 65 | 27 | 60 | 62 | 60 | 0 | 0 | 0 | 0 |
| | point194 | 194 | 1388 | 65 | 27 | 60 | 62 | 60 | 0 | 0 | 0 | 0 |
| | point195 | 195 | | | | | | | | | | |
| SR 161 EB4-2 | point204 | 204 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point42 | 42 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point43 | 43 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point44 | 44 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point45 | 45 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| | | | | | | | | | | | | |
|--------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point46 | 46 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point47 | 47 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point48 | 48 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point49 | 49 | | | | | | | | | | |
| SR161 EB3-2 | point205 | 205 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point31 | 31 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point32 | 32 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point33 | 33 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point34 | 34 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point35 | 35 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point36 | 36 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point37 | 37 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point38 | 38 | | | | | | | | | | |
| SR 161 EB2-2 | point206 | 206 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point4 | 4 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point5 | 5 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point6 | 6 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point7 | 7 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point8 | 8 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point9 | 9 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point10 | 10 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point11 | 11 | | | | | | | | | | |
| SR161EB1-2 | point207 | 207 | 1198 | 65 | 28 | 60 | 66 | 0 | 0 | 0 | 0 | 0 |
| | point196 | 196 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point197 | 197 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point198 | 198 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point199 | 199 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point200 | 200 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point201 | 201 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point202 | 202 | 1198 | 65 | 28 | 60 | 66 | 60 | 0 | 0 | 0 | 0 |
| | point203 | 203 | | | | | | | | | | |
| SR 161 WB1-2 | point208 | 208 | 1802 | 65 | 16 | 60 | 39 | 60 | 0 | 0 | 0 | 0 |
| | point180 | 180 | 1802 | 65 | 16 | 60 | 39 | 60 | 0 | 0 | 0 | 0 |
| | point181 | 181 | 1802 | 65 | 16 | 60 | 39 | 60 | 0 | 0 | 0 | 0 |
| | point182 | 182 | | | | | | | | | | |
| SR161WB2-2 | point209 | 209 | 1802 | 65 | 16 | 60 | 39 | 60 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes**FRA-SR161-15.80**

| | | | | | | | | | | | | |
|--------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point169 | 169 | 1802 | 65 | 16 | 60 | 39 | 60 | 0 | 0 | 0 | 0 |
| | point170 | 170 | 1802 | 65 | 16 | 60 | 39 | 60 | 0 | 0 | 0 | 0 |
| | point171 | 171 | | | | | | | | | | |
| SR 161 WB3-2 | point210 | 210 | 1802 | 65 | 16 | 60 | 39 | 60 | 0 | 0 | 0 | 0 |
| | point157 | 157 | 1802 | 65 | 16 | 60 | 39 | 60 | 0 | 0 | 0 | 0 |
| | point159 | 159 | 1802 | 65 | 16 | 60 | 39 | 60 | 0 | 0 | 0 | 0 |
| | point158 | 158 | | | | | | | | | | |

RESULTS: SOUND LEVELS

PROJECT/CONTRACT:

FRA-SR161-15.80 PID 116322

RUN:

Noise barrier NSA2-3

BARRIER DESIGN:

INPUT HEIGHTS

Average pavement

a State highway a

ATMOSPHERICS:

68 deg F, 50% RH

of a different type

Receiver

| Receiver Name | No. | #DUs | Existing LAeq1h dBA | No Barrier | | Increase over existing | | Type Impact | With B Calcula LAeq1h dBA |
|---------------|-----|------|------------------------|------------|--------|------------------------|---------------------|-------------|------------------------------------|
| | | | | LAeq1h | Crit'n | Calculated | Crit'n Sub'l Inc | | |
| | | | | Calculated | | | | | |
| NSA2-1 | 1 | 6 | 56.2 | 56.9 | 66 | 0.7 | 10 | — | |
| NSA2-2 | 2 | 6 | 55.9 | 56.6 | 66 | 0.7 | 10 | — | |
| NSA2-3 | 3 | 6 | 55.7 | 56.3 | 66 | 0.6 | 10 | — | |
| NSA2-4 | 4 | 6 | 56.1 | 56.7 | 66 | 0.6 | 10 | — | |
| NSA2-5 | 5 | 6 | 54.5 | 55.1 | 66 | 0.6 | 10 | — | |
| NSA2-6 | 6 | 6 | 54.1 | 54.9 | 66 | 0.8 | 10 | — | |
| NSA2-7 | 7 | 1 | 54.2 | 54.8 | 66 | 0.6 | 10 | — | |
| NSA2-8 | 8 | 1 | 61.6 | 62.7 | 66 | 1.1 | 10 | — | |
| NSA2-9 | 9 | 1 | 62.0 | 63.5 | 66 | 1.5 | 10 | — | |
| NSA2-10 | 10 | 1 | 60.7 | 62.4 | 66 | 1.7 | 10 | — | |
| NSA2-11 | 11 | 1 | 60.2 | 62.0 | 66 | 1.8 | 10 | — | |
| NSA2-12 | 12 | 1 | 59.8 | 61.4 | 66 | 1.6 | 10 | — | |

ent type shall be used unless
agency substantiates the use
with approval of FHWA.

Carrier

| Location | Noise Reduction | | | Calculated minus Goal dB |
|----------|-----------------|------|------|-----------------------------------|
| | Calculated | Goal | | |
| | dB | dB | | |
| 56.7 | 0.2 | 5 | -4.8 | |
| 56.4 | 0.2 | 5 | -4.8 | |
| 56.2 | 0.1 | 5 | -4.9 | |
| 56.6 | 0.1 | 5 | -4.9 | |
| 54.9 | 0.2 | 5 | -4.8 | |
| 54.4 | 0.5 | 5 | -4.5 | |
| 54.7 | 0.1 | 5 | -4.9 | |
| 62.4 | 0.3 | 5 | -4.7 | |
| 63.3 | 0.2 | 5 | -4.8 | |
| 62.0 | 0.4 | 5 | -4.6 | |
| 61.2 | 0.8 | 5 | -4.2 | |
| 60.4 | 1.0 | 5 | -4.0 | |

INPUT: RECEIVERS

PROJECT/CONTRACT:

FRA-SR161-15.80 PID 116322

RUN:

Noise barrier NSA2-3

| Receiver | | | | | | | | | |
|----------|-----|------|----------------------|-----------|--------|---------------------------|------------------------------|-----------------|------|
| Name | No. | #DUs | Coordinates (ground) | | | Height above Ground | Input Sound Levels and Crite | | |
| | | | X | Y | Z | | Existing LAeq1h | Impact Criteria | |
| | | | ft | ft | ft | | ft | dB | dB |
| NSA2-1 | 1 | 6 | 1,865,184.0 | 758,065.0 | 959.00 | 4.92 | 56.20 | 66 | 10.0 |
| NSA2-2 | 2 | 6 | 1,865,021.0 | 758,105.0 | 957.00 | 4.92 | 55.90 | 66 | 10.0 |
| NSA2-3 | 3 | 6 | 1,864,902.0 | 758,143.0 | 955.00 | 4.92 | 55.70 | 66 | 10.0 |
| NSA2-4 | 4 | 6 | 1,864,719.0 | 758,143.0 | 953.00 | 4.92 | 56.10 | 66 | 10.0 |
| NSA2-5 | 5 | 6 | 1,864,629.0 | 758,232.0 | 953.00 | 4.92 | 54.50 | 66 | 10.0 |
| NSA2-6 | 6 | 6 | 1,865,315.0 | 758,221.0 | 962.00 | 4.92 | 54.10 | 66 | 10.0 |
| NSA2-7 | 7 | 1 | 1,864,476.0 | 758,261.0 | 950.00 | 4.92 | 54.20 | 66 | 10.0 |
| NSA2-8 | 8 | 1 | 1,865,678.0 | 757,885.0 | 972.00 | 4.92 | 61.60 | 66 | 10.0 |
| NSA2-9 | 9 | 1 | 1,865,703.0 | 757,930.0 | 974.00 | 4.92 | 62.00 | 66 | 10.0 |
| NSA2-10 | 10 | 1 | 1,865,703.0 | 757,980.0 | 974.00 | 4.92 | 60.70 | 66 | 10.0 |
| NSA2-11 | 11 | 1 | 1,865,703.0 | 758,026.0 | 975.00 | 4.92 | 60.20 | 66 | 10.0 |
| NSA2-12 | 12 | 1 | 1,865,714.0 | 758,078.0 | 975.00 | 4.92 | 59.80 | 66 | 10.0 |

| <Organization?> | | 18 July 2022 | | | | | | | | | |
|-----------------------------|-------|----------------------------|-----|------------------------|-----------|--------|---|------------------|---------------------------|-----------|------------|
| CMCox | | TNM 2.5 | | | | | | | | | |
| INPUT: ROADWAYS | | | | | | | Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 PID 116322 | | | | | | | | | |
| RUN: | | Noise barrier NSA2-3 | | | | | | | | | |
| Roadway Name | Width | Points Name | No. | Coordinates (pavement) | | | Flow Control | | | Segment | |
| | | | | X | Y | Z | Control Device | Speed Constraint | Percent Vehicles Affected | Pvmt Type | On Struct? |
| | ft | | | ft | ft | ft | | mph | % | | |
| SR 161 P WB2 a | 12.0 | point24 | 24 | 1,870,465.0 | 759,710.0 | 976.00 | | | | Average | |
| | | point1 | 1 | 1,869,607.0 | 759,309.0 | 996.00 | | | | Average | Y |
| | | point2 | 2 | 1,869,386.0 | 759,209.0 | 998.00 | | | | | |
| Ulry Road | 22.0 | point20 | 20 | 1,865,895.0 | 759,201.0 | 975.00 | | | | Average | |
| | | point195 | 195 | 1,865,876.0 | 758,875.0 | 977.00 | | | | Average | |
| | | point21 | 21 | 1,865,811.0 | 757,790.0 | 979.00 | | | | Average | Y |
| | | point22 | 22 | 1,865,800.0 | 757,544.0 | 972.00 | | | | Average | |
| | | point23 | 23 | 1,865,795.0 | 757,434.0 | 972.00 | | | | | |
| Hamilton Road SB | 24.0 | point25 | 25 | 1,869,249.0 | 760,088.0 | 980.00 | | | | Average | |
| | | point26 | 26 | 1,869,257.0 | 759,888.0 | 981.00 | | | | Average | |
| | | point27 | 27 | 1,869,279.0 | 759,748.0 | 980.00 | | | | Average | |
| | | point28 | 28 | 1,869,327.0 | 759,561.0 | 978.00 | | | | Average | |
| | | point29 | 29 | 1,869,449.0 | 759,244.0 | 976.00 | | | | Average | |
| | | point30 | 30 | 1,869,671.0 | 758,791.0 | 975.00 | | | | Average | |
| | | point31 | 31 | 1,869,819.0 | 758,376.0 | 979.00 | | | | | |
| Hamilton Road NB | 24.0 | point32 | 32 | 1,869,911.0 | 758,301.0 | 980.00 | | | | Average | |
| | | point33 | 33 | 1,869,827.0 | 758,551.0 | 978.00 | | | | Average | |
| | | point34 | 34 | 1,869,717.0 | 758,813.0 | 975.00 | | | | Average | |
| | | point35 | 35 | 1,869,513.0 | 759,251.0 | 976.00 | | | | Average | |
| | | point36 | 36 | 1,869,371.0 | 759,612.0 | 978.00 | | | | Average | |
| | | point37 | 37 | 1,869,325.0 | 759,748.0 | 980.00 | | | | Average | |
| | | point38 | 38 | 1,869,288.0 | 759,888.0 | 981.00 | | | | Average | |
| | | point39 | 39 | 1,869,277.0 | 760,088.0 | 980.00 | | | | | |
| Entrance ramp SR 161 WB 2 b | 12.0 | point40 | 40 | 1,869,309.0 | 759,559.0 | 978.00 | | | | Average | |
| | | point41 | 41 | 1,869,159.0 | 759,492.0 | 977.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|-----------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point42 | 42 | 1,869,009.0 | 759,397.0 | 981.00 | | | | Average | |
| | | point43 | 43 | 1,868,876.0 | 759,233.0 | 985.00 | | | | Average | |
| | | point44 | 44 | 1,868,743.0 | 759,031.0 | 990.00 | | | | Average | |
| | | point45 | 45 | 1,868,543.0 | 758,827.0 | 992.00 | | | | | |
| SR 161 P WB3 a | 12.0 | point47 | 47 | 1,870,465.0 | 759,698.0 | 976.00 | | | | Average | |
| | | point48 | 48 | 1,869,607.0 | 759,297.0 | 996.00 | | | | Average | Y |
| | | point49 | 49 | 1,869,386.0 | 759,197.0 | 998.00 | | | | | |
| SR161 P WB1 a | 12.0 | point64 | 64 | 1,870,465.0 | 759,722.0 | 976.00 | | | | Average | |
| | | point65 | 65 | 1,869,607.0 | 759,321.0 | 996.00 | | | | Average | Y |
| | | point66 | 66 | 1,869,386.0 | 759,221.0 | 998.00 | | | | | |
| SR166 P WB 3b | 12.0 | point69 | 69 | 1,867,753.0 | 758,421.5 | 985.00 | | | | Average | |
| | | point70 | 70 | 1,867,054.0 | 758,106.5 | 974.00 | | | | Average | |
| | | point71 | 71 | 1,866,754.0 | 757,973.5 | 967.00 | | | | Average | |
| | | point72 | 72 | 1,866,454.0 | 757,865.5 | 961.00 | | | | Average | |
| | | point73 | 73 | 1,866,154.0 | 757,777.5 | 955.00 | | | | Average | |
| | | point74 | 74 | 1,865,851.0 | 757,720.5 | 951.00 | | | | Average | |
| | | point75 | 75 | 1,865,451.0 | 757,684.0 | 946.00 | | | | | |
| SR 161 WB inside shoulder b | 12.0 | point98 | 98 | 1,868,545.0 | 758,765.0 | 993.00 | | | | Average | |
| | | point99 | 99 | 1,867,753.0 | 758,385.5 | 984.50 | | | | Average | |
| | | point100 | 100 | 1,867,054.0 | 758,070.5 | 973.50 | | | | Average | |
| | | point101 | 101 | 1,866,754.0 | 757,937.5 | 966.50 | | | | Average | |
| | | point102 | 102 | 1,866,454.0 | 757,829.5 | 960.50 | | | | Average | |
| | | point103 | 103 | 1,866,154.0 | 757,741.5 | 954.50 | | | | Average | |
| | | point104 | 104 | 1,865,851.0 | 757,684.5 | 950.50 | | | | Average | |
| | | point105 | 105 | 1,865,451.0 | 757,647.0 | 945.50 | | | | | |
| SR161 EB inside Shoulder a | 6.0 | point128 | 128 | 1,863,051.0 | 757,872.0 | 919.50 | | | | Average | |
| | | point127 | 127 | 1,863,551.0 | 757,819.0 | 925.50 | | | | Average | |
| | | point126 | 126 | 1,864,051.0 | 757,756.0 | 931.50 | | | | Average | |
| | | point125 | 125 | 1,864,451.0 | 757,704.0 | 935.50 | | | | Average | |
| | | point124 | 124 | 1,864,851.0 | 757,654.0 | 939.50 | | | | Average | |
| | | point123 | 123 | 1,865,151.0 | 757,633.0 | 942.50 | | | | Average | |
| | | point122 | 122 | 1,865,451.0 | 757,630.0 | 945.50 | | | | | |
| SR161 P EB4a | 11.0 | point129 | 129 | 1,863,051.0 | 757,863.5 | 920.00 | | | | Average | |
| | | point130 | 130 | 1,863,551.0 | 757,810.5 | 926.00 | | | | Average | |
| | | point131 | 131 | 1,864,051.0 | 757,747.5 | 932.00 | | | | Average | |
| | | point132 | 132 | 1,864,451.0 | 757,695.5 | 936.00 | | | | Average | |
| | | point133 | 133 | 1,864,851.0 | 757,645.5 | 940.00 | | | | Average | |
| | | point134 | 134 | 1,865,151.0 | 757,624.5 | 943.00 | | | | Average | |
| | | point135 | 135 | 1,865,451.0 | 757,621.5 | 946.00 | | | | | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | |
|-------------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|
| SR 181 P EB3a | 12.0 | point145 | 145 | 1,863,051.0 | 757,852.0 | 920.50 | | | | Average |
| | | point146 | 146 | 1,863,551.0 | 757,799.0 | 926.50 | | | | Average |
| | | point147 | 147 | 1,864,051.0 | 757,736.0 | 932.50 | | | | Average |
| | | point148 | 148 | 1,864,451.0 | 757,684.0 | 936.50 | | | | Average |
| | | point149 | 149 | 1,864,851.0 | 757,634.0 | 940.50 | | | | Average |
| | | point150 | 150 | 1,865,151.0 | 757,613.0 | 943.50 | | | | Average |
| | | point151 | 151 | 1,865,451.0 | 757,610.0 | 946.50 | | | | |
| SR161 P EB2a | 12.0 | point161 | 161 | 1,863,051.0 | 757,840.0 | 921.00 | | | | Average |
| | | point162 | 162 | 1,863,551.0 | 757,787.0 | 927.00 | | | | Average |
| | | point163 | 163 | 1,864,051.0 | 757,724.0 | 933.00 | | | | Average |
| | | point164 | 164 | 1,864,451.0 | 757,672.0 | 937.00 | | | | Average |
| | | point165 | 165 | 1,864,851.0 | 757,622.0 | 941.00 | | | | Average |
| | | point166 | 166 | 1,865,151.0 | 757,601.0 | 944.00 | | | | Average |
| | | point167 | 167 | 1,865,451.0 | 757,598.0 | 947.00 | | | | |
| SR 161 P EB2b | 12.0 | point177 | 177 | 1,865,451.0 | 757,586.5 | 947.00 | | | | Average |
| | | point178 | 178 | 1,865,851.0 | 757,622.0 | 952.00 | | | | Average |
| | | point179 | 179 | 1,866,154.0 | 757,679.0 | 956.00 | | | | Average |
| | | point180 | 180 | 1,866,454.0 | 757,765.0 | 962.00 | | | | Average |
| | | point181 | 181 | 1,866,754.0 | 757,873.0 | 968.00 | | | | Average |
| | | point182 | 182 | 1,867,054.0 | 758,006.0 | 975.00 | | | | Average |
| | | point183 | 183 | 1,867,753.0 | 758,326.5 | 986.00 | | | | |
| Exit ramp SR161EB to Hamilton | 12.0 | point187 | 187 | 1,867,753.0 | 758,314.0 | 986.00 | | | | Average |
| | | point188 | 188 | 1,868,410.0 | 758,584.0 | 991.00 | | | | Average |
| | | point189 | 189 | 1,868,610.0 | 758,640.0 | 990.00 | | | | Average |
| | | point190 | 190 | 1,868,846.0 | 758,662.0 | 985.00 | | | | Average |
| | | point191 | 191 | 1,869,185.0 | 758,662.0 | 978.00 | | | | Average |
| | | point193 | 193 | 1,869,418.1 | 758,707.4 | 976.00 | | | | Average |
| | | point192 | 192 | 1,869,645.0 | 758,790.0 | 974.00 | | | | |
| Haussman/Garnier/Bulfinch | 24.0 | point196 | 196 | 1,865,876.0 | 758,875.0 | 977.00 | | | | Average |
| | | point197 | 197 | 1,866,496.0 | 758,841.0 | 972.00 | | | | Average |
| | | point198 | 198 | 1,866,496.0 | 758,468.0 | 975.00 | | | | Average |
| | | point199 | 199 | 1,867,091.0 | 758,437.0 | 976.00 | | | | Average |
| | | point200 | 200 | 1,867,125.0 | 758,957.0 | 972.00 | | | | |
| SR161 EB inside Shoulder b | 12.0 | point201 | 201 | 1,865,451.0 | 757,631.0 | 945.50 | | | | Average |
| | | point121 | 121 | 1,865,851.0 | 757,670.0 | 950.50 | | | | Average |
| | | point120 | 120 | 1,866,154.0 | 757,727.0 | 954.50 | | | | Average |
| | | point119 | 119 | 1,866,454.0 | 757,813.0 | 960.50 | | | | Average |
| | | point118 | 118 | 1,866,754.0 | 757,923.0 | 966.50 | | | | Average |
| | | point117 | 117 | 1,867,054.0 | 758,056.0 | 973.50 | | | | Average |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|----------------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point116 | 116 | 1,867,753.0 | 758,374.5 | 984.50 | | | | | |
| SR161 P EB5b | 12.0 | point202 | 202 | 1,865,451.0 | 757,621.5 | 946.00 | | | | Average | |
| | | point136 | 136 | 1,865,851.0 | 757,658.0 | 951.00 | | | | Average | |
| | | point137 | 137 | 1,866,154.0 | 757,715.0 | 955.00 | | | | Average | |
| | | point138 | 138 | 1,866,454.0 | 757,801.0 | 961.00 | | | | Average | |
| | | point139 | 139 | 1,866,754.0 | 757,911.0 | 967.00 | | | | Average | |
| | | point140 | 140 | 1,867,054.0 | 758,045.0 | 974.00 | | | | Average | |
| | | point141 | 141 | 1,867,753.0 | 758,362.5 | 985.00 | | | | | |
| SR 161 P EB4b | 12.0 | point203 | 203 | 1,865,451.0 | 757,610.0 | 946.50 | | | | Average | |
| | | point152 | 152 | 1,865,851.0 | 757,646.0 | 951.50 | | | | Average | |
| | | point153 | 153 | 1,866,154.0 | 757,703.0 | 955.50 | | | | Average | |
| | | point154 | 154 | 1,866,454.0 | 757,789.0 | 961.50 | | | | Average | |
| | | point155 | 155 | 1,866,754.0 | 757,899.0 | 967.50 | | | | Average | |
| | | point156 | 156 | 1,867,054.0 | 758,033.0 | 974.50 | | | | Average | |
| | | point157 | 157 | 1,867,753.0 | 758,350.5 | 985.50 | | | | | |
| SR161 P EB3b | 12.0 | point204 | 204 | 1,865,451.0 | 757,598.0 | 947.00 | | | | Average | |
| | | point168 | 168 | 1,865,851.0 | 757,634.0 | 952.00 | | | | Average | |
| | | point169 | 169 | 1,866,154.0 | 757,691.0 | 956.00 | | | | Average | |
| | | point170 | 170 | 1,866,454.0 | 757,777.0 | 962.00 | | | | Average | |
| | | point171 | 171 | 1,866,754.0 | 757,887.0 | 968.00 | | | | Average | |
| | | point172 | 172 | 1,867,054.0 | 758,021.0 | 975.00 | | | | Average | |
| | | point173 | 173 | 1,867,753.0 | 758,338.5 | 986.00 | | | | | |
| SR 161 P EB1a | 11.0 | point205 | 205 | 1,863,051.0 | 757,828.5 | 921.00 | | | | Average | |
| | | point206 | 206 | 1,863,551.0 | 757,775.5 | 927.00 | | | | Average | |
| | | point207 | 207 | 1,864,051.0 | 757,712.5 | 933.00 | | | | Average | |
| | | point208 | 208 | 1,864,451.0 | 757,660.5 | 937.00 | | | | Average | |
| | | point209 | 209 | 1,864,851.0 | 757,610.5 | 941.00 | | | | Average | |
| | | point210 | 210 | 1,865,151.0 | 757,589.5 | 944.00 | | | | Average | |
| | | point211 | 211 | 1,865,451.0 | 757,586.5 | 947.00 | | | | | |
| SR 161 PEB outside shoulder 4' a | 4.0 | point212 | 212 | 1,863,051.0 | 757,821.0 | 920.90 | | | | Average | |
| | | point213 | 213 | 1,863,551.0 | 757,768.0 | 926.90 | | | | Average | |
| | | point214 | 214 | 1,864,051.0 | 757,705.0 | 932.90 | | | | Average | |
| | | point215 | 215 | 1,864,451.0 | 757,653.0 | 936.90 | | | | Average | |
| | | point216 | 216 | 1,864,851.0 | 757,603.0 | 940.90 | | | | Average | |
| | | point217 | 217 | 1,865,151.0 | 757,582.0 | 943.90 | | | | Average | |
| | | point218 | 218 | 1,865,451.0 | 757,579.0 | 946.90 | | | | | |
| SR161 P EB2c | 12.0 | point219 | 219 | 1,867,753.0 | 758,338.5 | 986.00 | | | | Average | |
| | | point174 | 174 | 1,868,545.0 | 758,711.5 | 995.00 | | | | Average | |
| | | point175 | 175 | 1,869,386.0 | 759,128.5 | 999.00 | | | | Average | Y |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|---------------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point176 | 176 | 1,869,607.0 | 759,232.5 | 998.00 | | | | | |
| SR 161 P EB3c | 12.0 | point220 | 220 | 1,867,753.0 | 758,350.5 | 985.50 | | | | Average | |
| | | point158 | 158 | 1,868,545.0 | 758,723.5 | 994.50 | | | | Average | |
| | | point159 | 159 | 1,869,386.0 | 759,140.5 | 998.50 | | | | Average | Y |
| | | point160 | 160 | 1,869,607.0 | 759,244.5 | 997.50 | | | | | |
| SR161 P EB4c | 12.0 | point221 | 221 | 1,867,753.0 | 758,362.5 | 985.00 | | | | Average | |
| | | point142 | 142 | 1,868,545.0 | 758,735.5 | 994.00 | | | | Average | |
| | | point143 | 143 | 1,869,386.0 | 759,152.5 | 998.00 | | | | Average | Y |
| | | point144 | 144 | 1,869,607.0 | 759,256.5 | 997.00 | | | | | |
| SR161 P EB inside Shoulder 4' c | 4.0 | point222 | 222 | 1,867,753.0 | 758,374.5 | 984.50 | | | | Average | |
| | | point115 | 115 | 1,868,545.0 | 758,747.5 | 993.50 | | | | Average | |
| | | point114 | 114 | 1,869,386.0 | 759,164.5 | 997.50 | | | | Average | Y |
| | | point113 | 113 | 1,869,607.0 | 759,264.5 | 996.50 | | | | | |
| SR161 P EB1b | 12.0 | point230 | 230 | 1,865,451.0 | 757,586.5 | 947.00 | | | | Average | |
| | | point231 | 231 | 1,865,851.0 | 757,610.0 | 952.00 | | | | Average | |
| | | point232 | 232 | 1,866,154.0 | 757,667.0 | 956.00 | | | | Average | |
| | | point233 | 233 | 1,866,454.0 | 757,753.0 | 962.00 | | | | Average | |
| | | point234 | 234 | 1,866,754.0 | 757,861.0 | 968.00 | | | | Average | |
| | | point235 | 235 | 1,867,054.0 | 757,994.0 | 975.00 | | | | Average | |
| | | point236 | 236 | 1,867,753.0 | 758,314.0 | 986.00 | | | | | |
| SR161 P EB outside shoulder | 12.0 | point237 | 237 | 1,865,451.0 | 757,579.0 | 946.90 | | | | Average | |
| | | point238 | 238 | 1,865,851.0 | 757,598.0 | 952.00 | | | | Average | |
| | | point239 | 239 | 1,866,154.0 | 757,655.0 | 956.00 | | | | Average | |
| | | point240 | 240 | 1,866,454.0 | 757,741.0 | 962.00 | | | | Average | |
| | | point241 | 241 | 1,866,754.0 | 757,849.0 | 968.00 | | | | Average | |
| | | point242 | 242 | 1,867,054.0 | 757,982.0 | 975.00 | | | | Average | |
| | | point243 | 243 | 1,867,753.0 | 758,299.0 | 986.00 | | | | | |
| SR 161 P EB1c | 12.0 | point244 | 244 | 1,867,753.0 | 758,326.5 | 986.00 | | | | Average | |
| | | point245 | 245 | 1,868,545.0 | 758,699.5 | 995.00 | | | | Average | |
| | | point246 | 246 | 1,869,386.0 | 759,116.5 | 999.00 | | | | Average | Y |
| | | point247 | 247 | 1,869,607.0 | 759,220.5 | 998.00 | | | | | |
| SR 161 P EB outside shoulder c | 10.0 | point248 | 248 | 1,867,982.0 | 758,422.0 | 988.50 | | | | Average | |
| | | point249 | 249 | 1,868,545.0 | 758,688.5 | 995.00 | | | | Average | |
| | | point250 | 250 | 1,869,386.0 | 759,105.5 | 999.00 | | | | Average | Y |
| | | point251 | 251 | 1,869,607.0 | 759,209.5 | 998.00 | | | | | |
| SR 161 P WB Inside Shoulder a | 10.0 | point256 | 256 | 1,870,465.0 | 759,687.0 | 976.00 | | | | Average | |
| | | point252 | 252 | 1,869,607.0 | 759,286.0 | 996.50 | | | | Average | Y |
| | | point253 | 253 | 1,869,386.0 | 759,186.0 | 997.00 | | | | | |
| SR161 P WB1 b | 12.0 | point257 | 257 | 1,869,386.0 | 759,221.0 | 998.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|--------------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point67 | 67 | 1,868,545.0 | 758,801.0 | 994.00 | | | | Average | |
| | | point68 | 68 | 1,867,753.0 | 758,424.0 | 985.00 | | | | | |
| SR 161 P WB 4 b | 12.0 | point258 | 258 | 1,869,386.0 | 759,209.0 | 998.00 | | | | Average | |
| | | point3 | 3 | 1,868,545.0 | 758,789.0 | 994.00 | | | | Average | |
| | | point7 | 7 | 1,867,753.0 | 758,409.5 | 985.00 | | | | Average | |
| | | point8 | 8 | 1,867,054.0 | 758,094.5 | 974.00 | | | | Average | |
| | | point9 | 9 | 1,866,754.0 | 757,961.5 | 967.00 | | | | Average | |
| | | point10 | 10 | 1,866,454.0 | 757,853.5 | 961.00 | | | | Average | |
| | | point11 | 11 | 1,866,154.0 | 757,765.5 | 955.00 | | | | Average | |
| | | point12 | 12 | 1,865,851.0 | 757,708.5 | 951.00 | | | | Average | |
| | | point13 | 13 | 1,865,451.0 | 757,672.0 | 946.00 | | | | | |
| SR 161 P WB 5 b | 12.0 | point259 | 259 | 1,869,386.0 | 759,197.0 | 998.00 | | | | Average | |
| | | point50 | 50 | 1,868,545.0 | 758,777.0 | 994.00 | | | | Average | |
| | | point51 | 51 | 1,867,753.0 | 758,397.5 | 985.00 | | | | Average | |
| | | point52 | 52 | 1,867,054.0 | 758,082.5 | 974.00 | | | | Average | |
| | | point53 | 53 | 1,866,754.0 | 757,949.5 | 967.00 | | | | Average | |
| | | point54 | 54 | 1,866,454.0 | 757,841.5 | 961.00 | | | | Average | |
| | | point55 | 55 | 1,866,154.0 | 757,753.5 | 955.00 | | | | Average | |
| | | point56 | 56 | 1,865,851.0 | 757,696.5 | 951.00 | | | | Average | |
| | | point57 | 57 | 1,865,451.0 | 757,660.0 | 946.00 | | | | | |
| SR 161 P WB Inside Shoulder b | 10.0 | point260 | 260 | 1,869,386.0 | 759,186.0 | 997.00 | | | | Average | |
| | | point254 | 254 | 1,868,545.0 | 758,765.0 | 993.00 | | | | | |
| SR 161 P WB outside shoulder a | 12.0 | point261 | 261 | 1,870,465.0 | 759,734.0 | 976.00 | | | | Average | |
| | | point262 | 262 | 1,869,607.0 | 759,333.0 | 996.00 | | | | Average | Y |
| | | point263 | 263 | 1,869,386.0 | 759,233.0 | 998.00 | | | | Average | |
| | | point264 | 264 | 1,868,545.0 | 758,813.0 | 994.00 | | | | | |
| SR166 P WB 2 c | 12.0 | point265 | 265 | 1,865,451.0 | 757,681.5 | 946.00 | | | | Average | |
| | | point76 | 76 | 1,865,151.0 | 757,684.0 | 943.00 | | | | Average | |
| | | point77 | 77 | 1,864,851.0 | 757,702.5 | 940.00 | | | | Average | |
| | | point78 | 78 | 1,864,451.0 | 757,752.5 | 936.00 | | | | Average | |
| | | point79 | 79 | 1,864,051.0 | 757,804.5 | 932.00 | | | | Average | |
| | | point80 | 80 | 1,863,551.0 | 757,867.5 | 926.00 | | | | Average | |
| | | point81 | 81 | 1,863,051.0 | 757,920.5 | 920.00 | | | | | |
| SR 161 P WB3 c | 12.0 | point266 | 266 | 1,865,451.0 | 757,669.5 | 946.00 | | | | Average | |
| | | point14 | 14 | 1,865,151.0 | 757,672.0 | 943.00 | | | | Average | |
| | | point15 | 15 | 1,864,851.0 | 757,690.5 | 940.00 | | | | Average | |
| | | point16 | 16 | 1,864,451.0 | 757,740.5 | 936.00 | | | | Average | |
| | | point17 | 17 | 1,864,051.0 | 757,792.5 | 932.00 | | | | Average | |
| | | point18 | 18 | 1,863,551.0 | 757,855.5 | 926.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|--------------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|--|
| | | point19 | 19 | 1,863,051.0 | 757,908.5 | 920.00 | | | | | |
| SR 161 P WB 4 c | 12.0 | point267 | 267 | 1,865,451.0 | 757,657.5 | 946.00 | | | | Average | |
| | | point58 | 58 | 1,865,151.0 | 757,660.0 | 943.00 | | | | Average | |
| | | point59 | 59 | 1,864,851.0 | 757,678.5 | 940.00 | | | | Average | |
| | | point60 | 60 | 1,864,451.0 | 757,728.5 | 936.00 | | | | Average | |
| | | point61 | 61 | 1,864,051.0 | 757,780.5 | 932.00 | | | | Average | |
| | | point62 | 62 | 1,863,551.0 | 757,843.5 | 926.00 | | | | Average | |
| | | point63 | 63 | 1,863,051.0 | 757,896.5 | 920.00 | | | | | |
| SR 161 P WB inside shoulder c | 12.0 | point268 | 268 | 1,865,451.0 | 757,645.5 | 945.50 | | | | Average | |
| | | point106 | 106 | 1,865,151.0 | 757,647.0 | 942.50 | | | | Average | |
| | | point107 | 107 | 1,864,851.0 | 757,666.5 | 939.50 | | | | Average | |
| | | point108 | 108 | 1,864,451.0 | 757,716.5 | 935.50 | | | | Average | |
| | | point109 | 109 | 1,864,051.0 | 757,768.5 | 931.50 | | | | Average | |
| | | point110 | 110 | 1,863,551.0 | 757,831.5 | 925.50 | | | | Average | |
| | | point111 | 111 | 1,863,051.0 | 757,884.5 | 919.50 | | | | | |
| Entrance ramp SR 161 P WB 1 b | 12.0 | point269 | 269 | 1,868,543.0 | 758,827.0 | 992.00 | | | | Average | |
| | | point270 | 270 | 1,868,165.0 | 758,644.0 | 990.00 | | | | Average | |
| | | point271 | 271 | 1,867,753.0 | 758,445.5 | 985.00 | | | | Average | |
| | | point272 | 272 | 1,867,054.0 | 758,130.5 | 974.00 | | | | Average | |
| | | point273 | 273 | 1,866,754.0 | 757,997.5 | 967.00 | | | | Average | |
| | | point274 | 274 | 1,866,454.0 | 757,889.5 | 961.00 | | | | Average | |
| | | point275 | 275 | 1,866,154.0 | 757,801.5 | 955.00 | | | | Average | |
| | | point276 | 276 | 1,865,851.0 | 757,744.5 | 951.00 | | | | Average | |
| | | point279 | 279 | 1,865,451.0 | 757,693.5 | 946.00 | | | | | |
| SR 161 P WB 1 c | 12.0 | point277 | 277 | 1,865,451.0 | 757,693.5 | 946.00 | | | | Average | |
| | | point278 | 278 | 1,865,151.0 | 757,696.0 | 943.00 | | | | Average | |
| | | point280 | 280 | 1,864,851.0 | 757,714.5 | 940.00 | | | | Average | |
| | | point281 | 281 | 1,864,451.0 | 757,764.5 | 936.00 | | | | Average | |
| | | point282 | 282 | 1,864,051.0 | 757,816.5 | 932.00 | | | | Average | |
| | | point283 | 283 | 1,863,551.0 | 757,879.5 | 926.00 | | | | Average | |
| | | point284 | 284 | 1,863,051.0 | 757,932.5 | 920.00 | | | | | |
| SR 161 WB P outside shoulder c | 12.0 | point285 | 285 | 1,865,451.0 | 757,705.5 | 946.00 | | | | Average | |
| | | point286 | 286 | 1,865,151.0 | 757,708.5 | 943.00 | | | | Average | |
| | | point287 | 287 | 1,864,851.0 | 757,726.5 | 940.00 | | | | Average | |
| | | point288 | 288 | 1,864,451.0 | 757,776.5 | 936.00 | | | | Average | |
| | | point289 | 289 | 1,864,051.0 | 757,828.5 | 932.00 | | | | Average | |
| | | point290 | 290 | 1,863,551.0 | 757,891.5 | 926.00 | | | | Average | |
| | | point291 | 291 | 1,863,051.0 | 757,944.5 | 920.00 | | | | | |
| Entrance ramp SR 161 WB 2 b-2 | 12.0 | point292 | 292 | 1,868,543.0 | 758,827.0 | 992.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|--|--|---------|----|-------------|-----------|--------|--|--|--|---------|--|
| | | point46 | 46 | 1,868,165.0 | 758,632.0 | 990.00 | | | | Average | |
| | | point82 | 82 | 1,867,753.0 | 758,433.5 | 985.00 | | | | Average | |
| | | point83 | 83 | 1,867,054.0 | 758,118.5 | 974.00 | | | | Average | |
| | | point84 | 84 | 1,866,754.0 | 757,985.5 | 967.00 | | | | Average | |
| | | point85 | 85 | 1,866,454.0 | 757,877.5 | 961.00 | | | | Average | |
| | | point86 | 86 | 1,866,154.0 | 757,789.5 | 955.00 | | | | Average | |
| | | point87 | 87 | 1,865,851.0 | 757,732.5 | 951.00 | | | | Average | |
| | | point88 | 88 | 1,865,451.0 | 757,693.5 | 946.00 | | | | | |
| SR 161 P WB 4 b::point8 under overhead power lines | | | | | | | | | | | |
| SR 161 P WB 4 b::point11 below overhead sign | | | | | | | | | | | |

| <Organization?> | | 18 July 2022 | | | | | | | | | | |
|-----------------------------------|----------|----------------------------|---------|-----|---------|-----|---------|-----|--------|-----|-------------|-----|
| CMCox | | TNM 2.5 | | | | | | | | | | |
| INPUT: TRAFFIC FOR LAeq1h Volumes | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 PID 116322 | | | | | | | | | | |
| RUN: | | Noise barrier NSA2-3 | | | | | | | | | | |
| Roadway | Points | | | | | | | | | | | |
| Name | Name | No. | Segment | | MTrucks | | HTrucks | | Buses | | Motorcycles | |
| | | | Autos | | V | S | V | S | V | S | V | S |
| | | | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph |
| SR 161 P WB2 a | point24 | 24 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point1 | 1 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point2 | 2 | | | | | | | | | | |
| Utry Road | point20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point195 | 195 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point21 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point22 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point23 | 23 | | | | | | | | | | |
| Hamilton Road SB | point25 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point26 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point27 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point28 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point29 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point30 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point31 | 31 | | | | | | | | | | |
| Hamilton Road NB | point32 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point33 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point34 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point35 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point36 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point37 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point38 | 38 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point39 | 39 | | | | | | | | | | |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|-----------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| Entrance ramp SR 161 WB 2 b | point40 | 40 | 2458 | 65 | 24 | 65 | 53 | 65 | 0 | 0 | 0 | 0 |
| | point41 | 41 | 2458 | 65 | 24 | 65 | 53 | 65 | 0 | 0 | 0 | 0 |
| | point42 | 42 | 2458 | 65 | 24 | 65 | 53 | 65 | 0 | 0 | 0 | 0 |
| | point43 | 43 | 2458 | 65 | 24 | 65 | 53 | 65 | 0 | 0 | 0 | 0 |
| | point44 | 44 | 2458 | 65 | 24 | 65 | 53 | 65 | 0 | 0 | 0 | 0 |
| | point45 | 45 | | | | | | | | | | |
| SR 161 P WB3 a | point47 | 47 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point48 | 48 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point49 | 49 | | | | | | | | | | |
| SR161 P WB1 a | point64 | 64 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point65 | 65 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point66 | 66 | | | | | | | | | | |
| SR166 P WB 3b | point69 | 69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point70 | 70 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point71 | 71 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point72 | 72 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point73 | 73 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point74 | 74 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point75 | 75 | | | | | | | | | | |
| SR 161 WB inside shoulder b | point98 | 98 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point99 | 99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point101 | 101 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point102 | 102 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point103 | 103 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point104 | 104 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point105 | 105 | | | | | | | | | | |
| SR161 EB inside Shoulder a | point128 | 128 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point127 | 127 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point126 | 126 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point125 | 125 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point124 | 124 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point123 | 123 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point122 | 122 | | | | | | | | | | |
| SR161 P EB4a | point129 | 129 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point130 | 130 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|-------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point131 | 131 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point132 | 132 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point133 | 133 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point134 | 134 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point135 | 135 | | | | | | | | | | |
| SR 181 P EB3a | point145 | 145 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point146 | 146 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point147 | 147 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point148 | 148 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point149 | 149 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point150 | 150 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point151 | 151 | | | | | | | | | | |
| SR161 P EB2a | point161 | 161 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point162 | 162 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point163 | 163 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point164 | 164 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point165 | 165 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point166 | 166 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point167 | 167 | | | | | | | | | | |
| SR 161 P EB2b | point177 | 177 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point178 | 178 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point179 | 179 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point180 | 180 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point181 | 181 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point182 | 182 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point183 | 183 | | | | | | | | | | |
| Exit ramp SR161EB to Hamilton | point187 | 187 | 2303 | 65 | 22 | 65 | 49 | 65 | 0 | 0 | 0 | 0 |
| | point188 | 188 | 2303 | 65 | 22 | 65 | 49 | 65 | 0 | 0 | 0 | 0 |
| | point189 | 189 | 2303 | 65 | 22 | 65 | 49 | 65 | 0 | 0 | 0 | 0 |
| | point190 | 190 | 2303 | 65 | 22 | 65 | 49 | 65 | 0 | 0 | 0 | 0 |
| | point191 | 191 | 2303 | 65 | 22 | 65 | 49 | 65 | 0 | 0 | 0 | 0 |
| | point193 | 193 | 2303 | 65 | 22 | 65 | 49 | 65 | 0 | 0 | 0 | 0 |
| | point192 | 192 | | | | | | | | | | |
| Haussman/Garnier/Bulfinch | point196 | 196 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point197 | 197 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point198 | 198 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|----------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point199 | 199 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point200 | 200 | | | | | | | | | | |
| SR161 EB inside Shoulder b | point201 | 201 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point121 | 121 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point120 | 120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point119 | 119 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point118 | 118 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point117 | 117 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point116 | 116 | | | | | | | | | | |
| SR161 P EB5b | point202 | 202 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point136 | 136 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point137 | 137 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point138 | 138 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point139 | 139 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point140 | 140 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point141 | 141 | | | | | | | | | | |
| SR 161 P EB4b | point203 | 203 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point152 | 152 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point153 | 153 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point154 | 154 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point155 | 155 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point156 | 156 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point157 | 157 | | | | | | | | | | |
| SR161 P EB3b | point204 | 204 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point168 | 168 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point169 | 169 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point170 | 170 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point171 | 171 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point172 | 172 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point173 | 173 | | | | | | | | | | |
| SR 161 P EB1a | point205 | 205 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point206 | 206 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point207 | 207 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point208 | 208 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point209 | 209 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point210 | 210 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|----------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point211 | 211 | | | | | | | | | | |
| SR 161 PEB outside shoulder 4' a | point212 | 212 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point213 | 213 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point214 | 214 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point215 | 215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point216 | 216 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point217 | 217 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point218 | 218 | | | | | | | | | | |
| SR161 P EB2c | point219 | 219 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point174 | 174 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point175 | 175 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point176 | 176 | | | | | | | | | | |
| SR 161 P EB3c | point220 | 220 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point158 | 158 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point159 | 159 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point160 | 160 | | | | | | | | | | |
| SR161 P EB4c | point221 | 221 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point142 | 142 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point143 | 143 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point144 | 144 | | | | | | | | | | |
| SR161 P EB inside Shoulder 4' c | point222 | 222 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point115 | 115 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point114 | 114 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point113 | 113 | | | | | | | | | | |
| SR161 P EB1b | point230 | 230 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point231 | 231 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point232 | 232 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point233 | 233 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point234 | 234 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point235 | 235 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point236 | 236 | | | | | | | | | | |
| SR161 P EB outside shoulder | point237 | 237 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point238 | 238 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point239 | 239 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point240 | 240 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point241 | 241 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|--------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point242 | 242 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point243 | 243 | | | | | | | | | | |
| SR 161 P EB1c | point244 | 244 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point245 | 245 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point246 | 246 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point247 | 247 | | | | | | | | | | |
| SR 161 P EB outside shoulder c | point248 | 248 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point249 | 249 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point250 | 250 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point251 | 251 | | | | | | | | | | |
| SR 161 P WB Inside Shoulder a | point256 | 256 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point252 | 252 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point253 | 253 | | | | | | | | | | |
| SR161 P WB1 b | point257 | 257 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point67 | 67 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point68 | 68 | | | | | | | | | | |
| SR 161 P WB 4 b | point258 | 258 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point3 | 3 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point7 | 7 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point8 | 8 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point9 | 9 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point10 | 10 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point11 | 11 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point12 | 12 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point13 | 13 | | | | | | | | | | |
| SR 161 P WB 5 b | point259 | 259 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point50 | 50 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point51 | 51 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point52 | 52 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point53 | 53 | 1394 | 65 | 22 | 0 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point54 | 54 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point55 | 55 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point56 | 56 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point57 | 57 | | | | | | | | | | |
| SR 161 P WB Inside Shoulder b | point260 | 260 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point254 | 254 | | | | | | | | | | |

INPUT: TRAFFIC FOR LAeq1h Volumes

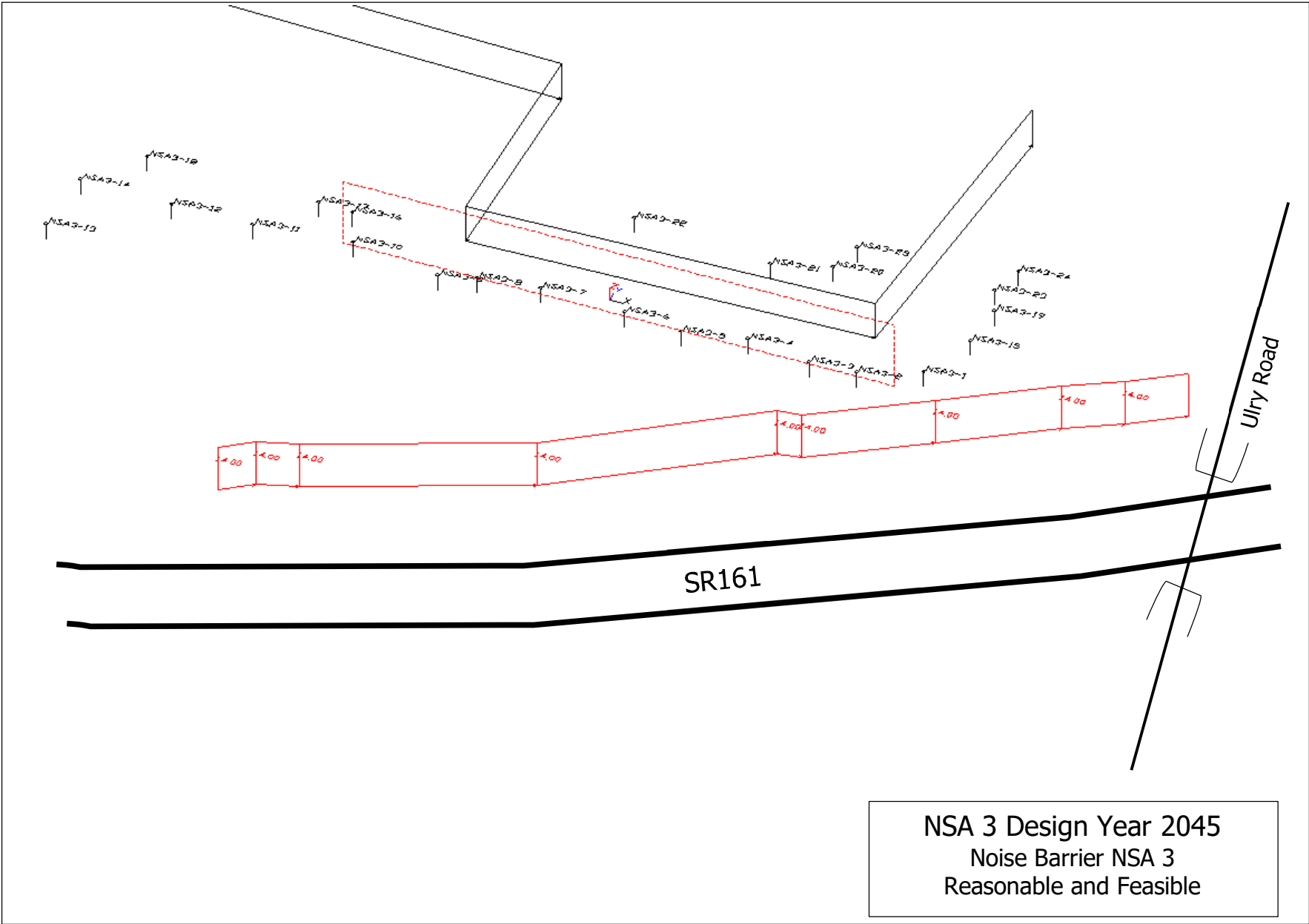
FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|--------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| SR 161 P WB outside shoulder a | point261 | 261 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point262 | 262 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point263 | 263 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point264 | 264 | | | | | | | | | | |
| SR166 P WB 2 c | point265 | 265 | 1125 | 65 | 17 | 65 | 81 | 65 | 0 | 0 | 0 | 0 |
| | point76 | 76 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point77 | 77 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point78 | 78 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point79 | 79 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point80 | 80 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point81 | 81 | | | | | | | | | | |
| SR 161 P WB3 c | point266 | 266 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point14 | 14 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point15 | 15 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point16 | 16 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point17 | 17 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point18 | 18 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point19 | 19 | | | | | | | | | | |
| SR 161 P WB 4 c | point267 | 267 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point58 | 58 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point59 | 59 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point60 | 60 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point61 | 61 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point62 | 62 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point63 | 63 | | | | | | | | | | |
| SR 161 P WB inside shoulder c | point268 | 268 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point106 | 106 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point107 | 107 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point108 | 108 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point109 | 109 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point110 | 110 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point111 | 111 | | | | | | | | | | |
| Entrance ramp SR 161 P WB 1 b | point269 | 269 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point270 | 270 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point271 | 271 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point272 | 272 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|--------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point273 | 273 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point274 | 274 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point275 | 275 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point276 | 276 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point279 | 279 | | | | | | | | | | |
| SR 161 P WB 1 c | point277 | 277 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point278 | 278 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point280 | 280 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point281 | 281 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point282 | 282 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point283 | 283 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point284 | 284 | | | | | | | | | | |
| SR 161 WB P outside shoulder c | point285 | 285 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point286 | 286 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point287 | 287 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point288 | 288 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point289 | 289 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point290 | 290 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point291 | 291 | | | | | | | | | | |
| Entrance ramp SR 161 WB 2 b-2 | point292 | 292 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point46 | 46 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point82 | 82 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point83 | 83 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point84 | 84 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point85 | 85 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point86 | 86 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point87 | 87 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point88 | 88 | | | | | | | | | | |



RESULTS: SOUND LEVELS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | | |
|--------------------------|--|--|--|--|--|--|--|--|--|-------------------------|--|--|--|
| <Organization?> CMCox | | | | | | | | | | 18 July 2022 | | | |
| | | | | | | | | | | TNM 2.5 | | | |
| | | | | | | | | | | Calculated with TNM 2.5 | | | |

RESULTS: SOUND LEVELS

| | | | | | | | | | | | | | |
|-------------------|----------------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| PROJECT/CONTRACT: | FRA-SR161-15.80 PID 116322 | | | | | | | | | | | | |
| RUN: | Noise barrier NSA2-3 | | | | | | | | | | | | |
| BARRIER DESIGN: | Noise barrier NSA3 14' | | | | | | | | | | Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA. | | |
| ATMOSPHERICS: | 68 deg F, 50% RH | | | | | | | | | | | | |

| Receiver | | | | | | | | | | | | | |
|----------|-----|------|-----------------|-------------------|------------------------|------------|--------|---------|-------------------|-----------------|------|------------|------------|
| Name | No. | #DUs | Existing LAeq1h | No Barrier LAeq1h | Increase over existing | | | Type | With Barrier | Noise Reduction | | | |
| | | | | Calculated | Crit'n | Calculated | Crit'n | Impact | Calculated LAeq1h | Calculated | Goal | Calculated | minus Goal |
| | | | dBA | dBA | dBA | dB | dB | | dBA | dB | dB | dB | dB |
| NSA3-1 | 13 | 1 | 74.2 | 75.5 | 66 | 1.3 | 10 | Snd Lvl | 63.0 | 12.5 | 5 | 7.5 | |
| NSA3-2 | 14 | 1 | 74.0 | 75.3 | 66 | 1.3 | 10 | Snd Lvl | 61.5 | 13.8 | 5 | 8.8 | |
| NSA3-3 | 15 | 1 | 73.0 | 74.3 | 66 | 1.3 | 10 | Snd Lvl | 60.0 | 14.3 | 5 | 9.3 | |
| NSA3-4 | 16 | 2 | 70.7 | 72.2 | 66 | 1.5 | 10 | Snd Lvl | 56.2 | 16.0 | 5 | 11.0 | |
| NSA3-5 | 17 | 1 | 69.3 | 71.1 | 66 | 1.8 | 10 | Snd Lvl | 68.7 | 2.4 | 5 | -2.6 | |
| NSA3-6 | 18 | 2 | 67.3 | 69.3 | 66 | 2.0 | 10 | Snd Lvl | 66.8 | 2.5 | 5 | -2.5 | |
| NSA3-7 | 19 | 2 | 64.8 | 67.1 | 66 | 2.3 | 10 | Snd Lvl | 64.2 | 2.9 | 5 | -2.1 | |
| NSA3-8 | 20 | 1 | 64.6 | 66.6 | 66 | 2.0 | 10 | Snd Lvl | 55.9 | 10.7 | 5 | 5.7 | |
| NSA3-9 | 21 | 1 | 64.1 | 66.1 | 66 | 2.0 | 10 | Snd Lvl | 56.1 | 10.0 | 5 | 5.0 | |
| NSA3-10 | 22 | 1 | 61.4 | 63.7 | 66 | 2.3 | 10 | ---- | 54.9 | 8.8 | 5 | 3.8 | |
| NSA3-11 | 23 | 1 | 60.3 | 62.5 | 66 | 2.2 | 10 | ---- | 56.3 | 6.2 | 5 | 1.2 | |
| NSA3-12 | 24 | 1 | 58.1 | 60.9 | 66 | 2.8 | 10 | ---- | 55.9 | 5.0 | 5 | 0.0 | |
| NSA3-13 | 25 | 1 | 59.1 | 61.1 | 66 | 2.0 | 10 | ---- | 57.4 | 3.7 | 5 | -1.3 | |
| NSA3-14 | 26 | 1 | 57.8 | 60.3 | 66 | 2.5 | 10 | ---- | 56.3 | 4.0 | 5 | -1.0 | |
| NSA3-15 | 27 | 1 | 71.4 | 73.0 | 66 | 1.6 | 10 | Snd Lvl | 64.0 | 9.0 | 5 | 4.0 | |
| NSA3-16 | 28 | 1 | 58.0 | 61.1 | 66 | 3.1 | 10 | ---- | 55.6 | 5.5 | 5 | 0.5 | |
| NSA3-17 | 29 | 1 | 58.8 | 61.5 | 66 | 2.7 | 10 | ---- | 55.6 | 5.9 | 5 | 0.9 | |
| NSA3-18 | 30 | 1 | 56.4 | 59.6 | 66 | 3.2 | 10 | ---- | 55.1 | 4.5 | 5 | -0.5 | |
| NSA3-19 | 31 | 1 | 69.2 | 71.5 | 66 | 2.3 | 10 | Snd Lvl | 64.6 | 6.9 | 5 | 1.9 | |
| NSA3-20 | 32 | 1 | 64.5 | 67.3 | 66 | 2.8 | 10 | Snd Lvl | 60.4 | 6.9 | 5 | 1.9 | |
| NSA3-21 | 33 | 1 | 64.3 | 67.0 | 66 | 2.7 | 10 | Snd Lvl | 59.7 | 7.3 | 5 | 2.3 | |
| NSA3-22 | 34 | 1 | 61.6 | 64.7 | 66 | 3.1 | 10 | ---- | 57.6 | 7.1 | 5 | 2.1 | |
| NSA3-23 | 35 | 1 | 67.2 | 70.2 | 66 | 3.0 | 10 | Snd Lvl | 64.0 | 6.2 | 5 | 1.2 | |
| NSA3-24 | 36 | 1 | 65.4 | 69.0 | 66 | 3.6 | 10 | Snd Lvl | 63.7 | 5.3 | 5 | 0.3 | |

RESULTS: SOUND LEVELS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|-----------------------|----|--------------|------------------------|------------|------------|-----|----|---------|------|-----|---|-----|
| NSA3-25 | 37 | 1 | 63.8 | 66.8 | 66 | 3.0 | 10 | Snd Lvl | 60.6 | 6.2 | 5 | 1.2 |
| Dwelling Units | | # DUs | Noise Reduction | | | | | | | | | |
| | | | Min | Avg | Max | | | | | | | |
| | | | dB | dB | dB | | | | | | | |
| All Selected | | 28 | 2.4 | 7.3 | 16.0 | | | | | | | |
| All Impacted | | 19 | 2.4 | 8.3 | 16.0 | | | | | | | |
| All that meet NR Goal | | 20 | 5.0 | 8.6 | 16.0 | | | | | | | |

RESULTS: BARRIER DESCRIPTIONS

FRA-SR161-15.80 PID 116322

| <Organization?> | | | | | | | | | | | 18 July 2022 | | | | | | | | | | |
|--------------------------------------|------|-----------------------|-------|-------|--------|---------|--------|---------|-------|-------------|-----------------------------------|--|--|--|--|--|--|--|--|--|--|
| CMCox | | | | | | | | | | | TNM 2.5 | | | | | | | | | | |
| RESULTS: BARRIER DESCRIPTIONS | | | | | | | | | | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | | | | | | | | | | FRA-SR161-15.80 PID 116322 | | | | | | | | | | |
| RUN: | | | | | | | | | | | Noise barrier NSA2-3 | | | | | | | | | | |
| BARRIER DESIGN: | | | | | | | | | | | INPUT HEIGHTS | | | | | | | | | | |
| Barriers | | | | | | | | | | | | | | | | | | | | | |
| Name | Type | Heights along Barrier | | | Length | If Wall | | If Berm | | Run:Rise | Cost | | | | | | | | | | |
| | | Min | Avg | Max | | Area | Volume | Top | Width | | | | | | | | | | | | |
| | | ft | ft | ft | ft | sq ft | cu yd | ft | ft:ft | \$ | | | | | | | | | | | |
| Existing barrier | W | 11.00 | 11.00 | 11.00 | 789 | 8675 | | | | 0 | | | | | | | | | | | |
| Noise barrier NSA3 | W | 13.00 | 13.00 | 13.00 | 1304 | 16954 | | | | 508621 | | | | | | | | | | | |
| | | | | | | | | | | Total Cost: | 508621 | | | | | | | | | | |

INPUT: RECEIVERS

FRA-SR161-15.80 PID 116322

| | | | | | | 18 July 2022 | | | | | |
|--------------------------|-----|-----------------------------------|----------------------|-----------|--------|---------------------------|---------------------------------|---------------------------|-------|------------|-----------------------|
| <Organization?> | | | | | | TNM 2.5 | | | | | |
| CMCox | | | | | | | | | | | |
| INPUT: RECEIVERS | | | | | | | | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 PID 116322 | | | | | | | | | |
| RUN: | | Noise barrier NSA2-3 | | | | | | | | | |
| Receiver | | | | | | | | | | | |
| Name | No. | #DUs | Coordinates (ground) | | | Height above Ground | Input Sound Levels and Criteria | | | | Active in Calc. |
| | | | X | Y | Z | | Existing LAeq1h | Impact Criteria LAeq1h | Sub'l | NR Goal | |
| | | | ft | ft | ft | ft | dBA | dBA | dB | dB | |
| NSA2-1 | 1 | 6 | 1,865,184.0 | 758,065.0 | 959.00 | 4.92 | 56.20 | 66 | 10.0 | 5.0 | Y |
| NSA2-2 | 2 | 6 | 1,865,021.0 | 758,105.0 | 957.00 | 4.92 | 55.90 | 66 | 10.0 | 5.0 | Y |
| NSA2-3 | 3 | 6 | 1,864,902.0 | 758,143.0 | 955.00 | 4.92 | 55.70 | 66 | 10.0 | 5.0 | Y |
| NSA2-4 | 4 | 6 | 1,864,719.0 | 758,143.0 | 953.00 | 4.92 | 56.10 | 66 | 10.0 | 5.0 | Y |
| NSA2-5 | 5 | 6 | 1,864,629.0 | 758,232.0 | 953.00 | 4.92 | 54.50 | 66 | 10.0 | 5.0 | Y |
| NSA2-6 | 6 | 6 | 1,865,315.0 | 758,221.0 | 962.00 | 4.92 | 54.10 | 66 | 10.0 | 5.0 | Y |
| NSA2-7 | 7 | 1 | 1,864,476.0 | 758,261.0 | 950.00 | 4.92 | 54.20 | 66 | 10.0 | 5.0 | Y |
| NSA2-8 | 8 | 1 | 1,865,678.0 | 757,885.0 | 972.00 | 4.92 | 61.60 | 66 | 10.0 | 5.0 | Y |
| NSA2-9 | 9 | 1 | 1,865,703.0 | 757,930.0 | 974.00 | 4.92 | 62.00 | 66 | 10.0 | 5.0 | Y |
| NSA2-10 | 10 | 1 | 1,865,703.0 | 757,980.0 | 974.00 | 4.92 | 60.70 | 66 | 10.0 | 5.0 | Y |
| NSA2-11 | 11 | 1 | 1,865,703.0 | 758,026.0 | 975.00 | 4.92 | 60.20 | 66 | 10.0 | 5.0 | Y |
| NSA2-12 | 12 | 1 | 1,865,714.0 | 758,078.0 | 975.00 | 4.92 | 59.80 | 66 | 10.0 | 5.0 | Y |
| NSA3-1 | 13 | 1 | 1,867,192.0 | 758,347.0 | 977.00 | 4.92 | 74.20 | 66 | 10.0 | 5.0 | Y |
| NSA3-2 | 14 | 1 | 1,867,108.0 | 758,316.0 | 977.00 | 4.92 | 74.00 | 66 | 10.0 | 5.0 | Y |
| NSA3-3 | 15 | 1 | 1,867,040.0 | 758,316.0 | 977.00 | 4.92 | 73.00 | 66 | 10.0 | 5.0 | Y |
| NSA3-4 | 16 | 2 | 1,866,945.0 | 758,339.0 | 977.00 | 4.92 | 70.70 | 66 | 10.0 | 5.0 | Y |
| NSA3-5 | 17 | 1 | 1,866,852.0 | 758,330.0 | 976.00 | 4.92 | 69.30 | 66 | 10.0 | 5.0 | Y |
| NSA3-6 | 18 | 2 | 1,866,766.0 | 758,347.0 | 976.00 | 4.92 | 67.30 | 66 | 10.0 | 5.0 | Y |
| NSA3-7 | 19 | 2 | 1,866,641.0 | 758,361.0 | 976.00 | 4.92 | 64.80 | 66 | 10.0 | 5.0 | Y |
| NSA3-8 | 20 | 1 | 1,866,555.0 | 758,347.0 | 977.00 | 4.92 | 64.60 | 66 | 10.0 | 5.0 | Y |
| NSA3-9 | 21 | 1 | 1,866,504.0 | 758,335.0 | 977.00 | 4.92 | 64.10 | 66 | 10.0 | 5.0 | Y |
| NSA3-10 | 22 | 1 | 1,866,371.0 | 758,369.0 | 977.00 | 4.92 | 61.40 | 66 | 10.0 | 5.0 | Y |

INPUT: RECEIVERS**FRA-SR161-15.80 PID 116322**

| | | | | | | | | | | | |
|---------|----|---|-------------|-----------|--------|------|-------|----|------|-----|---|
| NSA3-11 | 23 | 1 | 1,866,233.0 | 758,354.0 | 978.00 | 4.92 | 60.30 | 66 | 10.0 | 5.0 | Y |
| NSA3-12 | 24 | 1 | 1,866,110.0 | 758,374.0 | 976.00 | 4.92 | 58.10 | 66 | 10.0 | 5.0 | Y |
| NSA3-13 | 25 | 1 | 1,865,970.0 | 758,268.0 | 977.00 | 4.92 | 59.10 | 66 | 10.0 | 5.0 | Y |
| NSA3-14 | 26 | 1 | 1,865,980.0 | 758,374.0 | 978.00 | 4.92 | 57.80 | 66 | 10.0 | 5.0 | Y |
| NSA3-15 | 27 | 1 | 1,867,224.0 | 758,443.0 | 976.00 | 4.92 | 71.40 | 66 | 10.0 | 5.0 | Y |
| NSA3-16 | 28 | 1 | 1,866,346.0 | 758,434.0 | 977.00 | 4.92 | 58.00 | 66 | 10.0 | 5.0 | Y |
| NSA3-17 | 29 | 1 | 1,866,298.0 | 758,434.0 | 978.00 | 4.92 | 58.80 | 66 | 10.0 | 5.0 | Y |
| NSA3-18 | 30 | 1 | 1,866,041.0 | 758,468.0 | 976.00 | 4.92 | 56.40 | 66 | 10.0 | 5.0 | Y |
| NSA3-19 | 31 | 1 | 1,867,233.1 | 758,512.8 | 977.00 | 4.92 | 69.20 | 66 | 10.0 | 5.0 | Y |
| NSA3-20 | 32 | 1 | 1,866,994.0 | 758,535.0 | 977.00 | 4.92 | 64.50 | 66 | 10.0 | 5.0 | Y |
| NSA3-21 | 33 | 1 | 1,866,916.0 | 758,506.0 | 978.00 | 4.92 | 64.30 | 66 | 10.0 | 5.0 | Y |
| NSA3-22 | 34 | 1 | 1,866,708.0 | 758,544.0 | 978.00 | 4.92 | 61.60 | 66 | 10.0 | 5.0 | Y |
| NSA3-23 | 35 | 1 | 1,867,214.0 | 758,564.0 | 976.00 | 4.92 | 67.20 | 66 | 10.0 | 5.0 | Y |
| NSA3-24 | 36 | 1 | 1,867,227.0 | 758,623.0 | 975.00 | 4.92 | 65.40 | 66 | 10.0 | 5.0 | Y |
| NSA3-25 | 37 | 1 | 1,867,010.0 | 758,588.0 | 977.00 | 4.92 | 63.80 | 66 | 10.0 | 5.0 | Y |

| <Organization?> | | 18 July 2022 | | | | | | | | | |
|-----------------------------|-------|----------------------------|-----|------------------------|-----------|--------|---|------------------|---------------------------|-----------|------------|
| CMCox | | TNM 2.5 | | | | | | | | | |
| INPUT: ROADWAYS | | | | | | | Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 PID 116322 | | | | | | | | | |
| RUN: | | Noise barrier NSA2-3 | | | | | | | | | |
| Roadway Name | Width | Points Name | No. | Coordinates (pavement) | | | Flow Control | | | Segment | |
| | | | | X | Y | Z | Control Device | Speed Constraint | Percent Vehicles Affected | Pvmt Type | On Struct? |
| | ft | | | ft | ft | ft | | mph | % | | |
| SR 161 P WB2 a | 12.0 | point24 | 24 | 1,870,465.0 | 759,710.0 | 976.00 | | | | Average | |
| | | point1 | 1 | 1,869,607.0 | 759,309.0 | 996.00 | | | | Average | Y |
| | | point2 | 2 | 1,869,386.0 | 759,209.0 | 998.00 | | | | | |
| Ulry Road | 22.0 | point20 | 20 | 1,865,895.0 | 759,201.0 | 975.00 | | | | Average | |
| | | point195 | 195 | 1,865,876.0 | 758,875.0 | 977.00 | | | | Average | |
| | | point21 | 21 | 1,865,811.0 | 757,790.0 | 979.00 | | | | Average | Y |
| | | point22 | 22 | 1,865,800.0 | 757,544.0 | 972.00 | | | | Average | |
| | | point23 | 23 | 1,865,795.0 | 757,434.0 | 972.00 | | | | | |
| Hamilton Road SB | 24.0 | point25 | 25 | 1,869,249.0 | 760,088.0 | 980.00 | | | | Average | |
| | | point26 | 26 | 1,869,257.0 | 759,888.0 | 981.00 | | | | Average | |
| | | point27 | 27 | 1,869,279.0 | 759,748.0 | 980.00 | | | | Average | |
| | | point28 | 28 | 1,869,327.0 | 759,561.0 | 978.00 | | | | Average | |
| | | point29 | 29 | 1,869,449.0 | 759,244.0 | 976.00 | | | | Average | |
| | | point30 | 30 | 1,869,671.0 | 758,791.0 | 975.00 | | | | Average | |
| | | point31 | 31 | 1,869,819.0 | 758,376.0 | 979.00 | | | | | |
| Hamilton Road NB | 24.0 | point32 | 32 | 1,869,911.0 | 758,301.0 | 980.00 | | | | Average | |
| | | point33 | 33 | 1,869,827.0 | 758,551.0 | 978.00 | | | | Average | |
| | | point34 | 34 | 1,869,717.0 | 758,813.0 | 975.00 | | | | Average | |
| | | point35 | 35 | 1,869,513.0 | 759,251.0 | 976.00 | | | | Average | |
| | | point36 | 36 | 1,869,371.0 | 759,612.0 | 978.00 | | | | Average | |
| | | point37 | 37 | 1,869,325.0 | 759,748.0 | 980.00 | | | | Average | |
| | | point38 | 38 | 1,869,288.0 | 759,888.0 | 981.00 | | | | Average | |
| | | point39 | 39 | 1,869,277.0 | 760,088.0 | 980.00 | | | | | |
| Entrance ramp SR 161 WB 2 b | 12.0 | point40 | 40 | 1,869,309.0 | 759,559.0 | 978.00 | | | | Average | |
| | | point41 | 41 | 1,869,159.0 | 759,492.0 | 977.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|-----------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point42 | 42 | 1,869,009.0 | 759,397.0 | 981.00 | | | | Average | |
| | | point43 | 43 | 1,868,876.0 | 759,233.0 | 985.00 | | | | Average | |
| | | point44 | 44 | 1,868,743.0 | 759,031.0 | 990.00 | | | | Average | |
| | | point45 | 45 | 1,868,543.0 | 758,827.0 | 992.00 | | | | | |
| SR 161 P WB3 a | 12.0 | point47 | 47 | 1,870,465.0 | 759,698.0 | 976.00 | | | | Average | |
| | | point48 | 48 | 1,869,607.0 | 759,297.0 | 996.00 | | | | Average | Y |
| | | point49 | 49 | 1,869,386.0 | 759,197.0 | 998.00 | | | | | |
| SR161 P WB1 a | 12.0 | point64 | 64 | 1,870,465.0 | 759,722.0 | 976.00 | | | | Average | |
| | | point65 | 65 | 1,869,607.0 | 759,321.0 | 996.00 | | | | Average | Y |
| | | point66 | 66 | 1,869,386.0 | 759,221.0 | 998.00 | | | | | |
| SR166 P WB 3b | 12.0 | point69 | 69 | 1,867,753.0 | 758,421.5 | 985.00 | | | | Average | |
| | | point70 | 70 | 1,867,054.0 | 758,106.5 | 974.00 | | | | Average | |
| | | point71 | 71 | 1,866,754.0 | 757,973.5 | 967.00 | | | | Average | |
| | | point72 | 72 | 1,866,454.0 | 757,865.5 | 961.00 | | | | Average | |
| | | point73 | 73 | 1,866,154.0 | 757,777.5 | 955.00 | | | | Average | |
| | | point74 | 74 | 1,865,851.0 | 757,720.5 | 951.00 | | | | Average | |
| | | point75 | 75 | 1,865,451.0 | 757,684.0 | 946.00 | | | | | |
| SR 161 WB inside shoulder b | 12.0 | point98 | 98 | 1,868,545.0 | 758,765.0 | 993.00 | | | | Average | |
| | | point99 | 99 | 1,867,753.0 | 758,385.5 | 984.50 | | | | Average | |
| | | point100 | 100 | 1,867,054.0 | 758,070.5 | 973.50 | | | | Average | |
| | | point101 | 101 | 1,866,754.0 | 757,937.5 | 966.50 | | | | Average | |
| | | point102 | 102 | 1,866,454.0 | 757,829.5 | 960.50 | | | | Average | |
| | | point103 | 103 | 1,866,154.0 | 757,741.5 | 954.50 | | | | Average | |
| | | point104 | 104 | 1,865,851.0 | 757,684.5 | 950.50 | | | | Average | |
| | | point105 | 105 | 1,865,451.0 | 757,647.0 | 945.50 | | | | | |
| SR161 EB inside Shoulder a | 6.0 | point128 | 128 | 1,863,051.0 | 757,872.0 | 919.50 | | | | Average | |
| | | point127 | 127 | 1,863,551.0 | 757,819.0 | 925.50 | | | | Average | |
| | | point126 | 126 | 1,864,051.0 | 757,756.0 | 931.50 | | | | Average | |
| | | point125 | 125 | 1,864,451.0 | 757,704.0 | 935.50 | | | | Average | |
| | | point124 | 124 | 1,864,851.0 | 757,654.0 | 939.50 | | | | Average | |
| | | point123 | 123 | 1,865,151.0 | 757,633.0 | 942.50 | | | | Average | |
| | | point122 | 122 | 1,865,451.0 | 757,630.0 | 945.50 | | | | | |
| SR161 P EB4a | 11.0 | point129 | 129 | 1,863,051.0 | 757,863.5 | 920.00 | | | | Average | |
| | | point130 | 130 | 1,863,551.0 | 757,810.5 | 926.00 | | | | Average | |
| | | point131 | 131 | 1,864,051.0 | 757,747.5 | 932.00 | | | | Average | |
| | | point132 | 132 | 1,864,451.0 | 757,695.5 | 936.00 | | | | Average | |
| | | point133 | 133 | 1,864,851.0 | 757,645.5 | 940.00 | | | | Average | |
| | | point134 | 134 | 1,865,151.0 | 757,624.5 | 943.00 | | | | Average | |
| | | point135 | 135 | 1,865,451.0 | 757,621.5 | 946.00 | | | | | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | |
|-------------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|
| SR 181 P EB3a | 12.0 | point145 | 145 | 1,863,051.0 | 757,852.0 | 920.50 | | | | Average |
| | | point146 | 146 | 1,863,551.0 | 757,799.0 | 926.50 | | | | Average |
| | | point147 | 147 | 1,864,051.0 | 757,736.0 | 932.50 | | | | Average |
| | | point148 | 148 | 1,864,451.0 | 757,684.0 | 936.50 | | | | Average |
| | | point149 | 149 | 1,864,851.0 | 757,634.0 | 940.50 | | | | Average |
| | | point150 | 150 | 1,865,151.0 | 757,613.0 | 943.50 | | | | Average |
| | | point151 | 151 | 1,865,451.0 | 757,610.0 | 946.50 | | | | |
| SR161 P EB2a | 12.0 | point161 | 161 | 1,863,051.0 | 757,840.0 | 921.00 | | | | Average |
| | | point162 | 162 | 1,863,551.0 | 757,787.0 | 927.00 | | | | Average |
| | | point163 | 163 | 1,864,051.0 | 757,724.0 | 933.00 | | | | Average |
| | | point164 | 164 | 1,864,451.0 | 757,672.0 | 937.00 | | | | Average |
| | | point165 | 165 | 1,864,851.0 | 757,622.0 | 941.00 | | | | Average |
| | | point166 | 166 | 1,865,151.0 | 757,601.0 | 944.00 | | | | Average |
| | | point167 | 167 | 1,865,451.0 | 757,598.0 | 947.00 | | | | |
| SR 161 P EB2b | 12.0 | point177 | 177 | 1,865,451.0 | 757,586.5 | 947.00 | | | | Average |
| | | point178 | 178 | 1,865,851.0 | 757,622.0 | 952.00 | | | | Average |
| | | point179 | 179 | 1,866,154.0 | 757,679.0 | 956.00 | | | | Average |
| | | point180 | 180 | 1,866,454.0 | 757,765.0 | 962.00 | | | | Average |
| | | point181 | 181 | 1,866,754.0 | 757,873.0 | 968.00 | | | | Average |
| | | point182 | 182 | 1,867,054.0 | 758,006.0 | 975.00 | | | | Average |
| | | point183 | 183 | 1,867,753.0 | 758,326.5 | 986.00 | | | | |
| Exit ramp SR161EB to Hamilton | 12.0 | point187 | 187 | 1,867,753.0 | 758,314.0 | 986.00 | | | | Average |
| | | point188 | 188 | 1,868,410.0 | 758,584.0 | 991.00 | | | | Average |
| | | point189 | 189 | 1,868,610.0 | 758,640.0 | 990.00 | | | | Average |
| | | point190 | 190 | 1,868,846.0 | 758,662.0 | 985.00 | | | | Average |
| | | point191 | 191 | 1,869,185.0 | 758,662.0 | 978.00 | | | | Average |
| | | point193 | 193 | 1,869,418.1 | 758,707.4 | 976.00 | | | | Average |
| | | point192 | 192 | 1,869,645.0 | 758,790.0 | 974.00 | | | | |
| Haussman/Garnier/Bulfinch | 24.0 | point196 | 196 | 1,865,876.0 | 758,875.0 | 977.00 | | | | Average |
| | | point197 | 197 | 1,866,496.0 | 758,841.0 | 972.00 | | | | Average |
| | | point198 | 198 | 1,866,496.0 | 758,468.0 | 975.00 | | | | Average |
| | | point199 | 199 | 1,867,091.0 | 758,437.0 | 976.00 | | | | Average |
| | | point200 | 200 | 1,867,125.0 | 758,957.0 | 972.00 | | | | |
| SR161 EB inside Shoulder b | 12.0 | point201 | 201 | 1,865,451.0 | 757,631.0 | 945.50 | | | | Average |
| | | point121 | 121 | 1,865,851.0 | 757,670.0 | 950.50 | | | | Average |
| | | point120 | 120 | 1,866,154.0 | 757,727.0 | 954.50 | | | | Average |
| | | point119 | 119 | 1,866,454.0 | 757,813.0 | 960.50 | | | | Average |
| | | point118 | 118 | 1,866,754.0 | 757,923.0 | 966.50 | | | | Average |
| | | point117 | 117 | 1,867,054.0 | 758,056.0 | 973.50 | | | | Average |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|----------------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point116 | 116 | 1,867,753.0 | 758,374.5 | 984.50 | | | | | |
| SR161 P EB5b | 12.0 | point202 | 202 | 1,865,451.0 | 757,621.5 | 946.00 | | | | Average | |
| | | point136 | 136 | 1,865,851.0 | 757,658.0 | 951.00 | | | | Average | |
| | | point137 | 137 | 1,866,154.0 | 757,715.0 | 955.00 | | | | Average | |
| | | point138 | 138 | 1,866,454.0 | 757,801.0 | 961.00 | | | | Average | |
| | | point139 | 139 | 1,866,754.0 | 757,911.0 | 967.00 | | | | Average | |
| | | point140 | 140 | 1,867,054.0 | 758,045.0 | 974.00 | | | | Average | |
| | | point141 | 141 | 1,867,753.0 | 758,362.5 | 985.00 | | | | | |
| SR 161 P EB4b | 12.0 | point203 | 203 | 1,865,451.0 | 757,610.0 | 946.50 | | | | Average | |
| | | point152 | 152 | 1,865,851.0 | 757,646.0 | 951.50 | | | | Average | |
| | | point153 | 153 | 1,866,154.0 | 757,703.0 | 955.50 | | | | Average | |
| | | point154 | 154 | 1,866,454.0 | 757,789.0 | 961.50 | | | | Average | |
| | | point155 | 155 | 1,866,754.0 | 757,899.0 | 967.50 | | | | Average | |
| | | point156 | 156 | 1,867,054.0 | 758,033.0 | 974.50 | | | | Average | |
| | | point157 | 157 | 1,867,753.0 | 758,350.5 | 985.50 | | | | | |
| SR161 P EB3b | 12.0 | point204 | 204 | 1,865,451.0 | 757,598.0 | 947.00 | | | | Average | |
| | | point168 | 168 | 1,865,851.0 | 757,634.0 | 952.00 | | | | Average | |
| | | point169 | 169 | 1,866,154.0 | 757,691.0 | 956.00 | | | | Average | |
| | | point170 | 170 | 1,866,454.0 | 757,777.0 | 962.00 | | | | Average | |
| | | point171 | 171 | 1,866,754.0 | 757,887.0 | 968.00 | | | | Average | |
| | | point172 | 172 | 1,867,054.0 | 758,021.0 | 975.00 | | | | Average | |
| | | point173 | 173 | 1,867,753.0 | 758,338.5 | 986.00 | | | | | |
| SR 161 P EB1a | 11.0 | point205 | 205 | 1,863,051.0 | 757,828.5 | 921.00 | | | | Average | |
| | | point206 | 206 | 1,863,551.0 | 757,775.5 | 927.00 | | | | Average | |
| | | point207 | 207 | 1,864,051.0 | 757,712.5 | 933.00 | | | | Average | |
| | | point208 | 208 | 1,864,451.0 | 757,660.5 | 937.00 | | | | Average | |
| | | point209 | 209 | 1,864,851.0 | 757,610.5 | 941.00 | | | | Average | |
| | | point210 | 210 | 1,865,151.0 | 757,589.5 | 944.00 | | | | Average | |
| | | point211 | 211 | 1,865,451.0 | 757,586.5 | 947.00 | | | | | |
| SR 161 PEB outside shoulder 4' a | 4.0 | point212 | 212 | 1,863,051.0 | 757,821.0 | 920.90 | | | | Average | |
| | | point213 | 213 | 1,863,551.0 | 757,768.0 | 926.90 | | | | Average | |
| | | point214 | 214 | 1,864,051.0 | 757,705.0 | 932.90 | | | | Average | |
| | | point215 | 215 | 1,864,451.0 | 757,653.0 | 936.90 | | | | Average | |
| | | point216 | 216 | 1,864,851.0 | 757,603.0 | 940.90 | | | | Average | |
| | | point217 | 217 | 1,865,151.0 | 757,582.0 | 943.90 | | | | Average | |
| | | point218 | 218 | 1,865,451.0 | 757,579.0 | 946.90 | | | | | |
| SR161 P EB2c | 12.0 | point219 | 219 | 1,867,753.0 | 758,338.5 | 986.00 | | | | Average | |
| | | point174 | 174 | 1,868,545.0 | 758,711.5 | 995.00 | | | | Average | |
| | | point175 | 175 | 1,869,386.0 | 759,128.5 | 999.00 | | | | Average | Y |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|---------------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point176 | 176 | 1,869,607.0 | 759,232.5 | 998.00 | | | | | |
| SR 161 P EB3c | 12.0 | point220 | 220 | 1,867,753.0 | 758,350.5 | 985.50 | | | | Average | |
| | | point158 | 158 | 1,868,545.0 | 758,723.5 | 994.50 | | | | Average | |
| | | point159 | 159 | 1,869,386.0 | 759,140.5 | 998.50 | | | | Average | Y |
| | | point160 | 160 | 1,869,607.0 | 759,244.5 | 997.50 | | | | | |
| SR161 P EB4c | 12.0 | point221 | 221 | 1,867,753.0 | 758,362.5 | 985.00 | | | | Average | |
| | | point142 | 142 | 1,868,545.0 | 758,735.5 | 994.00 | | | | Average | |
| | | point143 | 143 | 1,869,386.0 | 759,152.5 | 998.00 | | | | Average | Y |
| | | point144 | 144 | 1,869,607.0 | 759,256.5 | 997.00 | | | | | |
| SR161 P EB inside Shoulder 4' c | 4.0 | point222 | 222 | 1,867,753.0 | 758,374.5 | 984.50 | | | | Average | |
| | | point115 | 115 | 1,868,545.0 | 758,747.5 | 993.50 | | | | Average | |
| | | point114 | 114 | 1,869,386.0 | 759,164.5 | 997.50 | | | | Average | Y |
| | | point113 | 113 | 1,869,607.0 | 759,264.5 | 996.50 | | | | | |
| SR161 P EB1b | 12.0 | point230 | 230 | 1,865,451.0 | 757,586.5 | 947.00 | | | | Average | |
| | | point231 | 231 | 1,865,851.0 | 757,610.0 | 952.00 | | | | Average | |
| | | point232 | 232 | 1,866,154.0 | 757,667.0 | 956.00 | | | | Average | |
| | | point233 | 233 | 1,866,454.0 | 757,753.0 | 962.00 | | | | Average | |
| | | point234 | 234 | 1,866,754.0 | 757,861.0 | 968.00 | | | | Average | |
| | | point235 | 235 | 1,867,054.0 | 757,994.0 | 975.00 | | | | Average | |
| | | point236 | 236 | 1,867,753.0 | 758,314.0 | 986.00 | | | | | |
| SR161 P EB outside shoulder | 12.0 | point237 | 237 | 1,865,451.0 | 757,579.0 | 946.90 | | | | Average | |
| | | point238 | 238 | 1,865,851.0 | 757,598.0 | 952.00 | | | | Average | |
| | | point239 | 239 | 1,866,154.0 | 757,655.0 | 956.00 | | | | Average | |
| | | point240 | 240 | 1,866,454.0 | 757,741.0 | 962.00 | | | | Average | |
| | | point241 | 241 | 1,866,754.0 | 757,849.0 | 968.00 | | | | Average | |
| | | point242 | 242 | 1,867,054.0 | 757,982.0 | 975.00 | | | | Average | |
| | | point243 | 243 | 1,867,753.0 | 758,299.0 | 986.00 | | | | | |
| SR 161 P EB1c | 12.0 | point244 | 244 | 1,867,753.0 | 758,326.5 | 986.00 | | | | Average | |
| | | point245 | 245 | 1,868,545.0 | 758,699.5 | 995.00 | | | | Average | |
| | | point246 | 246 | 1,869,386.0 | 759,116.5 | 999.00 | | | | Average | Y |
| | | point247 | 247 | 1,869,607.0 | 759,220.5 | 998.00 | | | | | |
| SR 161 P EB outside shoulder c | 10.0 | point248 | 248 | 1,867,982.0 | 758,422.0 | 988.50 | | | | Average | |
| | | point249 | 249 | 1,868,545.0 | 758,688.5 | 995.00 | | | | Average | |
| | | point250 | 250 | 1,869,386.0 | 759,105.5 | 999.00 | | | | Average | Y |
| | | point251 | 251 | 1,869,607.0 | 759,209.5 | 998.00 | | | | | |
| SR 161 P WB Inside Shoulder a | 10.0 | point256 | 256 | 1,870,465.0 | 759,687.0 | 976.00 | | | | Average | |
| | | point252 | 252 | 1,869,607.0 | 759,286.0 | 996.50 | | | | Average | Y |
| | | point253 | 253 | 1,869,386.0 | 759,186.0 | 997.00 | | | | | |
| SR161 P WB1 b | 12.0 | point257 | 257 | 1,869,386.0 | 759,221.0 | 998.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|--------------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point67 | 67 | 1,868,545.0 | 758,801.0 | 994.00 | | | | Average | |
| | | point68 | 68 | 1,867,753.0 | 758,424.0 | 985.00 | | | | | |
| SR 161 P WB 4 b | 12.0 | point258 | 258 | 1,869,386.0 | 759,209.0 | 998.00 | | | | Average | |
| | | point3 | 3 | 1,868,545.0 | 758,789.0 | 994.00 | | | | Average | |
| | | point7 | 7 | 1,867,753.0 | 758,409.5 | 985.00 | | | | Average | |
| | | point8 | 8 | 1,867,054.0 | 758,094.5 | 974.00 | | | | Average | |
| | | point9 | 9 | 1,866,754.0 | 757,961.5 | 967.00 | | | | Average | |
| | | point10 | 10 | 1,866,454.0 | 757,853.5 | 961.00 | | | | Average | |
| | | point11 | 11 | 1,866,154.0 | 757,765.5 | 955.00 | | | | Average | |
| | | point12 | 12 | 1,865,851.0 | 757,708.5 | 951.00 | | | | Average | |
| | | point13 | 13 | 1,865,451.0 | 757,672.0 | 946.00 | | | | | |
| SR 161 P WB 5 b | 12.0 | point259 | 259 | 1,869,386.0 | 759,197.0 | 998.00 | | | | Average | |
| | | point50 | 50 | 1,868,545.0 | 758,777.0 | 994.00 | | | | Average | |
| | | point51 | 51 | 1,867,753.0 | 758,397.5 | 985.00 | | | | Average | |
| | | point52 | 52 | 1,867,054.0 | 758,082.5 | 974.00 | | | | Average | |
| | | point53 | 53 | 1,866,754.0 | 757,949.5 | 967.00 | | | | Average | |
| | | point54 | 54 | 1,866,454.0 | 757,841.5 | 961.00 | | | | Average | |
| | | point55 | 55 | 1,866,154.0 | 757,753.5 | 955.00 | | | | Average | |
| | | point56 | 56 | 1,865,851.0 | 757,696.5 | 951.00 | | | | Average | |
| | | point57 | 57 | 1,865,451.0 | 757,660.0 | 946.00 | | | | | |
| SR 161 P WB Inside Shoulder b | 10.0 | point260 | 260 | 1,869,386.0 | 759,186.0 | 997.00 | | | | Average | |
| | | point254 | 254 | 1,868,545.0 | 758,765.0 | 993.00 | | | | | |
| SR 161 P WB outside shoulder a | 12.0 | point261 | 261 | 1,870,465.0 | 759,734.0 | 976.00 | | | | Average | |
| | | point262 | 262 | 1,869,607.0 | 759,333.0 | 996.00 | | | | Average | Y |
| | | point263 | 263 | 1,869,386.0 | 759,233.0 | 998.00 | | | | Average | |
| | | point264 | 264 | 1,868,545.0 | 758,813.0 | 994.00 | | | | | |
| SR166 P WB 2 c | 12.0 | point265 | 265 | 1,865,451.0 | 757,681.5 | 946.00 | | | | Average | |
| | | point76 | 76 | 1,865,151.0 | 757,684.0 | 943.00 | | | | Average | |
| | | point77 | 77 | 1,864,851.0 | 757,702.5 | 940.00 | | | | Average | |
| | | point78 | 78 | 1,864,451.0 | 757,752.5 | 936.00 | | | | Average | |
| | | point79 | 79 | 1,864,051.0 | 757,804.5 | 932.00 | | | | Average | |
| | | point80 | 80 | 1,863,551.0 | 757,867.5 | 926.00 | | | | Average | |
| | | point81 | 81 | 1,863,051.0 | 757,920.5 | 920.00 | | | | | |
| SR 161 P WB3 c | 12.0 | point266 | 266 | 1,865,451.0 | 757,669.5 | 946.00 | | | | Average | |
| | | point14 | 14 | 1,865,151.0 | 757,672.0 | 943.00 | | | | Average | |
| | | point15 | 15 | 1,864,851.0 | 757,690.5 | 940.00 | | | | Average | |
| | | point16 | 16 | 1,864,451.0 | 757,740.5 | 936.00 | | | | Average | |
| | | point17 | 17 | 1,864,051.0 | 757,792.5 | 932.00 | | | | Average | |
| | | point18 | 18 | 1,863,551.0 | 757,855.5 | 926.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|--------------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|--|
| | | point19 | 19 | 1,863,051.0 | 757,908.5 | 920.00 | | | | | |
| SR 161 P WB 4 c | 12.0 | point267 | 267 | 1,865,451.0 | 757,657.5 | 946.00 | | | | Average | |
| | | point58 | 58 | 1,865,151.0 | 757,660.0 | 943.00 | | | | Average | |
| | | point59 | 59 | 1,864,851.0 | 757,678.5 | 940.00 | | | | Average | |
| | | point60 | 60 | 1,864,451.0 | 757,728.5 | 936.00 | | | | Average | |
| | | point61 | 61 | 1,864,051.0 | 757,780.5 | 932.00 | | | | Average | |
| | | point62 | 62 | 1,863,551.0 | 757,843.5 | 926.00 | | | | Average | |
| | | point63 | 63 | 1,863,051.0 | 757,896.5 | 920.00 | | | | | |
| SR 161 P WB inside shoulder c | 12.0 | point268 | 268 | 1,865,451.0 | 757,645.5 | 945.50 | | | | Average | |
| | | point106 | 106 | 1,865,151.0 | 757,647.0 | 942.50 | | | | Average | |
| | | point107 | 107 | 1,864,851.0 | 757,666.5 | 939.50 | | | | Average | |
| | | point108 | 108 | 1,864,451.0 | 757,716.5 | 935.50 | | | | Average | |
| | | point109 | 109 | 1,864,051.0 | 757,768.5 | 931.50 | | | | Average | |
| | | point110 | 110 | 1,863,551.0 | 757,831.5 | 925.50 | | | | Average | |
| | | point111 | 111 | 1,863,051.0 | 757,884.5 | 919.50 | | | | | |
| Entrance ramp SR 161 P WB 1 b | 12.0 | point269 | 269 | 1,868,543.0 | 758,827.0 | 992.00 | | | | Average | |
| | | point270 | 270 | 1,868,165.0 | 758,644.0 | 990.00 | | | | Average | |
| | | point271 | 271 | 1,867,753.0 | 758,445.5 | 985.00 | | | | Average | |
| | | point272 | 272 | 1,867,054.0 | 758,130.5 | 974.00 | | | | Average | |
| | | point273 | 273 | 1,866,754.0 | 757,997.5 | 967.00 | | | | Average | |
| | | point274 | 274 | 1,866,454.0 | 757,889.5 | 961.00 | | | | Average | |
| | | point275 | 275 | 1,866,154.0 | 757,801.5 | 955.00 | | | | Average | |
| | | point276 | 276 | 1,865,851.0 | 757,744.5 | 951.00 | | | | Average | |
| | | point279 | 279 | 1,865,451.0 | 757,693.5 | 946.00 | | | | | |
| SR 161 P WB 1 c | 12.0 | point277 | 277 | 1,865,451.0 | 757,693.5 | 946.00 | | | | Average | |
| | | point278 | 278 | 1,865,151.0 | 757,696.0 | 943.00 | | | | Average | |
| | | point280 | 280 | 1,864,851.0 | 757,714.5 | 940.00 | | | | Average | |
| | | point281 | 281 | 1,864,451.0 | 757,764.5 | 936.00 | | | | Average | |
| | | point282 | 282 | 1,864,051.0 | 757,816.5 | 932.00 | | | | Average | |
| | | point283 | 283 | 1,863,551.0 | 757,879.5 | 926.00 | | | | Average | |
| | | point284 | 284 | 1,863,051.0 | 757,932.5 | 920.00 | | | | | |
| SR 161 WB P outside shoulder c | 12.0 | point285 | 285 | 1,865,451.0 | 757,705.5 | 946.00 | | | | Average | |
| | | point286 | 286 | 1,865,151.0 | 757,708.5 | 943.00 | | | | Average | |
| | | point287 | 287 | 1,864,851.0 | 757,726.5 | 940.00 | | | | Average | |
| | | point288 | 288 | 1,864,451.0 | 757,776.5 | 936.00 | | | | Average | |
| | | point289 | 289 | 1,864,051.0 | 757,828.5 | 932.00 | | | | Average | |
| | | point290 | 290 | 1,863,551.0 | 757,891.5 | 926.00 | | | | Average | |
| | | point291 | 291 | 1,863,051.0 | 757,944.5 | 920.00 | | | | | |
| Entrance ramp SR 161 WB 2 b-2 | 12.0 | point292 | 292 | 1,868,543.0 | 758,827.0 | 992.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|--|--|---------|----|-------------|-----------|--------|--|--|--|---------|--|
| | | point46 | 46 | 1,868,165.0 | 758,632.0 | 990.00 | | | | Average | |
| | | point82 | 82 | 1,867,753.0 | 758,433.5 | 985.00 | | | | Average | |
| | | point83 | 83 | 1,867,054.0 | 758,118.5 | 974.00 | | | | Average | |
| | | point84 | 84 | 1,866,754.0 | 757,985.5 | 967.00 | | | | Average | |
| | | point85 | 85 | 1,866,454.0 | 757,877.5 | 961.00 | | | | Average | |
| | | point86 | 86 | 1,866,154.0 | 757,789.5 | 955.00 | | | | Average | |
| | | point87 | 87 | 1,865,851.0 | 757,732.5 | 951.00 | | | | Average | |
| | | point88 | 88 | 1,865,451.0 | 757,693.5 | 946.00 | | | | | |
| SR 161 P WB 4 b::point8 under overhead power lines | | | | | | | | | | | |
| SR 161 P WB 4 b::point11 below overhead sign | | | | | | | | | | | |

| <Organization?> | | 18 July 2022 | | | | | | | | | | |
|-----------------------------------|----------|----------------------------|---------|-----|---------|-----|---------|-----|--------|-----|-------------|-----|
| CMCox | | TNM 2.5 | | | | | | | | | | |
| INPUT: TRAFFIC FOR LAeq1h Volumes | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 PID 116322 | | | | | | | | | | |
| RUN: | | Noise barrier NSA2-3 | | | | | | | | | | |
| Roadway | Points | | | | | | | | | | | |
| Name | Name | No. | Segment | | MTrucks | | HTrucks | | Buses | | Motorcycles | |
| | | | Autos | | V | S | V | S | V | S | V | S |
| | | | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph |
| SR 161 P WB2 a | point24 | 24 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point1 | 1 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point2 | 2 | | | | | | | | | | |
| Utry Road | point20 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point195 | 195 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point21 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point22 | 22 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point23 | 23 | | | | | | | | | | |
| Hamilton Road SB | point25 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point26 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point27 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point28 | 28 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point29 | 29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point30 | 30 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point31 | 31 | | | | | | | | | | |
| Hamilton Road NB | point32 | 32 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point33 | 33 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point34 | 34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point35 | 35 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point36 | 36 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point37 | 37 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point38 | 38 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point39 | 39 | | | | | | | | | | |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|-----------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| Entrance ramp SR 161 WB 2 b | point40 | 40 | 2458 | 65 | 24 | 65 | 53 | 65 | 0 | 0 | 0 | 0 |
| | point41 | 41 | 2458 | 65 | 24 | 65 | 53 | 65 | 0 | 0 | 0 | 0 |
| | point42 | 42 | 2458 | 65 | 24 | 65 | 53 | 65 | 0 | 0 | 0 | 0 |
| | point43 | 43 | 2458 | 65 | 24 | 65 | 53 | 65 | 0 | 0 | 0 | 0 |
| | point44 | 44 | 2458 | 65 | 24 | 65 | 53 | 65 | 0 | 0 | 0 | 0 |
| | point45 | 45 | | | | | | | | | | |
| SR 161 P WB3 a | point47 | 47 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point48 | 48 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point49 | 49 | | | | | | | | | | |
| SR161 P WB1 a | point64 | 64 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point65 | 65 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point66 | 66 | | | | | | | | | | |
| SR166 P WB 3b | point69 | 69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point70 | 70 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point71 | 71 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point72 | 72 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point73 | 73 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point74 | 74 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point75 | 75 | | | | | | | | | | |
| SR 161 WB inside shoulder b | point98 | 98 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point99 | 99 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point100 | 100 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point101 | 101 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point102 | 102 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point103 | 103 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point104 | 104 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point105 | 105 | | | | | | | | | | |
| SR161 EB inside Shoulder a | point128 | 128 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point127 | 127 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point126 | 126 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point125 | 125 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point124 | 124 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point123 | 123 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point122 | 122 | | | | | | | | | | |
| SR161 P EB4a | point129 | 129 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point130 | 130 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|-------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point131 | 131 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point132 | 132 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point133 | 133 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point134 | 134 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point135 | 135 | | | | | | | | | | |
| SR 181 P EB3a | point145 | 145 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point146 | 146 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point147 | 147 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point148 | 148 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point149 | 149 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point150 | 150 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point151 | 151 | | | | | | | | | | |
| SR161 P EB2a | point161 | 161 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point162 | 162 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point163 | 163 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point164 | 164 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point165 | 165 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point166 | 166 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point167 | 167 | | | | | | | | | | |
| SR 161 P EB2b | point177 | 177 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point178 | 178 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point179 | 179 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point180 | 180 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point181 | 181 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point182 | 182 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point183 | 183 | | | | | | | | | | |
| Exit ramp SR161EB to Hamilton | point187 | 187 | 2303 | 65 | 22 | 65 | 49 | 65 | 0 | 0 | 0 | 0 |
| | point188 | 188 | 2303 | 65 | 22 | 65 | 49 | 65 | 0 | 0 | 0 | 0 |
| | point189 | 189 | 2303 | 65 | 22 | 65 | 49 | 65 | 0 | 0 | 0 | 0 |
| | point190 | 190 | 2303 | 65 | 22 | 65 | 49 | 65 | 0 | 0 | 0 | 0 |
| | point191 | 191 | 2303 | 65 | 22 | 65 | 49 | 65 | 0 | 0 | 0 | 0 |
| | point193 | 193 | 2303 | 65 | 22 | 65 | 49 | 65 | 0 | 0 | 0 | 0 |
| | point192 | 192 | | | | | | | | | | |
| Haussman/Garnier/Bulfinch | point196 | 196 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point197 | 197 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point198 | 198 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|----------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point199 | 199 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point200 | 200 | | | | | | | | | | |
| SR161 EB inside Shoulder b | point201 | 201 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point121 | 121 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point120 | 120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point119 | 119 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point118 | 118 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point117 | 117 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point116 | 116 | | | | | | | | | | |
| SR161 P EB5b | point202 | 202 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point136 | 136 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point137 | 137 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point138 | 138 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point139 | 139 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point140 | 140 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point141 | 141 | | | | | | | | | | |
| SR 161 P EB4b | point203 | 203 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point152 | 152 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point153 | 153 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point154 | 154 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point155 | 155 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point156 | 156 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point157 | 157 | | | | | | | | | | |
| SR161 P EB3b | point204 | 204 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point168 | 168 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point169 | 169 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point170 | 170 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point171 | 171 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point172 | 172 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point173 | 173 | | | | | | | | | | |
| SR 161 P EB1a | point205 | 205 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point206 | 206 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point207 | 207 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point208 | 208 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point209 | 209 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point210 | 210 | 1381 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|----------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point211 | 211 | | | | | | | | | | |
| SR 161 PEB outside shoulder 4' a | point212 | 212 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point213 | 213 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point214 | 214 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point215 | 215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point216 | 216 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point217 | 217 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point218 | 218 | | | | | | | | | | |
| SR161 P EB2c | point219 | 219 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point174 | 174 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point175 | 175 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point176 | 176 | | | | | | | | | | |
| SR 161 P EB3c | point220 | 220 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point158 | 158 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point159 | 159 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point160 | 160 | | | | | | | | | | |
| SR161 P EB4c | point221 | 221 | 1063 | 65 | 27 | 65 | 0 | 65 | 0 | 0 | 0 | 0 |
| | point142 | 142 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point143 | 143 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point144 | 144 | | | | | | | | | | |
| SR161 P EB inside Shoulder 4' c | point222 | 222 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point115 | 115 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point114 | 114 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point113 | 113 | | | | | | | | | | |
| SR161 P EB1b | point230 | 230 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point231 | 231 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point232 | 232 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point233 | 233 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point234 | 234 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point235 | 235 | 1105 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point236 | 236 | | | | | | | | | | |
| SR161 P EB outside shoulder | point237 | 237 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point238 | 238 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point239 | 239 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point240 | 240 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point241 | 241 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|--------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point242 | 242 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point243 | 243 | | | | | | | | | | |
| SR 161 P EB1c | point244 | 244 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point245 | 245 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point246 | 246 | 1063 | 65 | 27 | 65 | 44 | 65 | 0 | 0 | 0 | 0 |
| | point247 | 247 | | | | | | | | | | |
| SR 161 P EB outside shoulder c | point248 | 248 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point249 | 249 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point250 | 250 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point251 | 251 | | | | | | | | | | |
| SR 161 P WB Inside Shoulder a | point256 | 256 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point252 | 252 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point253 | 253 | | | | | | | | | | |
| SR161 P WB1 b | point257 | 257 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point67 | 67 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point68 | 68 | | | | | | | | | | |
| SR 161 P WB 4 b | point258 | 258 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point3 | 3 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point7 | 7 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point8 | 8 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point9 | 9 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point10 | 10 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point11 | 11 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point12 | 12 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point13 | 13 | | | | | | | | | | |
| SR 161 P WB 5 b | point259 | 259 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point50 | 50 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point51 | 51 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point52 | 52 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point53 | 53 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point54 | 54 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point55 | 55 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point56 | 56 | 1394 | 65 | 22 | 65 | 51 | 65 | 0 | 0 | 0 | 0 |
| | point57 | 57 | | | | | | | | | | |
| SR 161 P WB Inside Shoulder b | point260 | 260 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point254 | 254 | | | | | | | | | | |

INPUT: TRAFFIC FOR LAeq1h Volumes

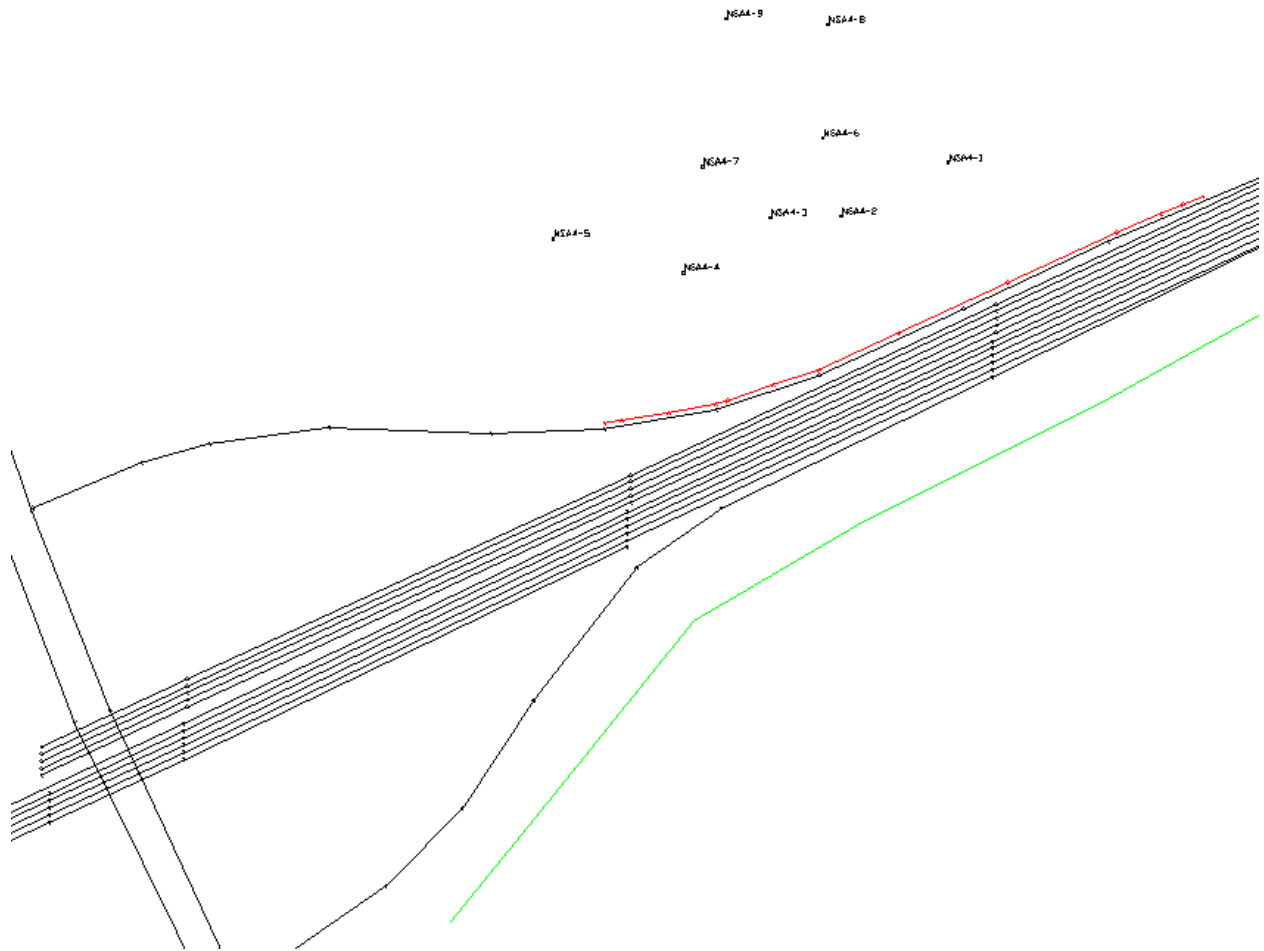
FRA-SR161-15.80 PID 116322

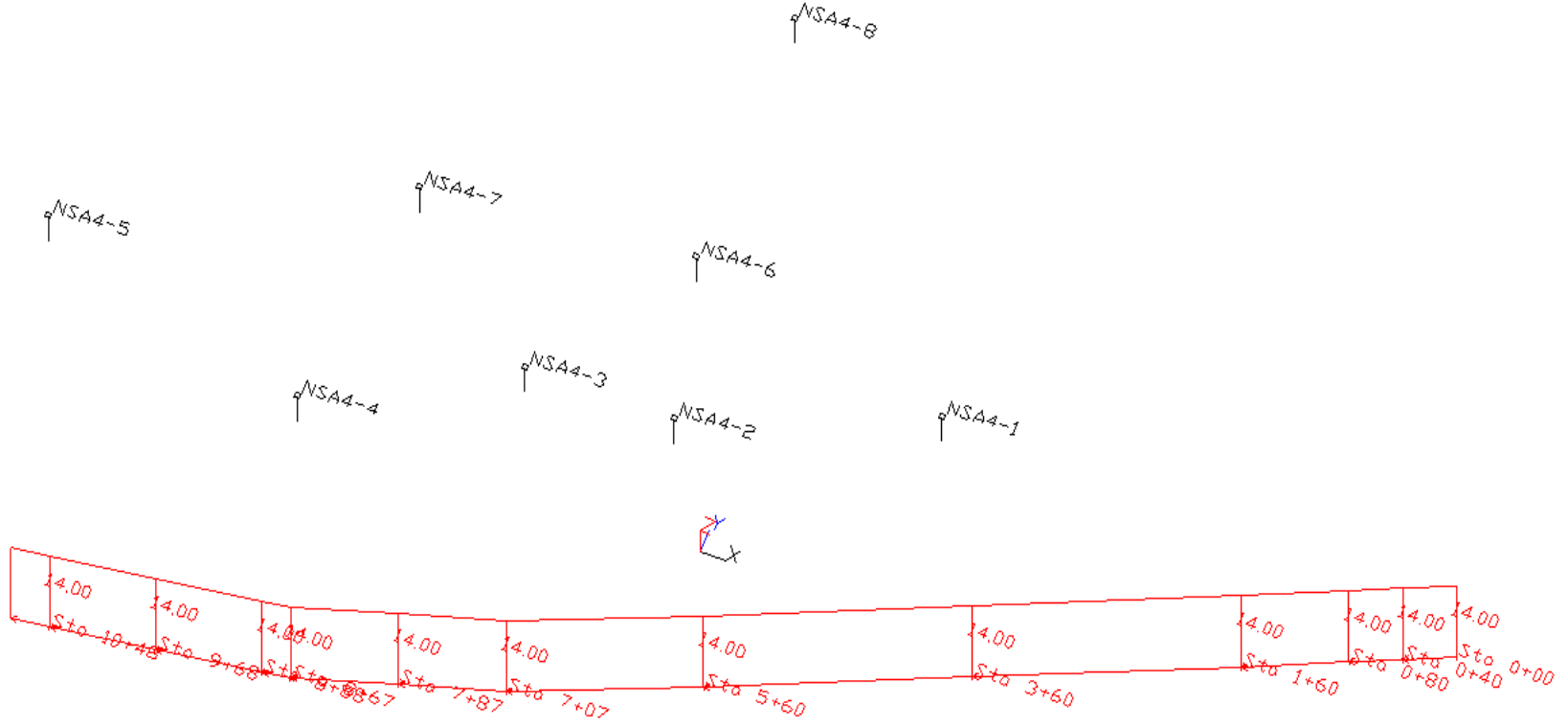
| | | | | | | | | | | | | |
|--------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| SR 161 P WB outside shoulder a | point261 | 261 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point262 | 262 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point263 | 263 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point264 | 264 | | | | | | | | | | |
| SR166 P WB 2 c | point265 | 265 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point76 | 76 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point77 | 77 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point78 | 78 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 8 | 0 | 0 |
| | point79 | 79 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point80 | 80 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point81 | 81 | | | | | | | | | | |
| SR 161 P WB3 c | point266 | 266 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point14 | 14 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point15 | 15 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point16 | 16 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point17 | 17 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point18 | 18 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point19 | 19 | | | | | | | | | | |
| SR 161 P WB 4 c | point267 | 267 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point58 | 58 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point59 | 59 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point60 | 60 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point61 | 61 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point62 | 62 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point63 | 63 | | | | | | | | | | |
| SR 161 P WB inside shoulder c | point268 | 268 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point106 | 106 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point107 | 107 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point108 | 108 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point109 | 109 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point110 | 110 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point111 | 111 | | | | | | | | | | |
| Entrance ramp SR 161 P WB 1 b | point269 | 269 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point270 | 270 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point271 | 271 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point272 | 272 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|--------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point273 | 273 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point274 | 274 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point275 | 275 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point276 | 276 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point279 | 279 | | | | | | | | | | |
| SR 161 P WB 1 c | point277 | 277 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point278 | 278 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point280 | 280 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point281 | 281 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point282 | 282 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point283 | 283 | 1125 | 65 | 17 | 65 | 41 | 65 | 0 | 0 | 0 | 0 |
| | point284 | 284 | | | | | | | | | | |
| SR 161 WB P outside shoulder c | point285 | 285 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point286 | 286 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point287 | 287 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point288 | 288 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point289 | 289 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point290 | 290 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point291 | 291 | | | | | | | | | | |
| Entrance ramp SR 161 WB 2 b-2 | point292 | 292 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point46 | 46 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point82 | 82 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point83 | 83 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point84 | 84 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point85 | 85 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point86 | 86 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point87 | 87 | 1229 | 65 | 12 | 65 | 26 | 65 | 0 | 0 | 0 | 0 |
| | point88 | 88 | | | | | | | | | | |





NSA 4 Design Year 2045
 Noise Barrier NSA4
 Reasonable and Feasible

RESULTS: SOUND LEVELS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | | |
|------------------------------|--|------------|-------------------------------|------------------------|--------------------------|---------------|-------------------------------|------------------|---------------|--|------------------------|-------------|------------------------------|
| Lawhon & Assoc CCox | | | | | | | | | | 18 July 2022 TNM 2.5 Calculated with TNM 2.5 | | | |
| RESULTS: SOUND LEVELS | | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | | FRA-SR161-15.80 PID 116322 | | | | | | | | | | |
| RUN: | | | Noise barrier evaluation NSA4 | | | | | | | | | | |
| BARRIER DESIGN: | | | unsaved | | | | | | | Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA. | | | |
| ATMOSPHERICS: | | | 68 deg F, 50% RH | | | | | | | | | | |
| Receiver | | | | | | | | | | | | | |
| Name | | No. | #DUs | Existing LAeq1h | No Barrier LAeq1h | | Increase over existing | | Type | With Barrier | | | |
| | | | | | Calculated | Crit'n | Calculated | Crit'n | Impact | Calculated LAeq1h | Noise Reduction | | |
| | | | | | | | | Sub'l Inc | | | Calculated | Goal | Calculated minus Goal |
| | | | | dB | dB | dB | dB | dB | | dB | dB | dB | dB |
| NSA4-1 | | 1 | 6 | 66.9 | 64.0 | 66 | -2.9 | 10 | ---- | 64.0 | 0.0 | 5 | -5.0 |
| NSA4-2 | | 2 | 6 | 68.2 | 63.6 | 66 | -4.6 | 10 | ---- | 63.6 | 0.0 | 5 | -5.0 |
| NSA4-3 | | 3 | 4 | 67.2 | 63.2 | 66 | -4.0 | 10 | ---- | 63.2 | 0.0 | 5 | -5.0 |
| NSA4-4 | | 4 | 6 | 68.0 | 64.7 | 66 | -3.3 | 10 | ---- | 64.7 | 0.0 | 5 | -5.0 |
| NSA4-5 | | 5 | 6 | 64.9 | 64.8 | 66 | -0.1 | 10 | ---- | 64.8 | 0.0 | 5 | -5.0 |
| NSA4-6 | | 6 | 6 | 65.8 | 62.1 | 66 | -3.7 | 10 | ---- | 62.1 | 0.0 | 5 | -5.0 |
| NSA4-7 | | 7 | 1 | 64.6 | 62.7 | 66 | -1.9 | 10 | ---- | 62.7 | 0.0 | 5 | -5.0 |
| NSA4-8 | | 8 | 6 | 62.9 | 61.2 | 66 | -1.7 | 10 | ---- | 61.2 | 0.0 | 5 | -5.0 |
| NSA4-9 | | 9 | 6 | 61.5 | 60.6 | 66 | -0.9 | 10 | ---- | 60.6 | 0.0 | 5 | -5.0 |
| Dwelling Units | | | # DUs | Noise Reduction | | | | | | | | | |
| | | | | Min | Avg | Max | | | | | | | |
| | | | | dB | dB | dB | | | | | | | |
| All Selected | | | 47 | 0.0 | 0.0 | 0.0 | | | | | | | |
| All Impacted | | | 0 | 0.0 | 0.0 | 0.0 | | | | | | | |
| All that meet NR Goal | | | 0 | 0.0 | 0.0 | 0.0 | | | | | | | |

RESULTS: BARRIER DESCRIPTIONS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|--|
| Lawhon & Assoc | | | | | | | | | | |
| CCox | | | | | | | | | | |
| | | | | | | | | | | |

RESULTS: BARRIER DESCRIPTIONS

| | | | | | | | | | | |
|--------------------------|--------------------------------------|--|--|--|--|--|--|--|--|--|
| PROJECT/CONTRACT: | FRA-SR161-15.80 PID 116322 | | | | | | | | | |
| RUN: | Noise barrier evaluation NSA4 | | | | | | | | | |
| BARRIER DESIGN: | Noise Barrier NSA 4 at 14' | | | | | | | | | |

| Barriers | | | | | | | | | | |
|---------------------|-------------|------------------------------|------------|------------|---------------|----------------|----------------|---------------|-----------------|-------------|
| Name | Type | Heights along Barrier | | | Length | If Wall | If Berm | | Run:Rise | Cost |
| | | Min | Avg | Max | | | Area | Volume | | |
| | | ft | ft | ft | ft | sq ft | cu yd | ft | ft:ft | \$ |
| Noise Barrier NSA 4 | W | 14.00 | 14.00 | 14.00 | 1078 | 15087 | | | | 452621 |
| | | | | | | | | | Total Cost: | 452621 |

| Lawhon & Assoc | | | | | | | | | | 18 July 2022 | | | | | | | | | |
|--|------|--------|-------|-----------------------------------|------------------------|--------------|-------------------|-------------------------------------|-----------|--------------|----------------------|-----------|--------|-----------------------|---------|------------------------|---|---------------|--------------------------------|
| CCox | | | | | | | | | | TNM 2.5 | | | | | | | | | |
| INPUT: BARRIERS | | | | | | | | | | | | | | | | | | | |
| PROJECT/CONTRACT: FRA-SR161-15.80 PID 116322 | | | | | | | | | | | | | | | | | | | |
| RUN: Noise barrier evaluation NSA4 | | | | | | | | | | | | | | | | | | | |
| Barrier | | | | | | | | | | Points | | | | | | | | | |
| Name | Type | Height | | If Wall \$ per Unit Area | If Berm | | | Add'tnl \$ per Unit Length | Name | No. | Coordinates (bottom) | | | Height at Point | Segment | | | On Struct? | Important Reflec- tions? |
| | | Min | Max | | \$ per Unit Vol. | Top Width | Run:Rise ft:ft | | | | X | Y | Z | | Seg Ht | Perturbs #Up #Dn | | | |
| | | ft | ft | \$/sq ft | \$/cu yd | ft | ft:ft | \$/ft | | | ft | ft | ft | ft | ft | | | | |
| Noise Barrier NSA 4 | W | 5.00 | 99.99 | 30.00 | | | | 0.00 | Sta 0+00 | 23 | 1,871,326.0 | 760,133.0 | 965.00 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 0+40 | 40 | 1,871,289.1 | 760,117.4 | 965.00 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 0+80 | 41 | 1,871,252.4 | 760,101.8 | 965.00 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 1+60 | 42 | 1,871,178.8 | 760,070.6 | 965.00 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 3+60 | 43 | 1,870,997.1 | 759,987.0 | 967.00 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 5+60 | 44 | 1,870,815.4 | 759,903.4 | 969.00 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 7+07 | 20 | 1,870,682.0 | 759,842.0 | 971.00 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 7+87 | 45 | 1,870,606.1 | 759,816.8 | 972.00 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 8+67 | 46 | 1,870,530.1 | 759,791.7 | 972.50 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 8+88 | 21 | 1,870,510.0 | 759,785.0 | 973.50 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 9+68 | 47 | 1,870,431.1 | 759,771.5 | 974.50 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 10+48 | 48 | 1,870,352.2 | 759,758.0 | 975.50 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 10+78 | 22 | 1,870,323.0 | 759,753.0 | 976.00 | 14.00 | | | | | |

INPUT: RECEIVERS

FRA-SR161-15.80 PID 116322

| Lawhon & Assoc | | | | | | 18 July 2022 | | | | | |
|--------------------------|-----|--------------------------------------|----------------------|-----------|--------|--------------|---------------------------------|---------------------|-----------------|------|--------|
| CCox | | | | | | TNM 2.5 | | | | | |
| INPUT: RECEIVERS | | | | | | | | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 PID 116322 | | | | | | | | | |
| RUN: | | Noise barrier evaluation NSA4 | | | | | | | | | |
| Receiver | | | | | | | | | | | |
| Name | No. | #DUs | Coordinates (ground) | | | Height | Input Sound Levels and Criteria | | | | Active |
| | | | X | Y | Z | | above | Existing | Impact Criteria | NR | |
| | | | | | | Ground | L _{Aeq} 1h | L _{Aeq} 1h | Sub'l | Goal | Calc. |
| | | | ft | ft | ft | ft | dBA | dBA | dB | dB | |
| NSA4-1 | 1 | 6 | 1,870,900.0 | 760,188.0 | 960.00 | 4.92 | 66.90 | 66 | 10.0 | 5.0 | Y |
| NSA4-2 | 2 | 6 | 1,870,721.0 | 760,099.0 | 965.00 | 4.92 | 68.20 | 66 | 10.0 | 5.0 | Y |
| NSA4-3 | 3 | 4 | 1,870,604.0 | 760,097.0 | 966.00 | 4.92 | 67.20 | 66 | 10.0 | 5.0 | Y |
| NSA4-4 | 4 | 6 | 1,870,458.0 | 760,005.0 | 969.00 | 4.92 | 68.00 | 66 | 10.0 | 5.0 | Y |
| NSA4-5 | 5 | 6 | 1,870,241.0 | 760,061.0 | 974.00 | 4.92 | 64.90 | 66 | 10.0 | 5.0 | Y |
| NSA4-6 | 6 | 6 | 1,870,691.0 | 760,229.0 | 965.00 | 4.92 | 65.80 | 66 | 10.0 | 5.0 | Y |
| NSA4-7 | 7 | 1 | 1,870,490.0 | 760,181.0 | 973.00 | 4.92 | 64.60 | 66 | 10.0 | 5.0 | Y |
| NSA4-8 | 8 | 6 | 1,870,700.0 | 760,418.0 | 970.00 | 4.92 | 62.90 | 66 | 10.0 | 5.0 | Y |
| NSA4-9 | 9 | 6 | 1,870,530.0 | 760,428.0 | 975.00 | 4.92 | 61.50 | 66 | 10.0 | 5.0 | Y |

| Lawhon & Assoc CCox | | | | 18 July 2022 TNM 2.5 | | | | | | | |
|------------------------------------|-------|-------------|-----|--|-----------|--------|---|------------------|---------------------------|-----------|------------|
| INPUT: ROADWAYS | | | | PROJECT/CONTRACT: FRA-SR161-15.80 PID 116322 | | | Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA | | | | |
| RUN: Noise barrier evaluation NSA4 | | | | | | | | | | | |
| Roadway Name | Width | Points Name | No. | Coordinates (pavement) | | | Flow Control | | | Segment | |
| | | | | X | Y | Z | Control Device | Speed Constraint | Percent Vehicles Affected | Pvmt Type | On Struct? |
| | ft | | | ft | ft | ft | | mph | % | | |
| Hamilton Road NB | 24.0 | point1 | 1 | 1,869,911.0 | 758,301.0 | 980.00 | | | | Average | |
| | | point2 | 2 | 1,869,827.0 | 758,551.0 | 978.00 | | | | Average | |
| | | point3 | 3 | 1,869,717.0 | 758,813.0 | 975.00 | | | | Average | |
| | | point4 | 4 | 1,869,501.4 | 759,278.9 | 976.00 | | | | Average | |
| | | point5 | 5 | 1,869,371.0 | 759,612.0 | 978.00 | | | | Average | |
| | | point6 | 6 | 1,869,325.0 | 759,748.0 | 980.00 | | | | Average | |
| | | point7 | 7 | 1,869,288.0 | 759,888.0 | 981.00 | | | | Average | |
| | | point8 | 8 | 1,869,277.0 | 760,088.0 | 980.00 | | | | | |
| Hamilton Road SB | 24.0 | point9 | 9 | 1,869,249.0 | 760,088.0 | 980.00 | | | | Average | |
| | | point10 | 10 | 1,869,257.0 | 759,888.0 | 981.00 | | | | Average | |
| | | point11 | 11 | 1,869,279.0 | 759,748.0 | 980.00 | | | | Average | |
| | | point12 | 12 | 1,869,323.2 | 759,570.7 | 978.00 | | | | Average | |
| | | point13 | 13 | 1,869,445.2 | 759,253.7 | 976.00 | | | | Average | |
| | | point14 | 14 | 1,869,671.0 | 758,791.0 | 975.00 | | | | Average | |
| | | point15 | 15 | 1,869,819.0 | 758,376.0 | 979.00 | | | | | |
| SR 161 P EB inside shoulder a | 10.0 | point25 | 25 | 1,868,660.0 | 758,801.5 | 993.50 | | | | Average | Y |
| | | point26 | 26 | 1,869,628.0 | 759,254.5 | 997.00 | | | | Average | |
| | | point27 | 27 | 1,870,368.0 | 759,607.5 | 979.00 | | | | Average | |
| | | point175 | 175 | 1,870,977.0 | 759,891.5 | 965.00 | | | | Average | |
| | | point180 | 180 | 1,871,574.0 | 760,169.5 | 965.00 | | | | Average | |
| | | point184 | 184 | 1,871,705.0 | 760,230.5 | 965.00 | | | | Average | |
| | | point188 | 188 | 1,872,909.0 | 760,792.5 | 968.00 | | | | Average | |
| | | point194 | 194 | 1,874,083.0 | 761,322.5 | 970.00 | | | | Average | |
| | | point200 | 200 | 1,874,306.0 | 761,425.5 | 972.00 | | | | | |
| SR 161 P EB 4 | 12.0 | point28 | 28 | 1,868,660.0 | 758,790.5 | 994.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|--|------|----------|-----|-------------|-----------|--------|--------|------|-----|---------|---|
| | | point29 | 29 | 1,869,406.0 | 759,138.5 | 998.00 | | | | Average | Y |
| | | point30 | 30 | 1,869,628.0 | 759,243.5 | 997.00 | | | | Average | |
| | | point110 | 110 | 1,870,368.0 | 759,596.5 | 979.00 | | | | Average | |
| | | point111 | 111 | 1,870,977.0 | 759,880.5 | 965.00 | | | | Average | |
| | | point112 | 112 | 1,871,574.0 | 760,158.5 | 965.00 | | | | | |
| SR161 P EB 3 | 12.0 | point31 | 31 | 1,868,660.0 | 758,779.5 | 994.50 | | | | Average | |
| | | point32 | 32 | 1,869,406.0 | 759,126.5 | 998.50 | | | | Average | Y |
| | | point33 | 33 | 1,869,628.0 | 759,231.5 | 997.50 | | | | Average | |
| | | point100 | 100 | 1,870,368.0 | 759,584.5 | 979.00 | | | | Average | |
| | | point101 | 101 | 1,870,977.0 | 759,868.5 | 965.00 | | | | Average | |
| | | point102 | 102 | 1,871,574.0 | 760,146.5 | 965.00 | | | | | |
| SR 161 P EB 2 | 12.0 | point34 | 34 | 1,868,660.0 | 758,766.5 | 995.00 | | | | Average | |
| | | point35 | 35 | 1,869,406.0 | 759,114.5 | 999.00 | | | | Average | Y |
| | | point36 | 36 | 1,869,628.0 | 759,219.5 | 998.00 | | | | Average | |
| | | point88 | 88 | 1,870,368.0 | 759,572.5 | 979.00 | | | | Average | |
| | | point89 | 89 | 1,870,977.0 | 759,856.5 | 965.00 | | | | Average | |
| | | point90 | 90 | 1,871,574.0 | 760,134.5 | 965.00 | | | | | |
| Exit ramp SR 161 WB to Hamilton | 12.0 | point72 | 72 | 1,871,574.0 | 760,228.5 | 965.00 | Stop | 0.00 | 100 | Average | |
| | | point73 | 73 | 1,871,163.0 | 760,055.0 | 965.00 | | | | Average | |
| | | point285 | 285 | 1,870,922.5 | 759,944.0 | 966.50 | | | | Average | |
| | | point74 | 74 | 1,870,682.0 | 759,833.0 | 971.00 | | | | Average | |
| | | point75 | 75 | 1,870,510.0 | 759,775.0 | 973.00 | | | | Average | |
| | | point76 | 76 | 1,870,323.0 | 759,743.0 | 976.00 | | | | Average | |
| | | point77 | 77 | 1,870,134.0 | 759,737.0 | 979.00 | | | | Average | |
| | | point78 | 78 | 1,869,865.0 | 759,746.0 | 980.00 | | | | Average | |
| | | point79 | 79 | 1,869,665.0 | 759,720.0 | 978.00 | | | | Average | |
| | | point80 | 80 | 1,869,553.0 | 759,687.0 | 977.00 | | | | Average | |
| | | point81 | 81 | 1,869,371.0 | 759,612.0 | 978.00 | | | | | |
| Entrance ramp Hamilton Rd to SR 166 EB | 12.0 | point82 | 82 | 1,869,717.0 | 758,813.0 | 975.00 | Onramp | 0.00 | 100 | Average | |
| | | point83 | 83 | 1,869,965.0 | 758,984.0 | 974.00 | | | | Average | |
| | | point84 | 84 | 1,870,092.0 | 759,115.0 | 976.00 | | | | Average | |
| | | point85 | 85 | 1,870,211.0 | 759,295.0 | 978.00 | | | | Average | |
| | | point86 | 86 | 1,870,383.0 | 759,515.0 | 978.00 | | | | Average | |
| | | point87 | 87 | 1,870,525.0 | 759,615.0 | 974.00 | | | | Average | |
| | | point92 | 92 | 1,870,977.0 | 759,832.5 | 965.00 | | | | Average | |
| | | point93 | 93 | 1,871,574.0 | 760,122.5 | 965.00 | | | | | |
| HarLem Road | 12.0 | point124 | 124 | 1,874,538.0 | 760,192.0 | 974.00 | | | | Average | |
| | | point120 | 120 | 1,874,360.0 | 761,378.0 | 993.00 | | | | Average | Y |
| | | point121 | 121 | 1,874,330.0 | 761,634.0 | 993.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|--------------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point122 | 122 | 1,874,297.0 | 762,017.0 | 984.00 | | | | Average | |
| | | point123 | 123 | 1,874,263.0 | 762,332.0 | 981.00 | | | | | |
| SR 161 P EB 1 | 12.0 | point169 | 169 | 1,868,660.0 | 758,754.5 | 995.00 | | | | Average | |
| | | point170 | 170 | 1,869,406.0 | 759,102.5 | 999.00 | | | | Average | Y |
| | | point171 | 171 | 1,869,628.0 | 759,207.5 | 998.00 | | | | Average | |
| | | point176 | 176 | 1,870,368.0 | 759,560.5 | 979.00 | | | | Average | |
| | | point177 | 177 | 1,870,977.0 | 759,844.5 | 965.00 | | | | Average | |
| | | point179 | 179 | 1,871,574.0 | 760,122.5 | 965.00 | | | | | |
| SR 161 P EB outside shoulder a | 10.0 | point172 | 172 | 1,868,660.0 | 758,742.0 | 995.00 | | | | Average | |
| | | point173 | 173 | 1,869,406.0 | 759,090.0 | 999.00 | | | | Average | Y |
| | | point174 | 174 | 1,869,628.0 | 759,195.0 | 998.00 | | | | Average | |
| | | point178 | 178 | 1,870,368.0 | 759,549.5 | 979.00 | | | | | |
| SR 161 P EB outside shoulder b | 10.0 | point182 | 182 | 1,871,574.0 | 760,111.0 | 965.00 | | | | Average | |
| | | point183 | 183 | 1,871,705.0 | 760,172.0 | 965.00 | | | | Average | |
| | | point190 | 190 | 1,872,909.0 | 760,737.0 | 968.00 | | | | Average | |
| | | point196 | 196 | 1,874,083.0 | 761,265.5 | 970.00 | | | | Average | |
| | | point202 | 202 | 1,874,306.0 | 761,379.5 | 972.00 | | | | | |
| SR 161 P EB 4 b | 12.0 | point185 | 185 | 1,872,909.0 | 760,781.5 | 968.00 | | | | Average | |
| | | point191 | 191 | 1,874,083.0 | 761,311.5 | 970.00 | | | | Average | |
| | | point115 | 115 | 1,874,306.0 | 761,414.5 | 972.00 | | | | | |
| SR161 P EB 3 b | 10.0 | point186 | 186 | 1,872,909.0 | 760,770.5 | 968.00 | | | | Average | |
| | | point193 | 193 | 1,874,083.0 | 761,300.5 | 970.00 | | | | Average | |
| | | point105 | 105 | 1,874,306.0 | 761,402.5 | 972.00 | | | | | |
| SR 161 P EB 2 b | 12.0 | point187 | 187 | 1,872,909.0 | 760,759.5 | 968.00 | | | | Average | |
| | | point192 | 192 | 1,874,083.0 | 761,288.5 | 970.00 | | | | Average | |
| | | point95 | 95 | 1,874,306.0 | 761,390.5 | 972.00 | | | | | |
| SR161 P WB1a | 12.0 | point249 | 249 | 1,874,081.0 | 761,386.5 | 972.00 | | | | Average | |
| | | point55 | 55 | 1,872,909.0 | 760,855.5 | 969.00 | | | | Average | |
| | | point42 | 42 | 1,871,705.0 | 760,277.5 | 965.00 | | | | Average | Y |
| | | point39 | 39 | 1,871,574.0 | 760,217.5 | 965.00 | | | | | |
| SR 161 P WB2a | 12.0 | point250 | 250 | 1,874,081.0 | 761,374.5 | 972.00 | | | | Average | |
| | | point44 | 44 | 1,872,909.0 | 760,843.5 | 969.00 | | | | Average | |
| | | point41 | 41 | 1,871,705.0 | 760,265.5 | 965.00 | | | | Average | Y |
| | | point38 | 38 | 1,871,574.0 | 760,205.5 | 965.00 | | | | | |
| SR161 outside shoulder P WB1 | 10.0 | point251 | 251 | 1,874,081.0 | 761,397.5 | 972.00 | | | | Average | |
| | | point66 | 66 | 1,872,909.0 | 760,867.5 | 969.00 | | | | Average | |
| | | point43 | 43 | 1,871,705.0 | 760,288.5 | 965.00 | | | | Average | Y |
| | | point40 | 40 | 1,871,574.0 | 760,228.5 | 965.00 | | | | Average | |
| | | point264 | 264 | 1,870,977.0 | 759,950.5 | 965.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|-----------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point16 | 16 | 1,870,368.0 | 759,666.5 | 978.50 | | | | Average | |
| | | point17 | 17 | 1,869,628.0 | 759,326.5 | 996.50 | | | | Average | Y |
| | | point18 | 18 | 1,869,386.0 | 759,213.0 | 998.00 | | | | | |
| SR 161 P WB inside shoulder | 10.0 | point252 | 252 | 1,874,083.0 | 761,351.5 | 970.00 | | | | Average | |
| | | point253 | 253 | 1,872,909.0 | 760,820.5 | 968.00 | | | | Average | |
| | | point254 | 254 | 1,871,705.0 | 760,242.5 | 965.00 | | | | Average | |
| | | point258 | 258 | 1,871,574.0 | 760,182.5 | 965.00 | | | | Average | |
| | | point260 | 260 | 1,870,977.0 | 759,904.5 | 964.50 | | | | Average | |
| | | point265 | 265 | 1,870,368.0 | 759,620.5 | 978.50 | | | | Average | |
| | | point267 | 267 | 1,869,628.0 | 759,280.5 | 996.50 | | | | Average | Y |
| | | point270 | 270 | 1,869,386.0 | 759,166.0 | 998.00 | | | | | |
| SR 161 P WB3 c-2 | 12.0 | point257 | 257 | 1,874,081.0 | 761,362.5 | 970.00 | | | | Average | |
| | | point255 | 255 | 1,872,909.0 | 760,831.5 | 968.00 | | | | Average | |
| | | point256 | 256 | 1,871,705.0 | 760,253.5 | 965.00 | | | | Average | Y |
| | | point259 | 259 | 1,871,574.0 | 760,193.5 | 965.00 | | | | | |
| SR 161 P EB 1 b | 12.0 | point271 | 271 | 1,871,574.0 | 760,122.5 | 965.00 | | | | Average | |
| | | point181 | 181 | 1,871,705.0 | 760,183.5 | 965.00 | | | | Average | |
| | | point189 | 189 | 1,872,909.0 | 760,748.5 | 968.00 | | | | Average | |
| | | point195 | 195 | 1,874,083.0 | 761,276.5 | 970.00 | | | | Average | |
| | | point201 | 201 | 1,874,306.0 | 761,390.5 | 972.00 | | | | | |
| SR 161 P EB 2 a-2 | 12.0 | point272 | 272 | 1,871,574.0 | 760,134.5 | 965.00 | | | | Average | Y |
| | | point94 | 94 | 1,872,909.0 | 760,759.5 | 968.00 | | | | | |
| SR161 P EB 3 a-2 | 12.0 | point273 | 273 | 1,871,574.0 | 760,146.5 | 965.00 | | | | Average | Y |
| | | point103 | 103 | 1,871,705.0 | 760,207.5 | 965.00 | | | | Average | |
| | | point104 | 104 | 1,872,909.0 | 760,770.5 | 968.00 | | | | | |
| SR 161 P EB 4 a-2 | 12.0 | point274 | 274 | 1,871,574.0 | 760,158.5 | 965.00 | | | | Average | Y |
| | | point113 | 113 | 1,871,705.0 | 760,219.5 | 965.00 | | | | Average | |
| | | point114 | 114 | 1,872,909.0 | 760,781.5 | 968.00 | | | | | |
| SR161 P WB1a-2 | 12.0 | point282 | 282 | 1,871,574.0 | 760,217.5 | 965.00 | | | | Average | |
| | | point263 | 263 | 1,870,977.0 | 759,939.5 | 965.00 | | | | Average | |
| | | point19 | 19 | 1,870,368.0 | 759,655.5 | 978.50 | | | | Average | |
| | | point20 | 20 | 1,869,628.0 | 759,315.5 | 996.50 | | | | Average | Y |
| | | point21 | 21 | 1,869,386.0 | 759,201.0 | 998.00 | | | | | |
| SR 161 P WB2a-2 | 12.0 | point283 | 283 | 1,871,574.0 | 760,205.5 | 965.00 | | | | Average | |
| | | point262 | 262 | 1,870,977.0 | 759,927.5 | 964.50 | | | | Average | |
| | | point22 | 22 | 1,870,368.0 | 759,643.5 | 978.50 | | | | Average | |
| | | point23 | 23 | 1,869,628.0 | 759,303.5 | 996.50 | | | | Average | Y |
| | | point24 | 24 | 1,869,386.0 | 759,189.0 | 998.00 | | | | | |
| SR 161 P WB3a | 12.0 | point284 | 284 | 1,871,574.0 | 760,193.5 | 965.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|--|--|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point261 | 261 | 1,870,977.0 | 759,915.5 | 964.50 | | | | Average | |
| | | point266 | 266 | 1,870,368.0 | 759,631.5 | 978.50 | | | | Average | |
| | | point268 | 268 | 1,869,628.0 | 759,291.5 | 996.50 | | | | Average | Y |
| | | point269 | 269 | 1,869,386.0 | 759,177.0 | 998.00 | | | | | |

| | | | | | | | | | | | | | |
|-----------------------------------|-------------------------------|-----|---------|-----|---------|-----|---------|-----|--------|-----|-------------|-----|---|
| Lawhon & Assoc | | | | | | | | | | | | | |
| CCox | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| INPUT: TRAFFIC FOR LAeq1h Volumes | | | | | | | | | | | | | |
| PROJECT/CONTRACT: | FRA-SR161-15.80 PID 116322 | | | | | | | | | | | | |
| RUN: | Noise barrier evaluation NSA4 | | | | | | | | | | | | |
| Roadway | Points | | | | | | | | | | | | |
| Name | Name | No. | Segment | | | | | | | | | | |
| | | | Autos | | MTrucks | | HTrucks | | Buses | | Motorcycles | | |
| | | | V | S | V | S | V | S | V | S | V | S | |
| | | | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | |
| Hamilton Road NB | point1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point6 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point7 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point8 | 8 | | | | | | | | | | | |
| Hamilton Road SB | point9 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point10 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point11 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point12 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point13 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point14 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point15 | 15 | | | | | | | | | | | |
| SR 161 P EB inside shoulder a | point25 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point26 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point27 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point175 | 175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point180 | 180 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point184 | 184 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point188 | 188 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point194 | 194 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|--|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point200 | 200 | | | | | | | | | | |
| SR 161 P EB 4 | point28 | 28 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point29 | 29 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point30 | 30 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point110 | 110 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point111 | 111 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point112 | 112 | | | | | | | | | | |
| SR161 P EB 3 | point31 | 31 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point32 | 32 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point33 | 33 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point100 | 100 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point101 | 101 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point102 | 102 | | | | | | | | | | |
| SR 161 P EB 2 | point34 | 34 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point35 | 35 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point36 | 36 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point88 | 88 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point89 | 89 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point90 | 90 | | | | | | | | | | |
| Exit ramp SR 161 WB to Hamilton | point72 | 72 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point73 | 73 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point285 | 285 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point74 | 74 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point75 | 75 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point76 | 76 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point77 | 77 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point78 | 78 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point79 | 79 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point80 | 80 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point81 | 81 | | | | | | | | | | |
| Entrance ramp Hamilton Rd to SR 166 EB | point82 | 82 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point83 | 83 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point84 | 84 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point85 | 85 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point86 | 86 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point87 | 87 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|--------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point92 | 92 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point93 | 93 | | | | | | | | | | |
| HarLem Road | point124 | 124 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point120 | 120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point121 | 121 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point122 | 122 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point123 | 123 | | | | | | | | | | |
| SR 161 P EB 1 | point169 | 169 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point170 | 170 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point171 | 171 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point176 | 176 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point177 | 177 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point179 | 179 | | | | | | | | | | |
| SR 161 P EB outside shoulder a | point172 | 172 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point173 | 173 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point174 | 174 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point178 | 178 | | | | | | | | | | |
| SR 161 P EB outside shoulder b | point182 | 182 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point183 | 183 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point190 | 190 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point196 | 196 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point202 | 202 | | | | | | | | | | |
| SR 161 P EB 4 b | point185 | 185 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point191 | 191 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point115 | 115 | | | | | | | | | | |
| SR161 P EB 3 b | point186 | 186 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point193 | 193 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point105 | 105 | | | | | | | | | | |
| SR 161 P EB 2 b | point187 | 187 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point192 | 192 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point95 | 95 | | | | | | | | | | |
| SR161 P WB1a | point249 | 249 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point55 | 55 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point42 | 42 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point39 | 39 | | | | | | | | | | |
| SR 161 P WB2a | point250 | 250 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |

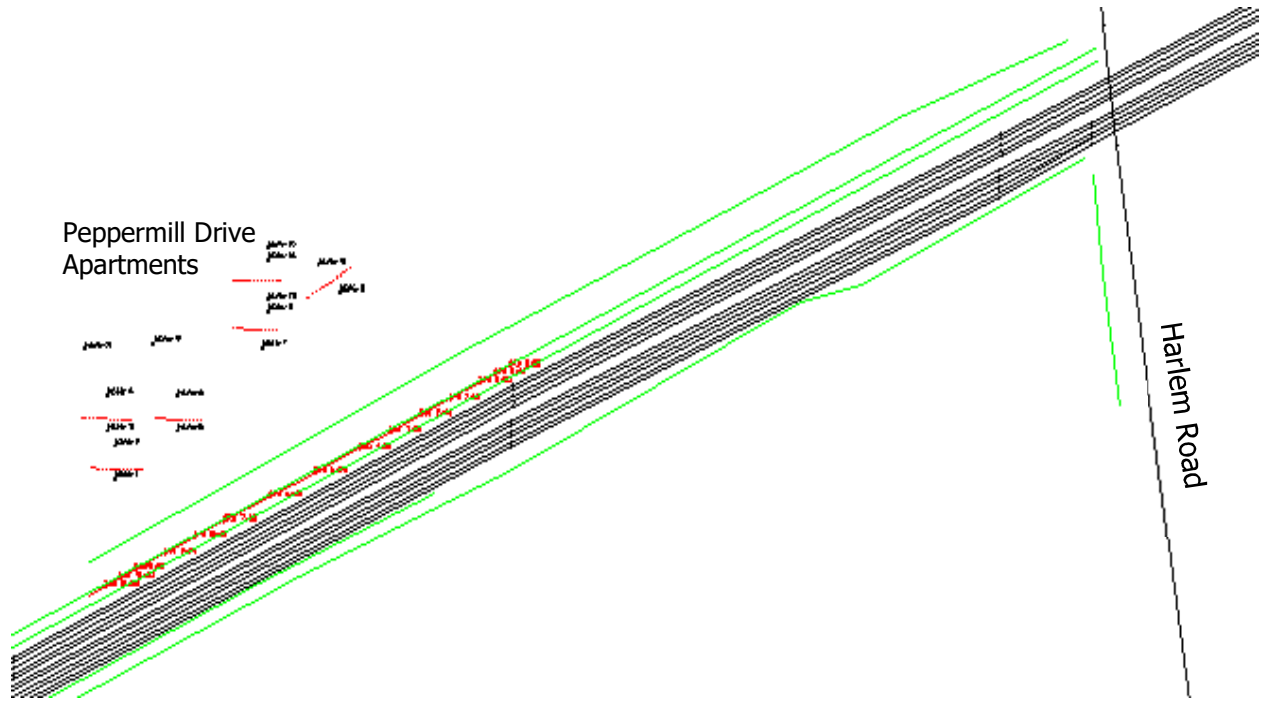
INPUT: TRAFFIC FOR LAeq1h Volumes

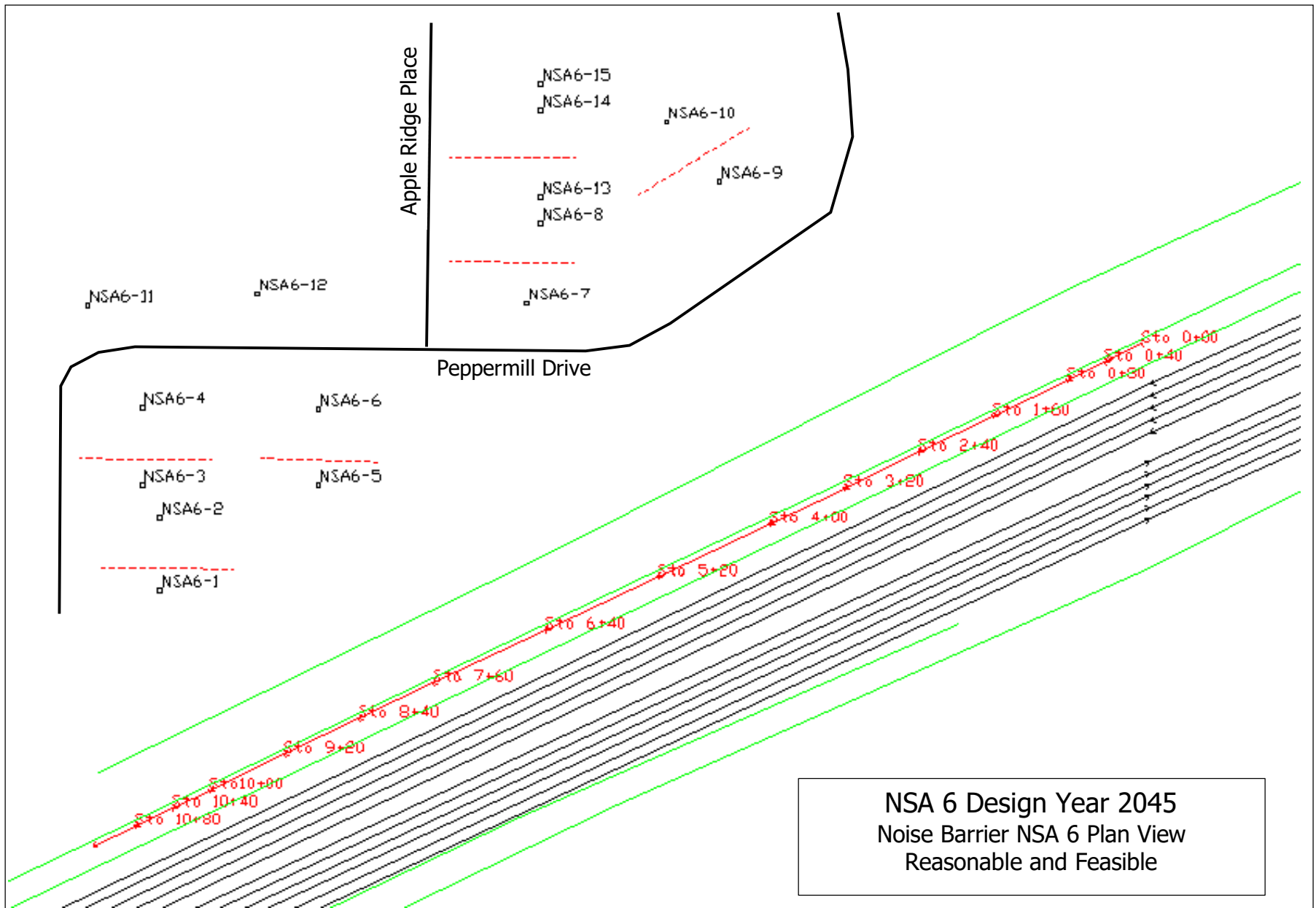
FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point44 | 44 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point41 | 41 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point38 | 38 | | | | | | | | | | |
| SR161 outside shoulder P WB1 | point251 | 251 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point66 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point43 | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point40 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point264 | 264 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point16 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point17 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point18 | 18 | | | | | | | | | | |
| SR 161 P WB inside shoulder | point252 | 252 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point253 | 253 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point254 | 254 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point258 | 258 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point260 | 260 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point265 | 265 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point267 | 267 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point270 | 270 | | | | | | | | | | |
| SR 161 P WB3 c-2 | point257 | 257 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point255 | 255 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 1 | 0 | 0 |
| | point256 | 256 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point259 | 259 | | | | | | | | | | |
| SR 161 P EB 1 b | point271 | 271 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point181 | 181 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point189 | 189 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point195 | 195 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point201 | 201 | | | | | | | | | | |
| SR 161 P EB 2 a-2 | point272 | 272 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point94 | 94 | | | | | | | | | | |
| SR161 P EB 3 a-2 | point273 | 273 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point103 | 103 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point104 | 104 | | | | | | | | | | |
| SR 161 P EB 4 a-2 | point274 | 274 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point113 | 113 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point114 | 114 | | | | | | | | | | |

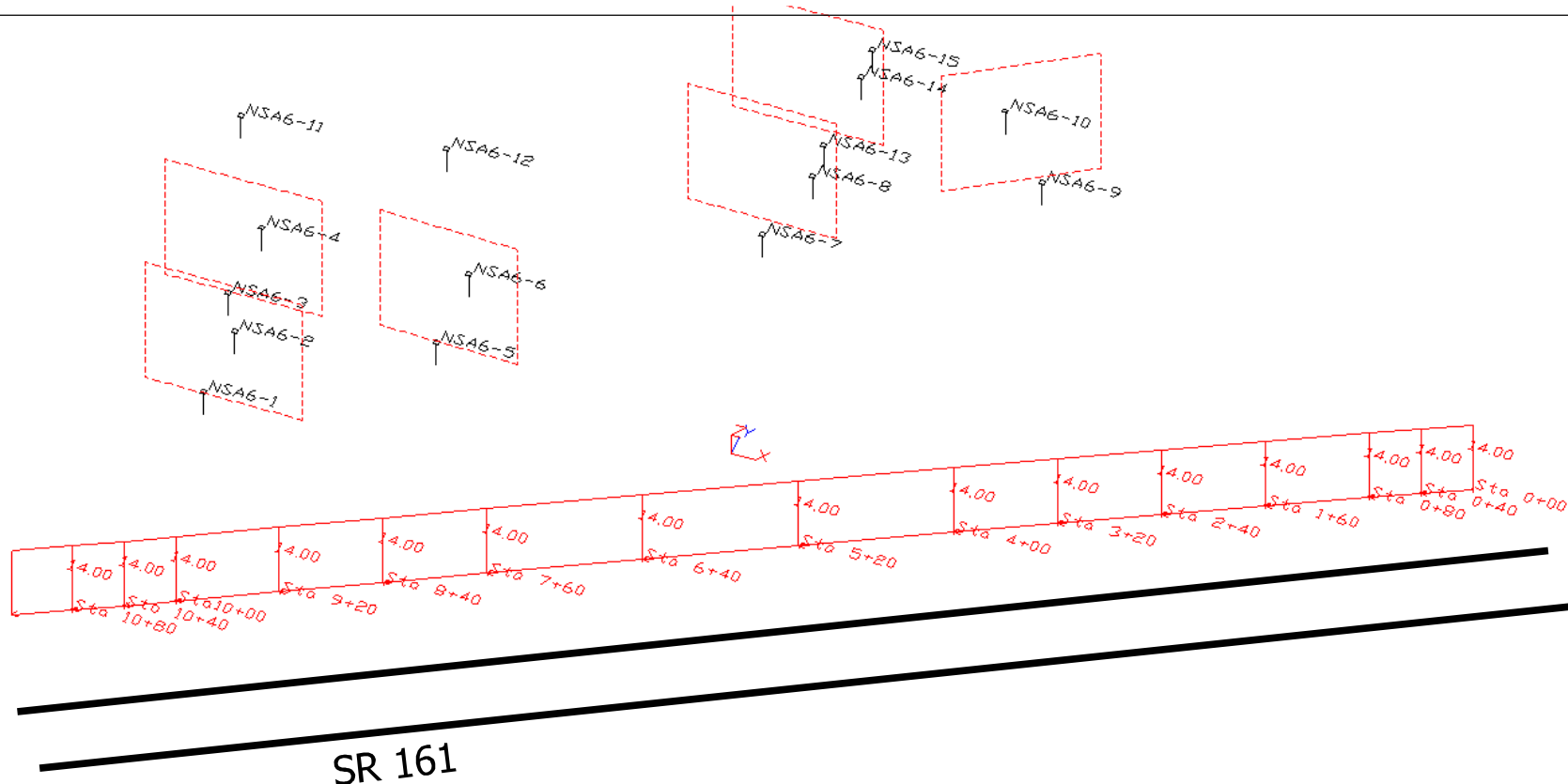
INPUT: TRAFFIC FOR LAeq1h Volumes**FRA-SR161-15.80 PID 116322**

| | | | | | | | | | | | | |
|-----------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| SR161 P WB1a-2 | point282 | 282 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point263 | 263 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point19 | 19 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point20 | 20 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point21 | 21 | | | | | | | | | | |
| SR 161 P WB2a-2 | point283 | 283 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point262 | 262 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point22 | 22 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point23 | 23 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point24 | 24 | | | | | | | | | | |
| SR 161 P WB3a | point284 | 284 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point261 | 261 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point266 | 266 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point268 | 268 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point269 | 269 | | | | | | | | | | |





NSA 6 Design Year 2045
 Noise Barrier NSA 6 Plan View
 Reasonable and Feasible



SR 161

NSA 6 Design Year 2045
 Noise Barrier NSA 6
 Reasonable and Feasible

RESULTS: SOUND LEVELS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | | |
|------------------------|----|----------------------------|-----------------|--------------------|----------------------|------------------------|--------|---------|----------------------|--|-----------------|-----------------------------|--|
| Lawhon & Assoc CCox | | | | | | | | | | 19 July 2022 TNM 2.5 Calculated with TNM 2.5 | | | |
| RESULTS: SOUND LEVELS | | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 PID 116322 | | | | | | | | | | | |
| RUN: | | Noise barrierNSA6 | | | | | | | | | | | |
| BARRIER DESIGN: | | Noise Barrier NSA6 at 14' | | | | | | | | Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA. | | | |
| ATMOSPHERICS: | | 68 deg F, 50% RH | | | | | | | | | | | |
| Receiver | | | | | | | | | | | | | |
| Name | | No. | #DUs | Existing LAeq1h | No Barrier LAeq1h | Increase over existing | | Type | With Barrier | | Noise Reduction | | |
| | | | | Calculated | Crit'n | Calculated | Crit'n | Impact | Calculated LAeq1h | Calculated | Goal | Calculated minus Goal | |
| | | | | dB | dB | dB | dB | | dB | dB | dB | dB | |
| NSA6-1 | 10 | 2 | 68.8 | 71.3 | 66 | 2.5 | 10 | Snd Lvl | 66.5 | 4.8 | 5 | -0.2 | |
| NSA6-2 | 11 | 2 | 64.1 | 66.4 | 66 | 2.3 | 10 | Snd Lvl | 65.2 | 1.2 | 5 | -3.8 | |
| NSA6-3 | 12 | 2 | 64.3 | 66.7 | 66 | 2.4 | 10 | Snd Lvl | 63.3 | 3.4 | 5 | -1.6 | |
| NSA6-4 | 13 | 2 | 61.3 | 63.5 | 66 | 2.2 | 10 | ---- | 62.5 | 1.0 | 5 | -4.0 | |
| NSA6-5 | 14 | 2 | 67.8 | 70.2 | 66 | 2.4 | 10 | Snd Lvl | 63.7 | 6.5 | 5 | 1.5 | |
| NSA6-6 | 15 | 2 | 63.5 | 65.8 | 66 | 2.3 | 10 | ---- | 60.5 | 5.3 | 5 | 0.3 | |
| NSA6-7 | 16 | 2 | 65.5 | 68.0 | 66 | 2.5 | 10 | Snd Lvl | 62.0 | 6.0 | 5 | 1.0 | |
| NSA6-8 | 17 | 2 | 60.9 | 62.7 | 66 | 1.8 | 10 | ---- | 59.2 | 3.5 | 5 | -1.5 | |
| NSA6-9 | 18 | 2 | 63.9 | 66.2 | 66 | 2.3 | 10 | Snd Lvl | 61.1 | 5.1 | 5 | 0.1 | |
| NSA6-10 | 19 | 2 | 60.3 | 62.1 | 66 | 1.8 | 10 | ---- | 61.0 | 1.1 | 5 | -3.9 | |
| NSA6-11 | 20 | 2 | 61.6 | 64.0 | 66 | 2.4 | 10 | ---- | 61.8 | 2.2 | 5 | -2.8 | |
| NSA6-12 | 21 | 2 | 62.4 | 64.7 | 66 | 2.3 | 10 | ---- | 60.7 | 4.0 | 5 | -1.0 | |
| NSA6-13 | 22 | 2 | 61.4 | 63.3 | 66 | 1.9 | 10 | ---- | 58.3 | 5.0 | 5 | 0.0 | |
| NSA6-14 | 23 | 2 | 58.3 | 60.0 | 66 | 1.7 | 10 | ---- | 56.7 | 3.3 | 5 | -1.7 | |
| NSA6-15 | 24 | 1 | 58.5 | 60.4 | 66 | 1.9 | 10 | ---- | 57.1 | 3.3 | 5 | -1.7 | |
| Dwelling Units | | # DUs | Noise Reduction | | | | | | | | | | |
| | | | Min | Avg | Max | | | | | | | | |
| | | | dB | dB | dB | | | | | | | | |
| All Selected | | 29 | 1.0 | 3.7 | 6.5 | | | | | | | | |
| All Impacted | | 12 | 1.2 | 4.5 | 6.5 | | | | | | | | |
| All that meet NR Goal | | 10 | 5.0 | 5.6 | 6.5 | | | | | | | | |

RESULTS: BARRIER DESCRIPTIONS

FRA-SR161-15.80 PID 116322

| Lawhon & Assoc | | | | | | | | | | |
|--------------------------------------|------|----------------------------|-------|-------|--------|-----------------|-------------------|--------------|-------------|--------|
| CCox | | | | | | | | | | |
| | | | | | | | | | | |
| RESULTS: BARRIER DESCRIPTIONS | | | | | | | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 PID 116322 | | | | | | | | |
| RUN: | | Noise barrierNSA6 | | | | | | | | |
| BARRIER DESIGN: | | Noise Barrier NSA6 at 14' | | | | | | | | |
| Barriers | | | | | | | | | | |
| Name | Type | Heights along Barrier | | | Length | If Wall Area | If Berm Volume | Top Width | Run:Rise | Cost |
| | | Min | Avg | Max | | | | | | |
| | | ft | ft | ft | ft | sq ft | cu yd | ft | ft:ft | \$ |
| Noise Barrier NSA6 | W | 14.00 | 14.00 | 14.00 | 1126 | 15768 | | | | 473053 |
| | | | | | | | | | Total Cost: | 473053 |

| Lawhon & Assoc | | | | | | | | | | 19 July 2022 | | | | | | | | | | |
|--|------|--------|-------|------------------------|------------------------|--------------|----------|-------|-------------------------------------|--------------|-------------|----------------------|--------|--------|-----------------------|------------------------|---|--|---------------|--------------------------------|
| CCox | | | | | | | | | | TNM 2.5 | | | | | | | | | | |
| INPUT: BARRIERS | | | | | | | | | | | | | | | | | | | | |
| PROJECT/CONTRACT: FRA-SR161-15.80 PID 116322 | | | | | | | | | | | | | | | | | | | | |
| RUN: Noise barrierNSA6 | | | | | | | | | | | | | | | | | | | | |
| Barrier | | | | | | | | | | Points | | | | | | | | | | |
| Name | Type | Height | | If Wall | | If Berm | | | Add'tnl \$ per Unit Length | Name | No. | Coordinates (bottom) | | | Height at Point | Segment | | | On Struct? | Important Reflec- tions? |
| | | Min | Max | \$ per Unit Area | \$ per Unit Vol. | Top Width | Run:Rise | X | | | | Y | Z | Seg Ht | | Perturbs #Up #Dn | | | | |
| | | ft | ft | \$/sq ft | \$/cu yd | ft | ft:ft | \$/ft | | | ft | ft | ft | ft | ft | | | | | |
| Noise Barrier NSA6 | W | 5.00 | 99.99 | 30.00 | | | | 0.00 | Sta 0+00 | 24 | 1,872,900.6 | 760,906.2 | 969.00 | 14.00 | 1.00 | 1 | 0 | | | |
| | | | | | | | | | Sta 0+40 | 40 | 1,872,864.6 | 760,888.8 | 969.00 | 14.00 | 1.00 | 1 | 0 | | | |
| | | | | | | | | | Sta 0+80 | 41 | 1,872,828.6 | 760,871.4 | 969.00 | 14.00 | 1.00 | 1 | 0 | | | |
| | | | | | | | | | Sta 1+60 | 42 | 1,872,756.6 | 760,836.5 | 968.75 | 14.00 | 1.00 | 1 | 0 | | | |
| | | | | | | | | | Sta 2+40 | 43 | 1,872,684.6 | 760,801.7 | 968.51 | 14.00 | 1.00 | 1 | 0 | | | |
| | | | | | | | | | Sta 3+20 | 44 | 1,872,612.6 | 760,766.8 | 968.26 | 14.00 | 1.00 | 1 | 0 | | | |
| | | | | | | | | | Sta 4+00 | 45 | 1,872,540.6 | 760,731.9 | 968.02 | 14.00 | 1.00 | 1 | 0 | | | |
| | | | | | | | | | Sta 5+20 | 46 | 1,872,432.1 | 760,680.8 | 967.24 | 14.00 | 1.00 | 1 | 0 | | | |
| | | | | | | | | | Sta 6+40 | 47 | 1,872,323.5 | 760,629.6 | 966.47 | 14.00 | 1.00 | 1 | 0 | | | |
| | | | | | | | | | Sta 7+60 | 48 | 1,872,215.0 | 760,578.5 | 965.69 | 14.00 | 1.00 | 1 | 0 | | | |
| | | | | | | | | | Sta 8+40 | 49 | 1,872,142.9 | 760,543.9 | 965.24 | 14.00 | 1.00 | 1 | 0 | | | |
| | | | | | | | | | Sta 9+20 | 50 | 1,872,070.8 | 760,509.2 | 964.79 | 14.00 | 1.00 | 1 | 0 | | | |
| | | | | | | | | | Sta10+00 | 51 | 1,871,998.6 | 760,474.7 | 964.34 | 14.00 | 1.00 | 1 | 0 | | | |
| | | | | | | | | | Sta 10+40 | 52 | 1,871,962.6 | 760,457.4 | 964.11 | 14.00 | 1.00 | 1 | 0 | | | |
| | | | | | | | | | Sta 10+80 | 53 | 1,871,926.6 | 760,440.0 | 964.06 | 14.00 | 1.00 | 1 | 0 | | | |
| | | | | | | | | | Sta 11+26 | 39 | 1,871,884.8 | 760,419.8 | 964.00 | 14.00 | | | | | | |

INPUT: RECEIVERS

FRA-SR161-15.80 PID 116322

| Lawhon & Assoc | | | | | | | 19 July 2022 | | | | |
|--------------------------|-----|-----------------------------------|----------------------|-----------|--------|--------|---------------------------------|---------------------|-----------------|------|--------|
| CCox | | | | | | | TNM 2.5 | | | | |
| INPUT: RECEIVERS | | | | | | | | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 PID 116322 | | | | | | | | | |
| RUN: | | Noise barrierNSA6 | | | | | | | | | |
| Receiver | | | | | | | | | | | |
| Name | No. | #DUs | Coordinates (ground) | | | Height | Input Sound Levels and Criteria | | | | Active |
| | | | X | Y | Z | | above | Existing | Impact Criteria | | |
| | | | | | | Ground | L _{Aeq} 1h | L _{Aeq} 1h | Sub'l | Goal | in |
| | | | ft | ft | ft | ft | dBA | dBA | dB | dB | |
| NSA6-1 | 10 | 2 | 1,871,951.0 | 760,668.0 | 965.00 | 4.92 | 68.80 | 66 | 10.0 | 5.0 | Y |
| NSA6-2 | 11 | 2 | 1,871,951.0 | 760,738.0 | 965.00 | 4.92 | 64.10 | 66 | 10.0 | 5.0 | Y |
| NSA6-3 | 12 | 2 | 1,871,934.0 | 760,770.0 | 966.00 | 4.92 | 64.30 | 66 | 10.0 | 5.0 | Y |
| NSA6-4 | 13 | 2 | 1,871,934.0 | 760,845.0 | 966.00 | 4.92 | 61.30 | 66 | 10.0 | 5.0 | Y |
| NSA6-5 | 14 | 2 | 1,872,104.0 | 760,770.0 | 967.00 | 4.92 | 67.80 | 66 | 10.0 | 5.0 | Y |
| NSA6-6 | 15 | 2 | 1,872,104.0 | 760,843.0 | 968.00 | 4.92 | 63.50 | 66 | 10.0 | 5.0 | Y |
| NSA6-7 | 16 | 2 | 1,872,306.0 | 760,946.0 | 971.00 | 4.92 | 65.50 | 66 | 10.0 | 5.0 | Y |
| NSA6-8 | 17 | 2 | 1,872,319.0 | 761,023.0 | 970.00 | 4.92 | 60.90 | 66 | 10.0 | 5.0 | Y |
| NSA6-9 | 18 | 2 | 1,872,492.0 | 761,063.0 | 973.00 | 4.92 | 63.90 | 66 | 10.0 | 5.0 | Y |
| NSA6-10 | 19 | 2 | 1,872,441.0 | 761,121.0 | 974.00 | 4.92 | 60.30 | 66 | 10.0 | 5.0 | Y |
| NSA6-11 | 20 | 2 | 1,871,881.0 | 760,944.0 | 968.00 | 4.92 | 61.60 | 66 | 10.0 | 5.0 | Y |
| NSA6-12 | 21 | 2 | 1,872,045.0 | 760,955.0 | 970.00 | 4.92 | 62.40 | 66 | 10.0 | 5.0 | Y |
| NSA6-13 | 22 | 2 | 1,872,319.0 | 761,048.0 | 972.00 | 4.92 | 61.40 | 66 | 10.0 | 5.0 | Y |
| NSA6-14 | 23 | 2 | 1,872,319.0 | 761,132.0 | 971.00 | 4.92 | 58.30 | 66 | 10.0 | 5.0 | Y |
| NSA6-15 | 24 | 1 | 1,872,319.0 | 761,158.0 | 972.00 | 4.92 | 58.50 | 66 | 10.0 | 5.0 | Y |

| Lawhon & Assoc | | 19 July 2022 | | | | | | | | | |
|--------------------------------|-------|----------------------------|-----|------------------------|-----------|--------|---|------------------|---------------------------|-----------|------------|
| CCox | | TNM 2.5 | | | | | | | | | |
| INPUT: ROADWAYS | | | | | | | Average pavement type shall be used unless | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 PID 116322 | | | | | a State highway agency substantiates the use | | | | |
| RUN: | | Noise barrierNSA6 | | | | | of a different type with the approval of FHWA | | | | |
| Roadway | Width | Points | No. | Coordinates (pavement) | | | Flow Control | | | Segment | |
| Name | | Name | | X | Y | Z | Control Device | Speed Constraint | Percent Vehicles Affected | Pvmt Type | On Struct? |
| | ft | | | ft | ft | ft | | mph | % | | |
| Hamilton Road NB | 24.0 | point1 | 1 | 1,869,911.0 | 758,301.0 | 980.00 | | | | Average | |
| | | point2 | 2 | 1,869,827.0 | 758,551.0 | 978.00 | | | | Average | |
| | | point3 | 3 | 1,869,717.0 | 758,813.0 | 975.00 | | | | Average | |
| | | point4 | 4 | 1,869,501.4 | 759,278.9 | 976.00 | | | | Average | |
| | | point5 | 5 | 1,869,371.0 | 759,612.0 | 978.00 | | | | Average | |
| | | point6 | 6 | 1,869,325.0 | 759,748.0 | 980.00 | | | | Average | |
| | | point7 | 7 | 1,869,288.0 | 759,888.0 | 981.00 | | | | Average | |
| | | point8 | 8 | 1,869,277.0 | 760,088.0 | 980.00 | | | | | |
| Hamilton Road SB | 24.0 | point9 | 9 | 1,869,249.0 | 760,088.0 | 980.00 | | | | Average | |
| | | point10 | 10 | 1,869,257.0 | 759,888.0 | 981.00 | | | | Average | |
| | | point11 | 11 | 1,869,279.0 | 759,748.0 | 980.00 | | | | Average | |
| | | point12 | 12 | 1,869,323.2 | 759,570.7 | 978.00 | | | | Average | |
| | | point13 | 13 | 1,869,445.2 | 759,253.7 | 976.00 | | | | Average | |
| | | point14 | 14 | 1,869,671.0 | 758,791.0 | 975.00 | | | | Average | |
| | | point15 | 15 | 1,869,819.0 | 758,376.0 | 979.00 | | | | | |
| SR161 outside shoulder P WB1 c | 10.0 | point71 | 71 | 1,876,058.0 | 762,052.5 | 987.00 | | | | Average | |
| | | point69 | 69 | 1,875,623.0 | 761,991.5 | 982.00 | | | | Average | |
| | | point68 | 68 | 1,875,131.0 | 761,859.5 | 978.00 | | | | Average | |
| | | point248 | 248 | 1,874,738.0 | 761,702.5 | 975.00 | | | | Average | |
| | | point67 | 67 | 1,874,081.0 | 761,397.5 | 972.00 | | | | | |
| SR 161 P EB inside shoulder a | 10.0 | point25 | 25 | 1,868,660.0 | 758,801.5 | 993.50 | | | | Average | Y |
| | | point26 | 26 | 1,869,628.0 | 759,254.5 | 997.00 | | | | Average | |
| | | point27 | 27 | 1,870,368.0 | 759,607.5 | 979.00 | | | | Average | |
| | | point175 | 175 | 1,870,977.0 | 759,891.5 | 965.00 | | | | Average | |
| | | point180 | 180 | 1,871,574.0 | 760,169.5 | 965.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|--|------|----------|-----|-------------|-----------|--------|--------|------|-----|---------|---|
| | | point184 | 184 | 1,871,705.0 | 760,230.5 | 965.00 | | | | Average | |
| | | point188 | 188 | 1,872,909.0 | 760,792.5 | 968.00 | | | | Average | |
| | | point194 | 194 | 1,874,083.0 | 761,322.5 | 970.00 | | | | Average | |
| | | point200 | 200 | 1,874,306.0 | 761,425.5 | 972.00 | | | | Average | |
| | | point203 | 203 | 1,874,738.0 | 761,628.5 | 974.00 | | | | Average | |
| | | point204 | 204 | 1,875,131.0 | 761,780.5 | 976.00 | | | | Average | |
| | | point210 | 210 | 1,875,623.0 | 761,911.5 | 982.00 | | | | Average | |
| | | point212 | 212 | 1,876,058.0 | 761,972.5 | 987.00 | | | | Average | |
| | | point214 | 214 | 1,876,470.0 | 761,986.0 | 990.00 | | | | | |
| SR 161 P EB 4 | 12.0 | point28 | 28 | 1,868,660.0 | 758,790.5 | 994.00 | | | | Average | |
| | | point29 | 29 | 1,869,406.0 | 759,138.5 | 998.00 | | | | Average | Y |
| | | point30 | 30 | 1,869,628.0 | 759,243.5 | 997.00 | | | | Average | |
| | | point110 | 110 | 1,870,368.0 | 759,596.5 | 979.00 | | | | Average | |
| | | point111 | 111 | 1,870,977.0 | 759,880.5 | 965.00 | | | | Average | |
| | | point112 | 112 | 1,871,574.0 | 760,158.5 | 965.00 | | | | | |
| SR161 P EB 3 | 12.0 | point31 | 31 | 1,868,660.0 | 758,779.5 | 994.50 | | | | Average | |
| | | point32 | 32 | 1,869,406.0 | 759,126.5 | 998.50 | | | | Average | Y |
| | | point33 | 33 | 1,869,628.0 | 759,231.5 | 997.50 | | | | Average | |
| | | point100 | 100 | 1,870,368.0 | 759,584.5 | 979.00 | | | | Average | |
| | | point101 | 101 | 1,870,977.0 | 759,868.5 | 965.00 | | | | Average | |
| | | point102 | 102 | 1,871,574.0 | 760,146.5 | 965.00 | | | | | |
| SR 161 P EB 2 | 12.0 | point34 | 34 | 1,868,660.0 | 758,766.5 | 995.00 | | | | Average | |
| | | point35 | 35 | 1,869,406.0 | 759,114.5 | 999.00 | | | | Average | Y |
| | | point36 | 36 | 1,869,628.0 | 759,219.5 | 998.00 | | | | Average | |
| | | point88 | 88 | 1,870,368.0 | 759,572.5 | 979.00 | | | | Average | |
| | | point89 | 89 | 1,870,977.0 | 759,856.5 | 965.00 | | | | Average | |
| | | point90 | 90 | 1,871,574.0 | 760,134.5 | 965.00 | | | | | |
| Exit ramp SR 161 WB to Hamilton | 12.0 | point72 | 72 | 1,871,574.0 | 760,228.5 | 965.00 | Stop | 0.00 | 100 | Average | |
| | | point73 | 73 | 1,871,163.0 | 760,055.0 | 965.00 | | | | Average | |
| | | point285 | 285 | 1,870,922.5 | 759,944.0 | 966.50 | | | | Average | |
| | | point74 | 74 | 1,870,682.0 | 759,833.0 | 971.00 | | | | Average | |
| | | point75 | 75 | 1,870,510.0 | 759,775.0 | 973.00 | | | | Average | |
| | | point76 | 76 | 1,870,323.0 | 759,743.0 | 976.00 | | | | Average | |
| | | point77 | 77 | 1,870,134.0 | 759,737.0 | 979.00 | | | | Average | |
| | | point78 | 78 | 1,869,865.0 | 759,746.0 | 980.00 | | | | Average | |
| | | point79 | 79 | 1,869,665.0 | 759,720.0 | 978.00 | | | | Average | |
| | | point80 | 80 | 1,869,553.0 | 759,687.0 | 977.00 | | | | Average | |
| | | point81 | 81 | 1,869,371.0 | 759,612.0 | 978.00 | | | | | |
| Entrance ramp Hamilton Rd to SR 166 EB | 12.0 | point82 | 82 | 1,869,717.0 | 758,813.0 | 975.00 | Onramp | 0.00 | 100 | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|--------------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point83 | 83 | 1,869,965.0 | 758,984.0 | 974.00 | | | | Average | |
| | | point84 | 84 | 1,870,092.0 | 759,115.0 | 976.00 | | | | Average | |
| | | point85 | 85 | 1,870,211.0 | 759,295.0 | 978.00 | | | | Average | |
| | | point86 | 86 | 1,870,383.0 | 759,515.0 | 978.00 | | | | Average | |
| | | point87 | 87 | 1,870,525.0 | 759,615.0 | 974.00 | | | | Average | |
| | | point92 | 92 | 1,870,977.0 | 759,832.5 | 965.00 | | | | Average | |
| | | point93 | 93 | 1,871,574.0 | 760,122.5 | 965.00 | | | | | |
| HarLem Road | 12.0 | point124 | 124 | 1,874,538.0 | 760,192.0 | 974.00 | | | | Average | |
| | | point120 | 120 | 1,874,360.0 | 761,378.0 | 993.00 | | | | Average | Y |
| | | point121 | 121 | 1,874,330.0 | 761,634.0 | 993.00 | | | | Average | |
| | | point122 | 122 | 1,874,297.0 | 762,017.0 | 984.00 | | | | Average | |
| | | point123 | 123 | 1,874,263.0 | 762,332.0 | 981.00 | | | | | |
| SR 161 P EB 1 | 12.0 | point169 | 169 | 1,868,660.0 | 758,754.5 | 995.00 | | | | Average | |
| | | point170 | 170 | 1,869,406.0 | 759,102.5 | 999.00 | | | | Average | Y |
| | | point171 | 171 | 1,869,628.0 | 759,207.5 | 998.00 | | | | Average | |
| | | point176 | 176 | 1,870,368.0 | 759,560.5 | 979.00 | | | | Average | |
| | | point177 | 177 | 1,870,977.0 | 759,844.5 | 965.00 | | | | Average | |
| | | point179 | 179 | 1,871,574.0 | 760,122.5 | 965.00 | | | | | |
| SR 161 P EB outside shoulder a | 10.0 | point172 | 172 | 1,868,660.0 | 758,742.0 | 995.00 | | | | Average | |
| | | point173 | 173 | 1,869,406.0 | 759,090.0 | 999.00 | | | | Average | Y |
| | | point174 | 174 | 1,869,628.0 | 759,195.0 | 998.00 | | | | Average | |
| | | point178 | 178 | 1,870,368.0 | 759,549.5 | 979.00 | | | | | |
| SR 161 P EB outside shoulder b | 10.0 | point182 | 182 | 1,871,574.0 | 760,111.0 | 965.00 | | | | Average | |
| | | point183 | 183 | 1,871,705.0 | 760,172.0 | 965.00 | | | | Average | |
| | | point190 | 190 | 1,872,909.0 | 760,737.0 | 968.00 | | | | Average | |
| | | point196 | 196 | 1,874,083.0 | 761,265.5 | 970.00 | | | | Average | |
| | | point202 | 202 | 1,874,306.0 | 761,379.5 | 972.00 | | | | Average | |
| | | point208 | 208 | 1,874,738.0 | 761,582.5 | 974.00 | | | | Average | |
| | | point209 | 209 | 1,875,131.0 | 761,734.5 | 976.00 | | | | Average | |
| | | point211 | 211 | 1,875,623.0 | 761,865.5 | 982.00 | | | | Average | |
| | | point213 | 213 | 1,876,058.0 | 761,926.5 | 987.00 | | | | Average | |
| | | point216 | 216 | 1,876,470.0 | 761,940.0 | 990.00 | | | | | |
| SR 161 P EB 4 b | 12.0 | point185 | 185 | 1,872,909.0 | 760,781.5 | 968.00 | | | | Average | |
| | | point191 | 191 | 1,874,083.0 | 761,311.5 | 970.00 | | | | Average | |
| | | point115 | 115 | 1,874,306.0 | 761,414.5 | 972.00 | | | | | |
| SR161 P EB 3 b | 10.0 | point186 | 186 | 1,872,909.0 | 760,770.5 | 968.00 | | | | Average | |
| | | point193 | 193 | 1,874,083.0 | 761,300.5 | 970.00 | | | | Average | |
| | | point105 | 105 | 1,874,306.0 | 761,402.5 | 972.00 | | | | | |
| SR 161 P EB 2 b | 12.0 | point187 | 187 | 1,872,909.0 | 760,759.5 | 968.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|------------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point192 | 192 | 1,874,083.0 | 761,288.5 | 970.00 | | | | Average | |
| | | point95 | 95 | 1,874,306.0 | 761,390.5 | 972.00 | | | | | |
| SR 161 P EB 3c | 12.0 | point197 | 197 | 1,874,306.0 | 761,414.5 | 972.00 | | | | Average | |
| | | point205 | 205 | 1,874,738.0 | 761,617.5 | 974.00 | | | | Average | |
| | | point116 | 116 | 1,875,131.0 | 761,769.5 | 976.00 | | | | Average | |
| | | point117 | 117 | 1,875,623.0 | 761,900.5 | 982.00 | | | | Average | |
| | | point119 | 119 | 1,876,058.0 | 761,961.5 | 987.00 | | | | Average | |
| | | point138 | 138 | 1,876,470.0 | 761,975.0 | 990.00 | | | | | |
| SR161 P EB 2c | 12.0 | point198 | 198 | 1,874,306.0 | 761,402.5 | 972.00 | | | | Average | |
| | | point206 | 206 | 1,874,738.0 | 761,605.5 | 974.00 | | | | Average | |
| | | point106 | 106 | 1,875,131.0 | 761,757.5 | 976.00 | | | | Average | |
| | | point107 | 107 | 1,875,623.0 | 761,888.5 | 982.00 | | | | Average | |
| | | point109 | 109 | 1,876,058.0 | 761,949.5 | 987.00 | | | | Average | |
| | | point143 | 143 | 1,876,470.0 | 761,963.0 | 990.00 | | | | | |
| SR 161 P EB 1c | 12.0 | point199 | 199 | 1,874,306.0 | 761,390.5 | 972.00 | | | | Average | |
| | | point207 | 207 | 1,874,738.0 | 761,593.5 | 974.00 | | | | Average | |
| | | point96 | 96 | 1,875,131.0 | 761,745.5 | 976.00 | | | | Average | |
| | | point97 | 97 | 1,875,623.0 | 761,876.5 | 982.00 | | | | Average | |
| | | point99 | 99 | 1,876,058.0 | 761,937.5 | 987.00 | | | | Average | |
| | | point148 | 148 | 1,876,470.0 | 761,951.0 | 990.00 | | | | | |
| SR161 P WB1a | 12.0 | point249 | 249 | 1,874,081.0 | 761,386.5 | 972.00 | | | | Average | |
| | | point55 | 55 | 1,872,909.0 | 760,855.5 | 969.00 | | | | Average | |
| | | point42 | 42 | 1,871,705.0 | 760,277.5 | 965.00 | | | | Average | Y |
| | | point39 | 39 | 1,871,574.0 | 760,217.5 | 965.00 | | | | | |
| SR 161 P WB2a | 12.0 | point250 | 250 | 1,874,081.0 | 761,374.5 | 972.00 | | | | Average | |
| | | point44 | 44 | 1,872,909.0 | 760,843.5 | 969.00 | | | | Average | |
| | | point41 | 41 | 1,871,705.0 | 760,265.5 | 965.00 | | | | Average | Y |
| | | point38 | 38 | 1,871,574.0 | 760,205.5 | 965.00 | | | | | |
| SR161 outside shoulder P WB1 | 10.0 | point251 | 251 | 1,874,081.0 | 761,397.5 | 972.00 | | | | Average | |
| | | point66 | 66 | 1,872,909.0 | 760,867.5 | 969.00 | | | | Average | |
| | | point43 | 43 | 1,871,705.0 | 760,288.5 | 965.00 | | | | Average | Y |
| | | point40 | 40 | 1,871,574.0 | 760,228.5 | 965.00 | | | | Average | |
| | | point264 | 264 | 1,870,977.0 | 759,950.5 | 965.00 | | | | Average | |
| | | point16 | 16 | 1,870,368.0 | 759,666.5 | 978.50 | | | | Average | |
| | | point17 | 17 | 1,869,628.0 | 759,326.5 | 996.50 | | | | Average | Y |
| | | point18 | 18 | 1,869,386.0 | 759,213.0 | 998.00 | | | | | |
| SR 161 P WB inside shoulder | 10.0 | point252 | 252 | 1,874,083.0 | 761,351.5 | 970.00 | | | | Average | |
| | | point253 | 253 | 1,872,909.0 | 760,820.5 | 968.00 | | | | Average | |
| | | point254 | 254 | 1,871,705.0 | 760,242.5 | 965.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|-------------------|------|----------|-----|-------------|-----------|--------|--------|------|-----|---------|---|
| | | point258 | 258 | 1,871,574.0 | 760,182.5 | 965.00 | | | | Average | |
| | | point260 | 260 | 1,870,977.0 | 759,904.5 | 964.50 | | | | Average | |
| | | point265 | 265 | 1,870,368.0 | 759,620.5 | 978.50 | | | | Average | |
| | | point267 | 267 | 1,869,628.0 | 759,280.5 | 996.50 | | | | Average | Y |
| | | point270 | 270 | 1,869,386.0 | 759,166.0 | 998.00 | | | | | |
| SR 161 P WB3 c-2 | 12.0 | point257 | 257 | 1,874,081.0 | 761,362.5 | 970.00 | | | | Average | |
| | | point255 | 255 | 1,872,909.0 | 760,831.5 | 968.00 | | | | Average | |
| | | point256 | 256 | 1,871,705.0 | 760,253.5 | 965.00 | | | | Average | Y |
| | | point259 | 259 | 1,871,574.0 | 760,193.5 | 965.00 | | | | | |
| SR 161 P EB 1 b | 12.0 | point271 | 271 | 1,871,574.0 | 760,122.5 | 965.00 | | | | Average | |
| | | point181 | 181 | 1,871,705.0 | 760,183.5 | 965.00 | | | | Average | |
| | | point189 | 189 | 1,872,909.0 | 760,748.5 | 968.00 | | | | Average | |
| | | point195 | 195 | 1,874,083.0 | 761,276.5 | 970.00 | | | | Average | |
| | | point201 | 201 | 1,874,306.0 | 761,390.5 | 972.00 | | | | | |
| SR 161 P EB 2 a-2 | 12.0 | point272 | 272 | 1,871,574.0 | 760,134.5 | 965.00 | | | | Average | Y |
| | | point94 | 94 | 1,872,909.0 | 760,759.5 | 968.00 | | | | | |
| SR161 P EB 3 a-2 | 12.0 | point273 | 273 | 1,871,574.0 | 760,146.5 | 965.00 | | | | Average | Y |
| | | point103 | 103 | 1,871,705.0 | 760,207.5 | 965.00 | | | | Average | |
| | | point104 | 104 | 1,872,909.0 | 760,770.5 | 968.00 | | | | | |
| SR 161 P EB 4 a-2 | 12.0 | point274 | 274 | 1,871,574.0 | 760,158.5 | 965.00 | | | | Average | Y |
| | | point113 | 113 | 1,871,705.0 | 760,219.5 | 965.00 | | | | Average | |
| | | point114 | 114 | 1,872,909.0 | 760,781.5 | 968.00 | | | | | |
| SR 161 P WB3c | 12.0 | point279 | 279 | 1,876,058.0 | 762,016.5 | 987.00 | | | | Average | |
| | | point234 | 234 | 1,875,623.0 | 761,956.5 | 982.00 | | | | Average | |
| | | point241 | 241 | 1,875,131.0 | 761,824.5 | 978.00 | | | | Average | |
| | | point244 | 244 | 1,874,738.0 | 761,667.5 | 975.00 | | | | Average | |
| | | point245 | 245 | 1,874,081.0 | 761,362.5 | 970.00 | | | | | |
| SR161 P WB2c | 12.0 | point280 | 280 | 1,876,058.0 | 762,028.5 | 987.00 | | | | Average | |
| | | point58 | 58 | 1,875,623.0 | 761,968.5 | 982.00 | | | | Average | |
| | | point57 | 57 | 1,875,131.0 | 761,836.5 | 978.00 | | | | Average | |
| | | point246 | 246 | 1,874,738.0 | 761,679.5 | 975.00 | | | | Average | |
| | | point56 | 56 | 1,874,081.0 | 761,374.5 | 972.00 | | | | | |
| SR 161 P WB1c | 12.0 | point281 | 281 | 1,876,058.0 | 762,040.5 | 987.00 | Onramp | 0.00 | 100 | Average | |
| | | point47 | 47 | 1,875,623.0 | 761,980.5 | 982.00 | | | | Average | |
| | | point46 | 46 | 1,875,131.0 | 761,848.5 | 978.00 | | | | Average | |
| | | point247 | 247 | 1,874,738.0 | 761,691.5 | 975.00 | | | | Average | |
| | | point45 | 45 | 1,874,081.0 | 761,386.5 | 972.00 | | | | | |
| SR161 P WB1a-2 | 12.0 | point282 | 282 | 1,871,574.0 | 760,217.5 | 965.00 | | | | Average | |
| | | point263 | 263 | 1,870,977.0 | 759,939.5 | 965.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|-------------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point19 | 19 | 1,870,368.0 | 759,655.5 | 978.50 | | | | Average | |
| | | point20 | 20 | 1,869,628.0 | 759,315.5 | 996.50 | | | | Average | Y |
| | | point21 | 21 | 1,869,386.0 | 759,201.0 | 998.00 | | | | | |
| SR 161 P WB2a-2 | 12.0 | point283 | 283 | 1,871,574.0 | 760,205.5 | 965.00 | | | | Average | |
| | | point262 | 262 | 1,870,977.0 | 759,927.5 | 964.50 | | | | Average | |
| | | point22 | 22 | 1,870,368.0 | 759,643.5 | 978.50 | | | | Average | |
| | | point23 | 23 | 1,869,628.0 | 759,303.5 | 996.50 | | | | Average | Y |
| | | point24 | 24 | 1,869,386.0 | 759,189.0 | 998.00 | | | | | |
| SR 161 P WB3a | 12.0 | point284 | 284 | 1,871,574.0 | 760,193.5 | 965.00 | | | | Average | |
| | | point261 | 261 | 1,870,977.0 | 759,915.5 | 964.50 | | | | Average | |
| | | point266 | 266 | 1,870,368.0 | 759,631.5 | 978.50 | | | | Average | |
| | | point268 | 268 | 1,869,628.0 | 759,291.5 | 996.50 | | | | Average | Y |
| | | point269 | 269 | 1,869,386.0 | 759,177.0 | 998.00 | | | | | |
| SR 166 P WB inside shoulder-2 | 10.0 | point287 | 287 | 1,876,470.0 | 762,019.5 | 991.00 | | | | Average | |
| | | point229 | 229 | 1,876,058.0 | 762,005.5 | 987.00 | | | | Average | |
| | | point239 | 239 | 1,875,623.0 | 761,944.5 | 982.00 | | | | Average | |
| | | point240 | 240 | 1,875,131.0 | 761,813.5 | 978.00 | | | | Average | |
| | | point242 | 242 | 1,874,738.0 | 761,656.5 | 975.00 | | | | Average | |
| | | point243 | 243 | 1,874,083.0 | 761,351.5 | 970.00 | | | | | |
| SR 161 P WB3d-2 | 12.0 | point288 | 288 | 1,876,470.0 | 762,030.5 | 991.00 | | | | Average | |
| | | point233 | 233 | 1,876,058.0 | 762,016.5 | 987.00 | | | | | |
| SR161 P WB2d-2 | 12.0 | point289 | 289 | 1,876,470.0 | 762,042.5 | 991.00 | | | | Average | |
| | | point61 | 61 | 1,876,058.0 | 762,028.5 | 987.00 | | | | | |
| SR 161 P WB1d-2 | 12.0 | point290 | 290 | 1,876,470.0 | 762,054.5 | 991.00 | | | | Average | |
| | | point49 | 49 | 1,876,058.0 | 762,040.5 | 987.00 | | | | | |

| | | | | | | | | | | | | | |
|-----------------------------------|----------------------------|-----|---------|-----|---------|-----|---------|-----|--------|-----|-------------|-----|---|
| Lawhon & Assoc | | | | | | | | | | | | | |
| CCox | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| INPUT: TRAFFIC FOR LAeq1h Volumes | | | | | | | | | | | | | |
| PROJECT/CONTRACT: | FRA-SR161-15.80 PID 116322 | | | | | | | | | | | | |
| RUN: | Noise barrierNSA6 | | | | | | | | | | | | |
| Roadway | Points | | | | | | | | | | | | |
| Name | Name | No. | Segment | | | | | | | | | | |
| | | | Autos | | MTrucks | | HTrucks | | Buses | | Motorcycles | | |
| | | | V | S | V | S | V | S | V | S | V | S | |
| | | | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | |
| Hamilton Road NB | point1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point6 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point7 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point8 | 8 | | | | | | | | | | | |
| Hamilton Road SB | point9 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point10 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point11 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point12 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point13 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point14 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point15 | 15 | | | | | | | | | | | |
| SR161 outside shoulder P WB1 c | point71 | 71 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point69 | 69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point68 | 68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point248 | 248 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point67 | 67 | | | | | | | | | | | |
| SR 161 P EB inside shoulder a | point25 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point26 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point27 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|---------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point175 | 175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point180 | 180 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point184 | 184 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point188 | 188 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point194 | 194 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point200 | 200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point203 | 203 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point204 | 204 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point210 | 210 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point212 | 212 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point214 | 214 | | | | | | | | | | |
| SR 161 P EB 4 | point28 | 28 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point29 | 29 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point30 | 30 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point110 | 110 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point111 | 111 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point112 | 112 | | | | | | | | | | |
| SR161 P EB 3 | point31 | 31 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point32 | 32 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point33 | 33 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point100 | 100 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point101 | 101 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point102 | 102 | | | | | | | | | | |
| SR 161 P EB 2 | point34 | 34 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point35 | 35 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point36 | 36 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point88 | 88 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point89 | 89 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point90 | 90 | | | | | | | | | | |
| Exit ramp SR 161 WB to Hamilton | point72 | 72 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point73 | 73 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point285 | 285 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point74 | 74 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point75 | 75 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point76 | 76 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point77 | 77 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|--|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point78 | 78 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point79 | 79 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point80 | 80 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point81 | 81 | | | | | | | | | | |
| Entrance ramp Hamilton Rd to SR 166 EB | point82 | 82 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point83 | 83 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point84 | 84 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point85 | 85 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point86 | 86 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point87 | 87 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point92 | 92 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point93 | 93 | | | | | | | | | | |
| HarLem Road | point124 | 124 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point120 | 120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point121 | 121 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point122 | 122 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point123 | 123 | | | | | | | | | | |
| SR 161 P EB 1 | point169 | 169 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point170 | 170 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point171 | 171 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point176 | 176 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point177 | 177 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point179 | 179 | | | | | | | | | | |
| SR 161 P EB outside shoulder a | point172 | 172 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point173 | 173 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point174 | 174 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point178 | 178 | | | | | | | | | | |
| SR 161 P EB outside shoulder b | point182 | 182 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point183 | 183 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point190 | 190 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point196 | 196 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point202 | 202 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point208 | 208 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point209 | 209 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point211 | 211 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point213 | 213 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|-----------------|----------|-----|------|----|----|----|-----|----|---|---|---|---|
| | point216 | 216 | | | | | | | | | | |
| SR 161 P EB 4 b | point185 | 185 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point191 | 191 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point115 | 115 | | | | | | | | | | |
| SR161 P EB 3 b | point186 | 186 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point193 | 193 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point105 | 105 | | | | | | | | | | |
| SR 161 P EB 2 b | point187 | 187 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point192 | 192 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point95 | 95 | | | | | | | | | | |
| SR 161 P EB 3c | point197 | 197 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point205 | 205 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point116 | 116 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point117 | 117 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point119 | 119 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point138 | 138 | | | | | | | | | | |
| SR161 P EB 2c | point198 | 198 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point206 | 206 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point106 | 106 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point107 | 107 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point109 | 109 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point143 | 143 | | | | | | | | | | |
| SR 161 P EB 1c | point199 | 199 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point207 | 207 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point96 | 96 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point97 | 97 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point99 | 99 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point148 | 148 | | | | | | | | | | |
| SR161 P WB1a | point249 | 249 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point55 | 55 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point42 | 42 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point39 | 39 | | | | | | | | | | |
| SR 161 P WB2a | point250 | 250 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point44 | 44 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point41 | 41 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point38 | 38 | | | | | | | | | | |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| SR161 outside shoulder P WB1 | point251 | 251 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point66 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point43 | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point40 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point264 | 264 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point16 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point17 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point18 | 18 | | | | | | | | | | |
| SR 161 P WB inside shoulder | point252 | 252 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point253 | 253 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point254 | 254 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point258 | 258 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point260 | 260 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point265 | 265 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point267 | 267 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point270 | 270 | | | | | | | | | | |
| SR 161 P WB3 c-2 | point257 | 257 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point255 | 255 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point256 | 256 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point259 | 259 | | | | | | | | | | |
| SR 161 P EB 1 b | point271 | 271 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point181 | 181 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point189 | 189 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point195 | 195 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point201 | 201 | | | | | | | | | | |
| SR 161 P EB 2 a-2 | point272 | 272 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point94 | 94 | | | | | | | | | | |
| SR161 P EB 3 a-2 | point273 | 273 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point103 | 103 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point104 | 104 | | | | | | | | | | |
| SR 161 P EB 4 a-2 | point274 | 274 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point113 | 113 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point114 | 114 | | | | | | | | | | |
| SR 161 P WB3c | point279 | 279 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point234 | 234 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point241 | 241 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |

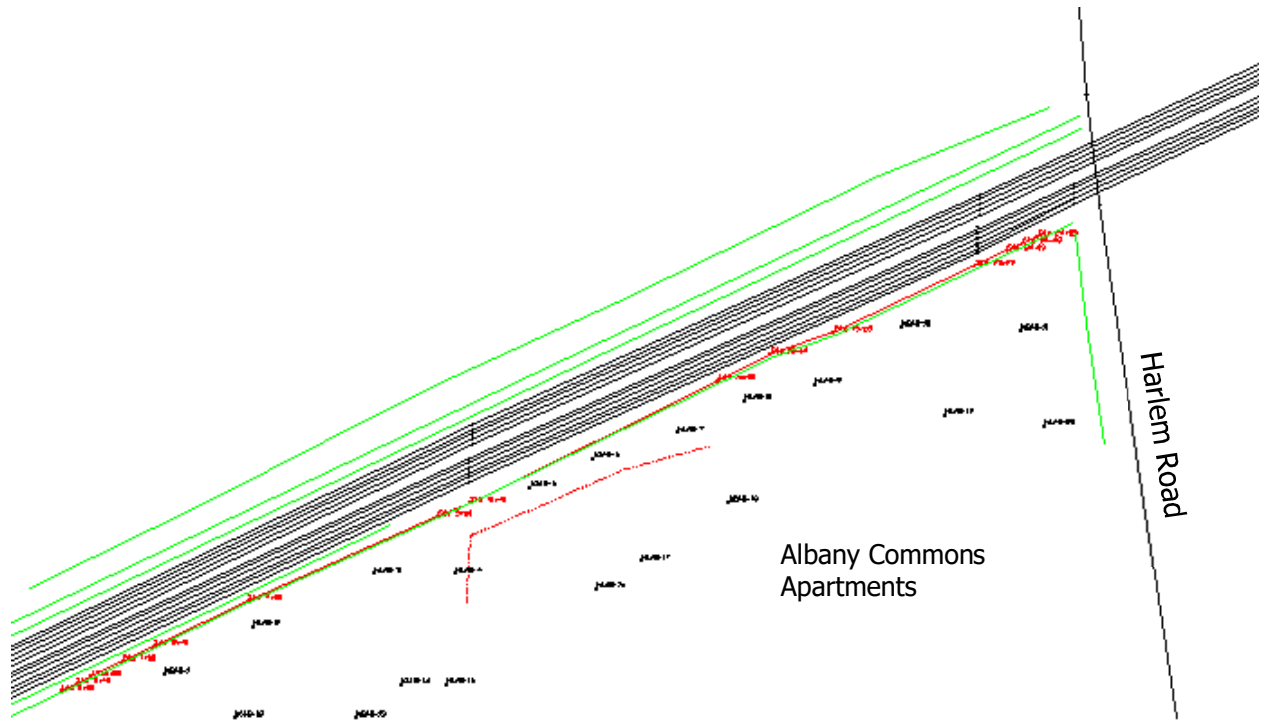
INPUT: TRAFFIC FOR LAeq1h Volumes

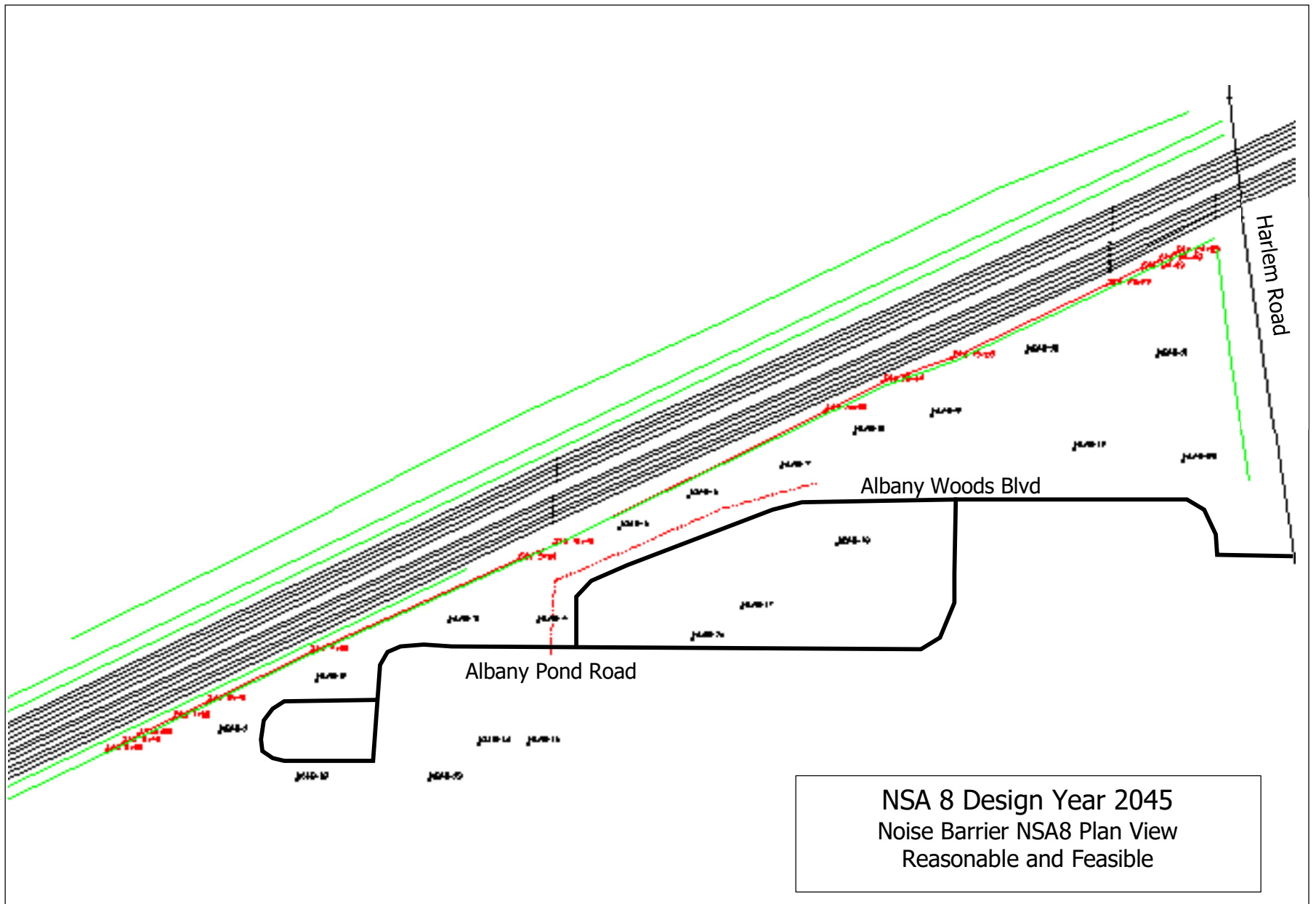
FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|-------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point244 | 244 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point245 | 245 | | | | | | | | | | |
| SR161 P WB2c | point280 | 280 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point58 | 58 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point57 | 57 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point246 | 246 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point56 | 56 | | | | | | | | | | |
| SR 161 P WB1c | point281 | 281 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point47 | 47 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point46 | 46 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point247 | 247 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point45 | 45 | | | | | | | | | | |
| SR161 P WB1a-2 | point282 | 282 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point263 | 263 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point19 | 19 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point20 | 20 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point21 | 21 | | | | | | | | | | |
| SR 161 P WB2a-2 | point283 | 283 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point262 | 262 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point22 | 22 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point23 | 23 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point24 | 24 | | | | | | | | | | |
| SR 161 P WB3a | point284 | 284 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point261 | 261 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point266 | 266 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point268 | 268 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point269 | 269 | | | | | | | | | | |
| SR 166 P WB inside shoulder-2 | point287 | 287 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point229 | 229 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point239 | 239 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point240 | 240 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point242 | 242 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point243 | 243 | | | | | | | | | | |
| SR 161 P WB3d-2 | point288 | 288 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |
| | point233 | 233 | | | | | | | | | | |
| SR161 P WB2d-2 | point289 | 289 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes**FRA-SR161-15.80 PID 116322**

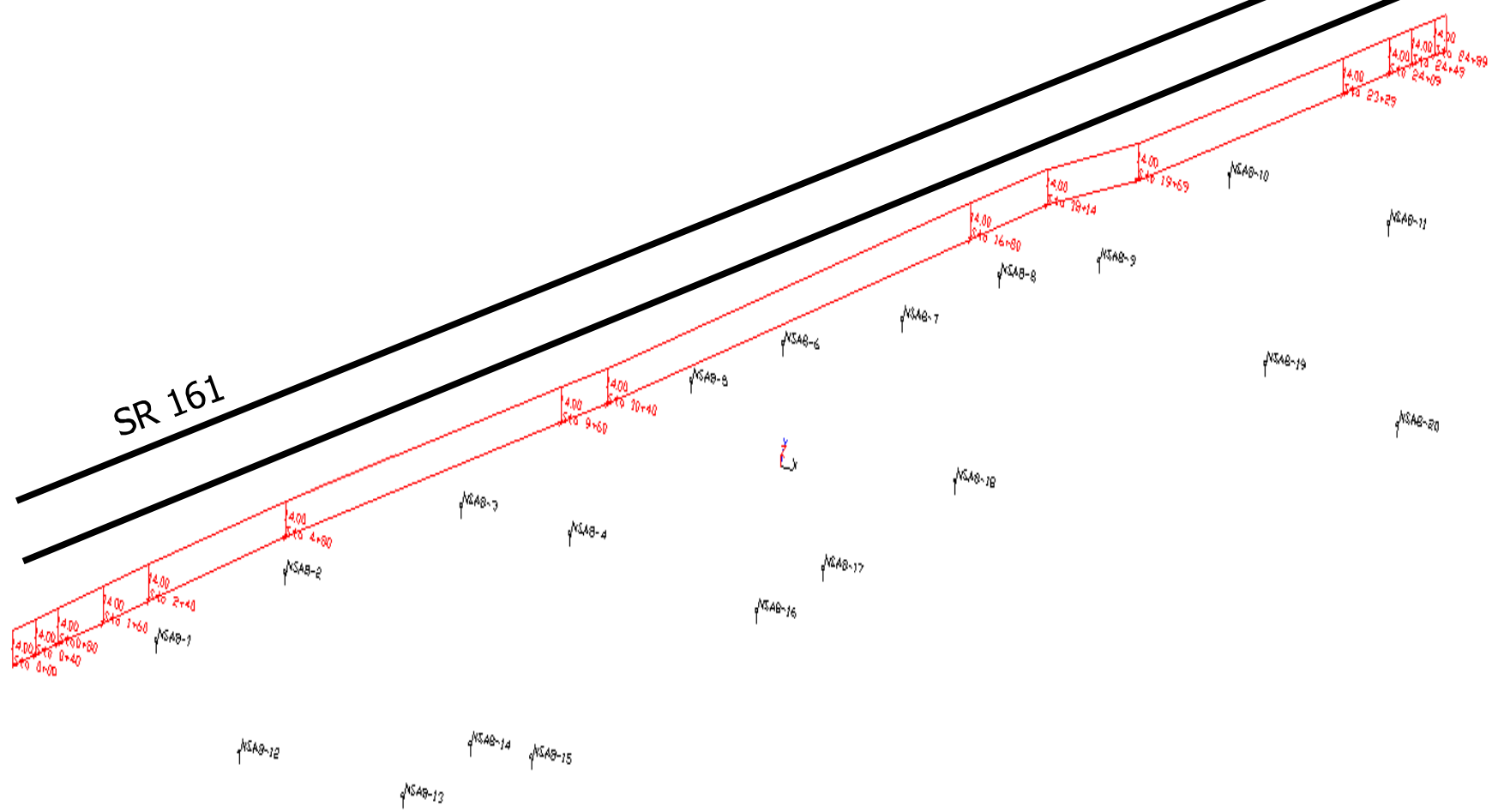
| | | | | | | | | | | | | |
|-----------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point61 | 61 | | | | | | | | | | |
| SR 161 P WB1d-2 | point290 | 290 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |
| | point49 | 49 | | | | | | | | | | |





NSA 8 Design Year 2045
Noise Barrier NSA8 Plan View
Reasonable and Feasible

SR 161



NSA 8 Design Year 2045
Noise Barrier NSA 8
Reasonable and Feasible

RESULTS: SOUND LEVELS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | | | |
|-----------------------|----|-----|--------------------------------|-----------------|-------------------|------------------------|--------|---------|-------------------|------------|-----------------|--|-------------------------|--|
| Lawhon & Assoc | | | | | | | | | | | | | 19 July 2022 | |
| CCox | | | | | | | | | | | | | TNM 2.5 | |
| | | | | | | | | | | | | | Calculated with TNM 2.5 | |
| RESULTS: SOUND LEVELS | | | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | | FRA-SR161-15.80 PID 116322 | | | | | | | | | | | |
| RUN: | | | Design Year Noise Barrier NSA8 | | | | | | | | | | | |
| BARRIER DESIGN: | | | Noise Barrier NSA8 at 14' | | | | | | | | | Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA. | | |
| ATMOSPHERICS: | | | 68 deg F, 50% RH | | | | | | | | | | | |
| Receiver | | | | | | | | | | | | | | |
| Name | | No. | #DUs | Existing LAeq1h | No Barrier LAeq1h | Increase over existing | | Type | With Barrier | | Noise Reduction | | | |
| | | | | Calculated | Crit'n | Calculated | Crit'n | Impact | Calculated LAeq1h | Calculated | Goal | Calculated minus Goal | | |
| | | | | dB | dB | dB | dB | | dB | dB | dB | dB | | |
| NSA8-1 | 38 | 6 | 74.8 | 75.6 | 66 | 0.8 | 10 | Snd Lvl | 69.5 | 6.1 | 5 | 1.1 | | |
| NSA8-2 | 39 | 6 | 75.3 | 76.2 | 66 | 0.9 | 10 | Snd Lvl | 67.7 | 8.5 | 5 | 3.5 | | |
| NSA8-3 | 40 | 8 | 74.8 | 75.6 | 66 | 0.8 | 10 | Snd Lvl | 66.0 | 9.6 | 5 | 4.6 | | |
| NSA8-4 | 41 | 8 | 70.4 | 71.7 | 66 | 1.3 | 10 | Snd Lvl | 63.8 | 7.9 | 5 | 2.9 | | |
| NSA8-5 | 42 | 8 | 75.9 | 78.4 | 66 | 2.5 | 10 | Snd Lvl | 65.6 | 12.8 | 5 | 7.8 | | |
| NSA8-6 | 43 | 6 | 75.8 | 78.7 | 66 | 2.9 | 10 | Snd Lvl | 65.6 | 13.1 | 5 | 8.1 | | |
| NSA8-7 | 44 | 8 | 74.3 | 77.3 | 66 | 3.0 | 10 | Snd Lvl | 65.3 | 12.0 | 5 | 7.0 | | |
| NSA8-8 | 45 | 6 | 74.2 | 77.5 | 66 | 3.3 | 10 | Snd Lvl | 65.4 | 12.1 | 5 | 7.1 | | |
| NSA8-9 | 46 | 8 | 72.0 | 76.0 | 66 | 4.0 | 10 | Snd Lvl | 65.2 | 10.8 | 5 | 5.8 | | |
| NSA8-10 | 47 | 6 | 74.0 | 77.9 | 66 | 3.9 | 10 | Snd Lvl | 66.2 | 11.7 | 5 | 6.7 | | |
| NSA8-11 | 48 | 8 | 67.2 | 72.0 | 66 | 4.8 | 10 | Snd Lvl | 64.9 | 7.1 | 5 | 2.1 | | |
| NSA8-12 | 49 | 6 | 69.1 | 70.4 | 66 | 1.3 | 10 | Snd Lvl | 66.7 | 3.7 | 5 | -1.3 | | |
| NSA8-13 | 50 | 8 | 65.3 | 67.3 | 66 | 2.0 | 10 | Snd Lvl | 63.3 | 4.0 | 5 | -1.0 | | |
| NSA8-14 | 51 | 8 | 65.5 | 67.5 | 66 | 2.0 | 10 | Snd Lvl | 62.8 | 4.7 | 5 | -0.3 | | |
| NSA8-15 | 52 | 8 | 64.5 | 66.5 | 66 | 2.0 | 10 | Snd Lvl | 61.7 | 4.8 | 5 | -0.2 | | |
| NSA8-16 | 53 | 8 | 62.8 | 65.2 | 66 | 2.4 | 10 | ---- | 59.7 | 5.5 | 5 | 0.5 | | |
| NSA8-17 | 54 | 6 | 63.0 | 65.7 | 66 | 2.7 | 10 | ---- | 60.0 | 5.7 | 5 | 0.7 | | |
| NSA8-18 | 55 | 8 | 64.4 | 67.9 | 66 | 3.5 | 10 | Snd Lvl | 60.6 | 7.3 | 5 | 2.3 | | |
| NSA8-19 | 56 | 8 | 64.6 | 68.8 | 66 | 4.2 | 10 | Snd Lvl | 61.8 | 7.0 | 5 | 2.0 | | |
| NSA8-20 | 57 | 8 | 62.2 | 65.7 | 66 | 3.5 | 10 | ---- | 60.6 | 5.1 | 5 | 0.1 | | |
| Dwelling Units | | | # DUs | Noise Reduction | | | | | | | | | | |
| | | | Min | Avg | Max | | | | | | | | | |
| | | | dB | dB | dB | | | | | | | | | |

RESULTS: SOUND LEVELS**FRA-SR161-15.80 PID 116322**

| | | | | | | | | | | | | |
|-----------------------|--|-----|-----|-----|------|--|--|--|--|--|--|--|
| All Selected | | 146 | 3.7 | 8.0 | 13.1 | | | | | | | |
| All Impacted | | 124 | 3.7 | 8.4 | 13.1 | | | | | | | |
| All that meet NR Goal | | 116 | 5.1 | 8.9 | 13.1 | | | | | | | |

RESULTS: BARRIER DESCRIPTIONS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | |
|----------------|--|--|--|--------------|--|--|--|--|--|
| Lawhon & Assoc | | | | 19 July 2022 | | | | | |
| CCox | | | | TNM 2.5 | | | | | |

RESULTS: BARRIER DESCRIPTIONS

| | | | | | | | | | |
|--------------------------|--------------------------------|--|--|--|--|--|--|--|--|
| PROJECT/CONTRACT: | FRA-SR161-15.80 PID 116322 | | | | | | | | |
| RUN: | Design Year Noise Barrier NSA8 | | | | | | | | |
| BARRIER DESIGN: | Noise Barrier NSA8 at 14' | | | | | | | | |

| Barriers | | | | | | | | | | |
|--------------------|------|-----------------------|-------|-------|--------|-----------------|-------------------|--------------|-------------|---------|
| Name | Type | Heights along Barrier | | | Length | If Wall Area | If Berm Volume | Top Width | Run:Rise | Cost |
| | | Min | Avg | Max | | | | | | |
| | | ft | ft | ft | ft | sq ft | cu yd | ft | ft:ft | \$ |
| Noise barrier NSA8 | W | 14.00 | 14.00 | 14.00 | 2510 | 35137 | | | | 1054112 |
| | | | | | | | | | Total Cost: | 1054112 |

| Lawhon & Assoc | | | | | | | | | | 19 July 2022 | | | | | | | | | |
|--|------|--------|-------|-----------------------------------|-----------------------------------|--------------|-------------------|-------------------------------------|-----------|--------------|----------------------|-----------|--------|-----------------------|---------|------------------------|---|---------------|--------------------------------|
| CCox | | | | | | | | | | TNM 2.5 | | | | | | | | | |
| INPUT: BARRIERS | | | | | | | | | | | | | | | | | | | |
| PROJECT/CONTRACT: FRA-SR161-15.80 PID 116322 | | | | | | | | | | | | | | | | | | | |
| RUN: Design Year Noise Barrier NSA8 | | | | | | | | | | | | | | | | | | | |
| Barrier | | | | | | | | | | Points | | | | | | | | | |
| Name | Type | Height | | If Wall \$ per Unit Area | If Berm \$ per Unit Vol. | Top Width | Run:Rise ft:ft | Add'tnl \$ per Unit Length | Name | No. | Coordinates (bottom) | | | Height at Point | Segment | | | On Struct? | Important Reflec- tions? |
| | | Min | Max | | | | | | | | X | Y | Z | | Seg Ht | Perturbs #Up #Dn | | | |
| | | ft | ft | \$/sq ft | \$/cu yd | ft | ft:ft | \$/ft | | | ft | ft | ft | ft | ft | | | | |
| Noise barrier NSA8 | W | 5.00 | 99.99 | 30.00 | | | | 0.00 | Sta 0+00 | 27 | 1,871,964.5 | 760,253.9 | 958.50 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 0+40 | 35 | 1,872,000.4 | 760,271.6 | 958.86 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 0+80 | 36 | 1,872,036.2 | 760,289.4 | 959.21 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 1+60 | 37 | 1,872,108.2 | 760,324.4 | 959.92 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 2+40 | 38 | 1,872,180.2 | 760,359.4 | 960.82 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 4+80 | 25 | 1,872,396.1 | 760,463.1 | 963.00 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 9+60 | 39 | 1,872,835.1 | 760,657.2 | 967.29 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 10+40 | 40 | 1,872,908.6 | 760,688.9 | 967.98 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 16+80 | 41 | 1,873,482.6 | 760,972.1 | 969.65 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 18+14 | 32 | 1,873,603.4 | 761,031.6 | 970.00 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 19+69 | 33 | 1,873,749.8 | 761,082.2 | 971.00 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 23+29 | 43 | 1,874,075.6 | 761,235.2 | 971.48 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 24+09 | 44 | 1,874,147.9 | 761,269.4 | 971.90 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 24+49 | 45 | 1,874,184.1 | 761,286.4 | 971.94 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 24+89 | 46 | 1,874,220.4 | 761,303.3 | 971.98 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 25+10 | 29 | 1,874,239.0 | 761,312.0 | 972.00 | 14.00 | | | | | |

INPUT: RECEIVERS

FRA-SR161-15.80 PID 116322

| Lawhon & Assoc | | | | | | 19 July 2022 | | | | | | |
|--------------------------|-----|--------------------------------|----------------------|-----------|--------|--------------|---------------------------------|--------------------|--------------------|-------|--------|-------|
| CCox | | | | | | TNM 2.5 | | | | | | |
| INPUT: RECEIVERS | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 PID 116322 | | | | | | | | | | |
| RUN: | | Design Year Noise Barrier NSA8 | | | | | | | | | | |
| Receiver | | | | | | | | | | | | |
| Name | No. | #DUs | Coordinates (ground) | | | Height | Input Sound Levels and Criteria | | | | Active | |
| | | | X | Y | Z | | above | Impact Criteria | | NR | | in |
| | | | | | | Ground | Existing | L _{Aeq1h} | L _{Aeq1h} | Sub'l | Goal | Calc. |
| | | | ft | ft | ft | ft | dBA | dBA | dBA | dB | | |
| NSA8-1 | 38 | 6 | 1,872,204.0 | 760,292.0 | 965.00 | 4.92 | 74.80 | 66 | 10.0 | 5.0 | Y | |
| NSA8-2 | 39 | 6 | 1,872,406.0 | 760,402.0 | 966.00 | 4.92 | 75.30 | 66 | 10.0 | 5.0 | Y | |
| NSA8-3 | 40 | 8 | 1,872,686.0 | 760,525.0 | 967.00 | 4.92 | 74.80 | 66 | 10.0 | 5.0 | Y | |
| NSA8-4 | 41 | 8 | 1,872,873.0 | 760,525.0 | 967.00 | 4.92 | 70.40 | 66 | 10.0 | 5.0 | Y | |
| NSA8-5 | 42 | 8 | 1,873,046.0 | 760,723.0 | 969.00 | 4.92 | 75.90 | 66 | 10.0 | 5.0 | Y | |
| NSA8-6 | 43 | 6 | 1,873,192.0 | 760,791.0 | 969.00 | 4.92 | 75.80 | 66 | 10.0 | 5.0 | Y | |
| NSA8-7 | 44 | 8 | 1,873,386.0 | 760,850.0 | 970.00 | 4.92 | 74.30 | 66 | 10.0 | 5.0 | Y | |
| NSA8-8 | 45 | 6 | 1,873,540.0 | 760,923.0 | 971.00 | 4.92 | 74.20 | 66 | 10.0 | 5.0 | Y | |
| NSA8-9 | 46 | 8 | 1,873,704.0 | 760,961.0 | 974.00 | 4.92 | 72.00 | 66 | 10.0 | 5.0 | Y | |
| NSA8-10 | 47 | 6 | 1,873,904.0 | 761,093.0 | 974.00 | 4.92 | 74.00 | 66 | 10.0 | 5.0 | Y | |
| NSA8-11 | 48 | 8 | 1,874,179.0 | 761,084.0 | 975.00 | 4.92 | 67.20 | 66 | 10.0 | 5.0 | Y | |
| NSA8-12 | 49 | 6 | 1,872,364.0 | 760,192.0 | 966.00 | 4.92 | 69.10 | 66 | 10.0 | 5.0 | Y | |
| NSA8-13 | 50 | 8 | 1,872,645.0 | 760,192.0 | 966.00 | 4.92 | 65.30 | 66 | 10.0 | 5.0 | Y | |
| NSA8-14 | 51 | 8 | 1,872,747.0 | 760,269.0 | 966.00 | 4.92 | 65.50 | 66 | 10.0 | 5.0 | Y | |
| NSA8-15 | 52 | 8 | 1,872,852.0 | 760,269.0 | 967.00 | 4.92 | 64.50 | 66 | 10.0 | 5.0 | Y | |
| NSA8-16 | 53 | 8 | 1,873,199.0 | 760,490.0 | 969.00 | 4.92 | 62.80 | 66 | 10.0 | 5.0 | Y | |
| NSA8-17 | 54 | 6 | 1,873,302.0 | 760,554.0 | 970.00 | 4.92 | 63.00 | 66 | 10.0 | 5.0 | Y | |
| NSA8-18 | 55 | 8 | 1,873,505.0 | 760,688.0 | 970.00 | 4.92 | 64.40 | 66 | 10.0 | 5.0 | Y | |
| NSA8-19 | 56 | 8 | 1,874,002.0 | 760,891.0 | 976.00 | 4.92 | 64.60 | 66 | 10.0 | 5.0 | Y | |
| NSA8-20 | 57 | 8 | 1,874,233.0 | 760,866.0 | 975.00 | 4.92 | 62.20 | 66 | 10.0 | 5.0 | Y | |

| Lawhon & Assoc | | 19 July 2022 | | | | | | | | | |
|--------------------------------|-------|--------------------------------|-----|------------------------|-----------|----------|---|------------------|---------------------------|-----------|------------|
| CCox | | TNM 2.5 | | | | | | | | | |
| INPUT: ROADWAYS | | | | | | | Average pavement type shall be used unless | | | | |
| PROJECT/CONTRACT: | | FRA-SR161-15.80 PID 116322 | | | | | a State highway agency substantiates the use | | | | |
| RUN: | | Design Year Noise Barrier NSA8 | | | | | of a different type with the approval of FHWA | | | | |
| Roadway | Width | Points | No. | Coordinates (pavement) | | | Flow Control | | | Segment | |
| Name | | Name | | X | Y | Z | Control Device | Speed Constraint | Percent Vehicles Affected | Pvmt Type | On Struct? |
| | ft | | | ft | ft | ft | | mph | % | | |
| Hamilton Road NB | 24.0 | point1 | 1 | 1,869,911.0 | 758,301.0 | 980.00 | | | | Average | |
| | | point2 | 2 | 1,869,827.0 | 758,551.0 | 978.00 | | | | Average | |
| | | point3 | 3 | 1,869,717.0 | 758,813.0 | 975.00 | | | | Average | |
| | | point4 | 4 | 1,869,501.4 | 759,278.9 | 976.00 | | | | Average | |
| | | point5 | 5 | 1,869,371.0 | 759,612.0 | 978.00 | | | | Average | |
| | | point6 | 6 | 1,869,325.0 | 759,748.0 | 980.00 | | | | Average | |
| | | point7 | 7 | 1,869,288.0 | 759,888.0 | 981.00 | | | | Average | |
| | | point8 | 8 | 1,869,277.0 | 760,088.0 | 980.00 | | | | | |
| Hamilton Road SB | 24.0 | point9 | 9 | 1,869,249.0 | 760,088.0 | 980.00 | | | | Average | |
| | | point10 | 10 | 1,869,257.0 | 759,888.0 | 981.00 | | | | Average | |
| | | point11 | 11 | 1,869,279.0 | 759,748.0 | 980.00 | | | | Average | |
| | | point12 | 12 | 1,869,323.2 | 759,570.7 | 978.00 | | | | Average | |
| | | point13 | 13 | 1,869,445.2 | 759,253.7 | 976.00 | | | | Average | |
| | | point14 | 14 | 1,869,671.0 | 758,791.0 | 975.00 | | | | Average | |
| | | point15 | 15 | 1,869,819.0 | 758,376.0 | 979.00 | | | | | |
| SR161 outside shoulder P WB1 c | 10.0 | point71 | 71 | 1,876,058.0 | 762,052.5 | 987.00 | | | | Average | |
| | | point69 | 69 | 1,875,623.0 | 761,991.5 | 982.00 | | | | Average | |
| | | point68 | 68 | 1,875,131.0 | 761,859.5 | 978.00 | | | | Average | |
| | | point248 | 248 | 1,874,738.0 | 761,702.5 | 975.00 | | | | Average | |
| | | point67 | 67 | 1,874,081.0 | 761,397.5 | 972.00 | | | | | |
| SR161 P WB2d | 12.0 | point65 | 65 | 1,879,435.0 | 761,858.5 | 1,010.00 | | | | Average | |
| | | point64 | 64 | 1,877,950.0 | 761,950.5 | 1,001.00 | | | | Average | |
| | | point63 | 63 | 1,877,210.0 | 761,996.5 | 994.00 | | | | Average | |
| | | point62 | 62 | 1,876,470.0 | 762,042.5 | 991.00 | | | | Average | |
| | | point61 | 61 | 1,876,058.0 | 762,028.5 | 987.00 | | | | | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|-------------------------------|------|----------|-----|-------------|-----------|----------|--|--|--|---------|---|
| SR 161 P WB1d | 12.0 | point54 | 54 | 1,879,435.0 | 761,870.5 | 1,010.00 | | | | Average | |
| | | point53 | 53 | 1,877,950.0 | 761,962.5 | 1,001.00 | | | | Average | |
| | | point52 | 52 | 1,877,210.0 | 762,008.5 | 994.00 | | | | Average | |
| | | point51 | 51 | 1,876,470.0 | 762,054.5 | 991.00 | | | | Average | |
| | | point49 | 49 | 1,876,058.0 | 762,040.5 | 987.00 | | | | | |
| SR 161 P EB inside shoulder a | 10.0 | point25 | 25 | 1,868,660.0 | 758,801.5 | 993.50 | | | | Average | Y |
| | | point26 | 26 | 1,869,628.0 | 759,254.5 | 997.00 | | | | Average | |
| | | point27 | 27 | 1,870,368.0 | 759,607.5 | 979.00 | | | | Average | |
| | | point175 | 175 | 1,870,977.0 | 759,891.5 | 965.00 | | | | Average | |
| | | point180 | 180 | 1,871,574.0 | 760,169.5 | 965.00 | | | | Average | |
| | | point184 | 184 | 1,871,705.0 | 760,230.5 | 965.00 | | | | Average | |
| | | point188 | 188 | 1,872,909.0 | 760,792.5 | 968.00 | | | | Average | |
| | | point194 | 194 | 1,874,083.0 | 761,322.5 | 970.00 | | | | Average | |
| | | point200 | 200 | 1,874,306.0 | 761,425.5 | 972.00 | | | | Average | |
| | | point203 | 203 | 1,874,738.0 | 761,628.5 | 974.00 | | | | Average | |
| | | point204 | 204 | 1,875,131.0 | 761,780.5 | 976.00 | | | | Average | |
| | | point210 | 210 | 1,875,623.0 | 761,911.5 | 982.00 | | | | Average | |
| | | point212 | 212 | 1,876,058.0 | 761,972.5 | 987.00 | | | | Average | |
| | | point214 | 214 | 1,876,470.0 | 761,986.0 | 990.00 | | | | Average | |
| | | point215 | 215 | 1,877,210.0 | 761,940.5 | 994.00 | | | | Average | |
| | | point217 | 217 | 1,877,950.0 | 761,894.5 | 1,001.00 | | | | Average | |
| | | point220 | 220 | 1,879,435.0 | 761,801.5 | 1,010.00 | | | | | |
| SR 161 P EB 4 | 12.0 | point28 | 28 | 1,868,660.0 | 758,790.5 | 994.00 | | | | Average | |
| | | point29 | 29 | 1,869,406.0 | 759,138.5 | 998.00 | | | | Average | Y |
| | | point30 | 30 | 1,869,628.0 | 759,243.5 | 997.00 | | | | Average | |
| | | point110 | 110 | 1,870,368.0 | 759,596.5 | 979.00 | | | | Average | |
| | | point111 | 111 | 1,870,977.0 | 759,880.5 | 965.00 | | | | Average | |
| | | point112 | 112 | 1,871,574.0 | 760,158.5 | 965.00 | | | | | |
| SR161 P EB 3 | 12.0 | point31 | 31 | 1,868,660.0 | 758,779.5 | 994.50 | | | | Average | |
| | | point32 | 32 | 1,869,406.0 | 759,126.5 | 998.50 | | | | Average | Y |
| | | point33 | 33 | 1,869,628.0 | 759,231.5 | 997.50 | | | | Average | |
| | | point100 | 100 | 1,870,368.0 | 759,584.5 | 979.00 | | | | Average | |
| | | point101 | 101 | 1,870,977.0 | 759,868.5 | 965.00 | | | | Average | |
| | | point102 | 102 | 1,871,574.0 | 760,146.5 | 965.00 | | | | | |
| SR 161 P EB 2 | 12.0 | point34 | 34 | 1,868,660.0 | 758,766.5 | 995.00 | | | | Average | |
| | | point35 | 35 | 1,869,406.0 | 759,114.5 | 999.00 | | | | Average | Y |
| | | point36 | 36 | 1,869,628.0 | 759,219.5 | 998.00 | | | | Average | |
| | | point88 | 88 | 1,870,368.0 | 759,572.5 | 979.00 | | | | Average | |
| | | point89 | 89 | 1,870,977.0 | 759,856.5 | 965.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|--|------|----------|-----|-------------|-----------|----------|--------|------|-----|---------|---|
| | | point90 | 90 | 1,871,574.0 | 760,134.5 | 965.00 | | | | | |
| Exit ramp SR 161 WB to Hamilton | 12.0 | point72 | 72 | 1,871,574.0 | 760,228.5 | 965.00 | Stop | 0.00 | 100 | Average | |
| | | point73 | 73 | 1,871,163.0 | 760,055.0 | 963.00 | | | | Average | |
| | | point74 | 74 | 1,870,682.0 | 759,833.0 | 970.00 | | | | Average | |
| | | point75 | 75 | 1,870,510.0 | 759,775.0 | 973.00 | | | | Average | |
| | | point76 | 76 | 1,870,323.0 | 759,743.0 | 976.00 | | | | Average | |
| | | point77 | 77 | 1,870,134.0 | 759,737.0 | 979.00 | | | | Average | |
| | | point78 | 78 | 1,869,865.0 | 759,746.0 | 980.00 | | | | Average | |
| | | point79 | 79 | 1,869,665.0 | 759,720.0 | 978.00 | | | | Average | |
| | | point80 | 80 | 1,869,553.0 | 759,687.0 | 977.00 | | | | Average | |
| | | point81 | 81 | 1,869,371.0 | 759,612.0 | 978.00 | | | | | |
| Entrance ramp Hamilton Rd to SR 166 EB | 12.0 | point82 | 82 | 1,869,717.0 | 758,813.0 | 975.00 | Onramp | 0.00 | 100 | Average | |
| | | point83 | 83 | 1,869,965.0 | 758,984.0 | 974.00 | | | | Average | |
| | | point84 | 84 | 1,870,092.0 | 759,115.0 | 976.00 | | | | Average | |
| | | point85 | 85 | 1,870,211.0 | 759,295.0 | 978.00 | | | | Average | |
| | | point86 | 86 | 1,870,383.0 | 759,515.0 | 978.00 | | | | Average | |
| | | point87 | 87 | 1,870,525.0 | 759,615.0 | 974.00 | | | | Average | |
| | | point92 | 92 | 1,870,977.0 | 759,832.5 | 965.00 | | | | Average | |
| | | point93 | 93 | 1,871,574.0 | 760,122.5 | 965.00 | | | | | |
| HarLem Road | 12.0 | point124 | 124 | 1,874,538.0 | 760,192.0 | 974.00 | | | | Average | |
| | | point120 | 120 | 1,874,360.0 | 761,378.0 | 993.00 | | | | Average | Y |
| | | point121 | 121 | 1,874,330.0 | 761,634.0 | 993.00 | | | | Average | |
| | | point122 | 122 | 1,874,297.0 | 762,017.0 | 984.00 | | | | Average | |
| | | point123 | 123 | 1,874,263.0 | 762,332.0 | 981.00 | | | | | |
| New Albany Road NB | 24.0 | point125 | 125 | 1,878,008.0 | 760,827.0 | 998.00 | | | | Average | |
| | | point126 | 126 | 1,878,049.0 | 761,502.0 | 1,012.00 | | | | Average | |
| | | point127 | 127 | 1,878,063.0 | 761,817.0 | 1,022.00 | | | | Average | Y |
| | | point128 | 128 | 1,878,077.0 | 762,064.0 | 1,024.00 | | | | Average | |
| | | point129 | 129 | 1,878,095.0 | 762,373.0 | 1,019.00 | | | | Average | |
| | | point130 | 130 | 1,878,126.0 | 763,174.0 | 1,006.00 | | | | | |
| New Albany Road SB | 12.0 | point136 | 136 | 1,878,086.0 | 763,174.0 | 1,006.00 | | | | Average | |
| | | point135 | 135 | 1,878,060.0 | 762,373.0 | 1,019.00 | | | | Average | |
| | | point134 | 134 | 1,878,044.0 | 762,064.0 | 1,024.00 | | | | Average | Y |
| | | point133 | 133 | 1,878,029.0 | 761,817.0 | 1,022.00 | | | | Average | |
| | | point132 | 132 | 1,878,014.0 | 761,502.0 | 1,012.00 | | | | Average | |
| | | point131 | 131 | 1,877,984.0 | 760,827.0 | 998.00 | | | | | |
| Entrance ramp New Albany to SR161W | 12.0 | point152 | 152 | 1,878,060.0 | 762,373.0 | 1,019.00 | | | | Average | |
| | | point153 | 153 | 1,877,800.0 | 762,356.0 | 1,012.00 | | | | Average | |
| | | point154 | 154 | 1,877,646.0 | 762,325.0 | 1,008.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|-----------------------------------|------|----------|-----|-------------|-----------|----------|------|------|-----|---------|---|
| | | point155 | 155 | 1,877,399.0 | 762,207.0 | 999.00 | | | | Average | |
| | | point156 | 156 | 1,877,186.0 | 762,110.0 | 994.00 | | | | Average | |
| | | point157 | 157 | 1,876,993.0 | 762,074.0 | 993.00 | | | | Average | |
| | | point158 | 158 | 1,876,650.0 | 762,078.0 | 992.00 | | | | Average | |
| | | point159 | 159 | 1,876,395.0 | 762,082.0 | 991.00 | | | | Average | |
| | | point160 | 160 | 1,876,058.0 | 762,040.5 | 987.00 | | | | | |
| Exit ramp SR 161 EB to New Albany | 12.0 | point167 | 167 | 1,876,470.0 | 761,951.0 | 990.00 | Stop | 0.00 | 100 | Average | |
| | | point166 | 166 | 1,876,943.0 | 761,913.0 | 993.00 | | | | Average | |
| | | point161 | 161 | 1,877,119.0 | 761,862.0 | 993.00 | | | | Average | |
| | | point162 | 162 | 1,877,319.0 | 761,739.0 | 996.00 | | | | Average | |
| | | point163 | 163 | 1,877,519.0 | 761,623.0 | 1,001.00 | | | | Average | |
| | | point164 | 164 | 1,877,719.0 | 761,555.0 | 1,006.00 | | | | Average | |
| | | point165 | 165 | 1,878,014.0 | 761,502.0 | 1,012.00 | | | | | |
| SR 161 P EB 1 | 12.0 | point169 | 169 | 1,868,660.0 | 758,754.5 | 995.00 | | | | Average | |
| | | point170 | 170 | 1,869,406.0 | 759,102.5 | 999.00 | | | | Average | Y |
| | | point171 | 171 | 1,869,628.0 | 759,207.5 | 998.00 | | | | Average | |
| | | point176 | 176 | 1,870,368.0 | 759,560.5 | 979.00 | | | | Average | |
| | | point177 | 177 | 1,870,977.0 | 759,844.5 | 965.00 | | | | Average | |
| | | point179 | 179 | 1,871,574.0 | 760,122.5 | 965.00 | | | | | |
| SR 161 P EB outside shoulder a | 10.0 | point172 | 172 | 1,868,660.0 | 758,742.0 | 995.00 | | | | Average | |
| | | point173 | 173 | 1,869,406.0 | 759,090.0 | 999.00 | | | | Average | Y |
| | | point174 | 174 | 1,869,628.0 | 759,195.0 | 998.00 | | | | Average | |
| | | point178 | 178 | 1,870,368.0 | 759,549.5 | 979.00 | | | | | |
| SR 161 P EB outside shoulder b | 10.0 | point182 | 182 | 1,871,574.0 | 760,111.0 | 965.00 | | | | Average | |
| | | point183 | 183 | 1,871,705.0 | 760,172.0 | 965.00 | | | | Average | |
| | | point190 | 190 | 1,872,909.0 | 760,737.0 | 968.00 | | | | Average | |
| | | point196 | 196 | 1,874,083.0 | 761,265.5 | 970.00 | | | | Average | |
| | | point202 | 202 | 1,874,306.0 | 761,379.5 | 972.00 | | | | Average | |
| | | point208 | 208 | 1,874,738.0 | 761,582.5 | 974.00 | | | | Average | |
| | | point209 | 209 | 1,875,131.0 | 761,734.5 | 976.00 | | | | Average | |
| | | point211 | 211 | 1,875,623.0 | 761,865.5 | 982.00 | | | | Average | |
| | | point213 | 213 | 1,876,058.0 | 761,926.5 | 987.00 | | | | Average | |
| | | point216 | 216 | 1,876,470.0 | 761,940.0 | 990.00 | | | | | |
| SR 161 P EB 4 b | 12.0 | point185 | 185 | 1,872,909.0 | 760,781.5 | 968.00 | | | | Average | |
| | | point191 | 191 | 1,874,083.0 | 761,311.5 | 970.00 | | | | Average | |
| | | point115 | 115 | 1,874,306.0 | 761,414.5 | 972.00 | | | | | |
| SR161 P EB 3 b | 10.0 | point186 | 186 | 1,872,909.0 | 760,770.5 | 968.00 | | | | Average | |
| | | point193 | 193 | 1,874,083.0 | 761,300.5 | 970.00 | | | | Average | |
| | | point105 | 105 | 1,874,306.0 | 761,402.5 | 972.00 | | | | | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | |
|------------------------------|------|----------|-----|-------------|-----------|----------|--|--|--|---------|
| SR 161 P EB 2 b | 12.0 | point187 | 187 | 1,872,909.0 | 760,759.5 | 968.00 | | | | Average |
| | | point192 | 192 | 1,874,083.0 | 761,288.5 | 970.00 | | | | Average |
| | | point95 | 95 | 1,874,306.0 | 761,390.5 | 972.00 | | | | |
| SR 161 P EB 3c | 12.0 | point197 | 197 | 1,874,306.0 | 761,414.5 | 972.00 | | | | Average |
| | | point205 | 205 | 1,874,738.0 | 761,617.5 | 974.00 | | | | Average |
| | | point116 | 116 | 1,875,131.0 | 761,769.5 | 976.00 | | | | Average |
| | | point117 | 117 | 1,875,623.0 | 761,900.5 | 982.00 | | | | Average |
| | | point119 | 119 | 1,876,058.0 | 761,961.5 | 987.00 | | | | Average |
| | | point138 | 138 | 1,876,470.0 | 761,975.0 | 990.00 | | | | |
| SR161 P EB 2c | 12.0 | point198 | 198 | 1,874,306.0 | 761,402.5 | 972.00 | | | | Average |
| | | point206 | 206 | 1,874,738.0 | 761,605.5 | 974.00 | | | | Average |
| | | point106 | 106 | 1,875,131.0 | 761,757.5 | 976.00 | | | | Average |
| | | point107 | 107 | 1,875,623.0 | 761,888.5 | 982.00 | | | | Average |
| | | point109 | 109 | 1,876,058.0 | 761,949.5 | 987.00 | | | | Average |
| | | point143 | 143 | 1,876,470.0 | 761,963.0 | 990.00 | | | | |
| SR 161 P EB 1c | 12.0 | point199 | 199 | 1,874,306.0 | 761,390.5 | 972.00 | | | | Average |
| | | point207 | 207 | 1,874,738.0 | 761,593.5 | 974.00 | | | | Average |
| | | point96 | 96 | 1,875,131.0 | 761,745.5 | 976.00 | | | | Average |
| | | point97 | 97 | 1,875,623.0 | 761,876.5 | 982.00 | | | | Average |
| | | point99 | 99 | 1,876,058.0 | 761,937.5 | 987.00 | | | | Average |
| | | point148 | 148 | 1,876,470.0 | 761,951.0 | 990.00 | | | | |
| SR 166 P WB inside shoulder | 10.0 | point221 | 221 | 1,879,435.0 | 761,835.5 | 1,010.00 | | | | Average |
| | | point222 | 222 | 1,877,950.0 | 761,927.5 | 1,001.00 | | | | Average |
| | | point227 | 227 | 1,877,210.0 | 761,973.5 | 994.00 | | | | Average |
| | | point228 | 228 | 1,876,470.0 | 762,019.5 | 991.00 | | | | Average |
| | | point229 | 229 | 1,876,058.0 | 762,005.5 | 987.00 | | | | Average |
| | | point239 | 239 | 1,875,623.0 | 761,944.5 | 982.00 | | | | Average |
| | | point240 | 240 | 1,875,131.0 | 761,813.5 | 978.00 | | | | Average |
| | | point242 | 242 | 1,874,738.0 | 761,656.5 | 975.00 | | | | Average |
| | | point243 | 243 | 1,874,083.0 | 761,351.5 | 970.00 | | | | |
| SR 161 P WB3d | 12.0 | point223 | 223 | 1,879,435.0 | 761,846.5 | 1,010.00 | | | | Average |
| | | point224 | 224 | 1,877,950.0 | 761,938.5 | 1,001.00 | | | | Average |
| | | point231 | 231 | 1,877,210.0 | 761,984.5 | 994.00 | | | | Average |
| | | point232 | 232 | 1,876,470.0 | 762,030.5 | 991.00 | | | | Average |
| | | point233 | 233 | 1,876,058.0 | 762,016.5 | 987.00 | | | | |
| SR 161 P WB Outside shoulder | 10.0 | point225 | 225 | 1,879,435.0 | 761,881.5 | 1,010.00 | | | | Average |
| | | point226 | 226 | 1,877,950.0 | 761,973.5 | 1,001.00 | | | | Average |
| | | point235 | 235 | 1,877,210.0 | 762,019.5 | 994.00 | | | | Average |
| | | point236 | 236 | 1,876,470.0 | 762,065.5 | 991.00 | | | | Average |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|------------------------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point237 | 237 | 1,876,395.0 | 762,065.0 | 991.00 | | | | | |
| SR161 P WB1a | 12.0 | point249 | 249 | 1,874,081.0 | 761,386.5 | 972.00 | | | | Average | |
| | | point55 | 55 | 1,872,909.0 | 760,855.5 | 969.00 | | | | Average | |
| | | point42 | 42 | 1,871,705.0 | 760,277.5 | 965.00 | | | | Average | Y |
| | | point39 | 39 | 1,871,574.0 | 760,217.5 | 965.00 | | | | | |
| SR 161 P WB2a | 12.0 | point250 | 250 | 1,874,081.0 | 761,374.5 | 972.00 | | | | Average | |
| | | point44 | 44 | 1,872,909.0 | 760,843.5 | 969.00 | | | | Average | |
| | | point41 | 41 | 1,871,705.0 | 760,265.5 | 965.00 | | | | Average | Y |
| | | point38 | 38 | 1,871,574.0 | 760,205.5 | 965.00 | | | | | |
| SR161 outside shoulder P WB1 | 10.0 | point251 | 251 | 1,874,081.0 | 761,397.5 | 972.00 | | | | Average | |
| | | point66 | 66 | 1,872,909.0 | 760,867.5 | 969.00 | | | | Average | |
| | | point43 | 43 | 1,871,705.0 | 760,288.5 | 965.00 | | | | Average | Y |
| | | point40 | 40 | 1,871,574.0 | 760,228.5 | 965.00 | | | | Average | |
| | | point264 | 264 | 1,870,977.0 | 759,950.5 | 970.50 | | | | Average | |
| | | point16 | 16 | 1,870,368.0 | 759,666.5 | 978.50 | | | | Average | |
| | | point17 | 17 | 1,869,628.0 | 759,326.5 | 996.50 | | | | Average | Y |
| | | point18 | 18 | 1,869,386.0 | 759,213.0 | 998.00 | | | | | |
| SR 161 P WB inside shoulder | 10.0 | point252 | 252 | 1,874,083.0 | 761,351.5 | 970.00 | | | | Average | |
| | | point253 | 253 | 1,872,909.0 | 760,820.5 | 968.00 | | | | Average | |
| | | point254 | 254 | 1,871,705.0 | 760,242.5 | 965.00 | | | | Average | |
| | | point258 | 258 | 1,871,574.0 | 760,182.5 | 965.00 | | | | Average | |
| | | point260 | 260 | 1,870,977.0 | 759,904.5 | 964.50 | | | | Average | |
| | | point265 | 265 | 1,870,368.0 | 759,620.5 | 978.50 | | | | Average | |
| | | point267 | 267 | 1,869,628.0 | 759,280.5 | 996.50 | | | | Average | Y |
| | | point270 | 270 | 1,869,386.0 | 759,166.0 | 998.00 | | | | | |
| SR 161 P WB3 c-2 | 12.0 | point257 | 257 | 1,874,081.0 | 761,362.5 | 970.00 | | | | Average | |
| | | point255 | 255 | 1,872,909.0 | 760,831.5 | 968.00 | | | | Average | |
| | | point256 | 256 | 1,871,705.0 | 760,253.5 | 965.00 | | | | Average | Y |
| | | point259 | 259 | 1,871,574.0 | 760,193.5 | 965.00 | | | | | |
| SR 161 P EB 1 b | 12.0 | point271 | 271 | 1,871,574.0 | 760,122.5 | 965.00 | | | | Average | |
| | | point181 | 181 | 1,871,705.0 | 760,183.5 | 965.00 | | | | Average | |
| | | point189 | 189 | 1,872,909.0 | 760,748.5 | 968.00 | | | | Average | |
| | | point195 | 195 | 1,874,083.0 | 761,276.5 | 970.00 | | | | Average | |
| | | point201 | 201 | 1,874,306.0 | 761,390.5 | 972.00 | | | | | |
| SR 161 P EB 2 a-2 | 12.0 | point272 | 272 | 1,871,574.0 | 760,134.5 | 965.00 | | | | Average | Y |
| | | point94 | 94 | 1,872,909.0 | 760,759.5 | 968.00 | | | | | |
| SR161 P EB 3 a-2 | 12.0 | point273 | 273 | 1,871,574.0 | 760,146.5 | 965.00 | | | | Average | Y |
| | | point103 | 103 | 1,871,705.0 | 760,207.5 | 965.00 | | | | Average | |
| | | point104 | 104 | 1,872,909.0 | 760,770.5 | 968.00 | | | | | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|-------------------|------|----------|-----|-------------|-----------|----------|--------|------|-----|---------|---|
| SR 161 P EB 4 a-2 | 12.0 | point274 | 274 | 1,871,574.0 | 760,158.5 | 965.00 | | | | Average | Y |
| | | point113 | 113 | 1,871,705.0 | 760,219.5 | 965.00 | | | | Average | |
| | | point114 | 114 | 1,872,909.0 | 760,781.5 | 968.00 | | | | | |
| SR 161 P EB 1d | 12.0 | point276 | 276 | 1,876,470.0 | 761,951.0 | 990.00 | | | | Average | |
| | | point149 | 149 | 1,877,210.0 | 761,905.5 | 994.00 | | | | Average | |
| | | point150 | 150 | 1,877,950.0 | 761,859.5 | 1,001.00 | | | | Average | |
| | | point151 | 151 | 1,879,435.0 | 761,765.5 | 1,010.00 | | | | | |
| SR161 P EB 2d | 12.0 | point277 | 277 | 1,876,470.0 | 761,963.0 | 990.00 | | | | Average | |
| | | point219 | 219 | 1,877,210.0 | 761,917.5 | 994.00 | | | | Average | |
| | | point218 | 218 | 1,877,950.0 | 761,871.5 | 1,001.00 | | | | Average | |
| | | point146 | 146 | 1,879,435.0 | 761,777.5 | 1,010.00 | | | | | |
| SR 161 P EB 3d | 12.0 | point278 | 278 | 1,876,470.0 | 761,975.0 | 990.00 | | | | Average | |
| | | point139 | 139 | 1,877,210.0 | 761,929.5 | 994.00 | | | | Average | |
| | | point140 | 140 | 1,877,950.0 | 761,883.5 | 1,001.00 | | | | Average | |
| | | point141 | 141 | 1,879,435.0 | 761,789.5 | 1,010.00 | | | | | |
| SR 161 P WB3c | 12.0 | point279 | 279 | 1,876,058.0 | 762,016.5 | 987.00 | | | | Average | |
| | | point234 | 234 | 1,875,623.0 | 761,956.5 | 982.00 | | | | Average | |
| | | point241 | 241 | 1,875,131.0 | 761,824.5 | 978.00 | | | | Average | |
| | | point244 | 244 | 1,874,738.0 | 761,667.5 | 975.00 | | | | Average | |
| | | point245 | 245 | 1,874,081.0 | 761,362.5 | 970.00 | | | | | |
| SR161 P WB2c | 12.0 | point280 | 280 | 1,876,058.0 | 762,028.5 | 987.00 | | | | Average | |
| | | point58 | 58 | 1,875,623.0 | 761,968.5 | 982.00 | | | | Average | |
| | | point57 | 57 | 1,875,131.0 | 761,836.5 | 978.00 | | | | Average | |
| | | point246 | 246 | 1,874,738.0 | 761,679.5 | 975.00 | | | | Average | |
| | | point56 | 56 | 1,874,081.0 | 761,374.5 | 972.00 | | | | | |
| SR 161 P WB1c | 12.0 | point281 | 281 | 1,876,058.0 | 762,040.5 | 987.00 | Onramp | 0.00 | 100 | Average | |
| | | point47 | 47 | 1,875,623.0 | 761,980.5 | 982.00 | | | | Average | |
| | | point46 | 46 | 1,875,131.0 | 761,848.5 | 978.00 | | | | Average | |
| | | point247 | 247 | 1,874,738.0 | 761,691.5 | 975.00 | | | | Average | |
| | | point45 | 45 | 1,874,081.0 | 761,386.5 | 972.00 | | | | | |
| SR161 P WB1a-2 | 12.0 | point282 | 282 | 1,871,574.0 | 760,217.5 | 965.00 | | | | Average | |
| | | point263 | 263 | 1,870,977.0 | 759,939.5 | 970.50 | | | | Average | |
| | | point19 | 19 | 1,870,368.0 | 759,655.5 | 978.50 | | | | Average | |
| | | point20 | 20 | 1,869,628.0 | 759,315.5 | 996.50 | | | | Average | Y |
| | | point21 | 21 | 1,869,386.0 | 759,201.0 | 998.00 | | | | | |
| SR 161 P WB2a-2 | 12.0 | point283 | 283 | 1,871,574.0 | 760,205.5 | 965.00 | | | | Average | |
| | | point262 | 262 | 1,870,977.0 | 759,927.5 | 964.50 | | | | Average | |
| | | point22 | 22 | 1,870,368.0 | 759,643.5 | 978.50 | | | | Average | |
| | | point23 | 23 | 1,869,628.0 | 759,303.5 | 996.50 | | | | Average | Y |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|---------------|------|----------|-----|-------------|-----------|--------|--|--|--|---------|---|
| | | point24 | 24 | 1,869,386.0 | 759,189.0 | 998.00 | | | | | |
| SR 161 P WB3a | 12.0 | point284 | 284 | 1,871,574.0 | 760,193.5 | 965.00 | | | | Average | |
| | | point261 | 261 | 1,870,977.0 | 759,915.5 | 964.50 | | | | Average | |
| | | point266 | 266 | 1,870,368.0 | 759,631.5 | 978.50 | | | | Average | |
| | | point268 | 268 | 1,869,628.0 | 759,291.5 | 996.50 | | | | Average | Y |
| | | point269 | 278 | 1,869,386.0 | 759,177.0 | 998.00 | | | | | |

| | | | | | | | | | | | | | |
|-----------------------------------|--------------------------------|-----|---------|-----|---------|-----|---------|-----|--------|-----|-------------|-----|---|
| Lawhon & Assoc | | | | | | | | | | | | | |
| CCox | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| INPUT: TRAFFIC FOR LAeq1h Volumes | | | | | | | | | | | | | |
| PROJECT/CONTRACT: | FRA-SR161-15.80 PID 116322 | | | | | | | | | | | | |
| RUN: | Design Year Noise Barrier NSA8 | | | | | | | | | | | | |
| Roadway | Points | | | | | | | | | | | | |
| Name | Name | No. | Segment | | | | | | | | | | |
| | | | Autos | | MTrucks | | HTrucks | | Buses | | Motorcycles | | |
| | | | V | S | V | S | V | S | V | S | V | S | |
| | | | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | |
| Hamilton Road NB | point1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point3 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point5 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point6 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point7 | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point8 | 8 | | | | | | | | | | | |
| Hamilton Road SB | point9 | 9 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point10 | 10 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point11 | 11 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point12 | 12 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point13 | 13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point14 | 14 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point15 | 15 | | | | | | | | | | | |
| SR161 outside shoulder P WB1 c | point71 | 71 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point69 | 69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point68 | 68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point248 | 248 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point67 | 67 | | | | | | | | | | | |
| SR161 P WB2d | point65 | 65 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 | 0 |
| | point64 | 64 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 | 0 |
| | point63 | 63 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|-------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point62 | 62 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |
| | point61 | 61 | | | | | | | | | | |
| SR 161 P WB1d | point54 | 54 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |
| | point53 | 53 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |
| | point52 | 52 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |
| | point51 | 51 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |
| | point49 | 49 | | | | | | | | | | |
| SR 161 P EB inside shoulder a | point25 | 25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point26 | 26 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point27 | 27 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point175 | 175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point180 | 180 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point184 | 184 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point188 | 188 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point194 | 194 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point200 | 200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point203 | 203 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point204 | 204 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point210 | 210 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point212 | 212 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point214 | 214 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point215 | 215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point217 | 217 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point220 | 220 | | | | | | | | | | |
| SR 161 P EB 4 | point28 | 28 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point29 | 29 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point30 | 30 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point110 | 110 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point111 | 111 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point112 | 112 | | | | | | | | | | |
| SR161 P EB 3 | point31 | 31 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point32 | 32 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point33 | 33 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point100 | 100 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point101 | 101 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point102 | 102 | | | | | | | | | | |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|--|----------|-----|------|----|----|----|----|----|---|---|---|---|
| SR 161 P EB 2 | point34 | 34 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point35 | 35 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point36 | 36 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point88 | 88 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point89 | 89 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point90 | 90 | | | | | | | | | | |
| Exit ramp SR 161 WB to Hamilton | point72 | 72 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point73 | 73 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point74 | 74 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point75 | 75 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point76 | 76 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point77 | 77 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point78 | 78 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point79 | 79 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point80 | 80 | 517 | 65 | 7 | 65 | 15 | 65 | 0 | 0 | 0 | 0 |
| | point81 | 81 | | | | | | | | | | |
| Entrance ramp Hamilton Rd to SR 166 EB | point82 | 82 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point83 | 83 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point84 | 84 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point85 | 85 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point86 | 86 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point87 | 87 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point92 | 92 | 568 | 65 | 8 | 65 | 16 | 65 | 0 | 0 | 0 | 0 |
| | point93 | 93 | | | | | | | | | | |
| HarLem Road | point124 | 124 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point120 | 120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point121 | 121 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point122 | 122 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point123 | 123 | | | | | | | | | | |
| New Albany Road NB | point125 | 125 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point126 | 126 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point127 | 127 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point128 | 128 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point129 | 129 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point130 | 130 | | | | | | | | | | |
| New Albany Road SB | point136 | 136 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|------------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point135 | 135 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point134 | 134 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point133 | 133 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point132 | 132 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point131 | 131 | | | | | | | | | | |
| Entrance ramp New Albany to SR161W | point152 | 152 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point153 | 153 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point154 | 154 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point155 | 155 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point156 | 156 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point157 | 157 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point158 | 158 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point159 | 159 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point160 | 160 | | | | | | | | | | |
| Exit ramp SR 161 EB to New Albany | point167 | 167 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point166 | 166 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point161 | 161 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point162 | 162 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point163 | 163 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point164 | 164 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point165 | 165 | | | | | | | | | | |
| SR 161 P EB 1 | point169 | 169 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point170 | 170 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point171 | 171 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point176 | 176 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point177 | 177 | 1145 | 65 | 30 | 65 | 70 | 65 | 0 | 0 | 0 | 0 |
| | point179 | 179 | | | | | | | | | | |
| SR 161 P EB outside shoulder a | point172 | 172 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point173 | 173 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point174 | 174 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point178 | 178 | | | | | | | | | | |
| SR 161 P EB outside shoulder b | point182 | 182 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point183 | 183 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point190 | 190 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point196 | 196 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point202 | 202 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|-----------------------------|----------|-----|------|----|----|----|-----|----|---|---|---|---|
| | point208 | 208 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point209 | 209 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point211 | 211 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point213 | 213 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point216 | 216 | | | | | | | | | | |
| SR 161 P EB 4 b | point185 | 185 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point191 | 191 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point115 | 115 | | | | | | | | | | |
| SR161 P EB 3 b | point186 | 186 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point193 | 193 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point105 | 105 | | | | | | | | | | |
| SR 161 P EB 2 b | point187 | 187 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point192 | 192 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point95 | 95 | | | | | | | | | | |
| SR 161 P EB 3c | point197 | 197 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point205 | 205 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point116 | 116 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point117 | 117 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point119 | 119 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point138 | 138 | | | | | | | | | | |
| SR161 P EB 2c | point198 | 198 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point206 | 206 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point106 | 106 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point107 | 107 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point109 | 109 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point143 | 143 | | | | | | | | | | |
| SR 161 P EB 1c | point199 | 199 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point207 | 207 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point96 | 96 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point97 | 97 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point99 | 99 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point148 | 148 | | | | | | | | | | |
| SR 166 P WB inside shoulder | point221 | 221 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point222 | 222 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point227 | 227 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point228 | 228 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point229 | 229 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point239 | 239 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point240 | 240 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point242 | 242 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point243 | 243 | | | | | | | | | | |
| SR 161 P WB3d | point223 | 223 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |
| | point224 | 224 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |
| | point231 | 231 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |
| | point232 | 232 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |
| | point233 | 233 | | | | | | | | | | |
| SR 161 P WB Outside shoulder | point225 | 225 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point226 | 226 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point235 | 235 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point236 | 236 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point237 | 237 | | | | | | | | | | |
| SR161 P WB1a | point249 | 249 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point55 | 55 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point42 | 42 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point39 | 39 | | | | | | | | | | |
| SR 161 P WB2a | point250 | 250 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point44 | 44 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point41 | 41 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point38 | 38 | | | | | | | | | | |
| SR161 outside shoulder P WB1 | point251 | 251 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point66 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point43 | 43 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point40 | 40 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point264 | 264 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point16 | 16 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point17 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point18 | 18 | | | | | | | | | | |
| SR 161 P WB inside shoulder | point252 | 252 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point253 | 253 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point254 | 254 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point258 | 258 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point260 | 260 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

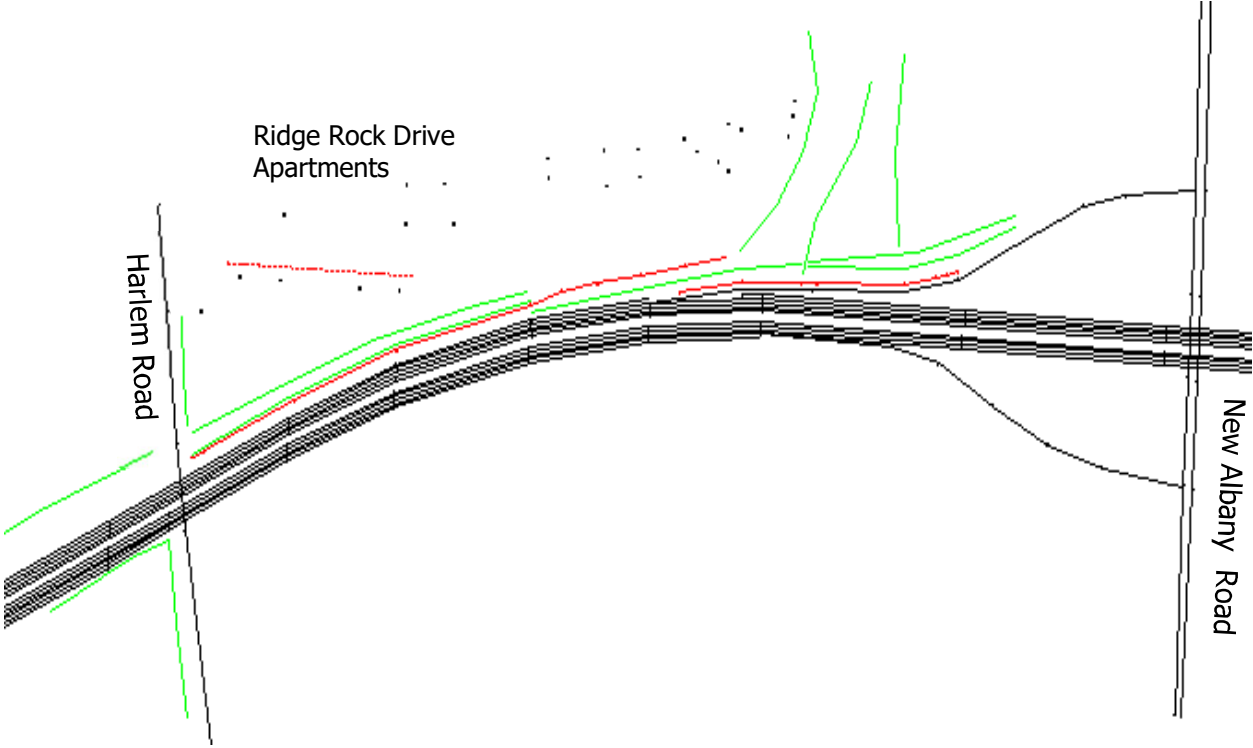
| | | | | | | | | | | | | |
|-------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point265 | 265 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point267 | 267 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point270 | 270 | | | | | | | | | | |
| SR 161 P WB3 c-2 | point257 | 257 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point255 | 255 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point256 | 256 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point259 | 259 | | | | | | | | | | |
| SR 161 P EB 1 b | point271 | 271 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point181 | 181 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point189 | 189 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point195 | 195 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point201 | 201 | | | | | | | | | | |
| SR 161 P EB 2 a-2 | point272 | 272 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point94 | 94 | | | | | | | | | | |
| SR161 P EB 3 a-2 | point273 | 273 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point103 | 103 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point104 | 104 | | | | | | | | | | |
| SR 161 P EB 4 a-2 | point274 | 274 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point113 | 113 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point114 | 114 | | | | | | | | | | |
| SR 161 P EB 1d | point276 | 276 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point149 | 149 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point150 | 150 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point151 | 151 | | | | | | | | | | |
| SR161 P EB 2d | point277 | 277 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point219 | 219 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point218 | 218 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point146 | 146 | | | | | | | | | | |
| SR 161 P EB 3d | point278 | 278 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point139 | 139 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point140 | 140 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point141 | 141 | | | | | | | | | | |
| SR 161 P WB3c | point279 | 279 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point234 | 234 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point241 | 241 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point244 | 244 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|-----------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point245 | 245 | | | | | | | | | | |
| SR161 P WB2c | point280 | 280 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point58 | 58 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point57 | 57 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point246 | 246 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point56 | 56 | | | | | | | | | | |
| SR 161 P WB1c | point281 | 281 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point47 | 47 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point46 | 46 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point247 | 247 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point45 | 45 | | | | | | | | | | |
| SR161 P WB1a-2 | point282 | 282 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point263 | 263 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point19 | 19 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point20 | 20 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point21 | 21 | | | | | | | | | | |
| SR 161 P WB2a-2 | point283 | 283 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point262 | 262 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point22 | 22 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point23 | 23 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point24 | 24 | | | | | | | | | | |
| SR 161 P WB3a | point284 | 284 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point261 | 261 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point266 | 266 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point268 | 268 | 1501 | 65 | 38 | 65 | 91 | 65 | 0 | 0 | 0 | 0 |
| | point269 | 269 | | | | | | | | | | |

NSAs 9 and 10



RESULTS: SOUND LEVELS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | | |
|----------------|--|--|--|--|--|--|--|--|--|-------------------------|--|--|--|
| Lawhon & Assoc | | | | | | | | | | 19 July 2022 | | | |
| CCox | | | | | | | | | | TNM 2.5 | | | |
| | | | | | | | | | | Calculated with TNM 2.5 | | | |

RESULTS: SOUND LEVELS

| | | | | | | | | | | | | | |
|-------------------|-------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| PROJECT/CONTRACT: | FRA-SR161-15.80 PID 116322 | | | | | | | | | | | | |
| RUN: | Design Year Noise barriers 9 and 10 | | | | | | | | | | | | |
| BARRIER DESIGN: | Noise Barriers NSA9 and 10 at 14' | | | | | | | | | | Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA. | | |
| ATMOSPHERICS: | 68 deg F, 50% RH | | | | | | | | | | | | |

| Receiver | | | | | | | | | | | | | |
|----------|-----|------|-----------------|-------------------|------------------------|------------|-----------|---------------------|-----------------|------------|------|------------|------|
| Name | No. | #DUs | Existing LAeq1h | No Barrier LAeq1h | Increase over existing | | Type | With Barrier LAeq1h | Noise Reduction | | | | |
| | | | | Calculated | Crit'n | Calculated | Crit'n | Impact | | Calculated | Goal | Calculated | Goal |
| | | | | | | | Sub'l Inc | | | | | minus | Goal |
| | | | dBA | dBA | dBA | dB | | | dBA | dB | | dB | |
| NSA9-1 | 1 | 1 | 62.4 | 63.3 | 66 | 0.9 | 10 | ---- | 58.7 | 4.6 | 5 | -0.4 | |
| NSA9-2 | 2 | 4 | 62.2 | 63.6 | 66 | 1.4 | 10 | ---- | 59.2 | 4.4 | 5 | -0.6 | |
| NSA9-3 | 3 | 4 | 63.8 | 65.9 | 66 | 2.1 | 10 | ---- | 60.4 | 5.5 | 5 | 0.5 | |
| NSA9-4 | 4 | 4 | 65.1 | 68.1 | 66 | 3.0 | 10 | Snd Lvl | 61.4 | 6.7 | 5 | 1.7 | |
| NSA9-5 | 5 | 4 | 67.1 | 71.0 | 66 | 3.9 | 10 | Snd Lvl | 62.6 | 8.4 | 5 | 3.4 | |
| NSA9-6 | 6 | 4 | 69.7 | 73.5 | 66 | 3.8 | 10 | Snd Lvl | 63.8 | 9.7 | 5 | 4.7 | |
| NSA9-7 | 7 | 4 | 58.8 | 60.1 | 66 | 1.3 | 10 | ---- | 55.8 | 4.3 | 5 | -0.7 | |
| NSA9-8 | 8 | 4 | 62.7 | 65.8 | 66 | 3.1 | 10 | ---- | 59.7 | 6.1 | 5 | 1.1 | |
| NSA9-9 | 9 | 4 | 65.0 | 68.6 | 66 | 3.6 | 10 | Snd Lvl | 61.6 | 7.0 | 5 | 2.0 | |
| NSA9-10 | 10 | 4 | 61.1 | 63.7 | 66 | 2.6 | 10 | ---- | 58.8 | 4.9 | 5 | -0.1 | |
| NSA9-11 | 11 | 4 | 62.1 | 65.0 | 66 | 2.9 | 10 | ---- | 59.9 | 5.1 | 5 | 0.1 | |
| NSA10-1 | 12 | 6 | 63.5 | 66.0 | 66 | 2.5 | 10 | Snd Lvl | 60.8 | 5.2 | 5 | 0.2 | |
| NSA10-2 | 13 | 6 | 62.1 | 64.6 | 66 | 2.5 | 10 | ---- | 60.0 | 4.6 | 5 | -0.4 | |
| NSA10-3 | 14 | 8 | 64.9 | 66.9 | 66 | 2.0 | 10 | Snd Lvl | 61.4 | 5.5 | 5 | 0.5 | |
| NSA10-4 | 15 | 8 | 62.4 | 64.2 | 66 | 1.8 | 10 | ---- | 60.1 | 4.1 | 5 | -0.9 | |
| NSA10-5 | 16 | 3 | 64.4 | 66.2 | 66 | 1.8 | 10 | Snd Lvl | 61.4 | 4.8 | 5 | -0.2 | |
| NSA10-6 | 17 | 4 | 62.7 | 64.1 | 66 | 1.4 | 10 | ---- | 60.4 | 3.7 | 5 | -1.3 | |
| NSA10-7 | 18 | 1 | 61.3 | 62.0 | 66 | 0.7 | 10 | ---- | 59.2 | 2.8 | 5 | -2.2 | |
| NSA101-8 | 19 | 1 | 62.0 | 62.5 | 66 | 0.5 | 10 | ---- | 59.8 | 2.7 | 5 | -2.3 | |
| NSA10-9 | 20 | 1 | 62.6 | 63.1 | 66 | 0.5 | 10 | ---- | 60.2 | 2.9 | 5 | -2.1 | |
| NSA10-10 | 21 | 1 | 63.4 | 63.8 | 66 | 0.4 | 10 | ---- | 60.7 | 3.1 | 5 | -1.9 | |
| NSA10-11 | 22 | 1 | 64.2 | 64.2 | 66 | 0.0 | 10 | ---- | 60.9 | 3.3 | 5 | -1.7 | |
| NSA10-12 | 23 | 1 | 64.4 | 63.6 | 66 | -0.8 | 10 | ---- | 60.8 | 2.8 | 5 | -2.2 | |
| NSA10-13 | 24 | 1 | 64.9 | 63.9 | 66 | -1.0 | 10 | ---- | 61.1 | 2.8 | 5 | -2.2 | |

RESULTS: SOUND LEVELS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|-----------------------|----|--------------|------------------------|------------|------------|------|----|------|------|-----|---|------|
| NSA10-14 | 25 | 1 | 62.2 | 61.6 | 66 | -0.6 | 10 | ---- | 59.4 | 2.2 | 5 | -2.8 |
| NSA10-15 | 26 | 1 | 62.6 | 61.9 | 66 | -0.7 | 10 | ---- | 59.8 | 2.1 | 5 | -2.9 |
| NSA10-16 | 27 | 1 | 63.1 | 61.8 | 66 | -1.3 | 10 | ---- | 60.3 | 1.5 | 5 | -3.5 |
| NSA10-17 | 28 | 1 | 62.2 | 61.0 | 66 | -1.2 | 10 | ---- | 59.6 | 1.4 | 5 | -3.6 |
| NSA10-18 | 29 | 1 | 61.4 | 60.5 | 66 | -0.9 | 10 | ---- | 59.1 | 1.4 | 5 | -3.6 |
| Dwelling Units | | # DUs | Noise Reduction | | | | | | | | | |
| | | | Min | Avg | Max | | | | | | | |
| | | | dB | dB | dB | | | | | | | |
| All Selected | | 88 | 1.4 | 4.3 | 9.7 | | | | | | | |
| All Impacted | | 33 | 4.8 | 6.8 | 9.7 | | | | | | | |
| All that meet NR Goal | | 42 | 5.1 | 6.6 | 9.7 | | | | | | | |

RESULTS: BARRIER DESCRIPTIONS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | |
|----------------|--|--|--|--------------|--|--|--|--|--|
| Lawhon & Assoc | | | | 19 July 2022 | | | | | |
| CCox | | | | TNM 2.5 | | | | | |

RESULTS: BARRIER DESCRIPTIONS

| | | | | | | | | | |
|--------------------------|------------------------------------|--|--|--|--|--|--|--|--|
| PROJECT/CONTRACT: | FRA-SR161-15.80 PID 116322 | | | | | | | | |
| RUN: | Design YearNoise barriers 9 and 10 | | | | | | | | |
| BARRIER DESIGN: | Noise Barriers NSA9 and 10 at 14' | | | | | | | | |

| Barriers | | | | | | | | | | |
|----------------------|------|-----------------------|-------|-------|--------|---------|---------|-----|-------------|---------|
| Name | Type | Heights along Barrier | | | Length | If Wall | If Berm | Top | Run:Rise | Cost |
| | | Min | Avg | Max | | | | | | |
| | | ft | ft | ft | ft | sq ft | cu yd | ft | ft:ft | \$ |
| Noise Barrier NSA 10 | W | 14.00 | 14.00 | 14.00 | 1026 | 14358 | | | | 430729 |
| Noise barrier NSA9 | W | 14.00 | 14.00 | 14.00 | 2060 | 28846 | | | | 865366 |
| | | | | | | | | | Total Cost: | 1296095 |

| | |
|----------------|--------------|
| Lawhon & Assoc | 19 July 2022 |
| CCox | TNM 2.5 |

INPUT: BARRIERS

PROJECT/CONTRACT: FRA-SR161-15.80 PID 116322

RUN: Design Year Noise barriers 9 and 10

| Barrier | | | | | | | | | Points | | | | | | | | | | |
|----------------------|------|--------|-------|--------------------------------|--------------------------------|--------------|-------------------|----------------------------------|-----------|-----|----------------------|-----------|--------|-----------------------|---------|------------------------|---|---------------|--------------------------------|
| Name | Type | Height | | If Wall \$ per Unit Area | If Berm \$ per Unit Vol. | Top Width | Run:Rise ft:ft | Add'tnl \$ per Unit Length | Name | No. | Coordinates (bottom) | | | Height at Point | Segment | | | On Struct? | Important Reflec- tions? |
| | | Min | Max | | | | | | | | X | Y | Z | | Seg Ht | Perturbs #Up #Dn | | | |
| | | ft | ft | \$/sq ft | \$/cu yd | ft | ft:ft | \$/ft | | | ft | ft | ft | ft | ft | | | | |
| Noise barrier NSA9 | W | 5.00 | 99.99 | 30.00 | | | | 0.00 | Sta 0+00 | 37 | 1,876,342.0 | 762,175.0 | 983.00 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 0+80 | 64 | 1,876,263.0 | 762,162.2 | 983.26 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 1+60 | 61 | 1,876,184.0 | 762,149.4 | 983.52 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 3+20 | 62 | 1,876,026.1 | 762,123.9 | 984.04 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 4+80 | 63 | 1,875,868.1 | 762,098.4 | 984.56 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 6+14 | 38 | 1,875,736.0 | 762,077.0 | 985.00 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 7+34 | 36 | 1,875,623.0 | 762,035.5 | 982.00 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 12+44 | 20 | 1,875,131.0 | 761,903.5 | 981.00 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 16+44 | 65 | 1,874,759.5 | 761,755.1 | 982.89 | 14.00 | 1.00 | 0 | 0 | | |
| | | | | | | | | | Sta 20+04 | 66 | 1,874,431.6 | 761,606.4 | 980.39 | 14.00 | 1.00 | 0 | 0 | | |
| Noise Barrier NSA 10 | W | 5.00 | 99.99 | 30.00 | | | | 0.00 | Sta 0+00 | 46 | 1,877,186.0 | 762,132.0 | 994.00 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 0+40 | 67 | 1,877,146.6 | 762,124.7 | 993.80 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 0+80 | 68 | 1,877,107.2 | 762,117.3 | 993.59 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 1+96 | 50 | 1,876,993.0 | 762,096.0 | 993.00 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 5+16 | 69 | 1,876,673.0 | 762,099.8 | 992.07 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 5+76 | 52 | 1,876,614.0 | 762,100.0 | 992.00 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 7+96 | 53 | 1,876,395.0 | 762,104.0 | 991.00 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 9+14 | 70 | 1,876,276.1 | 762,087.6 | 988.92 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 10+26 | 54 | 1,876,166.0 | 762,072.5 | 987.00 | 14.00 | | | | | |

INPUT: RECEIVERS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|---------------------------|--|--|--|--|--|---------------------|--|--|--|--|--|
| Lawhon & Assoc | | | | | | 19 July 2022 | | | | | |
| CCox | | | | | | TNM 2.5 | | | | | |

INPUT: RECEIVERS

PROJECT/CONTRACT: FRA-SR161-15.80 PID 116322
RUN: Design Year Noise barriers 9 and 10

| Receiver | | | | | | | | | | | |
|-----------------|------------|-------------|-----------------------------|-----------|-----------|---------------|--|--------------------------|--------------|-------------|---------------|
| Name | No. | #DUs | Coordinates (ground) | | | Height | Input Sound Levels and Criteria | | | | Active |
| | | | X | Y | Z | above | Existing | Impact Criteria | | NR | in |
| | | | | | | Ground | L_{Aeq}1h | L_{Aeq}1h | Sub'l | Goal | Calc. |
| | | | ft | ft | ft | ft | dBA | dBA | dB | dB | |
| NSA9-1 | 1 | 1 | 1,874,418.0 | 762,017.0 | 980.00 | 4.92 | 62.40 | 66 | 10.0 | 5.0 | Y |
| NSA9-2 | 2 | 4 | 1,874,562.0 | 762,119.0 | 983.00 | 4.92 | 62.20 | 66 | 10.0 | 5.0 | Y |
| NSA9-3 | 3 | 4 | 1,874,708.0 | 762,109.0 | 986.00 | 4.92 | 63.80 | 66 | 10.0 | 5.0 | Y |
| NSA9-4 | 4 | 4 | 1,874,854.0 | 762,096.0 | 986.00 | 4.92 | 65.10 | 66 | 10.0 | 5.0 | Y |
| NSA9-5 | 5 | 4 | 1,874,998.0 | 762,084.0 | 987.00 | 4.92 | 67.10 | 66 | 10.0 | 5.0 | Y |
| NSA9-6 | 6 | 4 | 1,875,144.0 | 762,076.0 | 987.00 | 4.92 | 69.70 | 66 | 10.0 | 5.0 | Y |
| NSA9-7 | 7 | 4 | 1,874,724.0 | 762,302.0 | 985.00 | 4.92 | 58.80 | 66 | 10.0 | 5.0 | Y |
| NSA9-8 | 8 | 4 | 1,875,168.0 | 762,275.0 | 987.00 | 4.92 | 62.70 | 66 | 10.0 | 5.0 | Y |
| NSA9-9 | 9 | 4 | 1,875,345.0 | 762,275.0 | 989.00 | 4.92 | 65.00 | 66 | 10.0 | 5.0 | Y |
| NSA9-10 | 10 | 4 | 1,875,171.0 | 762,387.0 | 989.00 | 4.92 | 61.10 | 66 | 10.0 | 5.0 | Y |
| NSA9-11 | 11 | 4 | 1,875,310.0 | 762,391.0 | 990.00 | 4.92 | 62.10 | 66 | 10.0 | 5.0 | Y |
| NSA10-1 | 12 | 6 | 1,875,692.0 | 762,407.0 | 988.00 | 4.92 | 63.50 | 66 | 10.0 | 5.0 | Y |
| NSA10-2 | 13 | 6 | 1,875,687.0 | 762,467.0 | 988.00 | 4.92 | 62.10 | 66 | 10.0 | 5.0 | Y |
| NSA10-3 | 14 | 8 | 1,875,904.0 | 762,384.0 | 986.00 | 4.92 | 64.90 | 66 | 10.0 | 5.0 | Y |
| NSA10-4 | 15 | 8 | 1,875,894.0 | 762,491.0 | 987.00 | 4.92 | 62.40 | 66 | 10.0 | 5.0 | Y |
| NSA10-5 | 16 | 3 | 1,876,027.0 | 762,412.0 | 987.00 | 4.92 | 64.40 | 66 | 10.0 | 5.0 | Y |
| NSA10-6 | 17 | 4 | 1,876,017.0 | 762,492.0 | 987.00 | 4.92 | 62.70 | 66 | 10.0 | 5.0 | Y |
| NSA10-7 | 18 | 1 | 1,876,110.0 | 762,608.0 | 988.00 | 4.92 | 61.30 | 66 | 10.0 | 5.0 | Y |
| NSA101-8 | 19 | 1 | 1,876,150.0 | 762,566.0 | 988.00 | 4.92 | 62.00 | 66 | 10.0 | 5.0 | Y |
| NSA10-9 | 20 | 1 | 1,876,188.0 | 762,525.0 | 988.00 | 4.92 | 62.60 | 66 | 10.0 | 5.0 | Y |
| NSA10-10 | 21 | 1 | 1,876,233.0 | 762,485.0 | 988.00 | 4.92 | 63.40 | 66 | 10.0 | 5.0 | Y |
| NSA10-11 | 22 | 1 | 1,876,266.0 | 762,460.0 | 988.00 | 4.92 | 64.20 | 66 | 10.0 | 5.0 | Y |

INPUT: RECEIVERS**FRA-SR161-15.80 PID 116322**

| | | | | | | | | | | | |
|----------|----|---|-------------|-----------|--------|------|-------|----|------|-----|---|
| NSA10-12 | 23 | 1 | 1,876,312.0 | 762,455.0 | 987.00 | 4.92 | 64.40 | 66 | 10.0 | 5.0 | Y |
| NSA10-13 | 24 | 1 | 1,876,348.0 | 762,429.0 | 987.00 | 4.92 | 64.90 | 66 | 10.0 | 5.0 | Y |
| NSA10-14 | 25 | 1 | 1,876,348.0 | 762,567.0 | 987.00 | 4.92 | 62.20 | 66 | 10.0 | 5.0 | Y |
| NSA10-15 | 26 | 1 | 1,876,396.0 | 762,551.0 | 988.00 | 4.92 | 62.60 | 66 | 10.0 | 5.0 | Y |
| NSA10-16 | 27 | 1 | 1,876,569.0 | 762,528.0 | 989.00 | 4.92 | 63.10 | 66 | 10.0 | 5.0 | Y |
| NSA10-17 | 28 | 1 | 1,876,584.0 | 762,589.0 | 989.00 | 4.92 | 62.20 | 66 | 10.0 | 5.0 | Y |
| NSA10-18 | 29 | 1 | 1,876,592.0 | 762,635.0 | 989.00 | 4.92 | 61.40 | 66 | 10.0 | 5.0 | Y |

| Lawhon & Assoc CCox | | | | 19 July 2022 TNM 2.5 | | | | | | | |
|--------------------------------|-------|-------------|-----|--|-----------|----------|---|------------------|---------------------------|-----------|------------|
| INPUT: ROADWAYS | | | | PROJECT/CONTRACT: FRA-SR161-15.80 PID 116322 | | | Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA | | | | |
| RUN: Design Year | | | | Noise barriers 9 and 10 | | | | | | | |
| Roadway Name | Width | Points Name | No. | Coordinates (pavement) | | | Flow Control | | | Segment | |
| | | | | X | Y | Z | Control Device | Speed Constraint | Percent Vehicles Affected | Pvmt Type | On Struct? |
| | ft | | | ft | ft | ft | | mph | % | | |
| SR161 outside shoulder P WB1 c | 10.0 | point71 | 71 | 1,876,058.0 | 762,052.5 | 987.00 | | | | Average | |
| | | point69 | 69 | 1,875,623.0 | 761,991.5 | 982.00 | | | | Average | |
| | | point68 | 68 | 1,875,131.0 | 761,859.5 | 978.00 | | | | Average | |
| | | point248 | 248 | 1,874,738.0 | 761,702.5 | 975.00 | | | | Average | |
| | | point67 | 67 | 1,874,081.0 | 761,397.5 | 972.00 | | | | | |
| SR161 P WB2 c | 12.0 | point65 | 65 | 1,879,435.0 | 761,858.5 | 1,010.00 | | | | Average | |
| | | point64 | 64 | 1,877,950.0 | 761,950.5 | 1,001.00 | | | | Average | |
| | | point63 | 63 | 1,877,210.0 | 761,996.5 | 994.00 | | | | Average | |
| | | point62 | 62 | 1,876,470.0 | 762,042.5 | 991.00 | | | | Average | |
| | | point61 | 61 | 1,876,058.0 | 762,028.5 | 987.00 | | | | | |
| SR 161 P WB1 b | 12.0 | point54 | 54 | 1,879,435.0 | 761,870.5 | 1,010.00 | | | | Average | |
| | | point53 | 53 | 1,877,950.0 | 761,962.5 | 1,001.00 | | | | Average | |
| | | point52 | 52 | 1,877,210.0 | 762,008.5 | 994.00 | | | | Average | |
| | | point51 | 51 | 1,876,470.0 | 762,054.5 | 991.00 | | | | Average | |
| | | point49 | 49 | 1,876,058.0 | 762,040.5 | 987.00 | | | | | |
| HarLem Road | 12.0 | point124 | 124 | 1,874,538.0 | 760,192.0 | 974.00 | | | | Average | |
| | | point120 | 120 | 1,874,360.0 | 761,378.0 | 993.00 | | | | Average | Y |
| | | point121 | 121 | 1,874,330.0 | 761,634.0 | 993.00 | | | | Average | |
| | | point122 | 122 | 1,874,297.0 | 762,017.0 | 984.00 | | | | Average | |
| | | point123 | 123 | 1,874,263.0 | 762,332.0 | 981.00 | | | | | |
| New Albany Road NB | 24.0 | point125 | 125 | 1,878,008.0 | 760,827.0 | 998.00 | | | | Average | |
| | | point126 | 126 | 1,878,049.0 | 761,502.0 | 1,012.00 | | | | Average | |
| | | point127 | 127 | 1,878,063.0 | 761,817.0 | 1,022.00 | | | | Average | Y |
| | | point128 | 128 | 1,878,077.0 | 762,064.0 | 1,024.00 | | | | Average | |
| | | point129 | 129 | 1,878,095.0 | 762,373.0 | 1,019.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|------------------------------------|------|----------|-----|-------------|-----------|----------|--------|------|-----|---------|---|
| | | point130 | 130 | 1,878,126.0 | 763,174.0 | 1,006.00 | | | | | |
| New Albany Road SB | 12.0 | point136 | 136 | 1,878,086.0 | 763,174.0 | 1,006.00 | | | | Average | |
| | | point135 | 135 | 1,878,060.0 | 762,373.0 | 1,019.00 | | | | Average | |
| | | point134 | 134 | 1,878,044.0 | 762,064.0 | 1,024.00 | | | | Average | Y |
| | | point133 | 133 | 1,878,029.0 | 761,817.0 | 1,022.00 | | | | Average | |
| | | point132 | 132 | 1,878,014.0 | 761,502.0 | 1,012.00 | | | | Average | |
| | | point131 | 131 | 1,877,984.0 | 760,827.0 | 998.00 | | | | | |
| Entrance ramp New Albany to SR161W | 12.0 | point152 | 152 | 1,878,060.0 | 762,373.0 | 1,019.00 | Onramp | 0.00 | 100 | Average | |
| | | point153 | 153 | 1,877,800.0 | 762,356.0 | 1,012.00 | | | | Average | |
| | | point154 | 154 | 1,877,646.0 | 762,325.0 | 1,008.00 | | | | Average | |
| | | point155 | 155 | 1,877,399.0 | 762,207.0 | 999.00 | | | | Average | |
| | | point156 | 156 | 1,877,186.0 | 762,110.0 | 994.00 | | | | Average | |
| | | point157 | 157 | 1,876,993.0 | 762,074.0 | 993.00 | | | | Average | |
| | | point158 | 158 | 1,876,650.0 | 762,078.0 | 992.00 | | | | Average | |
| | | point159 | 159 | 1,876,395.0 | 762,082.0 | 991.00 | | | | Average | |
| | | point160 | 160 | 1,876,058.0 | 762,040.5 | 987.00 | | | | | |
| Exit ramp SR 161 EB to New Albany | 12.0 | point167 | 167 | 1,876,470.0 | 761,951.0 | 990.00 | Stop | 0.00 | 100 | Average | |
| | | point166 | 166 | 1,876,943.0 | 761,913.0 | 993.00 | | | | Average | |
| | | point161 | 161 | 1,877,119.0 | 761,862.0 | 993.00 | | | | Average | |
| | | point162 | 162 | 1,877,319.0 | 761,739.0 | 996.00 | | | | Average | |
| | | point163 | 163 | 1,877,519.0 | 761,623.0 | 1,001.00 | | | | Average | |
| | | point164 | 164 | 1,877,719.0 | 761,555.0 | 1,006.00 | | | | Average | |
| | | point165 | 165 | 1,878,014.0 | 761,502.0 | 1,012.00 | | | | | |
| SR 161 P EB 4 b | 12.0 | point185 | 185 | 1,872,909.0 | 760,781.5 | 968.00 | | | | Average | |
| | | point191 | 191 | 1,874,083.0 | 761,311.5 | 970.00 | | | | Average | |
| | | point115 | 115 | 1,874,306.0 | 761,414.5 | 972.00 | | | | | |
| SR161 P EB 3 b | 10.0 | point186 | 186 | 1,872,909.0 | 760,770.5 | 968.00 | | | | Average | |
| | | point193 | 193 | 1,874,083.0 | 761,300.5 | 970.00 | | | | Average | |
| | | point105 | 105 | 1,874,306.0 | 761,402.5 | 972.00 | | | | | |
| SR 161 P EB 2 b | 12.0 | point187 | 187 | 1,872,909.0 | 760,759.5 | 968.00 | | | | Average | |
| | | point192 | 192 | 1,874,083.0 | 761,288.5 | 970.00 | | | | Average | |
| | | point95 | 95 | 1,874,306.0 | 761,390.5 | 972.00 | | | | | |
| SR 161 P EB 4 c | 12.0 | point197 | 197 | 1,874,306.0 | 761,414.5 | 972.00 | | | | Average | |
| | | point205 | 205 | 1,874,738.0 | 761,617.5 | 974.00 | | | | Average | |
| | | point116 | 116 | 1,875,131.0 | 761,769.5 | 976.00 | | | | Average | |
| | | point117 | 117 | 1,875,623.0 | 761,900.5 | 982.00 | | | | Average | |
| | | point119 | 119 | 1,876,058.0 | 761,961.5 | 987.00 | | | | Average | |
| | | point138 | 138 | 1,876,470.0 | 761,975.0 | 990.00 | | | | | |
| SR161 P EB 3 c | 12.0 | point198 | 198 | 1,874,306.0 | 761,402.5 | 972.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | |
|----------------------------------|------|----------|-----|-------------|-----------|----------|--|--|--|---------|
| | | point206 | 206 | 1,874,738.0 | 761,605.5 | 974.00 | | | | Average |
| | | point106 | 106 | 1,875,131.0 | 761,757.5 | 976.00 | | | | Average |
| | | point107 | 107 | 1,875,623.0 | 761,888.5 | 982.00 | | | | Average |
| | | point109 | 109 | 1,876,058.0 | 761,949.5 | 987.00 | | | | Average |
| | | point143 | 143 | 1,876,470.0 | 761,963.0 | 990.00 | | | | |
| SR 161 P EB 2 c | 12.0 | point199 | 199 | 1,874,306.0 | 761,390.5 | 972.00 | | | | Average |
| | | point207 | 207 | 1,874,738.0 | 761,593.5 | 974.00 | | | | Average |
| | | point96 | 96 | 1,875,131.0 | 761,745.5 | 976.00 | | | | Average |
| | | point97 | 97 | 1,875,623.0 | 761,876.5 | 982.00 | | | | Average |
| | | point99 | 99 | 1,876,058.0 | 761,937.5 | 987.00 | | | | Average |
| | | point148 | 148 | 1,876,470.0 | 761,951.0 | 990.00 | | | | |
| SR 166 P WB inside shoulder | 10.0 | point221 | 221 | 1,879,435.0 | 761,835.5 | 1,010.00 | | | | Average |
| | | point222 | 222 | 1,877,950.0 | 761,927.5 | 1,001.00 | | | | Average |
| | | point227 | 227 | 1,877,210.0 | 761,973.5 | 994.00 | | | | Average |
| | | point228 | 228 | 1,876,470.0 | 762,019.5 | 991.00 | | | | Average |
| | | point229 | 229 | 1,876,058.0 | 762,005.5 | 987.00 | | | | Average |
| | | point239 | 239 | 1,875,623.0 | 761,944.5 | 982.00 | | | | Average |
| | | point240 | 240 | 1,875,131.0 | 761,813.5 | 978.00 | | | | Average |
| | | point242 | 242 | 1,874,738.0 | 761,656.5 | 975.00 | | | | Average |
| | | point243 | 243 | 1,874,083.0 | 761,351.5 | 970.00 | | | | |
| SR 161 P WB3 c | 12.0 | point223 | 223 | 1,879,435.0 | 761,846.5 | 1,010.00 | | | | Average |
| | | point224 | 224 | 1,877,950.0 | 761,938.5 | 1,001.00 | | | | Average |
| | | point231 | 231 | 1,877,210.0 | 761,984.5 | 994.00 | | | | Average |
| | | point232 | 232 | 1,876,470.0 | 762,030.5 | 991.00 | | | | Average |
| | | point233 | 233 | 1,876,058.0 | 762,016.5 | 987.00 | | | | |
| SR 161 P WB Outside shoulder | 10.0 | point225 | 225 | 1,879,435.0 | 761,881.5 | 1,010.00 | | | | Average |
| | | point226 | 226 | 1,877,950.0 | 761,973.5 | 1,001.00 | | | | Average |
| | | point235 | 235 | 1,877,210.0 | 762,019.5 | 994.00 | | | | Average |
| | | point236 | 236 | 1,876,470.0 | 762,065.5 | 991.00 | | | | Average |
| | | point237 | 237 | 1,876,395.0 | 762,065.0 | 991.00 | | | | |
| SR161 P WB1 b | 12.0 | point249 | 249 | 1,874,081.0 | 761,386.5 | 972.00 | | | | Average |
| | | point55 | 55 | 1,872,909.0 | 760,855.5 | 969.00 | | | | Average |
| | | point42 | 42 | 1,871,705.0 | 760,277.5 | 965.00 | | | | |
| SR 161 P WB2 b | 12.0 | point250 | 250 | 1,874,081.0 | 761,374.5 | 972.00 | | | | Average |
| | | point44 | 44 | 1,872,909.0 | 760,843.5 | 969.00 | | | | Average |
| | | point41 | 41 | 1,871,705.0 | 760,265.5 | 965.00 | | | | |
| SR161 outside shoulder P WB1 c-2 | 10.0 | point251 | 251 | 1,874,081.0 | 761,397.5 | 972.00 | | | | Average |
| | | point66 | 66 | 1,872,909.0 | 760,867.5 | 969.00 | | | | Average |
| | | point43 | 43 | 1,871,705.0 | 760,288.5 | 965.00 | | | | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | |
|----------------------------------|------|----------|-----|-------------|-----------|----------|--|--|--|---------|
| SR 161 P WB inside shoulder b | 10.0 | point252 | 252 | 1,874,083.0 | 761,351.5 | 970.00 | | | | Average |
| | | point253 | 253 | 1,872,909.0 | 760,820.5 | 968.00 | | | | Average |
| | | point254 | 254 | 1,871,705.0 | 760,242.5 | 965.00 | | | | |
| SR 161 P WB3 c-2 | 12.0 | point257 | 257 | 1,874,081.0 | 761,362.5 | 970.00 | | | | Average |
| | | point255 | 255 | 1,872,909.0 | 760,831.5 | 968.00 | | | | Average |
| | | point256 | 256 | 1,871,705.0 | 760,253.5 | 965.00 | | | | |
| SR 161 P EB 2 c-2 | 12.0 | point276 | 276 | 1,876,470.0 | 761,951.0 | 990.00 | | | | Average |
| | | point149 | 149 | 1,877,210.0 | 761,905.5 | 994.00 | | | | Average |
| | | point150 | 150 | 1,877,950.0 | 761,859.5 | 1,001.00 | | | | Average |
| | | point151 | 151 | 1,879,435.0 | 761,765.5 | 1,010.00 | | | | |
| SR161 P EB 3 c-2 | 12.0 | point277 | 277 | 1,876,470.0 | 761,963.0 | 990.00 | | | | Average |
| | | point219 | 219 | 1,877,210.0 | 761,917.5 | 994.00 | | | | Average |
| | | point218 | 218 | 1,877,950.0 | 761,871.5 | 1,001.00 | | | | Average |
| | | point146 | 146 | 1,879,435.0 | 761,777.5 | 1,010.00 | | | | |
| SR 161 P EB 4 c-2 | 12.0 | point278 | 278 | 1,876,470.0 | 761,975.0 | 990.00 | | | | Average |
| | | point139 | 139 | 1,877,210.0 | 761,929.5 | 994.00 | | | | Average |
| | | point140 | 140 | 1,877,950.0 | 761,883.5 | 1,001.00 | | | | Average |
| | | point141 | 141 | 1,879,435.0 | 761,789.5 | 1,010.00 | | | | |
| SR 161 P WB1 b-2 | 12.0 | point279 | 279 | 1,876,058.0 | 762,040.5 | 987.00 | | | | Average |
| | | point47 | 47 | 1,875,623.0 | 761,980.5 | 982.00 | | | | Average |
| | | point46 | 46 | 1,875,131.0 | 761,848.5 | 978.00 | | | | Average |
| | | point247 | 247 | 1,874,738.0 | 761,691.5 | 975.00 | | | | Average |
| | | point45 | 45 | 1,874,081.0 | 761,386.5 | 972.00 | | | | |
| SR161 P WB2 c-2 | 12.0 | point280 | 280 | 1,876,058.0 | 762,028.5 | 987.00 | | | | Average |
| | | point58 | 58 | 1,875,623.0 | 761,968.5 | 982.00 | | | | Average |
| | | point57 | 57 | 1,875,131.0 | 761,836.5 | 978.00 | | | | Average |
| | | point246 | 246 | 1,874,738.0 | 761,679.5 | 975.00 | | | | Average |
| | | point56 | 56 | 1,874,081.0 | 761,374.5 | 972.00 | | | | |
| SR 161 P WB3 c-2 | 12.0 | point281 | 281 | 1,876,058.0 | 762,016.5 | 987.00 | | | | Average |
| | | point234 | 234 | 1,875,623.0 | 761,956.5 | 982.00 | | | | Average |
| | | point241 | 241 | 1,875,131.0 | 761,824.5 | 978.00 | | | | Average |
| | | point244 | 244 | 1,874,738.0 | 761,667.5 | 975.00 | | | | Average |
| | | point245 | 245 | 1,874,081.0 | 761,362.5 | 970.00 | | | | |
| SR 161 P EB outside shoulder b-2 | 10.0 | point290 | 290 | 1,871,705.0 | 760,172.0 | 965.00 | | | | Average |
| | | point190 | 190 | 1,872,909.0 | 760,737.0 | 968.00 | | | | Average |
| | | point196 | 196 | 1,874,083.0 | 761,265.5 | 970.00 | | | | Average |
| | | point202 | 202 | 1,874,306.0 | 761,379.5 | 972.00 | | | | Average |
| | | point208 | 208 | 1,874,738.0 | 761,582.5 | 974.00 | | | | Average |
| | | point209 | 209 | 1,875,131.0 | 761,734.5 | 976.00 | | | | Average |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|---------------------------------|------|----------|-----|-------------|-----------|----------|--|--|--|---------|--|
| | | point211 | 211 | 1,875,623.0 | 761,865.5 | 982.00 | | | | Average | |
| | | point213 | 213 | 1,876,058.0 | 761,926.5 | 987.00 | | | | Average | |
| | | point216 | 216 | 1,876,470.0 | 761,940.0 | 990.00 | | | | | |
| SR 161 P EB 1 b-2-2 | 12.0 | point291 | 291 | 1,871,705.0 | 760,183.5 | 965.00 | | | | Average | |
| | | point189 | 189 | 1,872,909.0 | 760,748.5 | 968.00 | | | | Average | |
| | | point195 | 195 | 1,874,083.0 | 761,276.5 | 970.00 | | | | Average | |
| | | point201 | 201 | 1,874,306.0 | 761,390.5 | 972.00 | | | | | |
| SR161 P EB 3 a-2-2 | 12.0 | point293 | 293 | 1,871,705.0 | 760,207.5 | 965.00 | | | | Average | |
| | | point104 | 104 | 1,872,909.0 | 760,770.5 | 968.00 | | | | | |
| SR 161 P EB 4 a-2-2 | 12.0 | point294 | 294 | 1,871,705.0 | 760,219.5 | 965.00 | | | | Average | |
| | | point114 | 114 | 1,872,909.0 | 760,781.5 | 968.00 | | | | | |
| SR 161 P EB inside shoulder a-2 | 10.0 | point295 | 295 | 1,871,705.0 | 760,230.5 | 965.00 | | | | Average | |
| | | point188 | 188 | 1,872,909.0 | 760,792.5 | 968.00 | | | | Average | |
| | | point194 | 194 | 1,874,083.0 | 761,322.5 | 970.00 | | | | Average | |
| | | point200 | 200 | 1,874,306.0 | 761,425.5 | 972.00 | | | | Average | |
| | | point203 | 203 | 1,874,738.0 | 761,628.5 | 974.00 | | | | Average | |
| | | point204 | 204 | 1,875,131.0 | 761,780.5 | 976.00 | | | | Average | |
| | | point210 | 210 | 1,875,623.0 | 761,911.5 | 982.00 | | | | Average | |
| | | point212 | 212 | 1,876,058.0 | 761,972.5 | 987.00 | | | | Average | |
| | | point214 | 214 | 1,876,470.0 | 761,986.0 | 990.00 | | | | Average | |
| | | point215 | 215 | 1,877,210.0 | 761,940.5 | 994.00 | | | | Average | |
| | | point217 | 217 | 1,877,950.0 | 761,894.5 | 1,001.00 | | | | Average | |
| | | point220 | 220 | 1,879,435.0 | 761,801.5 | 1,010.00 | | | | | |

| | | | | | | | | | | | | | |
|-----------------------------------|------------------------------------|-----|---------|-----|---------|-----|---------|-----|--------|-----|-------------|-----|---|
| Lawhon & Assoc | | | | | | | | | | | | | |
| CCox | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| INPUT: TRAFFIC FOR LAeq1h Volumes | | | | | | | | | | | | | |
| PROJECT/CONTRACT: | FRA-SR161-15.80 PID 116322 | | | | | | | | | | | | |
| RUN: | Design YearNoise barriers 9 and 10 | | | | | | | | | | | | |
| Roadway | Points | | | | | | | | | | | | |
| Name | Name | No. | Segment | | | | | | | | | | |
| | | | Autos | | MTrucks | | HTrucks | | Buses | | Motorcycles | | |
| | | | V | S | V | S | V | S | V | S | V | S | |
| | | | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | |
| SR161 outside shoulder P WB1 c | point71 | 71 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point69 | 69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point68 | 68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point248 | 248 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point67 | 67 | | | | | | | | | | | |
| SR161 P WB2 c | point65 | 65 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 | 0 |
| | point64 | 64 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 | 0 |
| | point63 | 63 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 | 0 |
| | point62 | 62 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 | 0 |
| | point61 | 61 | | | | | | | | | | | |
| SR 161 P WB1 b | point54 | 54 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 | 0 |
| | point53 | 53 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 | 0 |
| | point52 | 52 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 | 0 |
| | point51 | 51 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 | 0 |
| | point49 | 49 | | | | | | | | | | | |
| HarLem Road | point124 | 124 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point120 | 120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point121 | 121 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point122 | 122 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point123 | 123 | | | | | | | | | | | |
| New Albany Road NB | point125 | 125 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point126 | 126 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point127 | 127 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|------------------------------------|----------|-----|------|----|----|----|-----|----|---|---|---|---|
| | point128 | 128 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point129 | 129 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point130 | 130 | | | | | | | | | | |
| New Albany Road SB | point136 | 136 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point135 | 135 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point134 | 134 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point133 | 133 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point132 | 132 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point131 | 131 | | | | | | | | | | |
| Entrance ramp New Albany to SR161W | point152 | 152 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point153 | 153 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point154 | 154 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point155 | 155 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point156 | 156 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point157 | 157 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point158 | 158 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point159 | 159 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point160 | 160 | | | | | | | | | | |
| Exit ramp SR 161 EB to New Albany | point167 | 167 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point166 | 166 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point161 | 161 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point162 | 162 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point163 | 163 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point164 | 164 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point165 | 165 | | | | | | | | | | |
| SR 161 P EB 4 b | point185 | 185 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point191 | 191 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point115 | 115 | | | | | | | | | | |
| SR161 P EB 3 b | point186 | 186 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point193 | 193 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point105 | 105 | | | | | | | | | | |
| SR 161 P EB 2 b | point187 | 187 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point192 | 192 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point95 | 95 | | | | | | | | | | |
| SR 161 P EB 4 c | point197 | 197 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point205 | 205 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|------------------------------|----------|-----|------|----|----|----|-----|----|---|---|---|---|
| | point116 | 116 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point117 | 117 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point119 | 119 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point138 | 138 | | | | | | | | | | |
| SR161 P EB 3 c | point198 | 198 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point206 | 206 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point106 | 106 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point107 | 107 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point109 | 109 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point143 | 143 | | | | | | | | | | |
| SR 161 P EB 2 c | point199 | 199 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point207 | 207 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point96 | 96 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point97 | 97 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point99 | 99 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point148 | 148 | | | | | | | | | | |
| SR 166 P WB inside shoulder | point221 | 221 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point222 | 222 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point227 | 227 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point228 | 228 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point229 | 229 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point239 | 239 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point240 | 240 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point242 | 242 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point243 | 243 | | | | | | | | | | |
| SR 161 P WB3 c | point223 | 223 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |
| | point224 | 224 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |
| | point231 | 231 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |
| | point232 | 232 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |
| | point233 | 233 | | | | | | | | | | |
| SR 161 P WB Outside shoulder | point225 | 225 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point226 | 226 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point235 | 235 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point236 | 236 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point237 | 237 | | | | | | | | | | |
| SR161 P WB1 b | point249 | 249 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

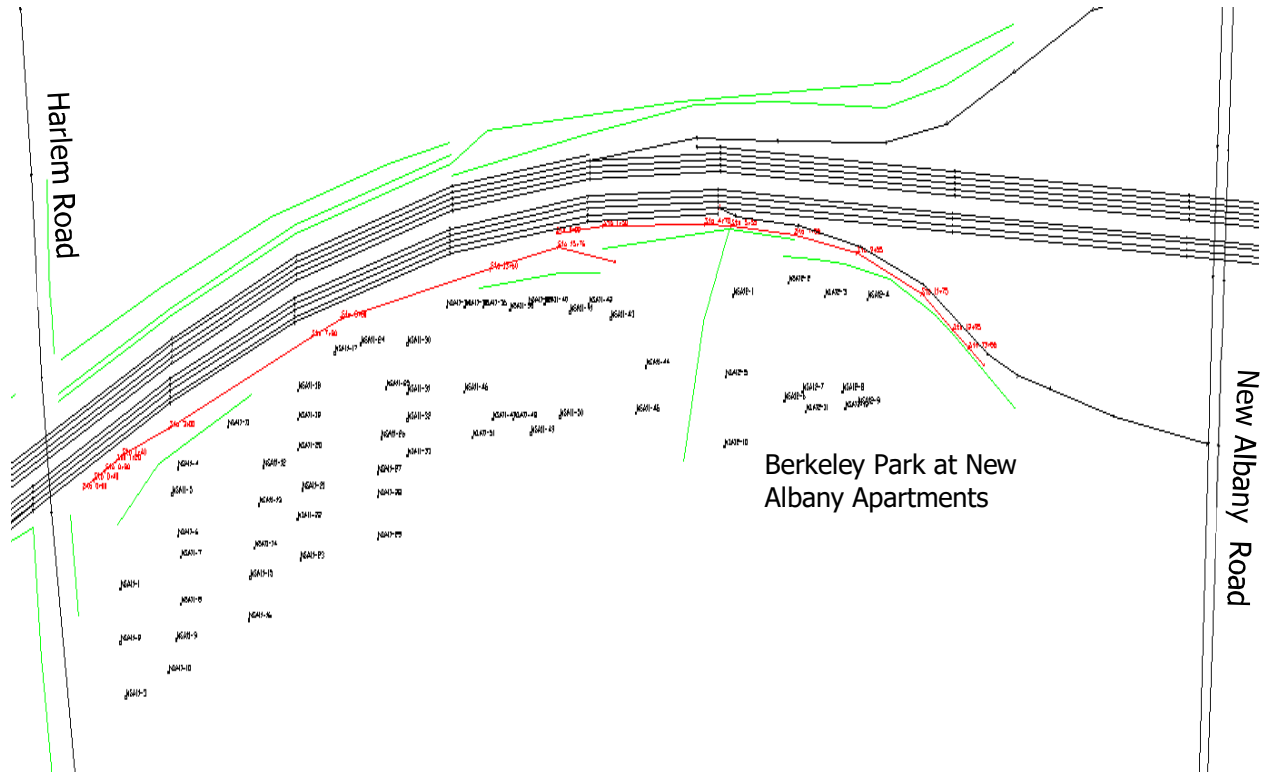
| | | | | | | | | | | | | |
|----------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point55 | 55 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point42 | 42 | | | | | | | | | | |
| SR 161 P WB2 b | point250 | 250 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point44 | 44 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point41 | 41 | | | | | | | | | | |
| SR161 outside shoulder P WB1 c-2 | point251 | 251 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point66 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point43 | 43 | | | | | | | | | | |
| SR 161 P WB inside shoulder b | point252 | 252 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point253 | 253 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point254 | 254 | | | | | | | | | | |
| SR 161 P WB3 c-2 | point257 | 257 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point255 | 255 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point256 | 256 | | | | | | | | | | |
| SR 161 P EB 2 c-2 | point276 | 276 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point149 | 149 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point150 | 150 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point151 | 151 | | | | | | | | | | |
| SR161 P EB 3 c-2 | point277 | 277 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point219 | 219 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point218 | 218 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point146 | 146 | | | | | | | | | | |
| SR 161 P EB 4 c-2 | point278 | 278 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point139 | 139 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point140 | 140 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point141 | 141 | | | | | | | | | | |
| SR 161 P WB1 b-2 | point279 | 279 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point47 | 47 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point46 | 46 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point247 | 247 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point45 | 45 | | | | | | | | | | |
| SR161 P WB2 c-2 | point280 | 280 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point58 | 58 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point57 | 57 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point246 | 246 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point56 | 56 | | | | | | | | | | |

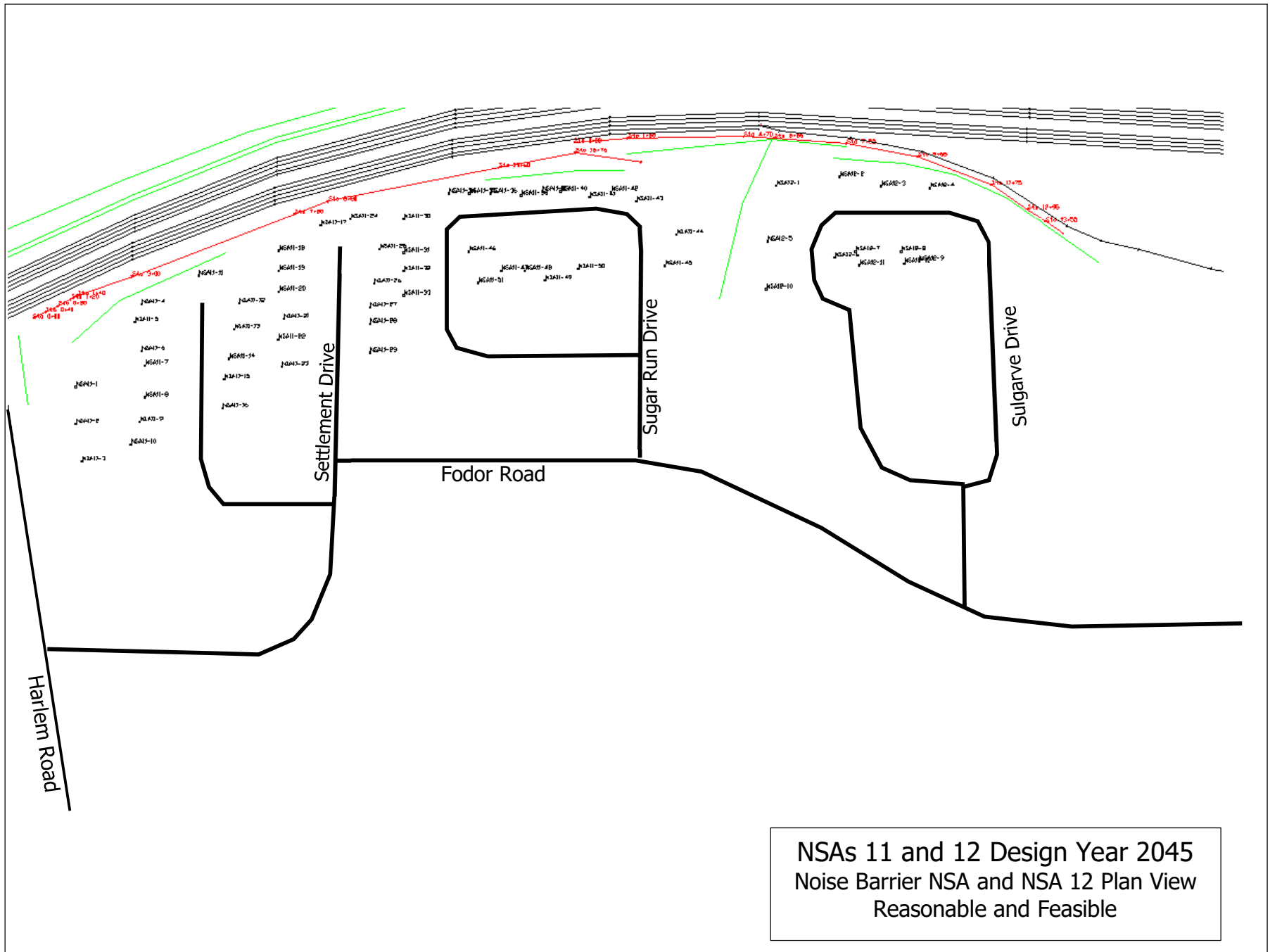
INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|----------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| SR 161 P WB3 c-2 | point281 | 281 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point234 | 234 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point241 | 241 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point244 | 244 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point245 | 245 | | | | | | | | | | |
| SR 161 P EB outside shoulder b-2 | point290 | 290 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point190 | 190 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point196 | 196 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point202 | 202 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point208 | 208 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point209 | 209 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point211 | 211 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point213 | 213 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point216 | 216 | | | | | | | | | | |
| SR 161 P EB 1 b-2-2 | point291 | 291 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point189 | 189 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point195 | 195 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point201 | 201 | | | | | | | | | | |
| SR161 P EB 3 a-2-2 | point293 | 293 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point104 | 104 | | | | | | | | | | |
| SR 161 P EB 4 a-2-2 | point294 | 294 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point114 | 114 | | | | | | | | | | |
| SR 161 P EB inside shoulder a-2 | point295 | 295 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point188 | 188 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point194 | 194 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point200 | 200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point203 | 203 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point204 | 204 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point210 | 210 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point212 | 212 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point214 | 214 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point215 | 215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point217 | 217 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point220 | 220 | | | | | | | | | | |

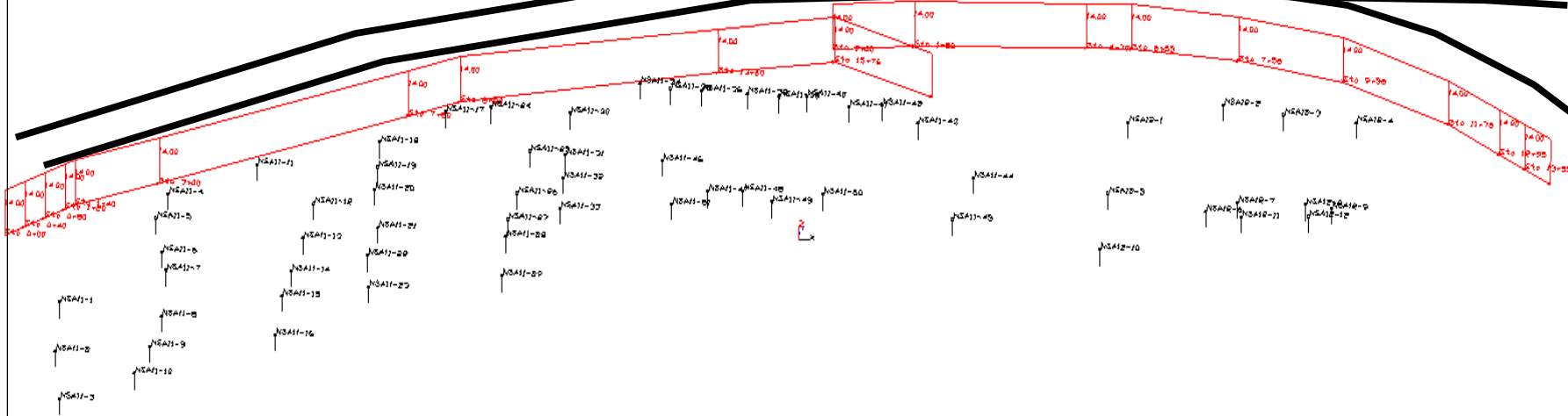
NSAs 11 and 12





NSAs 11 and 12 Design Year 2045
 Noise Barrier NSA and NSA 12 Plan View
 Reasonable and Feasible

SR 161



NSA 11 and 12 Design Year 2045
Noise Barrier NSA 11 and NSA 12
Reasonable and Feasible

RESULTS: SOUND LEVELS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | | |
|-------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Lawhon & Assoc. CCox | | | | | | | | | 19 July 2022 TNM 2.5 Calculated with TNM 2.5 | | | | |
|-------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|

RESULTS: SOUND LEVELS

| | | | | | | | | | | | | | |
|-------------------|-------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|
| PROJECT/CONTRACT: | FRA-SR161-15.80 PID 116322 | | | | | | | | | | | | |
| RUN: | Design Year Noise Barriers NSA11 12 | | | | | | | | | | | | |
| BARRIER DESIGN: | NSA11 and NSA12 at 14' | | | | | | | | | | Average pavement type shall be used unless a State highway agency substantiates the use of a different type with approval of FHWA. | | |
| ATMOSPHERICS: | 68 deg F, 50% RH | | | | | | | | | | | | |

| Receiver | | | | | | | | | | | | | |
|----------|-----|------|---------------------|---------------------|--------|------------|--------|------------------------|---------------------|--------------|-----------------|------------|------------|
| Name | No. | #DUs | Existing | | | No Barrier | | | Type | With Barrier | | | |
| | | | L _{Aeq} 1h | L _{Aeq} 1h | Crit'n | Calculated | Crit'n | Increase over existing | | Calculated | Noise Reduction | | |
| | | | | | | | | Impact | L _{Aeq} 1h | Calculated | Goal | Calculated | |
| | | | dB | dB | dB | dB | dB | | dB | dB | dB | dB | minus Goal |
| NSA11-1 | 30 | 1 | 65.5 | 63.9 | 66 | -1.6 | 10 | ---- | 63.9 | 0.0 | 5 | -5.0 | |
| NSA11-2 | 31 | 1 | 62.3 | 60.7 | 66 | -1.6 | 10 | ---- | 60.6 | 0.1 | 5 | -4.9 | |
| NSA11-3 | 32 | 1 | 59.9 | 58.4 | 66 | -1.5 | 10 | ---- | 58.3 | 0.1 | 5 | -4.9 | |
| NSA11-4 | 33 | 1 | 73.3 | 64.5 | 66 | -8.8 | 10 | ---- | 64.5 | 0.0 | 5 | -5.0 | |
| NSA11-5 | 34 | 1 | 70.9 | 63.8 | 66 | -7.1 | 10 | ---- | 63.8 | 0.0 | 5 | -5.0 | |
| NSA11-6 | 35 | 1 | 67.2 | 62.4 | 66 | -4.8 | 10 | ---- | 62.4 | 0.0 | 5 | -5.0 | |
| NSA11-7 | 36 | 1 | 65.7 | 61.5 | 66 | -4.2 | 10 | ---- | 61.5 | 0.0 | 5 | -5.0 | |
| NSA11-8 | 37 | 1 | 63.2 | 59.9 | 66 | -3.3 | 10 | ---- | 59.8 | 0.1 | 5 | -4.9 | |
| NSA11-9 | 38 | 1 | 61.8 | 59.1 | 66 | -2.7 | 10 | ---- | 59.0 | 0.1 | 5 | -4.9 | |
| NSA11-10 | 39 | 1 | 60.7 | 58.4 | 66 | -2.3 | 10 | ---- | 58.3 | 0.1 | 5 | -4.9 | |
| NSA11-11 | 40 | 1 | 75.1 | 64.4 | 66 | -10.7 | 10 | ---- | 64.4 | 0.0 | 5 | -5.0 | |
| NSA11-12 | 41 | 1 | 68.1 | 61.5 | 66 | -6.6 | 10 | ---- | 61.4 | 0.1 | 5 | -4.9 | |
| NSA11-13 | 42 | 1 | 65.9 | 60.3 | 66 | -5.6 | 10 | ---- | 60.2 | 0.1 | 5 | -4.9 | |
| NSA11-14 | 43 | 1 | 63.9 | 59.3 | 66 | -4.6 | 10 | ---- | 59.1 | 0.2 | 5 | -4.8 | |
| NSA11-15 | 44 | 1 | 62.8 | 58.7 | 66 | -4.1 | 10 | ---- | 58.5 | 0.2 | 5 | -4.8 | |
| NSA11-16 | 45 | 1 | 61.3 | 57.7 | 66 | -3.6 | 10 | ---- | 57.5 | 0.2 | 5 | -4.8 | |
| NSA11-17 | 46 | 1 | 75.8 | 64.7 | 66 | -11.1 | 10 | ---- | 64.6 | 0.1 | 5 | -4.9 | |
| NSA11-18 | 47 | 1 | 73.5 | 63.7 | 66 | -9.8 | 10 | ---- | 63.6 | 0.1 | 5 | -4.9 | |
| NSA11-19 | 48 | 1 | 69.9 | 62.5 | 66 | -7.4 | 10 | ---- | 62.4 | 0.1 | 5 | -4.9 | |
| NSA11-20 | 49 | 1 | 67.7 | 61.6 | 66 | -6.1 | 10 | ---- | 61.4 | 0.2 | 5 | -4.8 | |
| NSA11-21 | 50 | 1 | 65.3 | 60.0 | 66 | -5.3 | 10 | ---- | 59.8 | 0.2 | 5 | -4.8 | |
| NSA11-22 | 51 | 1 | 64.0 | 59.1 | 66 | -4.9 | 10 | ---- | 58.9 | 0.2 | 5 | -4.8 | |
| NSA11-23 | 52 | 1 | 62.4 | 58.2 | 66 | -4.2 | 10 | ---- | 57.9 | 0.3 | 5 | -4.7 | |
| NSA11-24 | 53 | 1 | 74.2 | 64.5 | 66 | -9.7 | 10 | ---- | 64.4 | 0.1 | 5 | -4.9 | |

RESULTS: SOUND LEVELS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|-----------------------|----|--------------|------------------------|------------|------------|------|----|---------|------|-----|---|------|
| NSA11-25 | 54 | 1 | 68.7 | 62.2 | 66 | -6.5 | 10 | ---- | 61.9 | 0.3 | 5 | -4.7 |
| NSA11-26 | 55 | 1 | 65.7 | 60.7 | 66 | -5.0 | 10 | ---- | 60.2 | 0.5 | 5 | -4.5 |
| NSA11-27 | 56 | 1 | 64.2 | 59.9 | 66 | -4.3 | 10 | ---- | 59.4 | 0.5 | 5 | -4.5 |
| NSA11-28 | 57 | 1 | 63.2 | 59.4 | 66 | -3.8 | 10 | ---- | 58.9 | 0.5 | 5 | -4.5 |
| NSA11-29 | 58 | 1 | 61.8 | 58.2 | 66 | -3.6 | 10 | ---- | 57.5 | 0.7 | 5 | -4.3 |
| NSA11-30 | 59 | 1 | 71.7 | 63.8 | 66 | -7.9 | 10 | ---- | 63.5 | 0.3 | 5 | -4.7 |
| NSA11-31 | 60 | 1 | 67.7 | 62.1 | 66 | -5.6 | 10 | ---- | 61.6 | 0.5 | 5 | -4.5 |
| NSA11-32 | 61 | 1 | 66.0 | 61.3 | 66 | -4.7 | 10 | ---- | 60.7 | 0.6 | 5 | -4.4 |
| NSA11-33 | 62 | 1 | 64.3 | 60.3 | 66 | -4.0 | 10 | ---- | 59.6 | 0.7 | 5 | -4.3 |
| NSA11-34 | 63 | 1 | 74.3 | 64.9 | 66 | -9.4 | 10 | ---- | 64.6 | 0.3 | 5 | -4.7 |
| NSA11-35 | 64 | 1 | 73.5 | 64.5 | 66 | -9.0 | 10 | ---- | 64.1 | 0.4 | 5 | -4.6 |
| NSA11-36 | 65 | 1 | 72.8 | 64.4 | 66 | -8.4 | 10 | ---- | 63.9 | 0.5 | 5 | -4.5 |
| NSA11-38 | 66 | 1 | 70.5 | 64.5 | 66 | -6.0 | 10 | ---- | 63.6 | 0.9 | 5 | -4.1 |
| NSA11-39 | 67 | 1 | 71.7 | 63.9 | 66 | -7.8 | 10 | ---- | 62.3 | 1.6 | 5 | -3.4 |
| NSA11-40 | 68 | 1 | 71.4 | 64.7 | 66 | -6.7 | 10 | ---- | 62.5 | 2.2 | 5 | -2.8 |
| NSA11-41 | 69 | 1 | 70.0 | 66.5 | 66 | -3.5 | 10 | Snd Lvl | 62.2 | 4.3 | 5 | -0.7 |
| NSA11-42 | 70 | 1 | 70.7 | 68.1 | 66 | -2.6 | 10 | Snd Lvl | 61.8 | 6.3 | 5 | 1.3 |
| NSA11-43 | 71 | 1 | 68.9 | 70.7 | 66 | 1.8 | 10 | Snd Lvl | 61.9 | 8.8 | 5 | 3.8 |
| NSA11-44 | 72 | 1 | 65.8 | 67.4 | 66 | 1.6 | 10 | Snd Lvl | 60.5 | 6.9 | 5 | 1.9 |
| NSA11-45 | 73 | 1 | 63.9 | 64.4 | 66 | 0.5 | 10 | ---- | 59.3 | 5.1 | 5 | 0.1 |
| NSA11-46 | 74 | 1 | 66.4 | 62.3 | 66 | -4.1 | 10 | ---- | 61.1 | 1.2 | 5 | -3.8 |
| NSA11-47 | 75 | 1 | 64.5 | 61.9 | 66 | -2.6 | 10 | ---- | 60.0 | 1.9 | 5 | -3.1 |
| NSA11-48 | 76 | 1 | 64.3 | 62.5 | 66 | -1.8 | 10 | ---- | 60.1 | 2.4 | 5 | -2.6 |
| NSA11-49 | 77 | 1 | 63.4 | 62.6 | 66 | -0.8 | 10 | ---- | 59.8 | 2.8 | 5 | -2.2 |
| NSA11-50 | 78 | 1 | 63.8 | 63.9 | 66 | 0.1 | 10 | ---- | 60.0 | 3.9 | 5 | -1.1 |
| NSA11-51 | 79 | 1 | 64.0 | 61.1 | 66 | -2.9 | 10 | ---- | 59.6 | 1.5 | 5 | -3.5 |
| NSA12-1 | 80 | 6 | 68.9 | 71.2 | 66 | 2.3 | 10 | Snd Lvl | 62.6 | 8.6 | 5 | 3.6 |
| NSA12-2 | 81 | 6 | 70.8 | 68.2 | 66 | -2.6 | 10 | Snd Lvl | 63.2 | 5.0 | 5 | 0.0 |
| NSA12-3 | 82 | 6 | 69.4 | 66.2 | 66 | -3.2 | 10 | Snd Lvl | 62.8 | 3.4 | 5 | -1.6 |
| NSA12-4 | 83 | 6 | 70.3 | 64.4 | 66 | -5.9 | 10 | ---- | 62.5 | 1.9 | 5 | -3.1 |
| NSA12-5 | 84 | 6 | 64.9 | 68.3 | 66 | 3.4 | 10 | Snd Lvl | 60.2 | 8.1 | 5 | 3.1 |
| NSA12-6 | 85 | 6 | 64.4 | 65.7 | 66 | 1.3 | 10 | ---- | 60.0 | 5.7 | 5 | 0.7 |
| NSA12-7 | 86 | 6 | 64.8 | 65.2 | 66 | 0.4 | 10 | ---- | 60.3 | 4.9 | 5 | -0.1 |
| NSA12-8 | 87 | 6 | 65.3 | 63.8 | 66 | -1.5 | 10 | ---- | 60.4 | 3.4 | 5 | -1.6 |
| NSA12-9 | 88 | 6 | 63.6 | 63.5 | 66 | -0.1 | 10 | ---- | 60.6 | 2.9 | 5 | -2.1 |
| NSA12-10 | 89 | 6 | 62.5 | 65.5 | 66 | 3.0 | 10 | ---- | 59.0 | 6.5 | 5 | 1.5 |
| NSA12-11 | 90 | 6 | 63.6 | 64.6 | 66 | 1.0 | 10 | ---- | 60.1 | 4.5 | 5 | -0.5 |
| NSA12-12 | 91 | 6 | 64.0 | 63.5 | 66 | -0.5 | 10 | ---- | 60.2 | 3.3 | 5 | -1.7 |
| Dwelling Units | | # DUs | Noise Reduction | | | | | | | | | |
| | | | Min | Avg | Max | | | | | | | |
| | | | dB | dB | dB | | | | | | | |

RESULTS: SOUND LEVELS**FRA-SR161-15.80 PID 116322**

| | | | | | | | | | | | | |
|-----------------------|--|-----|-----|-----|-----|--|--|--|--|--|--|--|
| All Selected | | 122 | 0.0 | 1.9 | 8.8 | | | | | | | |
| All Impacted | | 28 | 3.4 | 6.4 | 8.8 | | | | | | | |
| All that meet NR Goal | | 28 | 5.1 | 7.0 | 8.8 | | | | | | | |

RESULTS: BARRIER DESCRIPTIONS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | |
|-----------------|--|--|--|--------------|--|--|--|--|--|
| Lawhon & Assoc. | | | | 19 July 2022 | | | | | |
| CCox | | | | TNM 2.5 | | | | | |

RESULTS: BARRIER DESCRIPTIONS

| | | | | | | | | | |
|--------------------------|-------------------------------------|--|--|--|--|--|--|--|--|
| PROJECT/CONTRACT: | FRA-SR161-15.80 PID 116322 | | | | | | | | |
| RUN: | Design Year Noise Barriers NSA11 12 | | | | | | | | |
| BARRIER DESIGN: | NSA11 and NSA12 at 14' | | | | | | | | |

| Barriers | | | | | | | | | | |
|----------------------|------|-----------------------|-------|-------|--------|---------|---------|-----|-------------|---------|
| Name | Type | Heights along Barrier | | | Length | If Wall | If Berm | Top | Run:Rise | Cost |
| | | Min | Avg | Max | | | | | | |
| | | ft | ft | ft | ft | sq ft | cu yd | ft | ft:ft | \$ |
| Noise barrier NSA12b | W | 14.00 | 14.00 | 14.00 | 860 | 12037 | | | | 361101 |
| Noise barrier NSA12a | W | 14.00 | 14.00 | 14.00 | 555 | 7765 | | | | 232961 |
| Noise barrier NSA11 | W | 14.00 | 14.00 | 14.00 | 1761 | 24654 | | | | 739619 |
| | | | | | | | | | Total Cost: | 1333680 |

| Lawhon & Assoc. | | | | | | | | | | 19 July 2022 | | | | | | | | | |
|--|------|--------|-------|-----------------------------------|-----------------------------------|--------------|-------------------|-------------------------------------|-----------|--------------|----------------------|-----------|--------|-----------------------|---------|------------------------|---|---------------|--------------------------------|
| CCox | | | | | | | | | | TNM 2.5 | | | | | | | | | |
| INPUT: BARRIERS | | | | | | | | | | | | | | | | | | | |
| PROJECT/CONTRACT: FRA-SR161-15.80 PID 116322 | | | | | | | | | | | | | | | | | | | |
| RUN: Design Year Noise Barriers NSA11 12 | | | | | | | | | | | | | | | | | | | |
| Barrier | | | | | | | | | | Points | | | | | | | | | |
| Name | Type | Height | | If Wall \$ per Unit Area | If Berm \$ per Unit Vol. | Top Width | Run:Rise ft:ft | Add'tnl \$ per Unit Length | Name | No. | Coordinates (bottom) | | | Height at Point | Segment | | | On Struct? | Important Reflec- tions? |
| | | Min | Max | | | | | | | | X | Y | Z | | Seg Ht | Perturbs #Up #Dn | | | |
| | | ft | ft | \$/sq ft | \$/cu yd | ft | ft:ft | \$/ft | | | ft | ft | ft | ft | ft | | | | |
| Noise barrier NSA11 | W | 5.00 | 99.99 | 30.00 | | | | 0.00 | Sta 0+00 | 1 | 1,874,461.0 | 761,418.0 | 977.00 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 0+40 | 39 | 1,874,496.6 | 761,436.1 | 977.58 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 0+80 | 40 | 1,874,532.2 | 761,454.2 | 978.17 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 1+20 | 41 | 1,874,568.0 | 761,472.4 | 978.75 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 1+40 | 42 | 1,874,585.5 | 761,482.1 | 978.98 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 3+00 | 43 | 1,874,736.6 | 761,534.8 | 979.98 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 7+80 | 44 | 1,875,184.8 | 761,706.7 | 982.47 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 8+80 | 45 | 1,875,278.1 | 761,742.5 | 982.99 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 13+60 | 46 | 1,875,749.1 | 761,834.8 | 984.71 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 15+76 | 21 | 1,875,961.0 | 761,876.0 | 985.00 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 17+61 | 32 | 1,876,144.0 | 761,848.0 | 980.00 | 14.00 | | | | | |
| Noise barrier NSA12a | W | 5.00 | 99.99 | 30.00 | | | | 0.00 | Sta 0+00 | 33 | 1,875,956.0 | 761,903.0 | 985.00 | 14.00 | 1.00 | 2 | 2 | | |
| | | | | | | | | | Sta 1+50 | 24 | 1,876,106.0 | 761,916.0 | 986.00 | 14.00 | 1.00 | 2 | 2 | | |
| | | | | | | | | | Sta 4+70 | 47 | 1,876,426.0 | 761,919.8 | 988.79 | 14.00 | 1.00 | 2 | 2 | | |
| | | | | | | | | | Sta 5+55 | 38 | 1,876,510.0 | 761,916.0 | 990.00 | 14.00 | | | | | |
| Noise barrier NSA12b | W | 5.00 | 99.99 | 30.00 | | | | 0.00 | Sta 5+55 | 26 | 1,876,510.0 | 761,916.0 | 990.00 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 7+55 | 27 | 1,876,710.0 | 761,900.0 | 991.00 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 9+55 | 49 | 1,876,906.9 | 761,864.6 | 991.98 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 11+75 | 30 | 1,877,110.0 | 761,786.0 | 992.00 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 12+95 | 36 | 1,877,210.0 | 761,718.5 | 993.50 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 13+55 | 37 | 1,877,260.0 | 761,684.8 | 994.25 | 14.00 | 0.00 | 0 | 0 | | |
| | | | | | | | | | Sta 14+15 | 31 | 1,877,310.0 | 761,651.0 | 995.00 | 14.00 | | | | | |

INPUT: RECEIVERS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|----------|----|---|-------------|-----------|--------|------|-------|----|------|-----|---|
| NSA11-23 | 52 | 1 | 1,875,147.0 | 761,285.0 | 983.00 | 4.92 | 62.40 | 66 | 10.0 | 5.0 | Y |
| NSA11-24 | 53 | 1 | 1,875,338.0 | 761,693.0 | 984.00 | 4.92 | 74.20 | 66 | 10.0 | 5.0 | Y |
| NSA11-25 | 54 | 1 | 1,875,418.0 | 761,610.0 | 983.00 | 4.92 | 68.70 | 66 | 10.0 | 5.0 | Y |
| NSA11-26 | 55 | 1 | 1,875,403.0 | 761,515.0 | 983.00 | 4.92 | 65.70 | 66 | 10.0 | 5.0 | Y |
| NSA11-27 | 56 | 1 | 1,875,391.0 | 761,449.0 | 984.00 | 4.92 | 64.20 | 66 | 10.0 | 5.0 | Y |
| NSA11-28 | 57 | 1 | 1,875,391.0 | 761,404.0 | 985.00 | 4.92 | 63.20 | 66 | 10.0 | 5.0 | Y |
| NSA11-29 | 58 | 1 | 1,875,391.0 | 761,324.0 | 984.00 | 4.92 | 61.80 | 66 | 10.0 | 5.0 | Y |
| NSA11-30 | 59 | 1 | 1,875,485.0 | 761,693.0 | 984.00 | 4.92 | 71.70 | 66 | 10.0 | 5.0 | Y |
| NSA11-31 | 60 | 1 | 1,875,485.0 | 761,600.0 | 984.00 | 4.92 | 67.70 | 66 | 10.0 | 5.0 | Y |
| NSA11-32 | 61 | 1 | 1,875,485.0 | 761,549.0 | 984.00 | 4.92 | 66.00 | 66 | 10.0 | 5.0 | Y |
| NSA11-33 | 62 | 1 | 1,875,485.0 | 761,482.0 | 984.00 | 4.92 | 64.30 | 66 | 10.0 | 5.0 | Y |
| NSA11-34 | 63 | 1 | 1,875,609.0 | 761,763.0 | 985.00 | 4.92 | 74.30 | 66 | 10.0 | 5.0 | Y |
| NSA11-35 | 64 | 1 | 1,875,666.0 | 761,763.0 | 984.00 | 4.92 | 73.50 | 66 | 10.0 | 5.0 | Y |
| NSA11-36 | 65 | 1 | 1,875,724.0 | 761,763.0 | 984.00 | 4.92 | 72.80 | 66 | 10.0 | 5.0 | Y |
| NSA11-38 | 66 | 1 | 1,875,808.9 | 761,757.6 | 985.00 | 4.92 | 70.50 | 66 | 10.0 | 5.0 | Y |
| NSA11-39 | 67 | 1 | 1,875,867.0 | 761,769.0 | 983.00 | 4.92 | 71.70 | 66 | 10.0 | 5.0 | Y |
| NSA11-40 | 68 | 1 | 1,875,918.0 | 761,769.0 | 984.00 | 4.92 | 71.40 | 66 | 10.0 | 5.0 | Y |
| NSA11-41 | 69 | 1 | 1,875,998.0 | 761,753.0 | 984.00 | 4.92 | 70.00 | 66 | 10.0 | 5.0 | Y |
| NSA11-42 | 70 | 1 | 1,876,058.0 | 761,768.0 | 983.00 | 4.92 | 70.70 | 66 | 10.0 | 5.0 | Y |
| NSA11-43 | 71 | 1 | 1,876,127.0 | 761,741.0 | 982.00 | 4.92 | 68.90 | 66 | 10.0 | 5.0 | Y |
| NSA11-44 | 72 | 1 | 1,876,238.0 | 761,650.0 | 979.00 | 4.92 | 65.80 | 66 | 10.0 | 5.0 | Y |
| NSA11-45 | 73 | 1 | 1,876,207.0 | 761,563.0 | 978.00 | 4.92 | 63.90 | 66 | 10.0 | 5.0 | Y |
| NSA11-46 | 74 | 1 | 1,875,665.0 | 761,603.0 | 984.00 | 4.92 | 66.40 | 66 | 10.0 | 5.0 | Y |
| NSA11-47 | 75 | 1 | 1,875,754.0 | 761,550.0 | 983.00 | 4.92 | 64.50 | 66 | 10.0 | 5.0 | Y |
| NSA11-48 | 76 | 1 | 1,875,819.0 | 761,550.0 | 984.00 | 4.92 | 64.30 | 66 | 10.0 | 5.0 | Y |
| NSA11-49 | 77 | 1 | 1,875,875.0 | 761,523.0 | 985.00 | 4.92 | 63.40 | 66 | 10.0 | 5.0 | Y |
| NSA11-50 | 78 | 1 | 1,875,967.0 | 761,555.0 | 984.00 | 4.92 | 63.80 | 66 | 10.0 | 5.0 | Y |
| NSA11-51 | 79 | 1 | 1,875,690.0 | 761,516.0 | 983.00 | 4.92 | 64.00 | 66 | 10.0 | 5.0 | Y |
| NSA12-1 | 80 | 6 | 1,876,514.0 | 761,784.0 | 981.00 | 4.92 | 68.90 | 66 | 10.0 | 5.0 | Y |
| NSA12-2 | 81 | 6 | 1,876,689.0 | 761,809.0 | 985.00 | 4.92 | 70.80 | 66 | 10.0 | 5.0 | Y |
| NSA12-3 | 82 | 6 | 1,876,803.0 | 761,783.0 | 987.00 | 4.92 | 69.40 | 66 | 10.0 | 5.0 | Y |
| NSA12-4 | 83 | 6 | 1,876,938.0 | 761,778.0 | 987.00 | 4.92 | 70.30 | 66 | 10.0 | 5.0 | Y |
| NSA12-5 | 84 | 6 | 1,876,490.0 | 761,631.0 | 980.00 | 4.92 | 64.90 | 66 | 10.0 | 5.0 | Y |
| NSA12-6 | 85 | 6 | 1,876,675.0 | 761,586.0 | 983.00 | 4.92 | 64.40 | 66 | 10.0 | 5.0 | Y |
| NSA12-7 | 86 | 6 | 1,876,733.0 | 761,603.0 | 984.00 | 4.92 | 64.80 | 66 | 10.0 | 5.0 | Y |
| NSA12-8 | 87 | 6 | 1,876,859.0 | 761,603.0 | 985.00 | 4.92 | 65.30 | 66 | 10.0 | 5.0 | Y |

INPUT: RECEIVERS**FRA-SR161-15.80 PID 116322**

| | | | | | | | | | | | |
|----------|----|---|-------------|-----------|--------|------|-------|----|------|-----|---|
| NSA12-9 | 88 | 6 | 1,876,909.0 | 761,577.0 | 988.00 | 4.92 | 63.60 | 66 | 10.0 | 5.0 | Y |
| NSA12-10 | 89 | 6 | 1,876,486.0 | 761,499.0 | 981.00 | 4.92 | 62.50 | 66 | 10.0 | 5.0 | Y |
| NSA12-11 | 90 | 6 | 1,876,743.0 | 761,565.0 | 985.00 | 4.92 | 63.60 | 66 | 10.0 | 5.0 | Y |
| NSA12-12 | 91 | 6 | 1,876,867.0 | 761,570.0 | 986.00 | 4.92 | 64.00 | 66 | 10.0 | 5.0 | Y |

| Lawhon & Assoc. CCox | | | | 19 July 2022 TNM 2.5 | | | | | | | |
|--------------------------------|-------|-------------|-----|-------------------------------------|-----------|----------|---|------------------|---------------------------|-----------|------------|
| INPUT: ROADWAYS | | | | FRA-SR161-15.80 PID 116322 | | | Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA | | | | |
| PROJECT/CONTRACT: | | | | Design Year Noise Barriers NSA11 12 | | | | | | | |
| RUN: | | | | | | | | | | | |
| Roadway Name | Width | Points Name | No. | Coordinates (pavement) | | | Flow Control | | | Segment | |
| | | | | X | Y | Z | Control Device | Speed Constraint | Percent Vehicles Affected | Pvmt Type | On Struct? |
| | ft | | | ft | ft | ft | | mph | % | | |
| SR161 outside shoulder P WB1 c | 10.0 | point71 | 71 | 1,876,058.0 | 762,052.5 | 987.00 | | | | Average | |
| | | point69 | 69 | 1,875,623.0 | 761,991.5 | 982.00 | | | | Average | |
| | | point68 | 68 | 1,875,131.0 | 761,859.5 | 978.00 | | | | Average | |
| | | point248 | 248 | 1,874,738.0 | 761,702.5 | 975.00 | | | | Average | |
| | | point67 | 67 | 1,874,081.0 | 761,397.5 | 972.00 | | | | | |
| SR161 P WB2 c | 12.0 | point65 | 65 | 1,879,435.0 | 761,858.5 | 1,010.00 | | | | Average | |
| | | point64 | 64 | 1,877,950.0 | 761,950.5 | 1,001.00 | | | | Average | |
| | | point63 | 63 | 1,877,210.0 | 761,996.5 | 994.00 | | | | Average | |
| | | point62 | 62 | 1,876,470.0 | 762,042.5 | 991.00 | | | | Average | |
| | | point61 | 61 | 1,876,058.0 | 762,028.5 | 987.00 | | | | | |
| SR 161 P WB1 b | 12.0 | point54 | 54 | 1,879,435.0 | 761,870.5 | 1,010.00 | | | | Average | |
| | | point53 | 53 | 1,877,950.0 | 761,962.5 | 1,001.00 | | | | Average | |
| | | point52 | 52 | 1,877,210.0 | 762,008.5 | 994.00 | | | | Average | |
| | | point51 | 51 | 1,876,470.0 | 762,054.5 | 991.00 | | | | Average | |
| | | point49 | 49 | 1,876,058.0 | 762,040.5 | 987.00 | | | | | |
| HarLem Road | 12.0 | point124 | 124 | 1,874,538.0 | 760,192.0 | 974.00 | | | | Average | |
| | | point120 | 120 | 1,874,360.0 | 761,378.0 | 993.00 | | | | Average | Y |
| | | point121 | 121 | 1,874,330.0 | 761,634.0 | 993.00 | | | | Average | |
| | | point122 | 122 | 1,874,297.0 | 762,017.0 | 984.00 | | | | Average | |
| | | point123 | 123 | 1,874,263.0 | 762,332.0 | 981.00 | | | | | |
| New Albany Road NB | 24.0 | point125 | 125 | 1,878,008.0 | 760,827.0 | 998.00 | | | | Average | |
| | | point126 | 126 | 1,878,049.0 | 761,502.0 | 1,012.00 | | | | Average | |
| | | point127 | 127 | 1,878,063.0 | 761,817.0 | 1,022.00 | | | | Average | Y |
| | | point128 | 128 | 1,878,077.0 | 762,064.0 | 1,024.00 | | | | Average | |
| | | point129 | 129 | 1,878,095.0 | 762,373.0 | 1,019.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | |
|------------------------------------|------|----------|-----|-------------|-----------|----------|--------|------|-----|---------|---|
| | | point130 | 130 | 1,878,126.0 | 763,174.0 | 1,006.00 | | | | | |
| New Albany Road SB | 12.0 | point136 | 136 | 1,878,086.0 | 763,174.0 | 1,006.00 | | | | Average | |
| | | point135 | 135 | 1,878,060.0 | 762,373.0 | 1,019.00 | | | | Average | |
| | | point134 | 134 | 1,878,044.0 | 762,064.0 | 1,024.00 | | | | Average | Y |
| | | point133 | 133 | 1,878,029.0 | 761,817.0 | 1,022.00 | | | | Average | |
| | | point132 | 132 | 1,878,014.0 | 761,502.0 | 1,012.00 | | | | Average | |
| | | point131 | 131 | 1,877,984.0 | 760,827.0 | 998.00 | | | | | |
| Entrance ramp New Albany to SR161W | 12.0 | point152 | 152 | 1,878,060.0 | 762,373.0 | 1,019.00 | Onramp | 0.00 | 100 | Average | |
| | | point153 | 153 | 1,877,800.0 | 762,356.0 | 1,012.00 | | | | Average | |
| | | point154 | 154 | 1,877,646.0 | 762,325.0 | 1,008.00 | | | | Average | |
| | | point155 | 155 | 1,877,399.0 | 762,207.0 | 999.00 | | | | Average | |
| | | point156 | 156 | 1,877,186.0 | 762,110.0 | 994.00 | | | | Average | |
| | | point157 | 157 | 1,876,993.0 | 762,074.0 | 993.00 | | | | Average | |
| | | point158 | 158 | 1,876,650.0 | 762,078.0 | 992.00 | | | | Average | |
| | | point159 | 159 | 1,876,395.0 | 762,082.0 | 991.00 | | | | Average | |
| | | point160 | 160 | 1,876,058.0 | 762,040.5 | 987.00 | | | | | |
| Exit ramp SR 161 EB to New Albany | 12.0 | point167 | 167 | 1,876,470.0 | 761,951.0 | 990.00 | Stop | 0.00 | 100 | Average | |
| | | point285 | 285 | 1,876,525.0 | 761,935.0 | 990.50 | | | | Average | |
| | | point286 | 286 | 1,876,723.6 | 761,915.4 | 992.00 | | | | Average | |
| | | point166 | 166 | 1,876,919.9 | 761,877.3 | 993.00 | | | | Average | |
| | | point161 | 161 | 1,877,117.9 | 761,804.4 | 993.00 | | | | Average | |
| | | point162 | 162 | 1,877,320.1 | 761,672.2 | 996.00 | | | | Average | |
| | | point287 | 287 | 1,877,414.9 | 761,631.5 | 998.50 | | | | Average | |
| | | point163 | 163 | 1,877,519.0 | 761,608.1 | 1,001.00 | | | | Average | |
| | | point164 | 164 | 1,877,719.0 | 761,555.0 | 1,006.00 | | | | Average | |
| | | point165 | 165 | 1,878,014.0 | 761,502.0 | 1,012.00 | | | | | |
| SR 161 P EB 4 b | 12.0 | point185 | 185 | 1,872,909.0 | 760,781.5 | 968.00 | | | | Average | |
| | | point191 | 191 | 1,874,083.0 | 761,311.5 | 970.00 | | | | Average | |
| | | point115 | 115 | 1,874,306.0 | 761,414.5 | 972.00 | | | | | |
| SR161 P EB 3 b | 10.0 | point186 | 186 | 1,872,909.0 | 760,770.5 | 968.00 | | | | Average | |
| | | point193 | 193 | 1,874,083.0 | 761,300.5 | 970.00 | | | | Average | |
| | | point105 | 105 | 1,874,306.0 | 761,402.5 | 972.00 | | | | | |
| SR 161 P EB 2 b | 12.0 | point187 | 187 | 1,872,909.0 | 760,759.5 | 968.00 | | | | Average | |
| | | point192 | 192 | 1,874,083.0 | 761,288.5 | 970.00 | | | | Average | |
| | | point95 | 95 | 1,874,306.0 | 761,390.5 | 972.00 | | | | | |
| SR 161 P EB 4 c | 12.0 | point197 | 197 | 1,874,306.0 | 761,414.5 | 972.00 | | | | Average | |
| | | point205 | 205 | 1,874,738.0 | 761,617.5 | 974.00 | | | | Average | |
| | | point116 | 116 | 1,875,131.0 | 761,769.5 | 976.00 | | | | Average | |
| | | point117 | 117 | 1,875,623.0 | 761,900.5 | 982.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | |
|------------------------------|------|----------|-----|-------------|-----------|----------|--|--|--|---------|
| | | point119 | 119 | 1,876,058.0 | 761,961.5 | 987.00 | | | | Average |
| | | point138 | 138 | 1,876,470.0 | 761,975.0 | 990.00 | | | | |
| SR161 P EB 3 c | 12.0 | point198 | 198 | 1,874,306.0 | 761,402.5 | 972.00 | | | | Average |
| | | point206 | 206 | 1,874,738.0 | 761,605.5 | 974.00 | | | | Average |
| | | point106 | 106 | 1,875,131.0 | 761,757.5 | 976.00 | | | | Average |
| | | point107 | 107 | 1,875,623.0 | 761,888.5 | 982.00 | | | | Average |
| | | point109 | 109 | 1,876,058.0 | 761,949.5 | 987.00 | | | | Average |
| | | point143 | 143 | 1,876,470.0 | 761,963.0 | 990.00 | | | | |
| SR 161 P EB 2 c | 12.0 | point199 | 199 | 1,874,306.0 | 761,390.5 | 972.00 | | | | Average |
| | | point207 | 207 | 1,874,738.0 | 761,593.5 | 974.00 | | | | Average |
| | | point96 | 96 | 1,875,131.0 | 761,745.5 | 976.00 | | | | Average |
| | | point97 | 97 | 1,875,623.0 | 761,876.5 | 982.00 | | | | Average |
| | | point99 | 99 | 1,876,058.0 | 761,937.5 | 987.00 | | | | Average |
| | | point148 | 148 | 1,876,470.0 | 761,951.0 | 990.00 | | | | |
| SR 166 P WB inside shoulder | 10.0 | point221 | 221 | 1,879,435.0 | 761,835.5 | 1,010.00 | | | | Average |
| | | point222 | 222 | 1,877,950.0 | 761,927.5 | 1,001.00 | | | | Average |
| | | point227 | 227 | 1,877,210.0 | 761,973.5 | 994.00 | | | | Average |
| | | point228 | 228 | 1,876,470.0 | 762,019.5 | 991.00 | | | | Average |
| | | point229 | 229 | 1,876,058.0 | 762,005.5 | 987.00 | | | | Average |
| | | point239 | 239 | 1,875,623.0 | 761,944.5 | 982.00 | | | | Average |
| | | point240 | 240 | 1,875,131.0 | 761,813.5 | 978.00 | | | | Average |
| | | point242 | 242 | 1,874,738.0 | 761,656.5 | 975.00 | | | | Average |
| | | point243 | 243 | 1,874,083.0 | 761,351.5 | 970.00 | | | | |
| SR 161 P WB3 c | 12.0 | point223 | 223 | 1,879,435.0 | 761,846.5 | 1,010.00 | | | | Average |
| | | point224 | 224 | 1,877,950.0 | 761,938.5 | 1,001.00 | | | | Average |
| | | point231 | 231 | 1,877,210.0 | 761,984.5 | 994.00 | | | | Average |
| | | point232 | 232 | 1,876,470.0 | 762,030.5 | 991.00 | | | | Average |
| | | point233 | 233 | 1,876,058.0 | 762,016.5 | 987.00 | | | | |
| SR 161 P WB Outside shoulder | 10.0 | point225 | 225 | 1,879,435.0 | 761,881.5 | 1,010.00 | | | | Average |
| | | point226 | 226 | 1,877,950.0 | 761,973.5 | 1,001.00 | | | | Average |
| | | point235 | 235 | 1,877,210.0 | 762,019.5 | 994.00 | | | | Average |
| | | point236 | 236 | 1,876,470.0 | 762,065.5 | 991.00 | | | | Average |
| | | point237 | 237 | 1,876,395.0 | 762,065.0 | 991.00 | | | | |
| SR161 P WB1 b | 12.0 | point249 | 249 | 1,874,081.0 | 761,386.5 | 972.00 | | | | Average |
| | | point55 | 55 | 1,872,909.0 | 760,855.5 | 969.00 | | | | Average |
| | | point42 | 42 | 1,871,705.0 | 760,277.5 | 965.00 | | | | |
| SR 161 P WB2 b | 12.0 | point250 | 250 | 1,874,081.0 | 761,374.5 | 972.00 | | | | Average |
| | | point44 | 44 | 1,872,909.0 | 760,843.5 | 969.00 | | | | Average |
| | | point41 | 41 | 1,871,705.0 | 760,265.5 | 965.00 | | | | |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | |
|----------------------------------|------|----------|-----|-------------|-----------|----------|--|--|--|---------|
| SR161 outside shoulder P WB1 c-2 | 10.0 | point251 | 251 | 1,874,081.0 | 761,397.5 | 972.00 | | | | Average |
| | | point66 | 66 | 1,872,909.0 | 760,867.5 | 969.00 | | | | Average |
| | | point43 | 43 | 1,871,705.0 | 760,288.5 | 965.00 | | | | |
| SR 161 P WB inside shoulder b | 10.0 | point252 | 252 | 1,874,083.0 | 761,351.5 | 970.00 | | | | Average |
| | | point253 | 253 | 1,872,909.0 | 760,820.5 | 968.00 | | | | Average |
| | | point254 | 254 | 1,871,705.0 | 760,242.5 | 965.00 | | | | |
| SR 161 P WB3 c-2 | 12.0 | point257 | 257 | 1,874,081.0 | 761,362.5 | 970.00 | | | | Average |
| | | point255 | 255 | 1,872,909.0 | 760,831.5 | 968.00 | | | | Average |
| | | point256 | 256 | 1,871,705.0 | 760,253.5 | 965.00 | | | | |
| SR 161 P EB 2 a-2 | 12.0 | point272 | 272 | 1,871,705.0 | 760,195.5 | 965.00 | | | | Average |
| | | point94 | 94 | 1,872,909.0 | 760,759.5 | 968.00 | | | | |
| SR 161 P EB 2 c-2 | 12.0 | point276 | 276 | 1,876,470.0 | 761,951.0 | 990.00 | | | | Average |
| | | point149 | 149 | 1,877,210.0 | 761,905.5 | 994.00 | | | | Average |
| | | point150 | 150 | 1,877,950.0 | 761,859.5 | 1,001.00 | | | | Average |
| | | point151 | 151 | 1,879,435.0 | 761,765.5 | 1,010.00 | | | | |
| SR161 P EB 3 c-2 | 12.0 | point277 | 277 | 1,876,470.0 | 761,963.0 | 990.00 | | | | Average |
| | | point219 | 219 | 1,877,210.0 | 761,917.5 | 994.00 | | | | Average |
| | | point218 | 218 | 1,877,950.0 | 761,871.5 | 1,001.00 | | | | Average |
| | | point146 | 146 | 1,879,435.0 | 761,777.5 | 1,010.00 | | | | |
| SR 161 P EB 4 c-2 | 12.0 | point278 | 278 | 1,876,470.0 | 761,975.0 | 990.00 | | | | Average |
| | | point139 | 139 | 1,877,210.0 | 761,929.5 | 994.00 | | | | Average |
| | | point140 | 140 | 1,877,950.0 | 761,883.5 | 1,001.00 | | | | Average |
| | | point141 | 141 | 1,879,435.0 | 761,789.5 | 1,010.00 | | | | |
| SR 161 P WB1 b-2 | 12.0 | point279 | 279 | 1,876,058.0 | 762,040.5 | 987.00 | | | | Average |
| | | point47 | 47 | 1,875,623.0 | 761,980.5 | 982.00 | | | | Average |
| | | point46 | 46 | 1,875,131.0 | 761,848.5 | 978.00 | | | | Average |
| | | point247 | 247 | 1,874,738.0 | 761,691.5 | 975.00 | | | | Average |
| | | point45 | 45 | 1,874,081.0 | 761,386.5 | 972.00 | | | | |
| SR161 P WB2 c-2 | 12.0 | point280 | 280 | 1,876,058.0 | 762,028.5 | 987.00 | | | | Average |
| | | point58 | 58 | 1,875,623.0 | 761,968.5 | 982.00 | | | | Average |
| | | point57 | 57 | 1,875,131.0 | 761,836.5 | 978.00 | | | | Average |
| | | point246 | 246 | 1,874,738.0 | 761,679.5 | 975.00 | | | | Average |
| | | point56 | 56 | 1,874,081.0 | 761,374.5 | 972.00 | | | | |
| SR 161 P WB3 c-2 | 12.0 | point281 | 281 | 1,876,058.0 | 762,016.5 | 987.00 | | | | Average |
| | | point234 | 234 | 1,875,623.0 | 761,956.5 | 982.00 | | | | Average |
| | | point241 | 241 | 1,875,131.0 | 761,824.5 | 978.00 | | | | Average |
| | | point244 | 244 | 1,874,738.0 | 761,667.5 | 975.00 | | | | Average |
| | | point245 | 245 | 1,874,081.0 | 761,362.5 | 970.00 | | | | |
| SR 161 P EB inside shoulder a-2 | 10.0 | point293 | 293 | 1,871,705.0 | 760,230.5 | 965.00 | | | | Average |

INPUT: ROADWAYS

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | |
|----------------------------------|------|----------|-----|-------------|-----------|----------|--|--|--|---------|
| | | point188 | 188 | 1,872,909.0 | 760,792.5 | 968.00 | | | | Average |
| | | point194 | 194 | 1,874,083.0 | 761,322.5 | 970.00 | | | | Average |
| | | point200 | 200 | 1,874,306.0 | 761,425.5 | 972.00 | | | | Average |
| | | point203 | 203 | 1,874,738.0 | 761,628.5 | 974.00 | | | | Average |
| | | point204 | 204 | 1,875,131.0 | 761,780.5 | 976.00 | | | | Average |
| | | point210 | 210 | 1,875,623.0 | 761,911.5 | 982.00 | | | | Average |
| | | point212 | 212 | 1,876,058.0 | 761,972.5 | 987.00 | | | | Average |
| | | point214 | 214 | 1,876,470.0 | 761,986.0 | 990.00 | | | | Average |
| | | point215 | 215 | 1,877,210.0 | 761,940.5 | 994.00 | | | | Average |
| | | point217 | 217 | 1,877,950.0 | 761,894.5 | 1,001.00 | | | | Average |
| | | point220 | 220 | 1,879,435.0 | 761,801.5 | 1,010.00 | | | | |
| SR 161 P EB 4 a-2-2 | 12.0 | point294 | 294 | 1,871,705.0 | 760,219.5 | 965.00 | | | | Average |
| | | point114 | 114 | 1,872,909.0 | 760,781.5 | 968.00 | | | | |
| SR161 P EB 3 a-2-2 | 12.0 | point295 | 295 | 1,871,705.0 | 760,207.5 | 965.00 | | | | Average |
| | | point104 | 104 | 1,872,909.0 | 760,770.5 | 968.00 | | | | |
| SR 161 P EB 1 b-2-2 | 12.0 | point296 | 296 | 1,871,705.0 | 760,183.5 | 965.00 | | | | Average |
| | | point189 | 189 | 1,872,909.0 | 760,748.5 | 968.00 | | | | Average |
| | | point195 | 195 | 1,874,083.0 | 761,276.5 | 970.00 | | | | Average |
| | | point201 | 201 | 1,874,306.0 | 761,390.5 | 972.00 | | | | |
| SR 161 P EB outside shoulder b-2 | 10.0 | point297 | 297 | 1,871,705.0 | 760,172.0 | 965.00 | | | | Average |
| | | point190 | 190 | 1,872,909.0 | 760,737.0 | 968.00 | | | | Average |
| | | point196 | 196 | 1,874,083.0 | 761,265.5 | 970.00 | | | | Average |
| | | point202 | 202 | 1,874,306.0 | 761,379.5 | 972.00 | | | | Average |
| | | point208 | 208 | 1,874,738.0 | 761,582.5 | 974.00 | | | | Average |
| | | point209 | 209 | 1,875,131.0 | 761,734.5 | 976.00 | | | | Average |
| | | point211 | 211 | 1,875,623.0 | 761,865.5 | 982.00 | | | | Average |
| | | point213 | 213 | 1,876,058.0 | 761,926.5 | 987.00 | | | | Average |
| | | point216 | 216 | 1,876,470.0 | 761,940.0 | 990.00 | | | | |

| | | | | | | | | | | | | | |
|-----------------------------------|-------------------------------------|-----|---------|-----|---------|-----|---------|-----|--------|-----|-------------|-----|---|
| Lawhon & Assoc. | | | | | | | | | | | | | |
| CCox | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| INPUT: TRAFFIC FOR LAeq1h Volumes | | | | | | | | | | | | | |
| PROJECT/CONTRACT: | FRA-SR161-15.80 PID 116322 | | | | | | | | | | | | |
| RUN: | Design Year Noise Barriers NSA11 12 | | | | | | | | | | | | |
| Roadway | Points | | | | | | | | | | | | |
| Name | Name | No. | Segment | | | | | | | | | | |
| | | | Autos | | MTrucks | | HTrucks | | Buses | | Motorcycles | | |
| | | | V | S | V | S | V | S | V | S | V | S | |
| | | | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | |
| SR161 outside shoulder P WB1 c | point71 | 71 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point69 | 69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point68 | 68 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point248 | 248 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point67 | 67 | | | | | | | | | | | |
| SR161 P WB2 c | point65 | 65 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 | 0 |
| | point64 | 64 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 | 0 |
| | point63 | 63 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 | 0 |
| | point62 | 62 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 | 0 |
| | point61 | 61 | | | | | | | | | | | |
| SR 161 P WB1 b | point54 | 54 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 | 0 |
| | point53 | 53 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 | 0 |
| | point52 | 52 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 | 0 |
| | point51 | 51 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 | 0 |
| | point49 | 49 | | | | | | | | | | | |
| HarLem Road | point124 | 124 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point120 | 120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point121 | 121 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point122 | 122 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point123 | 123 | | | | | | | | | | | |
| New Albany Road NB | point125 | 125 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point126 | 126 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point127 | 127 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|------------------------------------|----------|-----|------|----|----|----|-----|----|---|---|---|---|
| | point128 | 128 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point129 | 129 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point130 | 130 | | | | | | | | | | |
| New Albany Road SB | point136 | 136 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point135 | 135 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point134 | 134 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point133 | 133 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point132 | 132 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point131 | 131 | | | | | | | | | | |
| Entrance ramp New Albany to SR161W | point152 | 152 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point153 | 153 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point154 | 154 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point155 | 155 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point156 | 156 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point157 | 157 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point158 | 158 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point159 | 159 | 1221 | 65 | 15 | 65 | 33 | 65 | 0 | 0 | 0 | 0 |
| | point160 | 160 | | | | | | | | | | |
| Exit ramp SR 161 EB to New Albany | point167 | 167 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point285 | 285 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point286 | 286 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point166 | 166 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point161 | 161 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point162 | 162 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point287 | 287 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point163 | 163 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point164 | 164 | 1698 | 65 | 16 | 65 | 37 | 65 | 0 | 0 | 0 | 0 |
| | point165 | 165 | | | | | | | | | | |
| SR 161 P EB 4 b | point185 | 185 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point191 | 191 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point115 | 115 | | | | | | | | | | |
| SR161 P EB 3 b | point186 | 186 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point193 | 193 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point105 | 105 | | | | | | | | | | |
| SR 161 P EB 2 b | point187 | 187 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point192 | 192 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|------------------------------|----------|-----|------|----|----|----|-----|----|---|---|---|---|
| | point95 | 95 | | | | | | | | | | |
| SR 161 P EB 4 c | point197 | 197 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point205 | 205 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point116 | 116 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point117 | 117 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point119 | 119 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point138 | 138 | | | | | | | | | | |
| SR161 P EB 3 c | point198 | 198 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point206 | 206 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point106 | 106 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point107 | 107 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point109 | 109 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point143 | 143 | | | | | | | | | | |
| SR 161 P EB 2 c | point199 | 199 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point207 | 207 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point96 | 96 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point97 | 97 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point99 | 99 | 1706 | 65 | 45 | 65 | 104 | 65 | 0 | 0 | 0 | 0 |
| | point148 | 148 | | | | | | | | | | |
| SR 166 P WB inside shoulder | point221 | 221 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point222 | 222 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point227 | 227 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point228 | 228 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point229 | 229 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point239 | 239 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point240 | 240 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point242 | 242 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point243 | 243 | | | | | | | | | | |
| SR 161 P WB3 c | point223 | 223 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |
| | point224 | 224 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |
| | point231 | 231 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |
| | point232 | 232 | 1223 | 65 | 32 | 65 | 74 | 65 | 0 | 0 | 0 | 0 |
| | point233 | 233 | | | | | | | | | | |
| SR 161 P WB Outside shoulder | point225 | 225 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point226 | 226 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point235 | 235 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|----------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point236 | 236 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point237 | 237 | | | | | | | | | | |
| SR161 P WB1 b | point249 | 249 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point55 | 55 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point42 | 42 | | | | | | | | | | |
| SR 161 P WB2 b | point250 | 250 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point44 | 44 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point41 | 41 | | | | | | | | | | |
| SR161 outside shoulder P WB1 c-2 | point251 | 251 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point66 | 66 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point43 | 43 | | | | | | | | | | |
| SR 161 P WB inside shoulder b | point252 | 252 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point253 | 253 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point254 | 254 | | | | | | | | | | |
| SR 161 P WB3 c-2 | point257 | 257 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point255 | 255 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point256 | 256 | | | | | | | | | | |
| SR 161 P EB 2 a-2 | point272 | 272 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point94 | 94 | | | | | | | | | | |
| SR 161 P EB 2 c-2 | point276 | 276 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point149 | 149 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point150 | 150 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point151 | 151 | | | | | | | | | | |
| SR161 P EB 3 c-2 | point277 | 277 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point219 | 219 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point218 | 218 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point146 | 146 | | | | | | | | | | |
| SR 161 P EB 4 c-2 | point278 | 278 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point139 | 139 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point140 | 140 | 1220 | 65 | 32 | 65 | 77 | 65 | 0 | 0 | 0 | 0 |
| | point141 | 141 | | | | | | | | | | |
| SR 161 P WB1 b-2 | point279 | 279 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point47 | 47 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point46 | 46 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point247 | 247 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point45 | 45 | | | | | | | | | | |

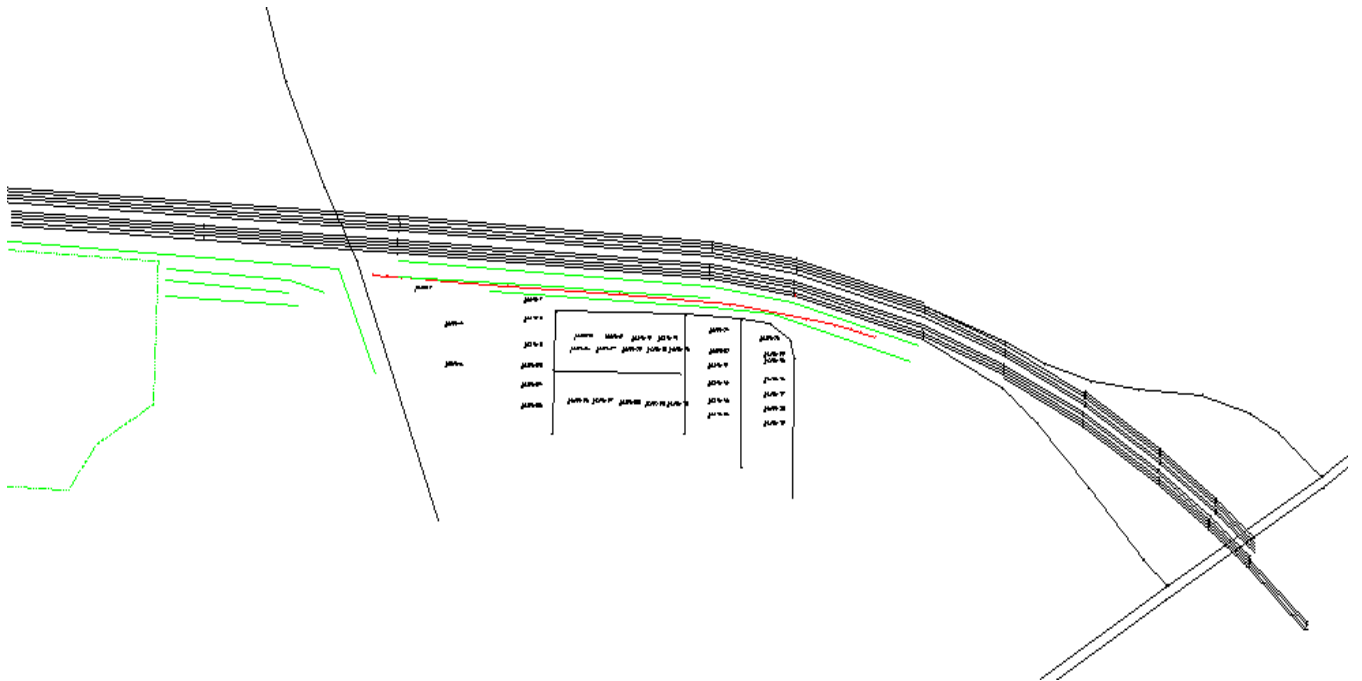
INPUT: TRAFFIC FOR LAeq1h Volumes

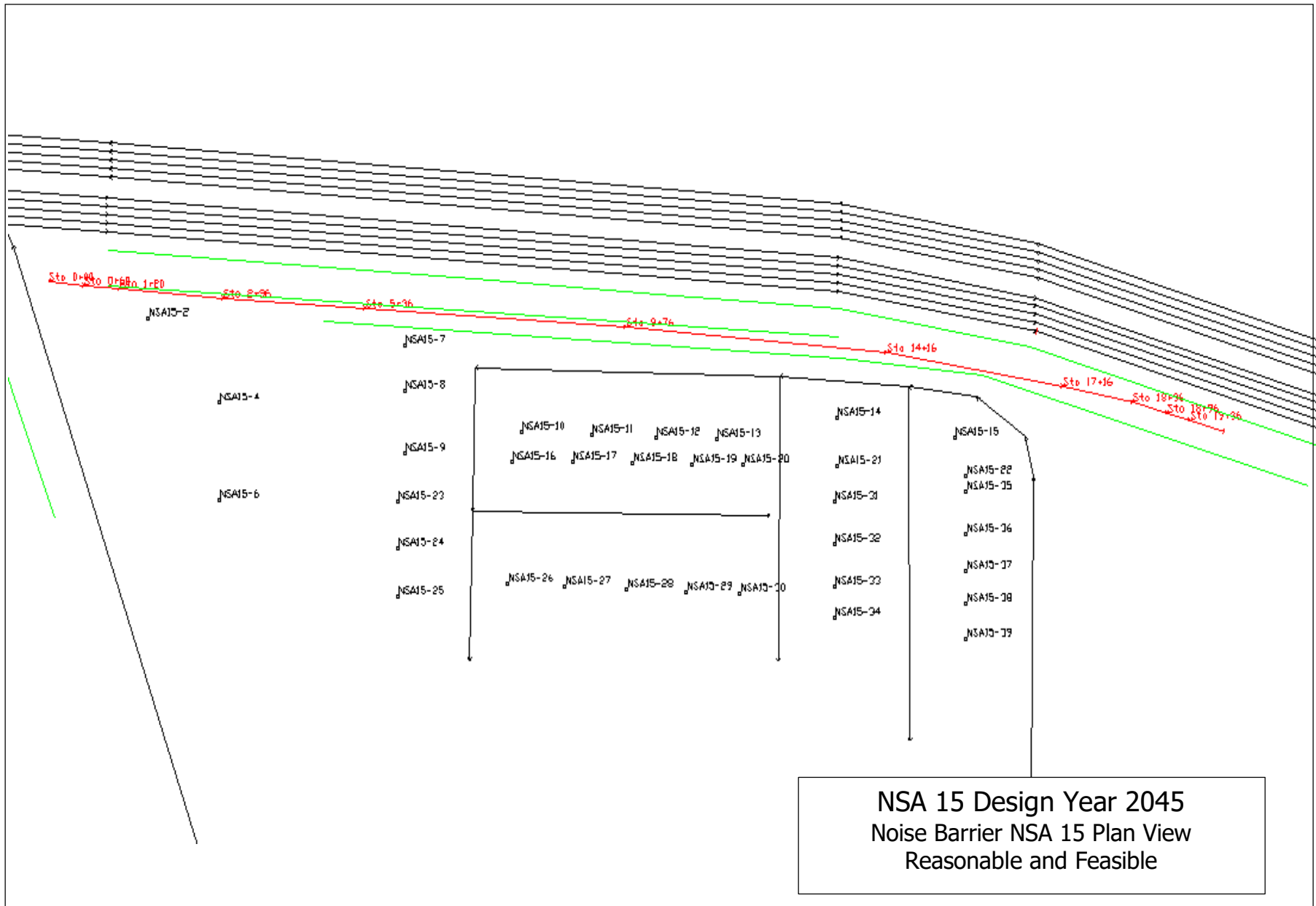
FRA-SR161-15.80 PID 116322

| | | | | | | | | | | | | |
|----------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| SR161 P WB2 c-2 | point280 | 280 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point58 | 58 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point57 | 57 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point246 | 246 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point56 | 56 | | | | | | | | | | |
| SR 161 P WB3 c-2 | point281 | 281 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point234 | 234 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point241 | 241 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point244 | 244 | 1609 | 65 | 42 | 65 | 98 | 65 | 0 | 0 | 0 | 0 |
| | point245 | 245 | | | | | | | | | | |
| SR 161 P EB inside shoulder a-2 | point293 | 293 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point188 | 188 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point194 | 194 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point200 | 200 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point203 | 203 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point204 | 204 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point210 | 210 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point212 | 212 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point214 | 214 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point215 | 215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point217 | 217 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point220 | 220 | | | | | | | | | | |
| SR 161 P EB 4 a-2-2 | point294 | 294 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point114 | 114 | | | | | | | | | | |
| SR161 P EB 3 a-2-2 | point295 | 295 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point104 | 104 | | | | | | | | | | |
| SR 161 P EB 1 b-2-2 | point296 | 296 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point189 | 189 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point195 | 195 | 1279 | 65 | 34 | 65 | 78 | 65 | 0 | 0 | 0 | 0 |
| | point201 | 201 | | | | | | | | | | |
| SR 161 P EB outside shoulder b-2 | point297 | 297 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point190 | 190 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point196 | 196 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point202 | 202 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point208 | 208 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point209 | 209 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

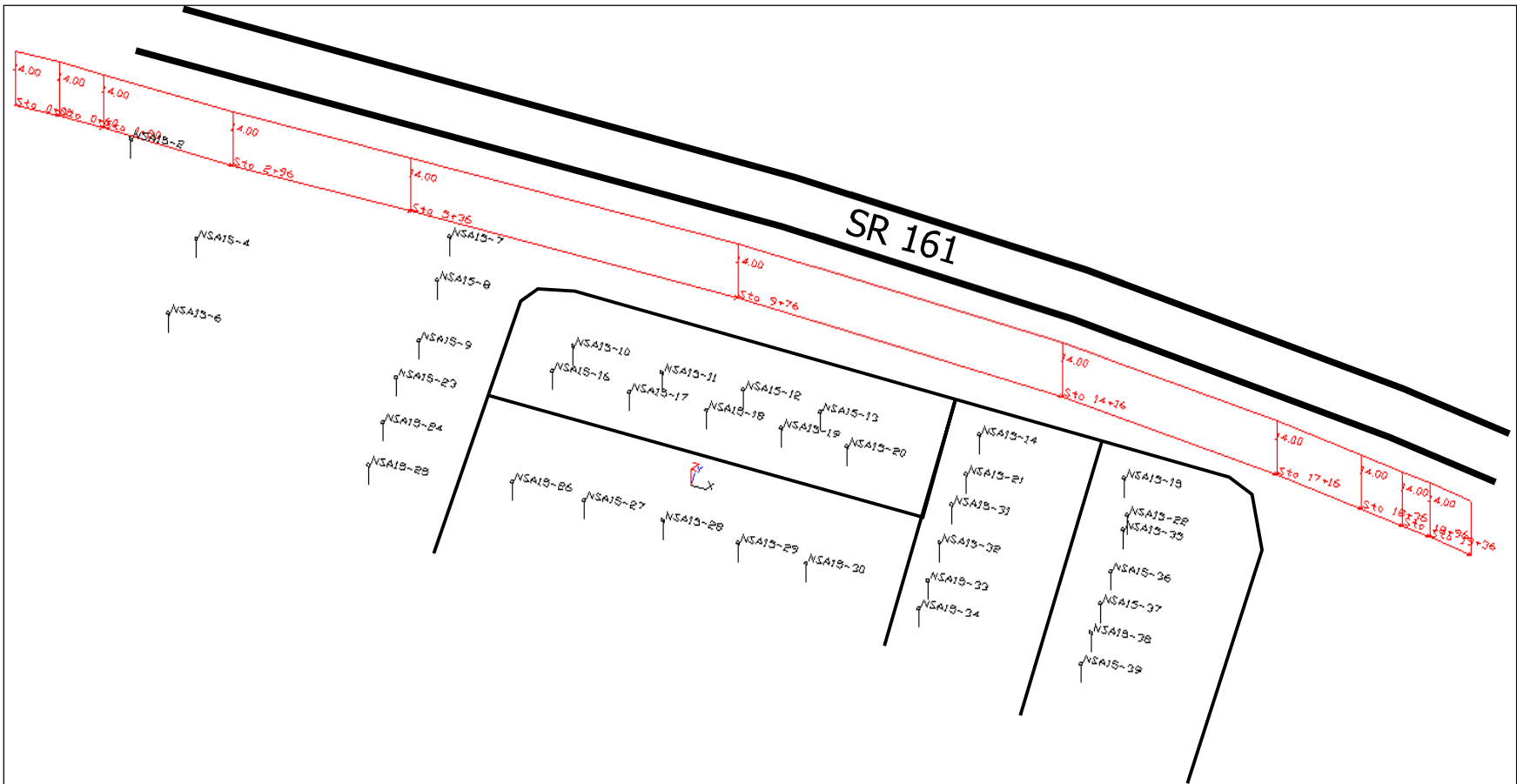
INPUT: TRAFFIC FOR LAeq1h Volumes**FRA-SR161-15.80 PID 116322**

| | | | | | | | | | | | | |
|--|----------|-----|---|---|---|---|---|---|---|---|---|---|
| | point211 | 211 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point213 | 213 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point216 | 216 | | | | | | | | | | |





NSA 15 Design Year 2045
 Noise Barrier NSA 15 Plan View
 Reasonable and Feasible



NSA 15 Design Year 2045
 Noise Barrier NSA 15
 Reasonable and Feasible

RESULTS: SOUND LEVELS

FRA-SR161-15.80

| | | | | | | | | | | | | | | |
|------------------------------|--|------------|------------------------|------------------------|--------------------------|---------------|-------------------------------|------------------|---------------|--------------------------|-------------------|------------------------|--|--|
| <Organization?> | | | | | | | | | | | | | 18 July 2022 | |
| CMCox | | | | | | | | | | | | | TNM 2.5 | |
| | | | | | | | | | | | | | Calculated with TNM 2.5 | |
| RESULTS: SOUND LEVELS | | | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | | FRA-SR161-15.80 | | | | | | | | | | | |
| RUN: | | | Design Year NSA 15 ROW | | | | | | | | | | | |
| BARRIER DESIGN: | | | unsaved | | | | | | | | | | | |
| | | | | | | | | | | | | | Average pavement type shall be used unless | |
| | | | | | | | | | | | | | a State highway agency substantiates the use | |
| ATMOSPHERICS: | | | | | | | | | | | | | 68 deg F, 50% RH | |
| | | | | | | | | | | | | | of a different type with approval of FHWA. | |
| Receiver | | | | | | | | | | | | | | |
| Name | | No. | #DUs | Existing LAeq1h | No Barrier LAeq1h | | Increase over existing | | Type | With Barrier | | Noise Reduction | | |
| | | | | | Calculated | Crit'n | Calculated | Crit'n | Impact | Calculated LAeq1h | Calculated | Goal | Calculated | |
| | | | | | | | | Sub'l Inc | | | | | minus | |
| | | | | dBA | dBA | dBA | dB | dB | | dBA | dB | dB | dB | |
| NSA15-2 | | 4 | 1 | 70.4 | 62.0 | 66 | -8.4 | 10 | ---- | 62.0 | 0.0 | 5 | -5.0 | |
| NSA15-4 | | 6 | 1 | 63.1 | 59.1 | 66 | -4.0 | 10 | ---- | 59.1 | 0.0 | 5 | -5.0 | |
| NSA15-6 | | 8 | 1 | 60.5 | 58.3 | 66 | -2.2 | 10 | ---- | 58.3 | 0.0 | 5 | -5.0 | |
| NSA15-7 | | 9 | 1 | 69.1 | 60.7 | 66 | -8.4 | 10 | ---- | 60.7 | 0.0 | 5 | -5.0 | |
| NSA15-8 | | 10 | 1 | 64.3 | 59.8 | 66 | -4.5 | 10 | ---- | 59.8 | 0.0 | 5 | -5.0 | |
| NSA15-9 | | 11 | 1 | 60.8 | 58.3 | 66 | -2.5 | 10 | ---- | 58.3 | 0.0 | 5 | -5.0 | |
| NSA15-10 | | 12 | 2 | 63.9 | 59.9 | 66 | -4.0 | 10 | ---- | 59.9 | 0.0 | 5 | -5.0 | |
| NSA15-11 | | 13 | 2 | 63.9 | 60.1 | 66 | -3.8 | 10 | ---- | 60.1 | 0.0 | 5 | -5.0 | |
| NSA15-12 | | 14 | 2 | 64.2 | 60.7 | 66 | -3.5 | 10 | ---- | 60.7 | 0.0 | 5 | -5.0 | |
| NSA15-13 | | 15 | 2 | 64.3 | 60.8 | 66 | -3.5 | 10 | ---- | 60.8 | 0.0 | 5 | -5.0 | |
| NSA15-14 | | 16 | 2 | 64.7 | 61.2 | 66 | -3.5 | 10 | ---- | 61.2 | 0.0 | 5 | -5.0 | |
| NSA15-15 | | 17 | 1 | 66.2 | 62.7 | 66 | -3.5 | 10 | ---- | 62.7 | 0.0 | 5 | -5.0 | |
| NSA15-16 | | 18 | 2 | 62.4 | 59.3 | 66 | -3.1 | 10 | ---- | 59.3 | 0.0 | 5 | -5.0 | |
| NSA15-17 | | 19 | 2 | 62.4 | 59.5 | 66 | -2.9 | 10 | ---- | 59.5 | 0.0 | 5 | -5.0 | |
| NSA15-18 | | 20 | 2 | 62.6 | 59.8 | 66 | -2.8 | 10 | ---- | 59.8 | 0.0 | 5 | -5.0 | |
| NSA15-19 | | 21 | 2 | 63.1 | 60.2 | 66 | -2.9 | 10 | ---- | 60.2 | 0.0 | 5 | -5.0 | |
| NSA15-20 | | 22 | 1 | 63.1 | 60.2 | 66 | -2.9 | 10 | ---- | 60.2 | 0.0 | 5 | -5.0 | |
| NSA15-21 | | 23 | 2 | 63.8 | 61.0 | 66 | -2.8 | 10 | ---- | 61.0 | 0.0 | 5 | -5.0 | |
| NSA15-22 | | 24 | 2 | 65.0 | 62.2 | 66 | -2.8 | 10 | ---- | 62.2 | 0.0 | 5 | -5.0 | |
| NSA15-23 | | 25 | 1 | 59.7 | 57.5 | 66 | -2.2 | 10 | ---- | 57.5 | 0.0 | 5 | -5.0 | |
| NSA15-24 | | 26 | 1 | 58.2 | 56.5 | 66 | -1.7 | 10 | ---- | 56.5 | 0.0 | 5 | -5.0 | |
| NSA15-25 | | 27 | 1 | 57.2 | 55.7 | 66 | -1.5 | 10 | ---- | 55.7 | 0.0 | 5 | -5.0 | |
| NSA15-26 | | 28 | 2 | 59.2 | 57.0 | 66 | -2.2 | 10 | ---- | 57.0 | 0.0 | 5 | -5.0 | |
| NSA15-27 | | 29 | 2 | 59.4 | 57.4 | 66 | -2.0 | 10 | ---- | 57.4 | 0.0 | 5 | -5.0 | |

RESULTS: SOUND LEVELS

FRA-SR161-15.80

| | | | | | | | | | | | | |
|-----------------------|----|--------------|------------------------|------------|------------|------|----|------|------|-----|---|------|
| NSA15-28 | 30 | 2 | 59.5 | 57.8 | 66 | -1.7 | 10 | ---- | 57.8 | 0.0 | 5 | -5.0 |
| NSA15-29 | 31 | 2 | 59.5 | 57.8 | 66 | -1.7 | 10 | ---- | 57.8 | 0.0 | 5 | -5.0 |
| NSA15-30 | 32 | 1 | 59.5 | 58.7 | 66 | -0.8 | 10 | ---- | 58.7 | 0.0 | 5 | -5.0 |
| NSA15-31 | 33 | 2 | 62.7 | 60.3 | 66 | -2.4 | 10 | ---- | 60.3 | 0.0 | 5 | -5.0 |
| NSA15-32 | 34 | 2 | 61.5 | 59.7 | 66 | -1.8 | 10 | ---- | 59.7 | 0.0 | 5 | -5.0 |
| NSA15-33 | 35 | 2 | 60.6 | 59.1 | 66 | -1.5 | 10 | ---- | 59.1 | 0.0 | 5 | -5.0 |
| NSA15-34 | 36 | 2 | 60.0 | 58.7 | 66 | -1.3 | 10 | ---- | 58.7 | 0.0 | 5 | -5.0 |
| NSA15-35 | 37 | 2 | 64.5 | 62.5 | 66 | -2.0 | 10 | ---- | 62.5 | 0.0 | 5 | -5.0 |
| NSA15-36 | 38 | 2 | 63.1 | 61.2 | 66 | -1.9 | 10 | ---- | 61.2 | 0.0 | 5 | -5.0 |
| NSA15-37 | 39 | 2 | 62.3 | 60.8 | 66 | -1.5 | 10 | ---- | 60.8 | 0.0 | 5 | -5.0 |
| NSA15-38 | 40 | 2 | 61.5 | 60.4 | 66 | -1.1 | 10 | ---- | 60.4 | 0.0 | 5 | -5.0 |
| NSA15-39 | 41 | 2 | 60.9 | 60.1 | 66 | -0.8 | 10 | ---- | 60.1 | 0.0 | 5 | -5.0 |
| Dwelling Units | | # DUs | Noise Reduction | | | | | | | | | |
| | | | Min | Avg | Max | | | | | | | |
| | | | dB | dB | dB | | | | | | | |
| All Selected | | 60 | 0.0 | 0.0 | 0.0 | | | | | | | |
| All Impacted | | 0 | 0.0 | 0.0 | 0.0 | | | | | | | |
| All that meet NR Goal | | 0 | 0.0 | 0.0 | 0.0 | | | | | | | |

RESULTS: BARRIER DESCRIPTIONS

FRA-SR161-15.80

| <Organization?> | | | | | | | | | | | 18 July 2022 | | | | | | | | | | | |
|--------------------------------------|------|-----------------------|-------|-------|--------|---------|---------|-----|----------|-------------|------------------------------------|--------|-------|--|--|--|--|--|--|--|--------|--------|
| CMCox | | | | | | | | | | | TNM 2.5 | | | | | | | | | | | |
| RESULTS: BARRIER DESCRIPTIONS | | | | | | | | | | | | | | | | | | | | | | |
| PROJECT/CONTRACT: | | | | | | | | | | | FRA-SR161-15.80 | | | | | | | | | | | |
| RUN: | | | | | | | | | | | Design Year NSA 15 ROW | | | | | | | | | | | |
| BARRIER DESIGN: | | | | | | | | | | | Noise Barrier NSA 15 at 14' | | | | | | | | | | | |
| Barriers | | | | | | | | | | | | | | | | | | | | | | |
| Name | Type | Heights along Barrier | | | Length | If Wall | If Berm | Top | Run:Rise | Cost | | | | | | | | | | | | |
| | | Min | Avg | Max | | | | | | | Area | Volume | Width | | | | | | | | | |
| | | ft | ft | ft | ft | sq ft | cu yd | ft | ft:ft | \$ | | | | | | | | | | | | |
| Noise barrier NSA15 | W | 14.00 | 14.00 | 14.00 | 1996 | 27945 | | | | | | | | | | | | | | | 838350 | |
| | | | | | | | | | | Total Cost: | | | | | | | | | | | | 838350 |

| | |
|----------------|--------------|
| Lawhon & Assoc | 18 July 2022 |
| CMCox | TNM 2.5 |

INPUT: BARRIERS

PROJECT/CONTRACT: FRA-SR161-15.80
 RUN: Design Year NSA 15 ROW

| Barrier | | | | | | | | | Points | | | | | | | | | | | |
|---------------------|------|--------|-------|------------------------|------------------------|--------------|----------|-------|-------------------------------------|------|-------------|----------------------|----------|-----------|-----------------------|------------------------|---|--|---------------|--------------------------------|
| Name | Type | Height | | If Wall | | If Berm | | | Add'tnl \$ per Unit Length | Name | No. | Coordinates (bottom) | | | Height at Point | Segment | | | On Struct? | Important Reflec- tions? |
| | | Min | Max | \$ per Unit Area | \$ per Unit Vol. | Top Width | Run:Rise | X | | | | Y | Z | Seg Ht | | Perturbs #Up #Dn | | | | |
| | | ft | ft | \$/sq ft | \$/cu yd | ft | ft:ft | \$/ft | | | ft | ft | ft | ft | ft | | | | | |
| Noise barrier NSA15 | W | 5.00 | 99.99 | 30.00 | | | | 0.00 | Sta 0+00 | 16 | 1,881,612.0 | 761,548.0 | 1,039.00 | 14.00 | 0.00 | 0 | 0 | | | |
| | | | | | | | | | Sta 0+60 | 18 | 1,881,671.8 | 761,543.2 | 1,039.79 | 14.00 | 0.00 | 0 | 0 | | | |
| | | | | | | | | | Sta 1+20 | 19 | 1,881,731.6 | 761,538.8 | 1,039.91 | 14.00 | 0.00 | 0 | 0 | | | |
| | | | | | | | | | Sta 2+96 | 9 | 1,881,906.0 | 761,525.0 | 1,040.00 | 14.00 | 0.00 | 0 | 0 | | | |
| | | | | | | | | | Sta 5+36 | 20 | 1,882,145.6 | 761,510.6 | 1,040.96 | 14.00 | 0.00 | 0 | 0 | | | |
| | | | | | | | | | Sta 9+76 | 3 | 1,882,585.0 | 761,484.0 | 1,042.00 | 14.00 | 0.00 | 0 | 0 | | | |
| | | | | | | | | | Sta 14+16 | 4 | 1,883,024.0 | 761,448.0 | 1,041.50 | 14.00 | 0.00 | 0 | 0 | | | |
| | | | | | | | | | Sta 17+16 | 5 | 1,883,320.0 | 761,400.0 | 1,042.00 | 14.00 | 0.00 | 0 | 0 | | | |
| | | | | | | | | | Sta 18+36 | 21 | 1,883,437.9 | 761,377.5 | 1,042.00 | 14.00 | 0.00 | 0 | 0 | | | |
| | | | | | | | | | Sta 18+96 | 22 | 1,883,496.0 | 761,362.9 | 1,042.44 | 14.00 | 0.00 | 0 | 0 | | | |
| | | | | | | | | | Sta 19+36 | 23 | 1,883,534.6 | 761,352.5 | 1,042.93 | 14.00 | 0.00 | 0 | 0 | | | |
| | | | | | | | | | Sta 19+96 | 15 | 1,883,593.0 | 761,336.0 | 1,043.50 | 14.00 | | | | | | |

INPUT: RECEIVERS

FRA-SR161-15.80

| | | | | | | | | | | | |
|----------------|--|--|--|--|--|--------------|--|--|--|--|--|
| Lawhon & Assoc | | | | | | 18 July 2022 | | | | | |
| CMCox | | | | | | TNM 2.5 | | | | | |

INPUT: RECEIVERS

PROJECT/CONTRACT: FRA-SR161-15.80
RUN: Design Year NSA 15 ROW

| Receiver | No. | #DUs | Coordinates (ground) | | | Height | Input Sound Levels and Criteria | | | | Active |
|----------|-----|------|----------------------|-----------|----------|--------|---------------------------------|-----------------|-------|------|--------|
| Name | | | X | Y | Z | above | Existing | Impact Criteria | | NR | in |
| | | | | | | Ground | LAeq1h | LAeq1h | Sub'l | Goal | Calc. |
| | | | ft | ft | ft | ft | dBA | dBA | dB | dB | |
| NSA15-2 | 4 | 1 | 1,881,779.0 | 761,497.0 | 1,041.00 | 4.92 | 70.40 | 66 | 10.0 | 5.0 | Y |
| NSA15-4 | 6 | 1 | 1,881,898.0 | 761,377.0 | 1,040.00 | 4.92 | 63.10 | 66 | 10.0 | 5.0 | Y |
| NSA15-6 | 8 | 1 | 1,881,898.0 | 761,240.0 | 1,043.00 | 4.92 | 60.50 | 66 | 10.0 | 5.0 | Y |
| NSA15-7 | 9 | 1 | 1,882,211.0 | 761,458.0 | 1,041.00 | 4.92 | 69.10 | 66 | 10.0 | 5.0 | Y |
| NSA15-8 | 10 | 1 | 1,882,211.0 | 761,395.0 | 1,040.00 | 4.92 | 64.30 | 66 | 10.0 | 5.0 | Y |
| NSA15-9 | 11 | 1 | 1,882,211.0 | 761,305.0 | 1,039.00 | 4.92 | 60.80 | 66 | 10.0 | 5.0 | Y |
| NSA15-10 | 12 | 2 | 1,882,407.0 | 761,336.0 | 1,041.00 | 4.92 | 63.90 | 66 | 10.0 | 5.0 | Y |
| NSA15-11 | 13 | 2 | 1,882,525.0 | 761,332.0 | 1,040.00 | 4.92 | 63.90 | 66 | 10.0 | 5.0 | Y |
| NSA15-12 | 14 | 2 | 1,882,634.0 | 761,328.0 | 1,041.00 | 4.92 | 64.20 | 66 | 10.0 | 5.0 | Y |
| NSA15-13 | 15 | 2 | 1,882,736.0 | 761,326.0 | 1,040.00 | 4.92 | 64.30 | 66 | 10.0 | 5.0 | Y |
| NSA15-14 | 16 | 2 | 1,882,938.0 | 761,356.0 | 1,038.00 | 4.92 | 64.70 | 66 | 10.0 | 5.0 | Y |
| NSA15-15 | 17 | 1 | 1,883,137.0 | 761,328.0 | 1,040.00 | 4.92 | 66.20 | 66 | 10.0 | 5.0 | Y |
| NSA15-16 | 18 | 2 | 1,882,391.0 | 761,293.0 | 1,041.00 | 4.92 | 62.40 | 66 | 10.0 | 5.0 | Y |
| NSA15-17 | 19 | 2 | 1,882,493.0 | 761,293.0 | 1,040.00 | 4.92 | 62.40 | 66 | 10.0 | 5.0 | Y |
| NSA15-18 | 20 | 2 | 1,882,595.0 | 761,291.0 | 1,040.00 | 4.92 | 62.60 | 66 | 10.0 | 5.0 | Y |
| NSA15-19 | 21 | 2 | 1,882,695.0 | 761,289.0 | 1,040.00 | 4.92 | 63.10 | 66 | 10.0 | 5.0 | Y |
| NSA15-20 | 22 | 1 | 1,882,781.0 | 761,289.0 | 1,039.00 | 4.92 | 63.10 | 66 | 10.0 | 5.0 | Y |
| NSA15-21 | 23 | 2 | 1,882,939.0 | 761,287.0 | 1,039.00 | 4.92 | 63.80 | 66 | 10.0 | 5.0 | Y |
| NSA15-22 | 24 | 2 | 1,883,156.0 | 761,274.0 | 1,040.00 | 4.92 | 65.00 | 66 | 10.0 | 5.0 | Y |
| NSA15-23 | 25 | 1 | 1,882,199.0 | 761,237.0 | 1,040.00 | 4.92 | 59.70 | 66 | 10.0 | 5.0 | Y |
| NSA15-24 | 26 | 1 | 1,882,199.0 | 761,172.0 | 1,039.00 | 4.92 | 58.20 | 66 | 10.0 | 5.0 | Y |
| NSA15-25 | 27 | 1 | 1,882,199.0 | 761,103.0 | 1,039.00 | 4.92 | 57.20 | 66 | 10.0 | 5.0 | Y |

INPUT: RECEIVERS**FRA-SR161-15.80**

| | | | | | | | | | | | |
|----------|----|---|-------------|-----------|----------|------|-------|----|------|-----|---|
| NSA15-26 | 28 | 2 | 1,882,384.0 | 761,121.0 | 1,040.00 | 4.92 | 59.20 | 66 | 10.0 | 5.0 | Y |
| NSA15-27 | 29 | 2 | 1,882,480.0 | 761,117.0 | 1,040.00 | 4.92 | 59.40 | 66 | 10.0 | 5.0 | Y |
| NSA15-28 | 30 | 2 | 1,882,585.0 | 761,113.0 | 1,040.00 | 4.92 | 59.50 | 66 | 10.0 | 5.0 | Y |
| NSA15-29 | 31 | 2 | 1,882,685.0 | 761,110.0 | 1,039.00 | 4.92 | 59.50 | 66 | 10.0 | 5.0 | Y |
| NSA15-30 | 32 | 1 | 1,882,775.0 | 761,108.0 | 1,038.00 | 4.92 | 59.50 | 66 | 10.0 | 5.0 | Y |
| NSA15-31 | 33 | 2 | 1,882,934.0 | 761,237.0 | 1,039.00 | 4.92 | 62.70 | 66 | 10.0 | 5.0 | Y |
| NSA15-32 | 34 | 2 | 1,882,934.0 | 761,177.0 | 1,039.00 | 4.92 | 61.50 | 66 | 10.0 | 5.0 | Y |
| NSA15-33 | 35 | 2 | 1,882,934.0 | 761,117.0 | 1,039.00 | 4.92 | 60.60 | 66 | 10.0 | 5.0 | Y |
| NSA15-34 | 36 | 2 | 1,882,934.0 | 761,073.0 | 1,039.00 | 4.92 | 60.00 | 66 | 10.0 | 5.0 | Y |
| NSA15-35 | 37 | 2 | 1,883,156.0 | 761,251.0 | 1,040.00 | 4.92 | 64.50 | 66 | 10.0 | 5.0 | Y |
| NSA15-36 | 38 | 2 | 1,883,156.0 | 761,191.0 | 1,039.00 | 4.92 | 63.10 | 66 | 10.0 | 5.0 | Y |
| NSA15-37 | 39 | 2 | 1,883,156.0 | 761,140.0 | 1,039.00 | 4.92 | 62.30 | 66 | 10.0 | 5.0 | Y |
| NSA15-38 | 40 | 2 | 1,883,156.0 | 761,093.0 | 1,039.00 | 4.92 | 61.50 | 66 | 10.0 | 5.0 | Y |
| NSA15-39 | 41 | 2 | 1,883,156.0 | 761,044.0 | 1,039.00 | 4.92 | 60.90 | 66 | 10.0 | 5.0 | Y |

INPUT: ROADWAYS

FRA-SR161-15.80

| Lawhon & Assoc CMCox | | | | | | | 18 July 2022 TNM 2.5 | | | | |
|----------------------------------|-------|-------------|------------------------|------------------------|-----------|----------|---|------------------|---------------------------|-----------|------------|
| INPUT: ROADWAYS | | | | | | | Average pavement type shall be used unless a State highway agency substantiates the use of a different type with the approval of FHWA | | | | |
| PROJECT/CONTRACT: | | | FRA-SR161-15.80 | | | | | | | | |
| RUN: | | | Design Year NSA 15 ROW | | | | | | | | |
| Roadway Name | Width | Points Name | No. | Coordinates (pavement) | | | Flow Control | | | Segment | |
| | | | | X | Y | Z | Control Device | Speed Constraint | Percent Vehicles Affected | Pvmt Type | On Struct? |
| | ft | | | ft | ft | ft | | mph | % | | |
| SR 161 P WB3c | 12.0 | point146 | 146 | 1,885,083.0 | 760,629.0 | 1,069.00 | | | | Average | Y |
| | | point120 | 120 | 1,884,926.0 | 760,765.0 | 1,067.00 | | | | Average | |
| | | point119 | 119 | 1,884,707.0 | 760,932.0 | 1,064.00 | | | | Average | |
| | | point121 | 121 | 1,884,410.0 | 761,125.0 | 1,061.00 | | | | Average | |
| | | point118 | 118 | 1,884,097.0 | 761,289.0 | 1,051.00 | | | | Average | |
| | | point117 | 117 | 1,883,781.0 | 761,420.0 | 1,046.00 | | | | | |
| SR 161 P WB2c | 12.0 | point147 | 147 | 1,885,083.0 | 760,641.0 | 1,069.00 | | | | Average | Y |
| | | point128 | 128 | 1,884,926.0 | 760,777.0 | 1,067.00 | | | | Average | |
| | | point127 | 127 | 1,884,707.0 | 760,944.0 | 1,064.00 | | | | Average | |
| | | point126 | 126 | 1,884,410.0 | 761,137.0 | 1,061.00 | | | | Average | |
| | | point125 | 125 | 1,884,097.0 | 761,301.0 | 1,051.00 | | | | Average | |
| | | point124 | 124 | 1,883,781.0 | 761,432.0 | 1,046.00 | | | | | |
| New Albany Condit Road | 24.0 | point72 | 77 | 1,881,870.0 | 760,728.0 | 1,040.00 | | | | Average | |
| | | point73 | 73 | 1,881,551.0 | 761,599.0 | 1,046.00 | | | | Average | Y |
| | | point74 | 74 | 1,881,418.0 | 761,845.0 | 1,044.00 | | | | Average | |
| | | point76 | 76 | 1,881,269.9 | 762,195.2 | 1,041.00 | | | | Average | |
| | | point75 | 75 | 1,881,180.0 | 762,495.0 | 1,038.00 | | | | | |
| Exit ramp SR161EB to US62 | 12.0 | point110 | 110 | 1,883,275.0 | 761,477.5 | 1,040.00 | Stop | 0.00 | 100 | Average | |
| | | point109 | 109 | 1,883,781.0 | 761,331.5 | 1,046.00 | | | | Average | |
| | | point107 | 107 | 1,884,093.5 | 761,164.3 | 1,046.00 | | | | Average | |
| | | point103 | 103 | 1,884,232.0 | 761,046.0 | 1,048.00 | | | | Average | |
| | | point104 | 104 | 1,884,431.0 | 760,833.0 | 1,050.00 | | | | Average | |
| | | point105 | 105 | 1,884,647.0 | 760,590.0 | 1,047.00 | | | | Average | |
| | | point106 | 106 | 1,884,737.0 | 760,507.0 | 1,045.00 | | | | | |
| Entrance Ramp SR161WB from US 62 | 12.0 | point129 | 129 | 1,885,344.0 | 760,868.8 | 1,049.00 | Onramp | 0.00 | 100 | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80

| | | | | | | | | | | |
|--------------------------------|------|----------|-----|-------------|-----------|----------|--|--|--|---------|
| | | point130 | 130 | 1,885,175.0 | 761,020.0 | 1,049.00 | | | | Average |
| | | point131 | 131 | 1,885,059.0 | 761,087.0 | 1,051.00 | | | | Average |
| | | point132 | 132 | 1,884,875.0 | 761,146.0 | 1,053.00 | | | | Average |
| | | point133 | 133 | 1,884,621.0 | 761,163.0 | 1,057.00 | | | | Average |
| | | point134 | 134 | 1,884,436.5 | 761,190.9 | 1,057.00 | | | | Average |
| | | point135 | 135 | 1,884,254.5 | 761,249.9 | 1,054.00 | | | | Average |
| | | point137 | 137 | 1,884,097.0 | 761,324.0 | 1,051.50 | | | | Average |
| | | point136 | 136 | 1,883,781.0 | 761,444.0 | 1,046.00 | | | | |
| US 62 EB | 12.0 | point138 | 138 | 1,884,172.0 | 760,109.0 | 1,044.00 | | | | Average |
| | | point139 | 139 | 1,884,737.0 | 760,464.0 | 1,045.00 | | | | Average |
| | | point140 | 140 | 1,885,358.0 | 760,838.0 | 1,049.00 | | | | Average |
| | | point141 | 141 | 1,885,764.0 | 761,116.0 | 1,053.00 | | | | |
| US 62 WB | 12.0 | point145 | 145 | 1,885,764.0 | 761,159.0 | 1,053.00 | | | | Average |
| | | point144 | 144 | 1,885,344.0 | 760,868.8 | 1,049.00 | | | | Average |
| | | point143 | 143 | 1,884,737.0 | 760,507.0 | 1,045.00 | | | | Average |
| | | point142 | 142 | 1,884,172.0 | 760,152.0 | 1,044.00 | | | | |
| Butterworth Breen Drive | 20.0 | point157 | 157 | 1,883,266.0 | 760,798.0 | 1,037.00 | | | | Average |
| | | point158 | 158 | 1,883,270.0 | 761,273.0 | 1,039.00 | | | | Average |
| | | point159 | 159 | 1,883,256.2 | 761,329.6 | 1,039.00 | | | | Average |
| | | point160 | 160 | 1,883,174.0 | 761,385.0 | 1,039.00 | | | | Average |
| | | point161 | 161 | 1,883,060.0 | 761,400.0 | 1,039.00 | | | | Average |
| | | point162 | 162 | 1,882,842.0 | 761,415.0 | 1,038.00 | | | | Average |
| | | point163 | 163 | 1,882,330.0 | 761,427.0 | 1,040.00 | | | | Average |
| | | point164 | 164 | 1,882,325.0 | 761,223.0 | 1,039.00 | | | | Average |
| | | point165 | 165 | 1,882,320.0 | 761,012.0 | 1,039.00 | | | | |
| Hearthstone Park | 22.0 | point166 | 166 | 1,883,060.0 | 761,400.0 | 1,039.00 | | | | Average |
| | | point167 | 167 | 1,883,061.9 | 760,898.0 | 1,039.00 | | | | |
| Blackstone Edge Dr | 22.0 | point168 | 168 | 1,882,842.0 | 761,415.0 | 1,038.00 | | | | Average |
| | | point169 | 169 | 1,882,839.9 | 761,011.0 | 1,038.00 | | | | |
| Loomis Dr | 12.0 | point170 | 170 | 1,882,325.0 | 761,223.0 | 1,039.00 | | | | Average |
| | | point171 | 171 | 1,882,827.0 | 761,218.0 | 1,039.00 | | | | |
| SR 161 P EB outside shoulder | 10.0 | point203 | 203 | 1,880,194.4 | 761,713.5 | 1,014.00 | | | | Average |
| | | point204 | 204 | 1,880,953.6 | 761,666.5 | 1,019.00 | | | | Average |
| | | point205 | 205 | 1,881,713.0 | 761,619.5 | 1,025.00 | | | | Average |
| | | point206 | 206 | 1,882,943.0 | 761,534.5 | 1,036.00 | | | | Average |
| | | point207 | 207 | 1,883,275.0 | 761,477.5 | 1,040.00 | | | | |
| SR 161 P EB outside shoulder-2 | 10.0 | point213 | 213 | 1,884,097.0 | 761,200.5 | 1,051.00 | | | | Average |
| | | point210 | 210 | 1,884,410.0 | 761,036.5 | 1,057.00 | | | | Average |
| | | point211 | 211 | 1,884,709.0 | 760,842.5 | 1,064.00 | | | | Average |

INPUT: ROADWAYS

FRA-SR161-15.80

| | | | | | | | | | | | |
|--------------------------------|------|----------|-----|-------------|-----------|----------|--|--|--|---------|---|
| | | point212 | 212 | 1,884,905.0 | 760,691.0 | 1,067.00 | | | | Average | Y |
| | | point259 | 259 | 1,885,055.5 | 760,568.0 | 1,068.00 | | | | Average | |
| | | point260 | 260 | 1,885,280.0 | 760,358.0 | 1,067.00 | | | | | |
| SR 161 P WB inside shoulder | 10.0 | point214 | 214 | 1,885,083.0 | 760,617.0 | 1,069.00 | | | | Average | Y |
| | | point215 | 215 | 1,884,926.0 | 760,753.0 | 1,067.00 | | | | Average | |
| | | point216 | 216 | 1,884,707.0 | 760,920.0 | 1,064.00 | | | | Average | |
| | | point217 | 217 | 1,884,410.0 | 761,113.0 | 1,061.00 | | | | Average | |
| | | point218 | 218 | 1,884,097.0 | 761,277.0 | 1,051.00 | | | | Average | |
| | | point219 | 219 | 1,883,781.0 | 761,408.0 | 1,046.00 | | | | Average | |
| | | point220 | 220 | 1,883,275.0 | 761,554.0 | 1,040.00 | | | | Average | |
| | | point221 | 221 | 1,882,943.0 | 761,611.0 | 1,036.00 | | | | Average | |
| | | point222 | 222 | 1,881,713.0 | 761,696.0 | 1,025.00 | | | | Average | |
| | | point223 | 223 | 1,879,435.0 | 761,837.0 | 1,010.00 | | | | | |
| SR 161 P WB1c | 12.0 | point228 | 228 | 1,885,083.0 | 760,653.0 | 1,069.00 | | | | Average | Y |
| | | point229 | 229 | 1,884,926.0 | 760,789.0 | 1,067.00 | | | | Average | |
| | | point230 | 230 | 1,884,707.0 | 760,956.0 | 1,064.00 | | | | Average | |
| | | point231 | 231 | 1,884,410.0 | 761,149.0 | 1,061.00 | | | | Average | |
| | | point232 | 232 | 1,884,097.0 | 761,313.0 | 1,051.00 | | | | Average | |
| | | point233 | 233 | 1,883,781.0 | 761,444.0 | 1,046.00 | | | | | |
| SR 161 P WB Outside Shoulder | 10.0 | point242 | 242 | 1,885,083.0 | 760,664.0 | 1,069.00 | | | | Average | Y |
| | | point243 | 243 | 1,884,926.0 | 760,800.0 | 1,067.00 | | | | Average | |
| | | point244 | 244 | 1,884,707.0 | 760,968.0 | 1,064.00 | | | | Average | |
| | | point245 | 245 | 1,884,410.0 | 761,161.0 | 1,061.00 | | | | | |
| SR 161 P WB Outside Shoulder-2 | 10.0 | point247 | 247 | 1,883,781.0 | 761,456.0 | 1,046.00 | | | | Average | |
| | | point248 | 248 | 1,883,275.0 | 761,602.0 | 1,040.00 | | | | Average | |
| | | point249 | 249 | 1,882,943.0 | 761,659.0 | 1,036.00 | | | | Average | |
| | | point250 | 250 | 1,881,713.0 | 761,744.0 | 1,025.00 | | | | Average | |
| | | point251 | 251 | 1,879,435.0 | 761,885.0 | 1,010.00 | | | | | |
| SR 161 PEB3b | 12.0 | point261 | 261 | 1,880,194.4 | 761,749.5 | 1,014.00 | | | | Average | |
| | | point84 | 84 | 1,880,953.6 | 761,702.5 | 1,019.00 | | | | Average | |
| | | point95 | 95 | 1,881,713.0 | 761,655.5 | 1,025.00 | | | | Average | |
| | | point96 | 96 | 1,882,943.0 | 761,570.5 | 1,036.00 | | | | Average | |
| | | point97 | 97 | 1,883,275.0 | 761,513.5 | 1,040.00 | | | | Average | |
| | | point122 | 122 | 1,883,781.0 | 761,367.5 | 1,046.00 | | | | | |
| SR 161 PEB2b | 12.0 | point262 | 262 | 1,880,194.4 | 761,737.5 | 1,014.00 | | | | Average | |
| | | point80 | 80 | 1,880,953.6 | 761,690.5 | 1,019.00 | | | | Average | |
| | | point78 | 78 | 1,881,713.0 | 761,643.5 | 1,025.00 | | | | Average | |
| | | point87 | 87 | 1,882,943.0 | 761,558.5 | 1,036.00 | | | | Average | |
| | | point88 | 88 | 1,883,275.0 | 761,501.5 | 1,040.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80

| | | | | | | | | | | | |
|---------------|------|----------|-----|-------------|-----------|----------|--|--|--|---------|---|
| | | point89 | 89 | 1,883,781.0 | 761,355.5 | 1,046.00 | | | | | |
| SR161 P EB1b | 12.0 | point263 | 263 | 1,880,194.4 | 761,725.5 | 1,014.00 | | | | Average | |
| | | point190 | 190 | 1,880,953.6 | 761,678.5 | 1,019.00 | | | | Average | |
| | | point191 | 191 | 1,881,713.0 | 761,631.5 | 1,025.00 | | | | Average | |
| | | point192 | 192 | 1,882,943.0 | 761,546.5 | 1,036.00 | | | | Average | |
| | | point193 | 193 | 1,883,275.0 | 761,489.5 | 1,040.00 | | | | Average | |
| | | point194 | 194 | 1,883,781.0 | 761,343.5 | 1,046.00 | | | | | |
| SR 161 P EB3c | 12.0 | point264 | 264 | 1,883,781.0 | 761,367.5 | 1,046.00 | | | | Average | |
| | | point186 | 186 | 1,884,097.0 | 761,236.5 | 1,051.00 | | | | Average | |
| | | point98 | 98 | 1,884,410.0 | 761,072.5 | 1,057.00 | | | | Average | |
| | | point99 | 99 | 1,884,709.0 | 760,878.5 | 1,064.00 | | | | Average | |
| | | point100 | 100 | 1,884,905.0 | 760,727.0 | 1,067.00 | | | | Average | Y |
| | | point101 | 101 | 1,885,067.5 | 760,592.0 | 1,068.00 | | | | Average | |
| | | point102 | 102 | 1,885,292.0 | 760,382.0 | 1,067.00 | | | | | |
| SR 161 PEB2c | 12.0 | point265 | 265 | 1,883,781.0 | 761,355.5 | 1,046.00 | | | | Average | |
| | | point123 | 123 | 1,884,097.0 | 761,224.5 | 1,051.00 | | | | Average | |
| | | point90 | 90 | 1,884,410.0 | 761,060.5 | 1,057.00 | | | | Average | |
| | | point91 | 91 | 1,884,709.0 | 760,866.5 | 1,064.00 | | | | Average | |
| | | point92 | 92 | 1,884,905.0 | 760,715.0 | 1,067.00 | | | | Average | Y |
| | | point93 | 93 | 1,885,067.5 | 760,580.0 | 1,068.00 | | | | Average | |
| | | point94 | 94 | 1,885,292.0 | 760,370.0 | 1,067.00 | | | | | |
| SR161 P EB1c | 12.0 | point266 | 266 | 1,883,781.0 | 761,343.5 | 1,046.00 | | | | Average | |
| | | point195 | 195 | 1,884,097.0 | 761,212.5 | 1,051.00 | | | | Average | |
| | | point196 | 196 | 1,884,410.0 | 761,048.5 | 1,057.00 | | | | Average | |
| | | point197 | 197 | 1,884,709.0 | 760,854.5 | 1,064.00 | | | | Average | |
| | | point198 | 198 | 1,884,905.0 | 760,703.0 | 1,067.00 | | | | Average | Y |
| | | point199 | 199 | 1,885,067.5 | 760,568.0 | 1,068.00 | | | | Average | |
| | | point200 | 200 | 1,885,292.0 | 760,358.0 | 1,067.00 | | | | | |
| SR 161 P WB1b | 12.0 | point267 | 267 | 1,883,781.0 | 761,444.0 | 1,046.00 | | | | Average | |
| | | point234 | 234 | 1,883,275.0 | 761,590.0 | 1,040.00 | | | | Average | |
| | | point235 | 235 | 1,882,943.0 | 761,647.0 | 1,036.00 | | | | Average | |
| | | point236 | 236 | 1,881,713.0 | 761,732.0 | 1,025.00 | | | | Average | |
| | | point237 | 237 | 1,879,435.0 | 761,873.0 | 1,010.00 | | | | | |
| SR 161 P WB2b | 12.0 | point268 | 268 | 1,883,781.0 | 761,432.0 | 1,046.00 | | | | Average | |
| | | point116 | 116 | 1,883,275.0 | 761,578.0 | 1,040.00 | | | | Average | |
| | | point114 | 114 | 1,882,943.0 | 761,635.0 | 1,036.00 | | | | Average | |
| | | point112 | 112 | 1,881,713.0 | 761,720.0 | 1,025.00 | | | | Average | |
| | | point86 | 86 | 1,879,435.0 | 761,861.0 | 1,010.00 | | | | | |
| SR 161 P WB3b | 12.0 | point269 | 269 | 1,883,781.0 | 761,420.0 | 1,046.00 | | | | Average | |

INPUT: ROADWAYS

FRA-SR161-15.80

| | | | | | | | | | | | |
|------------------------------|------|----------|-----|-------------|-----------|----------|--|--|--|---------|---|
| | | point115 | 115 | 1,883,275.0 | 761,566.0 | 1,040.00 | | | | Average | |
| | | point113 | 113 | 1,882,943.0 | 761,623.0 | 1,036.00 | | | | Average | |
| | | point111 | 111 | 1,881,713.0 | 761,708.0 | 1,025.00 | | | | Average | |
| | | point85 | 85 | 1,879,435.0 | 761,849.0 | 1,010.00 | | | | | |
| SR 161 PEB inside shoulder-2 | 10.0 | point273 | 273 | 1,880,194.4 | 761,760.5 | 1,014.00 | | | | Average | |
| | | point179 | 179 | 1,880,953.6 | 761,713.5 | 1,019.00 | | | | Average | |
| | | point174 | 174 | 1,881,713.0 | 761,666.5 | 1,025.00 | | | | Average | |
| | | point175 | 175 | 1,882,943.0 | 761,581.5 | 1,036.00 | | | | Average | |
| | | point176 | 176 | 1,883,275.0 | 761,524.5 | 1,040.00 | | | | Average | |
| | | point177 | 177 | 1,883,781.0 | 761,378.5 | 1,046.00 | | | | Average | |
| | | point180 | 180 | 1,884,097.0 | 761,247.5 | 1,051.00 | | | | Average | |
| | | point181 | 181 | 1,884,410.0 | 761,083.5 | 1,057.00 | | | | Average | |
| | | point182 | 182 | 1,884,707.0 | 760,890.5 | 1,064.00 | | | | Average | |
| | | point183 | 183 | 1,884,910.5 | 760,739.0 | 1,067.00 | | | | Average | Y |
| | | point185 | 185 | 1,885,067.5 | 760,603.0 | 1,068.00 | | | | | |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| | | | | | | | | | | | | | |
|-----------------------------------|------------------------|-----|---------|-----|---------|-----|---------|-----|--------|-----|-------------|-----|--|
| Lawhon & Assoc | | | | | | | | | | | | | |
| CMCox | | | | | | | | | | | | | |
| | | | | | | | | | | | | | |
| INPUT: TRAFFIC FOR LAeq1h Volumes | | | | | | | | | | | | | |
| PROJECT/CONTRACT: | FRA-SR161-15.80 | | | | | | | | | | | | |
| RUN: | Design Year NSA 15 ROW | | | | | | | | | | | | |
| Roadway | Points | | | | | | | | | | | | |
| Name | Name | No. | Segment | | | | | | | | | | |
| | | | Autos | | MTrucks | | HTrucks | | Buses | | Motorcycles | | |
| | | | V | S | V | S | V | S | V | S | V | S | |
| | | | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | veh/hr | mph | |
| SR 161 P WB3c | point146 | 146 | 950 | 65 | 33 | 65 | 53 | 65 | 0 | 0 | 0 | 0 | |
| | point120 | 120 | 950 | 65 | 33 | 65 | 53 | 65 | 0 | 0 | 0 | 0 | |
| | point119 | 119 | 950 | 65 | 33 | 65 | 53 | 65 | 0 | 0 | 0 | 0 | |
| | point121 | 121 | 950 | 65 | 33 | 65 | 53 | 65 | 0 | 0 | 0 | 0 | |
| | point118 | 118 | 950 | 65 | 33 | 65 | 53 | 65 | 0 | 0 | 0 | 0 | |
| | point117 | 117 | | | | | | | | | | | |
| SR 161 P WB2c | point147 | 147 | 950 | 65 | 33 | 65 | 53 | 65 | 0 | 0 | 0 | 0 | |
| | point128 | 128 | 950 | 65 | 33 | 65 | 53 | 65 | 0 | 0 | 0 | 0 | |
| | point127 | 127 | 950 | 65 | 33 | 65 | 53 | 65 | 0 | 0 | 0 | 0 | |
| | point126 | 126 | 950 | 65 | 33 | 65 | 53 | 65 | 0 | 0 | 0 | 0 | |
| | point125 | 125 | 950 | 65 | 33 | 65 | 53 | 65 | 0 | 0 | 0 | 0 | |
| | point124 | 124 | | | | | | | | | | | |
| New Albany Condit Road | point72 | 77 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | point73 | 73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | point74 | 74 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | point76 | 76 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| | point75 | 75 | | | | | | | | | | | |
| Exit ramp SR161EB to US62 | point110 | 110 | 2305 | 65 | 60 | 65 | 140 | 65 | 0 | 0 | 0 | 0 | |
| | point109 | 109 | 2305 | 65 | 60 | 65 | 140 | 65 | 0 | 0 | 0 | 0 | |
| | point107 | 107 | 2305 | 65 | 60 | 65 | 140 | 65 | 0 | 0 | 0 | 0 | |
| | point103 | 103 | 2305 | 65 | 60 | 65 | 140 | 65 | 0 | 0 | 0 | 0 | |
| | point104 | 104 | 2305 | 65 | 60 | 65 | 140 | 65 | 0 | 0 | 0 | 0 | |
| | point105 | 105 | 2305 | 65 | 60 | 65 | 140 | 65 | 0 | 0 | 0 | 0 | |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| | | | | | | | | | | | | |
|----------------------------------|----------|-----|-----|----|----|----|----|----|---|---|---|---|
| | point106 | 106 | | | | | | | | | | |
| Entrance Ramp SR161WB from US 62 | point129 | 129 | 946 | 65 | 21 | 65 | 50 | 65 | 0 | 0 | 0 | 0 |
| | point130 | 130 | 946 | 65 | 21 | 65 | 50 | 65 | 0 | 0 | 0 | 0 |
| | point131 | 131 | 946 | 65 | 21 | 65 | 50 | 65 | 0 | 0 | 0 | 0 |
| | point132 | 132 | 946 | 65 | 21 | 65 | 50 | 65 | 0 | 0 | 0 | 0 |
| | point133 | 133 | 946 | 65 | 21 | 65 | 50 | 65 | 0 | 0 | 0 | 0 |
| | point134 | 134 | 946 | 65 | 21 | 65 | 50 | 65 | 0 | 0 | 0 | 0 |
| | point135 | 135 | 946 | 65 | 21 | 65 | 50 | 65 | 0 | 0 | 0 | 0 |
| | point137 | 137 | 946 | 65 | 21 | 65 | 50 | 65 | 0 | 0 | 0 | 0 |
| | point136 | 136 | | | | | | | | | | |
| US 62 EB | point138 | 138 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point139 | 139 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point140 | 140 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point141 | 141 | | | | | | | | | | |
| US 62 WB | point145 | 145 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point144 | 144 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point143 | 143 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point142 | 142 | | | | | | | | | | |
| Butterworth Breen Drive | point157 | 157 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point158 | 158 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point159 | 159 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point160 | 160 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point161 | 161 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point162 | 162 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point163 | 163 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point164 | 164 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point165 | 165 | | | | | | | | | | |
| Hearthstone Park | point166 | 166 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point167 | 167 | | | | | | | | | | |
| Blackstone Edge Dr | point168 | 168 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point169 | 169 | | | | | | | | | | |
| Loomis Dr | point170 | 170 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point171 | 171 | | | | | | | | | | |
| SR 161 P EB outside shoulder | point203 | 203 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point204 | 204 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point205 | 205 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| | | | | | | | | | | | | |
|--------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point206 | 206 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point207 | 207 | | | | | | | | | | |
| SR 161 P EB outside shoulder-2 | point213 | 213 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point210 | 210 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point211 | 211 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point212 | 212 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point259 | 259 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point260 | 260 | | | | | | | | | | |
| SR 161 P WB inside shoulder | point214 | 214 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point215 | 215 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point216 | 216 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point217 | 217 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point218 | 218 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point219 | 219 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point220 | 220 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point221 | 221 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point222 | 222 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point223 | 223 | | | | | | | | | | |
| SR 161 P WB1c | point228 | 228 | 950 | 65 | 33 | 65 | 53 | 65 | 0 | 0 | 0 | 0 |
| | point229 | 229 | 950 | 65 | 33 | 65 | 53 | 65 | 0 | 0 | 0 | 0 |
| | point230 | 230 | 950 | 65 | 33 | 65 | 53 | 65 | 0 | 0 | 0 | 0 |
| | point231 | 231 | 950 | 65 | 33 | 65 | 53 | 65 | 0 | 0 | 0 | 0 |
| | point232 | 232 | 950 | 65 | 33 | 65 | 53 | 65 | 0 | 0 | 0 | 0 |
| | point233 | 233 | | | | | | | | | | |
| SR 161 P WB Outside Shoulder | point242 | 242 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point243 | 243 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point244 | 244 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point245 | 245 | | | | | | | | | | |
| SR 161 P WB Outside Shoulder-2 | point247 | 247 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point248 | 248 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point249 | 249 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point250 | 250 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point251 | 251 | | | | | | | | | | |
| SR 161 PEB3b | point261 | 261 | 1350 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point84 | 84 | 1350 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point95 | 95 | 1350 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |

INPUT: TRAFFIC FOR LAeq1h Volumes

FRA-SR161-15.80

| | | | | | | | | | | | | |
|---------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| | point96 | 96 | 1350 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point97 | 97 | 1350 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point122 | 122 | | | | | | | | | | |
| SR 161 PEB2b | point262 | 262 | 1350 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point80 | 80 | 1350 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point78 | 78 | 1350 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point87 | 87 | 1350 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point88 | 88 | 1350 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point89 | 89 | | | | | | | | | | |
| SR161 P EB1b | point263 | 263 | 1350 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point190 | 190 | 1350 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point191 | 191 | 1350 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point192 | 192 | 1350 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point193 | 193 | 1350 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point194 | 194 | | | | | | | | | | |
| SR 161 P EB3c | point264 | 264 | 835 | 65 | 20 | 65 | 47 | 65 | 0 | 0 | 0 | 0 |
| | point186 | 186 | 835 | 65 | 20 | 65 | 47 | 65 | 0 | 0 | 0 | 0 |
| | point98 | 98 | 835 | 65 | 20 | 65 | 47 | 65 | 0 | 0 | 0 | 0 |
| | point99 | 99 | 835 | 65 | 20 | 65 | 47 | 65 | 0 | 0 | 0 | 0 |
| | point100 | 100 | 835 | 65 | 20 | 65 | 47 | 65 | 0 | 0 | 0 | 0 |
| | point101 | 101 | 835 | 65 | 20 | 65 | 47 | 65 | 0 | 0 | 0 | 0 |
| | point102 | 102 | | | | | | | | | | |
| SR 161 PEB2c | point265 | 265 | 835 | 65 | 20 | 65 | 47 | 65 | 0 | 0 | 0 | 0 |
| | point123 | 123 | 835 | 65 | 20 | 65 | 47 | 65 | 0 | 0 | 0 | 0 |
| | point90 | 90 | 835 | 65 | 20 | 65 | 47 | 65 | 0 | 0 | 0 | 0 |
| | point91 | 91 | 835 | 65 | 20 | 65 | 47 | 65 | 0 | 0 | 0 | 0 |
| | point92 | 92 | 835 | 65 | 20 | 65 | 47 | 65 | 0 | 0 | 0 | 0 |
| | point93 | 93 | 835 | 65 | 20 | 65 | 47 | 65 | 0 | 0 | 0 | 0 |
| | point94 | 94 | | | | | | | | | | |
| SR161 P EB1c | point266 | 266 | 835 | 65 | 20 | 65 | 47 | 65 | 0 | 0 | 0 | 0 |
| | point195 | 195 | 835 | 65 | 20 | 65 | 47 | 65 | 0 | 0 | 0 | 0 |
| | point196 | 196 | 835 | 65 | 20 | 65 | 47 | 65 | 0 | 0 | 0 | 0 |
| | point197 | 197 | 835 | 65 | 20 | 65 | 47 | 65 | 0 | 0 | 0 | 0 |
| | point198 | 198 | 835 | 65 | 20 | 65 | 47 | 65 | 0 | 0 | 0 | 0 |
| | point199 | 199 | 835 | 65 | 20 | 65 | 47 | 65 | 0 | 0 | 0 | 0 |
| | point200 | 200 | | | | | | | | | | |

INPUT: TRAFFIC FOR LAeq1h Volumes

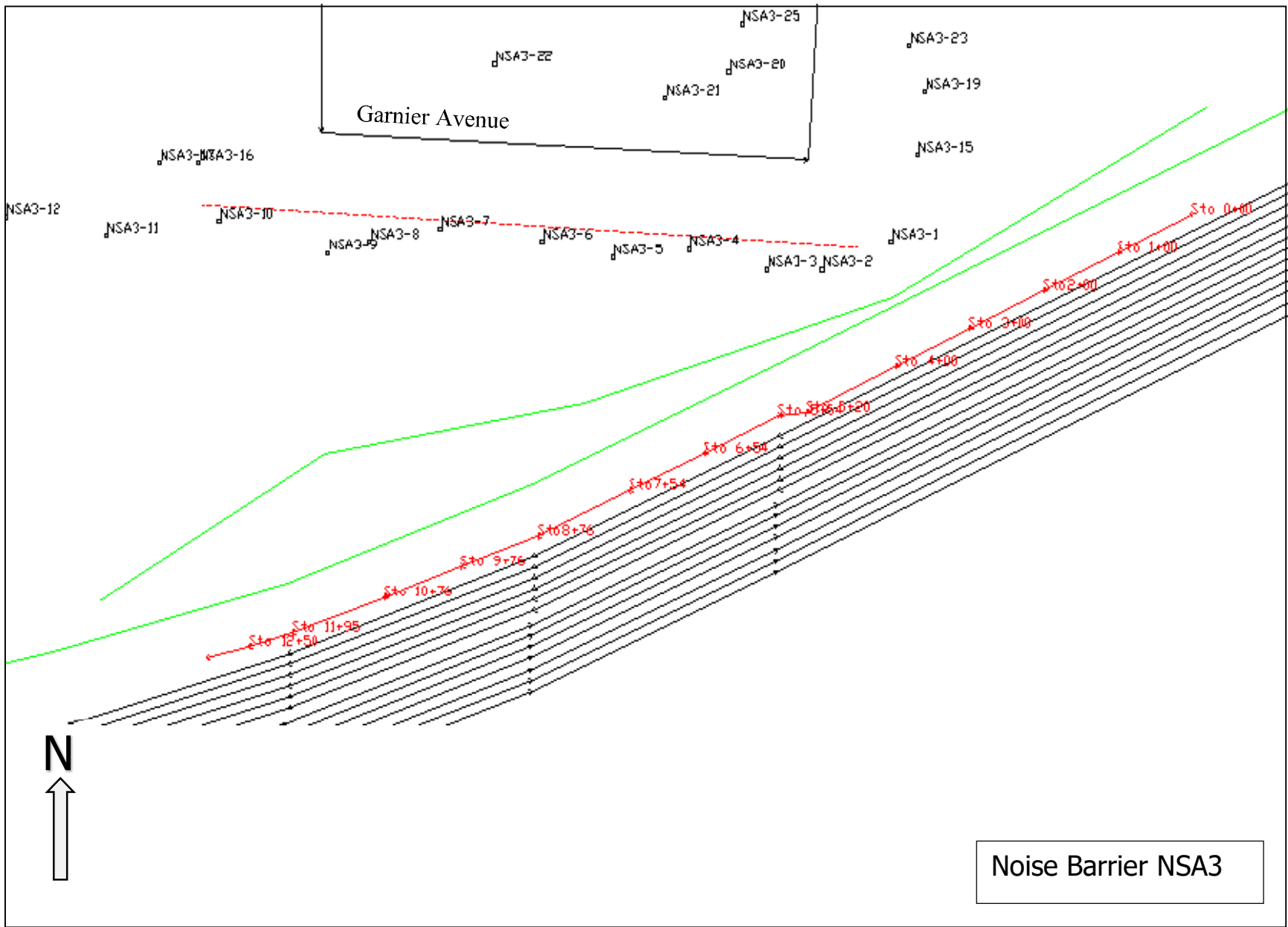
FRA-SR161-15.80

| | | | | | | | | | | | | |
|------------------------------|----------|-----|------|----|----|----|----|----|---|---|---|---|
| SR 161 P WB1b | point267 | 267 | 1346 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point234 | 234 | 1346 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point235 | 235 | 1346 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point236 | 236 | 1346 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point237 | 237 | | | | | | | | | | |
| SR 161 P WB2b | point268 | 268 | 1346 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point116 | 116 | 1346 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point114 | 114 | 1346 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point112 | 112 | 1346 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point86 | 86 | | | | | | | | | | |
| SR 161 P WB3b | point269 | 269 | 1346 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point115 | 115 | 1346 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point113 | 113 | 1346 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point111 | 111 | 1346 | 65 | 35 | 65 | 82 | 65 | 0 | 0 | 0 | 0 |
| | point85 | 85 | | | | | | | | | | |
| SR 161 PEB inside shoulder-2 | point273 | 273 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point179 | 179 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point174 | 174 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point175 | 175 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point176 | 176 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point177 | 177 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point180 | 180 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point181 | 181 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point182 | 182 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point183 | 183 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | point185 | 185 | | | | | | | | | | |

APPENDIX E
Noise Barrier Design Tables

**Noise Barrier NSA 3
Clear zone to EOS**

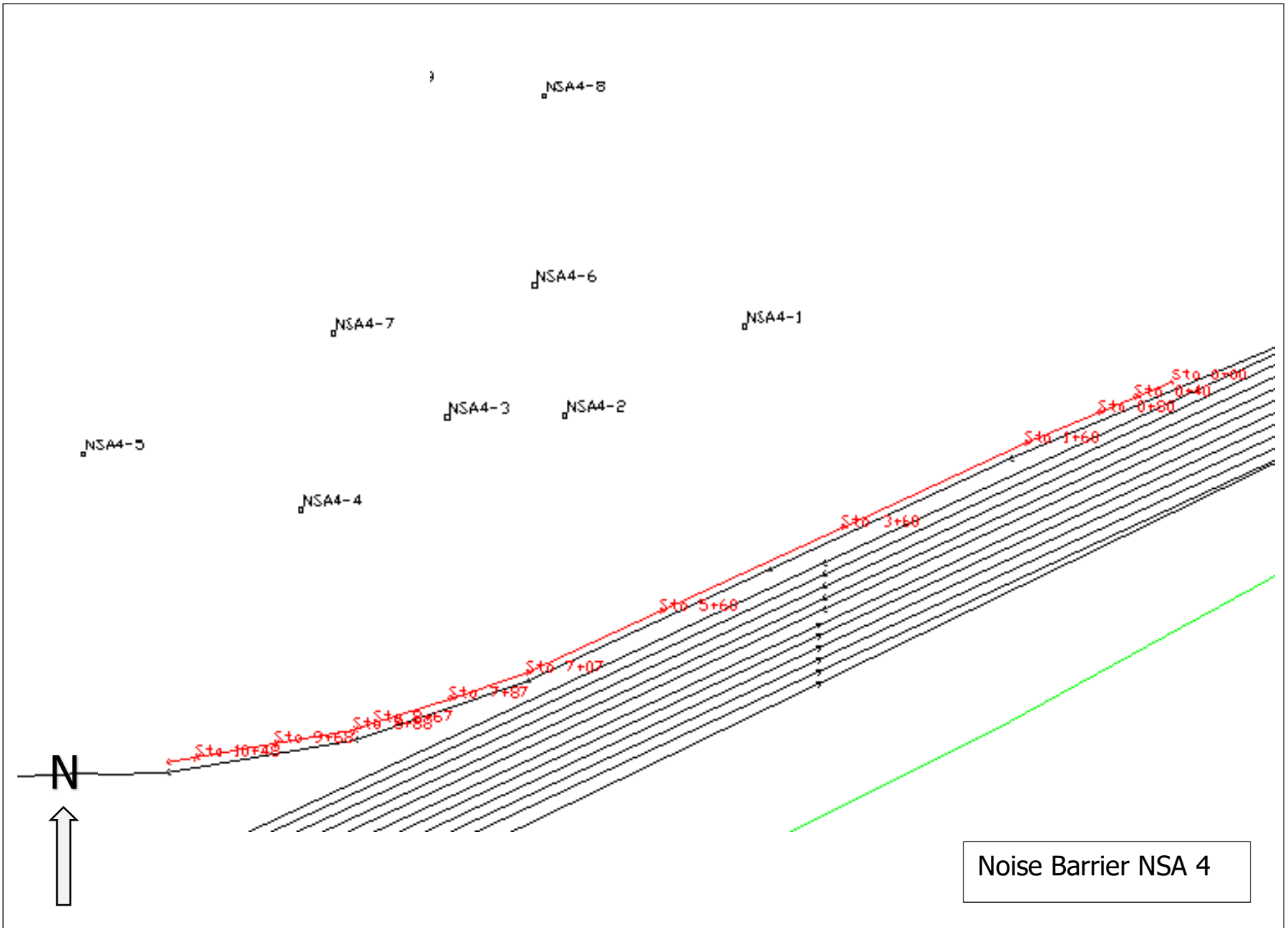
| Noise Barrier Station | X | Y | Z (bottom) | Barrier Height | Z (top) |
|------------------------------|-------------|-----------|-------------------|-----------------------|----------------|
| 0+00 | 1,867,559.0 | 758,377.0 | 981.0 | 14 | 995.0 |
| 1+00 | 1,867,468.4 | 758,334.7 | 979.5 | 14 | 993.5 |
| 2+00 | 1,867,377.8 | 758,292.4 | 978.5 | 14 | 992.5 |
| 3+00 | 1,867,287.3 | 758,250.1 | 977.0 | 14 | 991.0 |
| 4+00 | 1,867,196.6 | 758,207.8 | 975.5 | 14 | 989.5 |
| 5+20 | 1,867,088.0 | 758,157.0 | 974.0 | 14 | 988.0 |
| 5+54 | 1,867,054.0 | 758,153.5 | 974.0 | 14 | 988.0 |
| 6+54 | 1,866,963.0 | 758,112.1 | 972.0 | 14 | 986.0 |
| 7+54 | 1,866,872.0 | 758,070.7 | 969.5 | 14 | 983.5 |
| 8+76 | 1,866,760.5 | 758,020.0 | 967.00 | 14 | 981.0 |
| 9+76 | 1,866,666.3 | 757,986.4 | 966.5 | 14 | 980.5 |
| 10+76 | 1,866,572.1 | 757,952.8 | 966.5 | 14 | 980.5 |
| 11+95 | 1,866,460.5 | 757,913.0 | 965.5 | 14 | 979.5 |
| 12+50 | 1,866,407.6 | 757,897.9 | 965.0 | 14 | 979.0 |
| 13+04 | 1,866,355.0 | 757,885.0 | 964.5 | 14 | 978.5 |



Noise Barrier NSA3

Noise Barrier NSA4
North Side of SR 161 Located Along EOS

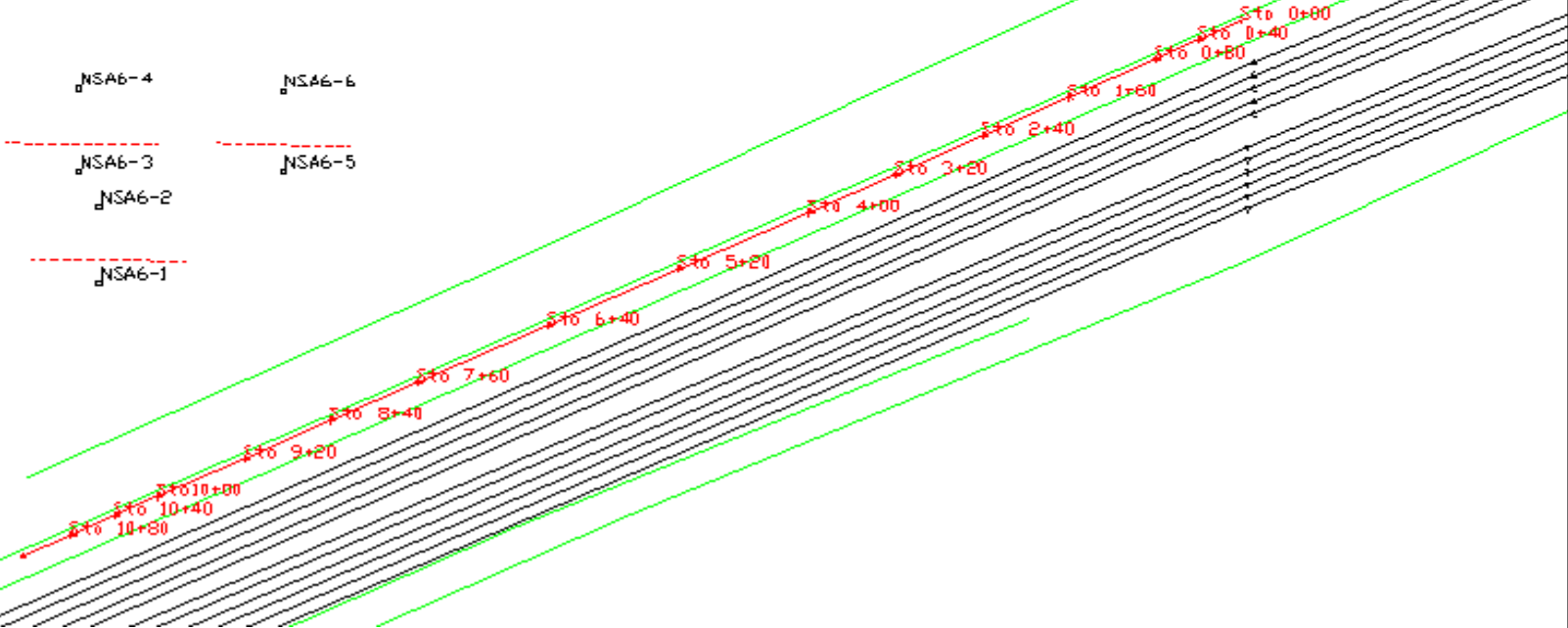
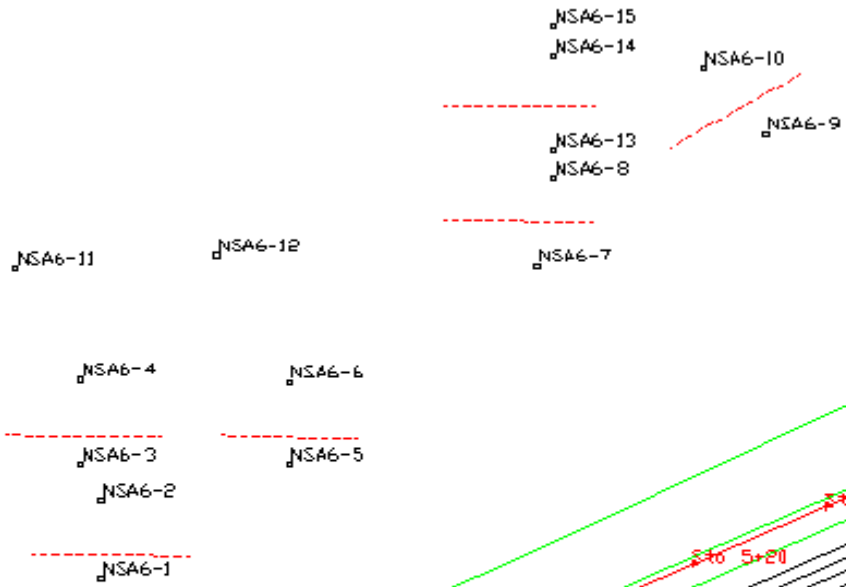
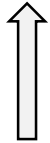
| Noise Barrier Station | X | Y | Z (bottom) | Barrier Height | Z (top) |
|------------------------------|-------------|-----------|-------------------|-----------------------|----------------|
| 0+00 | 1,871,326.0 | 760,133.0 | 965.0 | 14 | 979.0 |
| 0+40 | 1,871,289.1 | 760,117.4 | 965.0 | 14 | 979.0 |
| 0+80 | 1,871,252.4 | 760,101.8 | 965.0 | 14 | 979.0 |
| 1+60 | 1,871,178.8 | 760,070.6 | 966.0 | 14 | 980.0 |
| 3+60 | 1,870,997.1 | 759,987.0 | 967.0 | 14 | 981.0 |
| 5+60 | 1,870,815.4 | 759,903.4 | 969.0 | 14 | 983.0 |
| 7+07 | 1,870,682.0 | 759,842.0 | 971.0 | 14 | 985.0 |
| 7+87 | 1,870,606.1 | 759,816.8 | 972.0 | 14 | 986.0 |
| 8+67 | 1,870,530.1 | 759,791.7 | 973.0 | 14 | 987.0 |
| 8+88 | 1,870,510.0 | 759,785.0 | 973.0 | 14 | 987.0 |
| 9+68 | 1,870,431.1 | 759,771.5 | 974.5 | 14 | 988.5 |
| 10+48 | 1,870,352.3 | 759,758.0 | 975.5 | 14 | 989.5 |
| 10+78 | 1,870,323.0 | 759,753.0 | 976.0 | 14 | 990.0 |



**Noise Barrier NSA 6
North Side of SR 161**

| Noise Barrier Station | X | Y | Z (bottom) | Barrier Height | Z (top) |
|------------------------------|-------------|-----------|-------------------|-----------------------|----------------|
| Sta 0+00 | 1,872,900.6 | 760,906.2 | 969.0 | 14 | 983.0 |
| Sta 0+40 | 1,872,864.6 | 760,888.8 | 969.0 | 14 | 983.0 |
| Sta 0+80 | 1,872,828.6 | 760,871.4 | 969.0 | 14 | 983.0 |
| Sta 1+60 | 1,872,756.6 | 760,836.5 | 968.5 | 14 | 982.5 |
| Sta 2+40 | 1,872,684.6 | 760,801.7 | 968.5 | 14 | 982.5 |
| Sta 3+20 | 1,872,612.6 | 760,766.8 | 968.0 | 14 | 982.0 |
| Sta 4+00 | 1,872,540.6 | 760,731.9 | 968.0 | 14 | 982.0 |
| Sta 5+20 | 1,872,432.1 | 760,680.8 | 967.5 | 14 | 981.5 |
| Sta 6+40 | 1,872,323.5 | 760,629.6 | 966.5 | 14 | 980.5 |
| Sta 7+60 | 1,872,215.0 | 760,578.5 | 965.5 | 14 | 979.5 |
| Sta 8+40 | 1,872,142.9 | 760,543.9 | 965.0 | 14 | 979.0 |
| Sta 9+20 | 1,872,070.8 | 760,509.3 | 964.5 | 14 | 978.5 |
| Sta10+00 | 1,871,998.6 | 760,474.7 | 964.0 | 14 | 978.0 |
| Sta 10+40 | 1,871,962.6 | 760,457.4 | 964.0 | 14 | 978.0 |
| Sta 10+80 | 1,871,926.6 | 760,440.0 | 964.0 | 14 | 978.0 |
| Sta 11+26 | 1,871,884.8 | 760,419.8 | 964.0 | 14 | 978.0 |

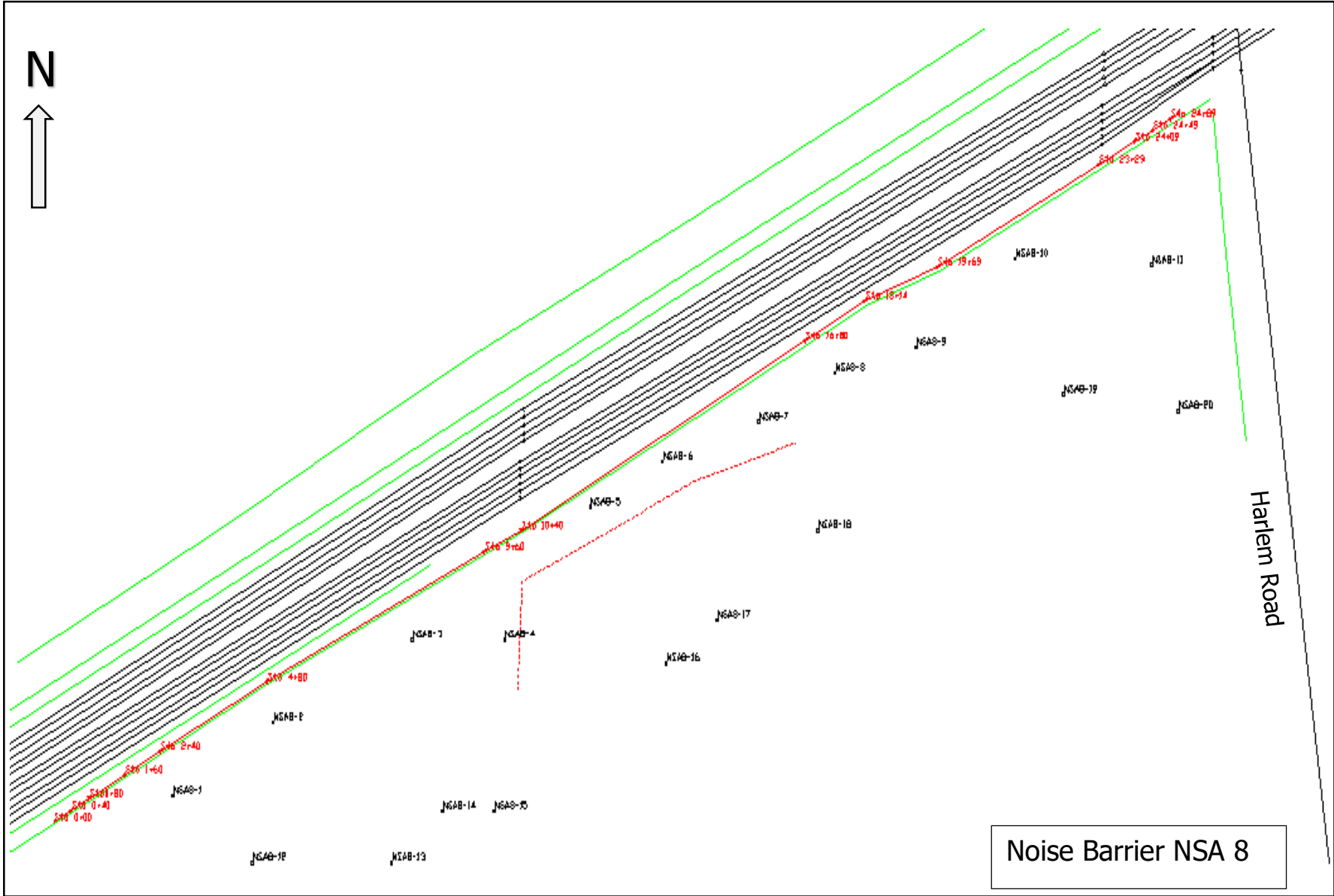
N



Noise Barrier NSA 6

**Noise Barrier NSA 8
South Side of SR 161**

| Noise Barrier Station | X | Y | Z (bottom) | Barrier Height | Z (top) |
|------------------------------|-------------|-----------|-------------------|-----------------------|----------------|
| Sta 0+00 | 1,871,964.5 | 760,253.9 | 958.5 | 14 | 972.5 |
| Sta 0+40 | 1,872,000.4 | 760,271.6 | 959.0 | 14 | 973.0 |
| Sta0+80 | 1,872,036.3 | 760,289.4 | 959.0 | 14 | 973.0 |
| Sta 1+60 | 1,872,108.3 | 760,324.4 | 959.5 | 14 | 973.5 |
| Sta 2+40 | 1,872,180.3 | 760,359.4 | 960.5 | 14 | 974.5 |
| Sta 4+80 | 1,872,396.1 | 760,463.1 | 962.5 | 14 | 976.5 |
| Sta 9+60 | 1,872,835.1 | 760,657.3 | 967.0 | 14 | 981.0 |
| Sta 10+40 | 1,872,908.6 | 760,688.9 | 968.0 | 14 | 982.0 |
| Sta 16+80 | 1,873,482.6 | 760,972.1 | 969.5 | 14 | 983.5 |
| Sta 18+14 | 1,873,603.4 | 761,031.6 | 970.0 | 14 | 984.0 |
| Sta 19+69 | 1,873,749.8 | 761,082.2 | 971.0 | 14 | 985.0 |
| Sta 23+29 | 1,874,075.6 | 761,235.2 | 971.5 | 14 | 985.5 |
| Sta 24+09 | 1,874,147.9 | 761,269.4 | 972.0 | 14 | 986.0 |
| Sta 24+49 | 1,874,184.1 | 761,286.4 | 972.0 | 14 | 986.0 |
| Sta 24+89 | 1,874,220.4 | 761,303.3 | 972.0 | 14 | 986.0 |
| Sta 25+10 | 1,874,239.0 | 761,312.0 | 972.0 | 14 | 986.0 |

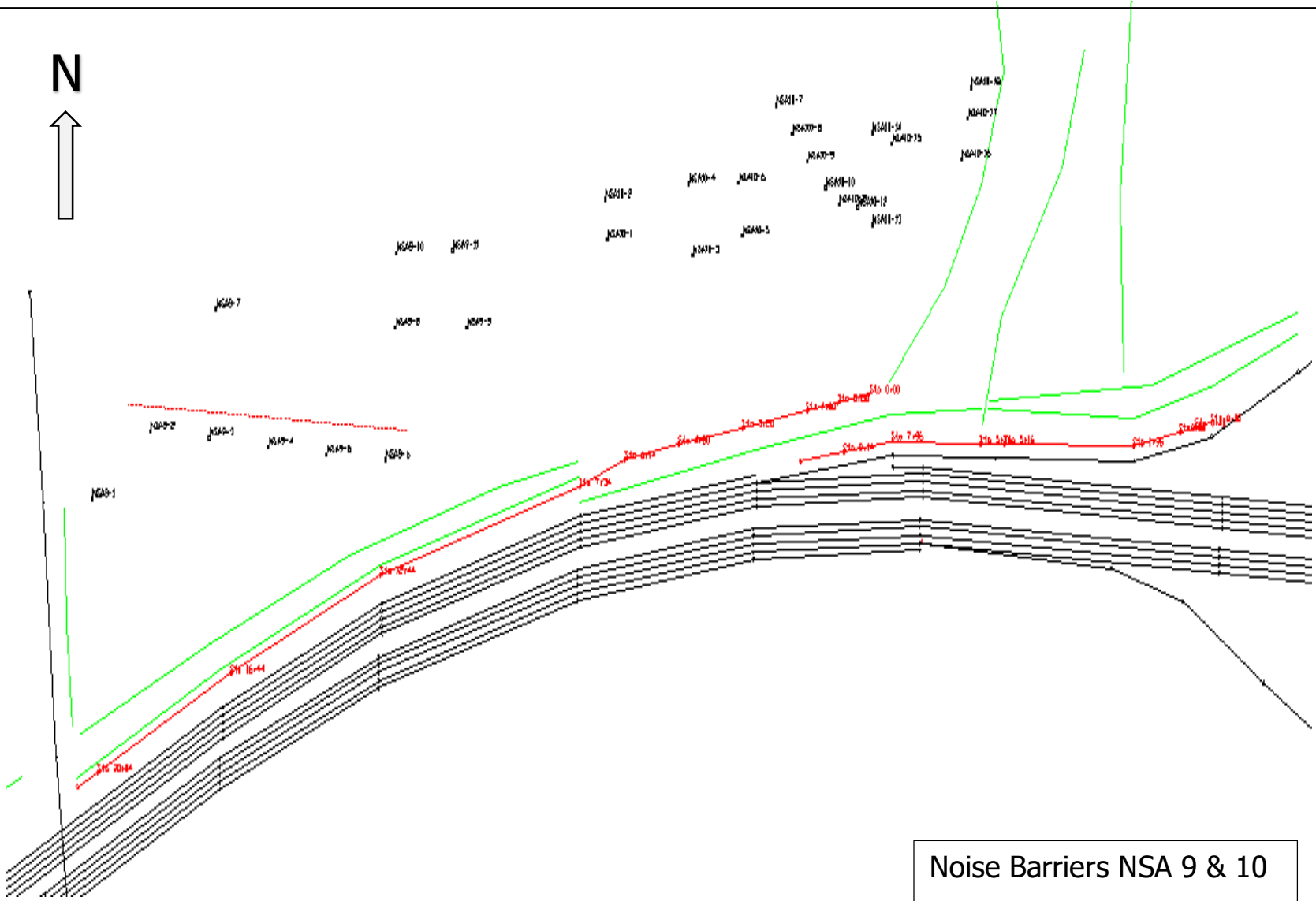
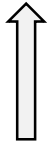


Noise Barrier NSA 8

| Noise Barrier NSA 9 North Side of SR 161 | | | | | |
|---|-------------|-----------|-------------------|-----------------------|----------------|
| Noise Barrier Station | X | Y | Z (bottom) | Barrier Height | Z (top) |
| Sta 0+00 | 1,876,342.0 | 762,175.0 | 983.0 | 14 | 997.0 |
| Sta 0+80 | 1,876,263.0 | 762,162.2 | 983.0 | 14 | 997.0 |
| Sta 1+60 | 1,876,184.0 | 762,149.4 | 983.5 | 14 | 997.5 |
| Sta 3+20 | 1,876,026.1 | 762,123.9 | 984.0 | 14 | 998.0 |
| Sta 4+80 | 1,875,868.1 | 762,098.4 | 984.5 | 14 | 998.5 |
| Sta 6+14 | 1,875,736.0 | 762,077.0 | 984.5 | 14 | 998.5 |
| Sta 7+34 | 1,875,623.0 | 762,035.5 | 983.5 | 14 | 997.5 |
| Sta 12+44 | 1,875,131.0 | 761,903.5 | 982.0 | 14 | 996.0 |
| Sta 16+44 | 1,874,759.5 | 761,755.1 | 981.0 | 14 | 995.0 |
| Sta 20+04 | 1,874,431.6 | 761,606.4 | 980.5 | 14 | 994.5 |
| Sta 20+60 | 1,874,380.0 | 761,583.0 | 980.5 | 14 | 994.5 |

| Noise Barrier NSA 10 North Side of SR 161 | | | | | |
|--|-------------|-----------|-------------------|-----------------------|----------------|
| Noise Barrier Station | X | Y | Z (bottom) | Barrier Height | Z (top) |
| Sta 0+00 | 1,877,186.0 | 762,132.0 | 994.0 | 14 | 1,008.0 |
| Sta 0+40 | 1,877,146.6 | 762,124.7 | 993.5 | 14 | 1,007.5 |
| Sta 0+80 | 1,877,107.3 | 762,117.3 | 993.5 | 14 | 1,007.5 |
| Sta 1+96 | 1,876,993.0 | 762,096.0 | 993.0 | 14 | 1,007.0 |
| Sta 5+16 | 1,876,673.0 | 762,099.8 | 992.5 | 14 | 1,006.5 |
| Sta 5+76 | 1,876,614.0 | 762,100.0 | 992.0 | 14 | 1,006.0 |
| Sta 7+96 | 1,876,395.0 | 762,104.0 | 991.0 | 14 | 1,005.0 |
| Sta 9+14 | 1,876,276.1 | 762,087.6 | 989.0 | 14 | 1,003.0 |
| Sta 10+26 | 1,876,166.0 | 762,072.5 | 987.0 | 14 | 1,001.0 |

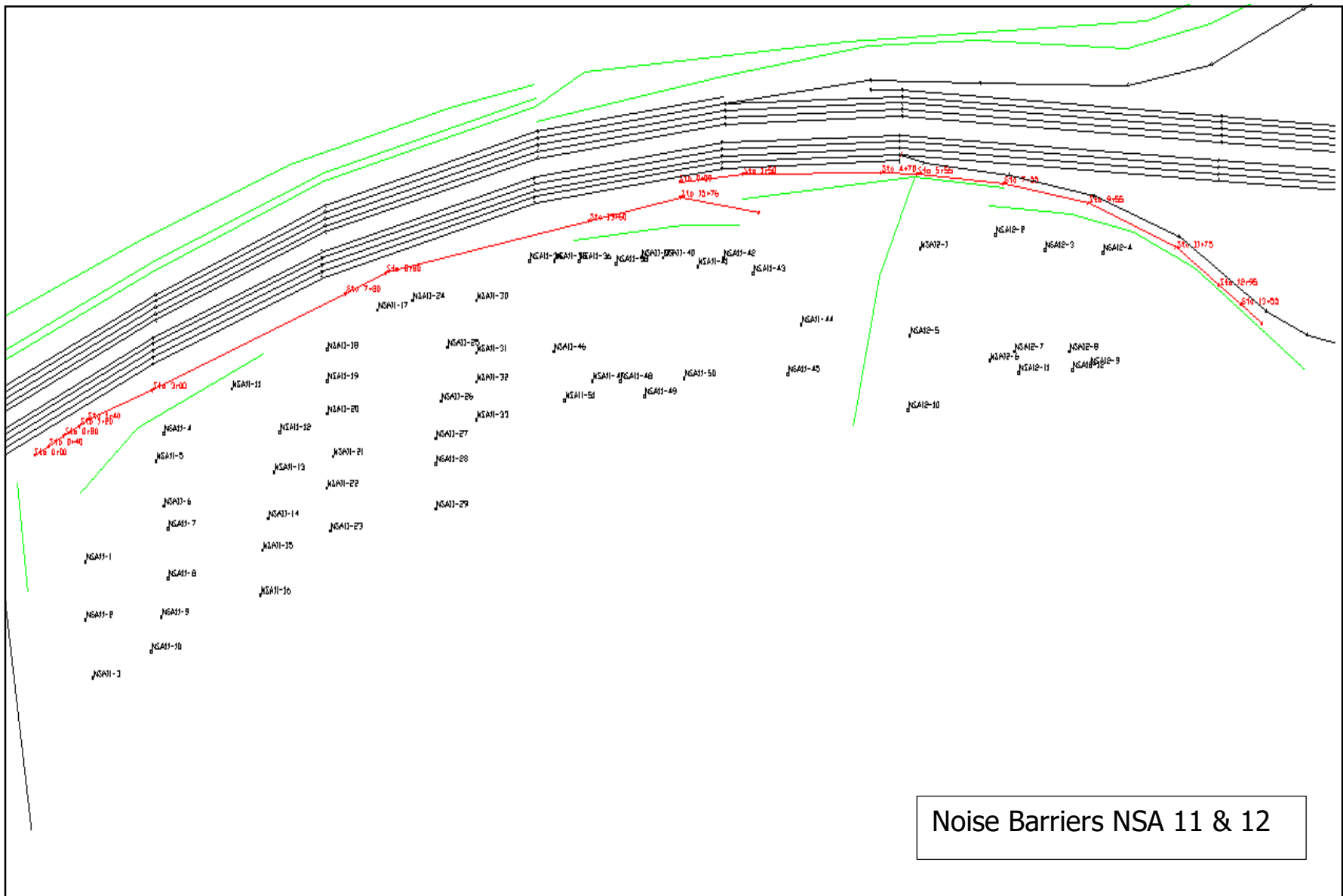
N



Noise Barriers NSA 9 & 10

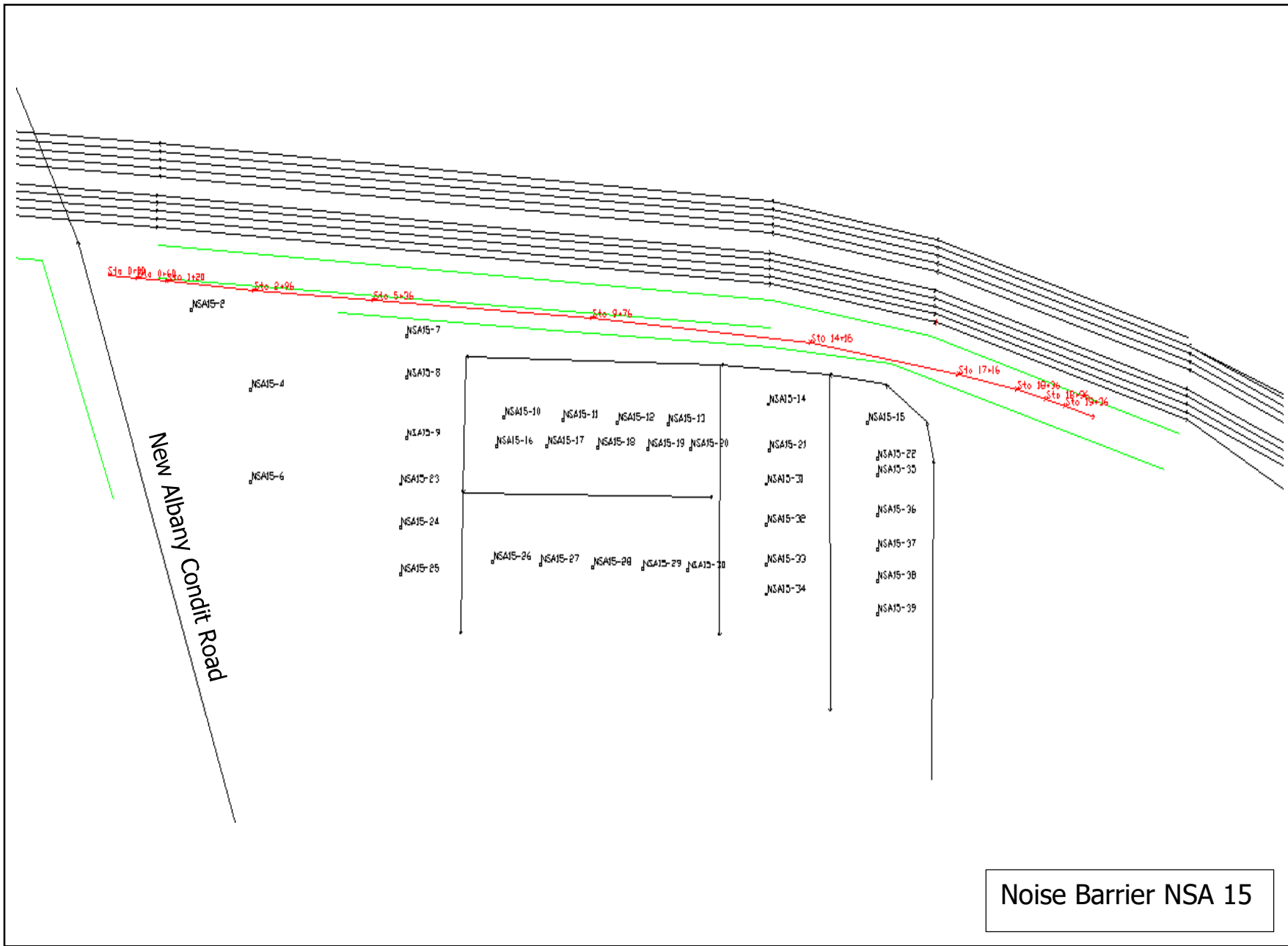
| Noise Barrier NSA 11 South Side of SR 161 | | | | | |
|--|-------------|-----------|-------------------|-----------------------|----------------|
| Noise Barrier Station | X | Y | Z (bottom) | Barrier Height | Z (top) |
| Sta 0+00 | 1,874,461.0 | 761,418.0 | 977.0 | 14 | 991.0 |
| Sta 0+40 | 1,874,496.6 | 761,436.1 | 977.5 | 14 | 991.5 |
| Sta 0+80 | 1,874,532.3 | 761,454.3 | 978.0 | 14 | 992.0 |
| Sta 1+20 | 1,874,568.0 | 761,472.4 | 978.5 | 14 | 992.5 |
| Sta 1+40 | 1,874,585.5 | 761,482.1 | 979.0 | 14 | 993.0 |
| Sta 3+00 | 1,874,736.6 | 761,534.8 | 980.0 | 14 | 994.0 |
| Sta 7+80 | 1,875,184.8 | 761,706.7 | 982.5 | 14 | 996.5 |
| Sta 8+80 | 1,875,278.1 | 761,742.5 | 983.0 | 14 | 997.0 |
| Sta 13+60 | 1,875,749.1 | 761,834.8 | 984.5 | 14 | 998.5 |
| Sta 15+76 | 1,875,961.0 | 761,876.0 | 985.0 | 14 | 999.0 |
| Sta 17+61 | 1,876,144.0 | 761,848.0 | 980.0 | 14 | 994.0 |

| Noise Barrier NSA 12 South Side of SR 161 | | | | | |
|--|-------------|-----------|-------------------|-----------------------|----------------|
| Noise Barrier Station | X | Y | Z (bottom) | Barrier Height | Z (top) |
| Sta 0+00 | 1,875,956.0 | 761,903.0 | 985.0 | 14 | 999.0 |
| Sta 1+50 | 1,876,106.0 | 761,916.0 | 986.0 | 14 | 1,000.0 |
| Sta 4+70 | 1,876,426.0 | 761,919.8 | 988.5 | 14 | 1,002.5 |
| Sta 5+55 | 1,876,510.0 | 761,916.0 | 990.0 | 14 | 1,004.0 |
| Sta 7+55 | 1,876,710.0 | 761,900.0 | 991.0 | 14 | 1,005.0 |
| Sta 9+55 | 1,876,906.9 | 761,864.6 | 992.0 | 14 | 1,006.0 |
| Sta 11+75 | 1,877,110.0 | 761,786.0 | 992.0 | 14 | 1,006.0 |
| Sta 12+95 | 1,877,210.0 | 761,718.5 | 993.5 | 14 | 1,007.5 |
| Sta 13+55 | 1,877,260.0 | 761,684.8 | 994.0 | 14 | 1,008.0 |
| Sta 14+15 | 1,877,310.0 | 761,651.0 | 995.0 | 14 | 1,009.0 |



Noise Barriers NSA 11 & 12

| Noise Barrier NSA 15 South Side of SR 161 | | | | | |
|--|-------------|-----------|-------------------|-----------------------|----------------|
| Noise Barrier Station | X | Y | Z (bottom) | Barrier Height | Z (top) |
| Sta 0+00 | 1,881,612.0 | 761,548.0 | 1,039.0 | 14 | 1,053.0 |
| Sta 0+60 | 1,881,671.8 | 761,543.3 | 1,039.5 | 14 | 1,053.5 |
| Sta 1+20 | 1,881,731.6 | 761,538.8 | 1,040.0 | 14 | 1,054.0 |
| Sta 2+96 | 1,881,906.0 | 761,525.0 | 1,040.0 | 14 | 1,054.0 |
| Sta 5+36 | 1,882,145.6 | 761,510.6 | 1,041.0 | 14 | 1,055.0 |
| Sta 9+76 | 1,882,585.0 | 761,484.0 | 1,042.0 | 14 | 1,056.0 |
| Sta 14+16 | 1,883,024.0 | 761,448.0 | 1,042.0 | 14 | 1,056.0 |
| Sta 17+16 | 1,883,320.0 | 761,400.0 | 1,042.0 | 14 | 1,056.0 |
| Sta 18+36 | 1,883,437.9 | 761,377.5 | 1,042.0 | 14 | 1,056.0 |
| Sta 18+96 | 1,883,496.0 | 761,362.9 | 1,042.5 | 14 | 1,056.5 |
| Sta 19+36 | 1,883,534.6 | 761,352.5 | 1,043.0 | 14 | 1,057.0 |
| Sta 19+96 | 1,883,593.0 | 761,336.0 | 1,043.5 | 14 | 1,057.5 |



Noise Barrier NSA 15

APPENDIX E

Names and Addresses of Benefited Receptors For Public Involvement

| Noise Barrier NSA3 Benefited Receptors for Public Involvement | | | |
|--|----------------------------------|-------------------------------|-----------------------|
| TNM Number | Name | Address | City/State/Zip |
| NSA3-1 | Mohammad & Nadira Zaman | 5394 Bullfinch Drive | Westerville, OH 43081 |
| NSA3-2 | Henry & Teresa Tucker | 5927 Garnier Avenue | Westerville, OH 43081 |
| NSA3-3 | Shirley Sink | 5919 Garnier Avenue | Westerville, OH 43081 |
| NSA3-4 | Brett Palmer & Crystal Moore | 5911 Garnier Avenue | Westerville, OH 43081 |
| NSA 3-4 | Michael & Merchel Menefield | 5903 Garnier Avenue | Westerville, OH 43081 |
| NSA3-5 | Howard Samone | 5895 Garnier Avenue | Westerville, OH 43081 |
| NSA3-6 | Daniel & Sarah Callinan | 5887 Garnier Avenue | Westerville, OH 43081 |
| NSA 3-6 | Daniel & Cara Inglis | 5879 Garnier Avenue | Westerville, OH 43081 |
| NSA 3-7 | AMH 2015-1 Borrower LLC | 23975 Park Sorrento Suite 300 | Calabasas, CA 91302 |
| | | 5871 Garnier Avenue | Westerville, OH 43081 |
| NSA3-7 | American Homes for Rent | 23975 Park Sorrento Suite 300 | Calabasas, CA 91302 |
| | | 5863 Garnier Avenue | Westerville, OH 43081 |
| NSA3-8 | German & Rosa Torres | 5855 Garnier Avenue | Westerville, OH 43081 |
| NSA3-9 | Jerry Bowman | 5847 Garnier Avenue | Westerville, OH 43081 |
| NSA3-10 | Lindsey Ross | 5839 Garnier Avenue | Westerville, OH 43081 |
| NSA3-15 | Terry Dugan & John Terry | 5400 bullfinch Drive | Westerville, OH 43081 |
| NSA3-19 | Michael Kline | 5406 Bullfinch Drive | Westerville, OH 43081 |
| NSA3-20 | Valerie Finch | 5407 Bullfinch Drive | Westerville, OH 43081 |
| NSA3-21 | Ramesh Thambuswamy | 5400 Garnier Place | Westerville, OH 43081 |
| NSA3-22 | William & Lynda Marshall | 5407 Garnier Place | Westerville, OH 43081 |
| NSA3-23 | Yixian Zhang & Xue Wu | 5414 Bullfinch Avenue | Westerville, OH 43081 |
| NSA3-24 | Katelynd Shoff & Joshua Fleshman | 5422 Bullfinch Drive | Westerville, OH 43081 |
| NSA3-25 | Paul & Brittney Heine | 5415 Bullfinch | Westerville, OH 43081 |

| Noise Barrier NSA4 Benefited Receptors for Public Involvement | | | |
|--|----------------------|--------------------------------|--------------------|
| TNM Number | Name | Address | City/State/Zip |
| NSA 4-1 | HQ Flats Phase 1 LLC | 250 Civic Center Drive Ste 500 | Columbus, OH 43215 |
| NSA 4-2 | | | |
| NSA 4-3 | | | |
| NSA 4-4 | | | |
| NSA 4-6 | | | |
| NSA 4-7 | | | |

| Noise Barrier NSA6 Benefited Receptors for Public Involvement | | | |
|--|-----------------------------------|------------------------|-----------------------|
| TNM Number | Name | Address | City/State/Zip |
| NSA 6-1 | Mark & Janet Garver | 6417 Peppermill Drive | Westerville, OH 43081 |
| NSA 6-1 | John Henry Grunkemeyer | 6435 Peppermill Drive | Westerville, OH 43081 |
| NSA 6-5 | Patricia Nelson | 6465 Peppermill Drive | Westerville, OH 43081 |
| NSA 6-5 | Donald Kinnard | 6483 Peppermill Drive | Westerville, OH 43081 |
| NSA 6-6 | Kathleen French | 6471 Peppermill Drive | Westerville, OH 43081 |
| NSA 6-6 | Martin Rea | 6477 Peppermill Drive | Westerville, OH 43081 |
| NSA 6-7 | Barbara Siefker | 6490 Peppermill Drive | Westerville, OH 43081 |
| NSA 6-7 | Lucille Milliken & Edward Clayton | 6496 Peppermill Drive | Westerville, OH 43081 |
| NSA 6-8 | Susan Crux | 5248 Apple Ridge Place | Westerville, OH 43081 |
| NSA 6-8 | Deborah Miller | 6498 Peppermill Drive | Westerville, OH 43081 |
| NSA 6-9 | Michael & Patrica Jackson | 6508 Peppermill Drive | Westerville, OH 43081 |
| NSA 6-9 | Michael & Janet Peterson | 6514 Peppermill Drive | Westerville, OH 43081 |

| Noise Barrier NSA 8 Benefited Receptors for Public Involvement | | | |
|---|----------------------|--------------------|--------------------|
| TNM Number | Name | Address | City/State/Zip |
| | Albany Woods Limited | 250 E Broad Street | Columbus, OH 43215 |
| | | | |
| | | | |
| | | | |
| | | | |

**Noise Barrier NSA 9
Benefited Receptors for Public Involvement**

| TNM Number | Name | Address | City/State/Zip |
|------------|--------------------------|-----------------------|----------------------|
| NSA9-1 | Jason & Jamie Ohlson | 6050 Harlem Road | New Albany, OH 43054 |
| NSA9-3 | Christine & Brian Bain | 6795 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-3 | Un Ja Pak | 6813 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-3 | Donn Rosenblum | 6797 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-3 | Margaret Persinger | 6811 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-4 | Marie Dittilio | 6815 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-4 | Ronald Savage | 6823 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-4 | Donald Carey | 6817 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-4 | Clarice West | 6821 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-5 | Patrice Booth | 6825 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-5 | Donna Strosnider | 6833 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-5 | Henry & Kathleen Termeer | 6827 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-5 | June & Alison Kimbel | 6831 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-6 | Kathy Jean Kline | 6835 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-6 | Lauren Watkins | 6853 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-6 | Joseph Landon | 6837 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-6 | Linda Haynes | 6851 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-7 | Lewis & Ruth Wetzler | 6802 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-7 | Shawn Renaud | 6808 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-7 | Ann McCarthy | 6801 Winrock Drive | New Albany, OH 43054 |
| NSA9-7 | Joan Christine Fernandez | 6807 Winrock Drive | New Albany, OH 43054 |
| NSA9-8 | Brian Odonnell | 6842 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-8 | Elizabeth Loeb | 6848 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-8 | Cheri Warner-Radu | 6841 Winrock Drive | New Albany, OH 43054 |
| NSA9-8 | Deborah MacDonald | 6847 Winrock Drive | New Albany, OH 43054 |
| NSA9-9 | Dale & Karen Barton | 6872 Winrock Drive | New Albany, OH 43054 |
| NSA9-9 | Edwin & Elaine Delesk | 6874 Ridge Rock Drive | New Albany, OH 43054 |
| NSA9-9 | Samuell Paglione | 6868 Winrock Drive | New Albany, OH 43054 |
| NSA9-9 | Deanna Bukovec | 6866 Winrock Drive | New Albany, OH 43054 |
| NSA9-10 | Jada Tilton | 6838 Winrock Drive | New Albany, OH 43054 |
| NSA9-10 | Mary Madachy | 6852 Winrock Drive | New Albany, OH 43054 |
| NSA9-10 | Huicheng Tian | 6836 Winrock Drive | New Albany, OH 43054 |
| NSA9-10 | Robert & Cheryl Neff | 6854 Winrock Drive | New Albany, OH 43054 |
| NSA9-11 | Nancy Hymrod | 6858 Winrock Drive | New Albany, OH 43054 |
| NSA9-11 | Arthur & Carolyn Will | 6862 Winrock Drive | New Albany, OH 43054 |
| NSA9-11 | Lynn Mallare | 6856 Winrock Drive | New Albany, OH 43054 |
| NSA9-11 | Phlip & Shannon Camick | 6864 Winrock Drive | New Albany, OH 43054 |

**Noise Barrier NSA 10
Benefited Receptors for Public Involvement**

| TNM Number | Name | Address | City/State/Zip |
|------------|--------------------------------|----------------------|----------------------|
| | Gramercy New Albany LLC | 30 Warren Street | Columbus, OH 43215 |
| NSA 10-1 | Resident | 5347 Lift Drive | New Albany, OH 43054 |
| NSA 10-1 | Resident | 5349 Lift Drive | New Albany, OH 43054 |
| NSA 10-1 | Resident | 5351 Lift Drive | New Albany, OH 43054 |
| NSA 10-1 | Resident | 5353 Lift Drive | New Albany, OH 43054 |
| NSA 10-1 | Resident | 5355 Lift Drive | New Albany, OH 43054 |
| NSA 10-1 | Resident | 5357 Lift Drive | New Albany, OH 43054 |
| NSA 10-2 | Resident | 5359 Lift Drive | New Albany, OH 43054 |
| NSA 10-2 | Resident | 5361 Lift Drive | New Albany, OH 43054 |
| NSA 10-2 | Resident | 5363 Lift Drive | New Albany, OH 43054 |
| NSA 10-2 | Resident | 5365 Lift Drive | New Albany, OH 43054 |
| NSA 10-2 | Resident | 5367 Lift Drive | New Albany, OH 43054 |
| NSA 10-2 | Resident | 5369 Lift Drive | New Albany, OH 43054 |
| NSA 10-3 | Resident | 5350 Lift Drive | New Albany, OH 43054 |
| NSA 10-3 | Resident | 5350 Lift Drive | New Albany, OH 43054 |
| NSA 10-3 | Resident | 5350 Lift Drive | New Albany, OH 43054 |
| NSA 10-3 | Resident | 5351 Santorini Drive | New Albany, OH 43054 |
| NSA 10-3 | Resident | 5351 Santorini Drive | New Albany, OH 43054 |
| NSA 10-3 | Resident | 5351 Santorini Drive | New Albany, OH 43054 |
| NSA 10-3 | Resident | 5351 Santorini Drive | New Albany, OH 43054 |
| NSA 10-4 | Resident | 5370 Lift Drive | New Albany, OH 43054 |
| NSA 10-4 | Resident | 5370 Lift Drive | New Albany, OH 43054 |
| NSA 10-4 | Resident | 5370 Lift Drive | New Albany, OH 43054 |
| NSA 10-4 | Resident | 5370 Lift Drive | New Albany, OH 43054 |
| NSA 10-4 | Resident | 5371 Santorini Drive | New Albany, OH 43054 |
| NSA 10-4 | Resident | 5371 Santorini Drive | New Albany, OH 43054 |
| NSA 10-4 | Resident | 5371 Santorini Drive | New Albany, OH 43054 |
| NSA 10-4 | Resident | 5371 Santorini Drive | New Albany, OH 43054 |
| NSA 10-5 | Resident | 5352 Santorini Drive | New Albany, OH 43054 |
| NSA 10-5 | Resident | 5356 Santorini Drive | New Albany, OH 43054 |
| NSA 10-5 | Resident | 5358 Santorini Drive | New Albany, OH 43054 |
| NSA 10-6 | Resident | 5362 Santorini Drive | New Albany, OH 43054 |
| NSA 10-6 | Resident | 5366 Santorini Drive | New Albany, OH 43054 |
| NSA 10-6 | Resident | 5368 Santorini Drive | New Albany, OH 43054 |
| NSA 10-6 | Resident | 5372 Santorini Drive | New Albany, OH 43054 |
| NSA 10-8 | Thomas & Patricia Stebbins | 5427 Tathwell Drive | New Albany, OH 43054 |
| NSA 10-9 | Yvonne Cradden | 5423 Tathwell Drive | New Albany, OH 43054 |
| NSA 10-10 | Ronald Feaster & Dianne Hunter | 5419 Tathwell Drive | New Albany, OH 43054 |
| NSA 10-11 | Frances Ruegg | 5415 Tathwell Drive | New Albany, OH 43054 |
| NSA 10-12 | Suzann Parero | 5411 Tathwell Drive | New Albany, OH 43054 |
| NSA 10-13 | Theresa & William Loscko | 5047 Tathwell Drive | New Albany, OH 43054 |
| NSA 10-14 | Debra McComb | 5420 Tathwell Drive | New Albany, OH 43054 |
| NSA 10-14 | John & Catherine Perkins | 5416 Tathwell Drive | New Albany, OH 43054 |
| NSA 10-15 | Richard & Heather Hoffman | 5412 Tathwell Drive | New Albany, OH 43054 |

| Noise Barrier NSA 10 Benefited Receptors for Public Involvement | | | |
|--|-------------------------|----------------------|----------------------|
| TNM Number | Name | Address | City/State/Zip |
| NSA 10-15 | Lane Tysinger | 5421 Welbourne Place | New Albany, OH 43054 |
| NSA 10-16 | Stephen Griffiths | 5406 Welbourne Place | New Albany, OH 43054 |
| NSA 10-17 | George & Edith Marentic | 5410 Welbourne Place | New Albany, OH 43054 |
| NSA 10-18 | Barbara Main | 5414 Welbourne Place | New Albany, OH 43054 |

| Noise Barrier NSA 11 Benefited Receptors for Public Involvement | | | |
|--|-----------------------------------|-----------------------|----------------------|
| TNM Number | Name | Address | City/State/Zip |
| NSA11-4 | Thomas & Kathi Beckman | 5279 Hanover Close | Columbus, OH 43215 |
| NSA11-5 | Matthew & Katherine Whitley | 5271 Hanover Close | New Albany, OH 43054 |
| NSA11-6 | Steve Doherty | 5263 Hanover Close | New Albany, OH 43054 |
| NSA11-7 | Andrea Andrews & Ivan Isreal | 5255 Hanover Close | New Albany, OH 43054 |
| NSA11-11 | Christian & Mandy Feisel | 5254 Hanover Close | New Albany, OH 43054 |
| NSA11-12 | Jeffrey & Michelle Waltman | 5246 Hanover Close | New Albany, OH 43054 |
| NSA11-13 | John & Anna Tipton | 5238 Hanover Close | New Albany, OH 43054 |
| NSA11-14 | Matthew & Nicole Pritchard | 5230 Hanover Close | New Albany, OH 43054 |
| NSA11-15 | Jonathan & Kimberly Likavec | 5222 Hanover Close | New Albany, OH 43054 |
| NSA11-17 | Colby & Heidi Starrett | 5281 Settlement Drive | New Albany, OH 43054 |
| NSA11-18 | 5273 Settlement Drive LLC | POB 688 | New Albany, OH 43054 |
| | | 5273 Settlement Drive | New Albany, OH 43054 |
| NSA11-19 | Ralph Simpson & Latasha Phillips | 5265 Settlement Drive | New Albany, OH 43054 |
| NSA11-20 | Brian George & Heather Nolan | 5257 Settlement Drive | New Albany, OH 43054 |
| NSA11-21 | Robert & Amy Heinbach | 5249 Settlement Drive | New Albany, OH 43054 |
| NSA11-22 | Mikhail Livshin & Palayeva Yelena | 5241 Settlement Drive | New Albany, OH 43054 |
| NSA11-23 | Jaye & Joanne Schroeder | 5233 Settlement Drive | New Albany, OH 43054 |
| NSA11-24 | Richard & Cynthia Saltre | 5280 Settlement Drive | New Albany, OH 43054 |
| NSA11-25 | Khurram & Aaliyah Arif | 5272 Settlement Drive | New Albany, OH 43054 |
| NSA11-26 | Sonia & Junaid Mukdomi | 5264 Settlement Drive | New Albany, OH 43054 |
| NSA11-27 | Yan Yanf & Shaun Omen | 5256 Settlement Drive | New Albany, OH 43054 |
| NSA11-28 | Matthew & Lori Pierson | 5248 Settlement Drive | New Albany, OH 43054 |
| NSA11-29 | Jennifer & Ryan Moffett | 5240 Settlement Drive | New Albany, OH 43054 |
| NSA11-30 | Dorothy Jones | 7099 Addington Road | New Albany, OH 43054 |
| NSA11-31 | Scott Baker | 7105 Addington Road | New Albany, OH 43054 |
| NSA11-32 | Anthony & Amy Liccardi | 7111 Addington Road | New Albany, OH 43054 |
| NSA11-33 | Daniel & Andrea Lewis | 7117 Addington Road | New Albany, OH 43054 |
| NSA11-34 | Guy & Carol Patrick | 7104 Connaught Drive | New Albany, OH 43054 |
| NSA11-35 | Jose & Leticia Mancia | 7112 Connaught Drive | New Albany, OH 43054 |
| NSA11-36 | ACP | 7120 Connaught Drive | New Albany, OH 43054 |
| NSA11-37 | Thomas & Sara Isaac | 7128 Connaught Drive | New Albany, OH 43054 |
| NSA11-38 | Kristen Rossler | 7136 Connaught Drive | New Albany, OH 43054 |
| NSA11-39 | Monique Navarro & Michael Berta | 7144 Connaught Drive | New Albany, OH 43054 |

| Noise Barrier NSA 11 Benefited Receptors for Public Involvement | | | |
|--|------------------------------|----------------------|----------------------|
| TNM Number | Name | Address | City/State/Zip |
| NSA11-40 | Tameka Walker | 7152 Connaught Drive | New Albany, OH 43054 |
| NSA11-41 | Tigist Yohannes | 7160 Connaught Drive | New Albany, OH 43054 |
| NSA11-42 | Akinniyi & Olayemi Akingbola | 7168 Connaught Drive | New Albany, OH 43054 |
| NSA11-43 | Joshua & Courtney Beckner | 5256 Sugar Run Drive | New Albany, OH 43054 |
| NSA11-44 | Melissa Vance | 5248 Sugar Run Drive | New Albany, OH 43054 |
| NSA11-45 | Michael & Cynthia Kearse | 5240 Sugar Run Drive | New Albany, OH 43054 |
| NSA11-46 | Mahesh Mamidi | 7106 Addington Road | New Albany, OH 43054 |
| NSA11-47 | Deanna & John Lutz | 7129 Connaught Drive | New Albany, OH 43054 |
| NSA11-48 | Kristen Bach & William Rice | 7137 Connaught Drive | New Albany, OH 43054 |
| NSA11-49 | Valerie & Nishant Patel | 7145 Connaught Drive | New Albany, OH 43054 |
| NSA11-50 | Lyndon & Kelly Harris | 5247 Sugar Run Drive | New Albany, OH 43054 |
| NSA11-51 | Krittikamas Ratanapan | 7118 Addington Road | New Albany, OH 43054 |

| Noise Barrier NSA 12 Benefited Receptors for Public Involvement | | | |
|--|-------------------|-----------------------|----------------------|
| TNM Number | Name | Address | City/State/Zip |
| NSA 12 | Berkeley Park LLC | 5185 Sulgrave Drive | New Albany, OH 43054 |
| NSA 12-1 | Resident | 7200 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-1 | Resident | 7202 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-1 | Resident | 7204 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-1 | Resident | 7206 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-1 | Resident | 7208 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-1 | Resident | 7210 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-2 | Resident | 7248 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-2 | Resident | 7250 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-2 | Resident | 7252 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-2 | Resident | 7254 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-2 | Resident | 7256 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-2 | Resident | 7258 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-3 | Resident | 7272 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-3 | Resident | 7274 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-3 | Resident | 7276 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-3 | Resident | 7278 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-3 | Resident | 7280 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-3 | Resident | 7282 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-4 | Resident | 7296 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-4 | Resident | 7298 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-4 | Resident | 7300 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-4 | Resident | 7302 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-4 | Resident | 7304 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-4 | Resident | 7306 Turnbridge Drive | New Albany, OH 43054 |

**Noise Barrier NSA 12
Benefited Receptors for Public Involvement**

| TNM Number | Name | Address | City/State/Zip |
|------------|----------|-------------------------|----------------------|
| NSA 12-5 | Resident | 7217 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-5 | Resident | 7219 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-5 | Resident | 7221 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-5 | Resident | 7223 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-5 | Resident | 7225 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-5 | Resident | 7227 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-6 | Resident | 7224 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-6 | Resident | 7226 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-6 | Resident | 7228 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-6 | Resident | 7230 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-6 | Resident | 7232 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-6 | Resident | 7234 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-7 | Resident | 7261 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-7 | Resident | 7263 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-7 | Resident | 7265 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-7 | Resident | 7267 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-7 | Resident | 7269 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-7 | Resident | 7271 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-8 | Resident | 7285 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-8 | Resident | 7287 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-8 | Resident | 7289 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-8 | Resident | 7291 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-8 | Resident | 7293 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-8 | Resident | 7295 Turnbridge Drive | New Albany, OH 43054 |
| NSA 12-9 | Resident | 5301 Sulgrave Drive | New Albany, OH 43054 |
| NSA 12-9 | Resident | 5303 Sulgrave Drive | New Albany, OH 43054 |
| NSA 12-9 | Resident | 5305 Sulgrave Drive | New Albany, OH 43054 |
| NSA 12-9 | Resident | 5307 Sulgrave Drive | New Albany, OH 43054 |
| NSA 12-9 | Resident | 5309 Sulgrave Drive | New Albany, OH 43054 |
| NSA 12-9 | Resident | 5311 Sulgrave Drive | New Albany, OH 43054 |
| NSA 12-10 | Resident | 7233 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-10 | Resident | 7235 Hampton Hills Lane | New Albany, OH 43054 |
| NSA12-10 | Resident | 7237 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-10 | Resident | 7239 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-10 | Resident | 7241 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-10 | Resident | 7243 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-11 | Resident | 7260 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-11 | Resident | 7262 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-11 | Resident | 7264 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-11 | Resident | 7266 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-11 | Resident | 7268 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-11 | Resident | 7270 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-12 | Resident | 7284 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-12 | Resident | 7286 Hampton Hills Lane | New Albany, OH 43054 |

| Noise Barrier NSA 12 Benefited Receptors for Public Involvement | | | |
|--|----------|-------------------------|----------------------|
| TNM Number | Name | Address | City/State/Zip |
| NSA 12-12 | Resident | 7288 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-12 | Resident | 7290 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-12 | Resident | 7292 Hampton Hills Lane | New Albany, OH 43054 |
| NSA 12-12 | Resident | 7294 Hampton Hills Lane | New Albany, OH 43054 |

| Noise Barrier NSA 15 Benefited Receptors for Public Involvement | | | |
|--|------------------------------------|------------------------------|----------------------|
| TNM Number | Name | Address | City/State/Zip |
| NSA 15-2 | Richard & Sandra Hickernell | 6600 New Albany Condit Road | New Albany, OH 43054 |
| NSA 15-4 | Daniel & Danielle Jeffers | 6600 New Albany Condit Road | New Albany, OH 43054 |
| NSA 15-7 | David & Kaitlin Eckl | 7931 Scarborough Hall Drive | New Albany, OH 43054 |
| NSA 15-8 | George Samson | 7939 Scarborough Hall Drive | New Albany, OH 43054 |
| NSA 15-10 | Michelle Miller | 8005 Butterworth Green Drive | New Albany, OH 43054 |
| NSA 15-10 | Brandon Samuels | 8013 Butterworth Green Drive | New Albany, OH 43054 |
| NSA 15-11 | Benjamin & Katherine Douglas | 8021 Butterworth Green Drive | New Albany, OH 43054 |
| NSA 15-11 | Rodney Hammond & Diane Kelly | 8029 Butterworth Green Drive | New Albany, OH 43054 |
| NSA 15-12 | Sedric Granger | 8037 Butterworth Green Drive | New Albany, OH 43054 |
| NSA 15-12 | Christopher Dewitt & Kristen Ayers | 8045 Butterworth Green Drive | New Albany, OH 43054 |
| NSA 15-13 | Rajarethinam Nagalingam | 8052 Butterworth Green Drive | New Albany, OH 43054 |
| NSA 15-13 | John & Kimberly Federanko | 8061 Butterworth Green Drive | New Albany, OH 43054 |
| NSA 15-14 | Billy Gray | 5114 Blackstone Edge | New Albany, OH 43054 |
| NSA 15-14 | Laura Palotta | 5117 Hearthstone Park | New Albany, OH 43054 |
| NSA 15-15 | Anand Prabhakar | 5116 Hearthstone Park | New Albany, OH 43054 |
| NSA 15-20 | Stephen & Carly Baine | 8062 Loomis Drive | New Albany, OH 43054 |
| NSA 15-21 | Lisa Cortland & Christopher Taylor | 5108 Blackstone Edge | New Albany, OH 43054 |
| NSA 15-21 | Thomas & Christine Fagan | 5111 Hearthstone Park | New Albany, OH 43054 |
| NSA 15-22 | Thomas & Kristin Kasee | 5110 Hearthstone Park | New Albany, OH 43054 |
| NSA 15-22 | Geoffrey & Bebecca Marple | 5119 Butterworth Green Drive | New Albany, OH 43054 |